ROCK CREEK RANCH SPECIFIC PLAN AND DRAFT EIR

SECTION 4
INCORPORATION BY REFERENCE

The project proposal and study area have been included in the scope of several documents. Relevant information from these documents is hereby incorporated by reference into the current EIR, and should be considered as part of the information upon which the proposed Rock Creek Ranch Specific Plan and EIR is based. Additional discussion of many of these projects is provided in EIR §6.0 (Cumulative Impacts).

1. Mono County, Rimrock Ranch Specific Plan and Final EIR. Prepared for the project applicant, Rimrock Ranch Partnership, November 2000.

This document set forth the development standards and examined the environmental impacts of a proposed 180-acre development in Swall Meadows, in the southern Mono County. The development plan included 35 single-family lots on 80 acres of land (with a minimum 2-acre lot size), plus a 100-acre parcel corridor sold to the California Department of Fish and Game for use as a wildlife corridor.

The EIR identified a number of potentially significant adverse impacts that would result with implementation of the development proposal. The potentially significant effects included erosion, groundwater degradation, impacts to plant and wildlife species, and visual impacts. The EIR concluded that all significant adverse impacts could be reduced to 'less than significant' through application of proposed mitigation measures.

Current Status: The county has approved this project, and lot sales are underway.

2. Mono County, Lakeridge Ranch Estates Specific Plan and Final EIR. Prepared for the project applicant, July 1995.

This document established development standards and examined the environmental impacts of a proposal to subdivide 79.5 acres of land into 114 single-family residential lots in the community of Crowley Lake. The Specific Plan incorporated a minimum lot size of 15,000 square feet, with an average parcel size of 0.59 acres; the project encompassed the entire property, with an overall density of 1.43 units per acre.

The Final EIR identified a number of potentially significant adverse impacts that would result with implementation of the development proposal, including impacts on transportation, land use, community services and facilities, housing, outdoor recreation, cultural resources, air quality, geology and soils, water resources and water quality, energy supplies, noise, vegetation, wildlife, hazardous wastes, and natural hazards. Of these potentially significant effects, all but 6 were reduced to less than significant levels by the mitigation program. The six impacts found to be significant, adverse and unavoidable included:

- Conversion of vegetation to impermeable surfaces and related secondary water quality impacts
- Visual impacts
- Increases in traffic and related air and noise impacts
- Increases in the number of people exposed to natural hazards including avalanches, volcanic episodes, earthquakes, floods and fires;
- Reduction in wildlife habitat and increased disturbance to wildlife; and
- Construction impacts including noise, vibration and dust

The Mono County Board of Supervisors found that these unavoidable adverse effects were outweighed by several benefits, based on General Plan guidelines that allow for additional services and facilities to achieve a balanced mix of land uses, and provide for the development of additional job and recreational opportunities to stabilize the local economy and enhance revenues to the county.

Current Status: The county has approved this project but the final map has not been filed.

3. Mono County, Sierra Business Park Specific Plan and Final EIR. Prepared for the project applicant, Marzano and Sons, Inc., December 2000.

This document established development standards and examined the environmental impacts of a proposal to subdivide a 36.7 acre parcel located on the west side of Highway 395, about 3 miles south of the intersection with State Route 203 and directly opposite the entry to Mammoth Lakes/Yosemite Airport. As proposed, the site would be subdivided into 37 lots ranging in size from 0.5 to 2.8 acres.

The EIR found that there would be potentially significant impacts on water quality, land use and planning, traffic and circulation, air quality, risk exposure and hazardous materials, and aesthetic impacts. The Final EIR concluded that all impacts could be reduced to a level of insignificance provided the measures identified in the Mitigation Implementation and Monitoring Program were implemented as proposed.

Current Status: The county has approved Sierra Business Park, the site improvements are completed, lots are now for sale and some lots are now being developed.

4. Town of Mammoth Lakes, Mammoth Lakes Airport Expansion Subsequent EIR and Updated Environmental Assessment, March 1997.

This document examined an updated development plan for the Mammoth Lakes/Yosemite Airport. The document compared 1997 development goals with those described in 1986, and found six key differences: (1) annual passenger loads increase from 20,000 (by 2007) to 125,000 (by 2015 per the 1997 report, Scenario 4); (2) the proposed 120-acre golf course is eliminated from the plan; (3) non-retail/non-hotel building area increases from 29,200 to 42,200sf; (4) hotel area increases from 150 to 250 units, plus a new 2-acre service station and retail area; (5) the access road length is increased from 7,700' to 14,500' and parking is increased from 310 to 694 spaces; and (6) the proposed cross-wind runway is eliminated.

The Airport EIR concluded that environmental impacts of the updated 1997 plan would generally be less than those associated with the 1986 plan. Specifically, the EIR found reductions in noise generation, water consumption, and aesthetic impacts. For both plans, impacts on biological resources were limited by the disturbed quality of existing habitat. No impacts on cultural resources were identified. The updated plan was found to generate slight increases in sewage flows, and in traffic on Highway 395.

The FAA approved the EA and the Town is now preparing a CEQA document for the airport expansion project. A separate lawsuit was filed against the FAA for the EA, but that action did not include a stay of development. The Town completed its CEQA review in July of 2002. A coalition of environmental groups subsequently re-filed a lawsuit in September of 2002 seeking to compel FAA to prepare an Environmental Impact Statement (EIS) on the project, and the U.S. District Court of Appeals ruled in favor of the petitioners' request. In July of 2006, the FAA issued a new Notice of Intent to prepare an EIS for this project, and to withdraw the earlier Notice of Intent that had been published in 2003. The EIS will examine a proposal to allow Horizon Air to provide commercial airline service with regional jets into the Mammoth Yosemite Airport.[1]

Current Status: The public comment period for the new Draft EIS closed on January 11, 2008, and the FAA is preparing a Final EIS.

5. Mono County, Mono County General Plan Update, September 1993.

This update to the General Plan consolidated individual elements and reduced from 12 to 7 the mandatory elements including Land Use, Noise, Circulation, Safety, Housing, Conservation/Open Space and Hazardous Waste Management. In addition to consolidation, the update included preparation of a Master Environmental Assessment, update to general plan policies, and preparation of an EIR. Among the major changes incorporated into this update, the plan reduced the maximum resident population from 171,242 (in the earlier General Plan) to 40,232 with concomitant reductions in land development and development densities. The update also provided for a more balanced mix of land uses with a moderate decrease in commercial acreage and increased industrial land.

The EIR summarized the environmental effects of these changes: (a) reduced open space; (b) increased demand for new housing, services and facilities; (c) increased automobile and air traffic along with noise and air pollution; (d) degradation of scenic resources; (e) reduced recreational opportunities; (f) loss of cultural resources; (g) increased exposure to geologic hazards as well as loss of geologic resources; (h) deterioration of water quality and increased runoff; (I) increased demand for energy, (j) loss of or alteration to biotic resources; and (k) increased waste loads, including hazardous wastes. The EIR concluded that many impacts could be reduced through mitigation, but identified 6 unavoidable significant adverse impacts: (1) impacts on water quality and flows; (2) visual impacts; (3) increased traffic, noise and pollutant levels; (4) increased exposure to natural hazards; (5) reduced habitat and habitat impairment; and (6) construction impacts.

Current Status: The 1993 General Plan Update remains in use at the present time; various elements have been updated since 1993.

[1] Source: USEPA website: www.epa.gov/fedrgstr/EPA-IMPACT/2006/July/Day-24/i6423.htm - 22k -

6. Mono County General Plan Land Use Element Amendment Final EIR, November 2000.

This amendment to the General Plan focused on three components including (1) integration of the Land Use Regulations (i.e., Zoning and the Development Code) into the General Plan; (2) certain amendments to the General Plan to accommodate the integration (including setting minimum lot sizes for specific parcels, corrections of existing designations, revisions based on community planning meetings), updated tables to reflect these changes, and incorporation of new policies for the Bodie Hills Planning Area; and (3) extensive revisions to the land use maps.

The EIR concluded that the proposed integration of zoning into the General Plan could be accommodated without significant adverse impacts. The proposed General Plan Amendments were found to have a number of adverse effects including conversion of vegetation to impermeable surfaces and related secondary water quality impacts; loss of and impacts to visual resources; increased traffic and related air and noise quality impacts; increased population exposed to natural hazards characteristic of the region, reduced area and increased disturbance to wildlife and habitats, additional temporary construction impacts, loss of open space, increased air emissions, increased energy demands, loss of mineral resources, and localized degradation and loss of cultural resources.

Current Status: The EIR was certified in November 2000.

7. Mono County, June Lake Highlands Specific Plan and Draft EIR, November 2000.

The county approved this roughly 21-acre project just southwest of the June Lake Village. The proposal calls for development of single-family residential and multifamily residential. The single-family portion will have 39 lots on 11.8 acres, and the multifamily portion will have up to 114 units on about 10 acres. The EIR concluded that the project would have several potentially significant adverse effects including impacts on wildlife, visual resources, noise and circulation. Although mitigation was provided, these impacts were not reduced to a level below significant.

Current Status: The developer is currently working on development of the first phase of the project (single-family) and the tentative tract map has been approved.

8. Inyo County, Revised Draft EIR – Pine Creek Villages Communities Development, Project, March 2004.

During 2004, Inyo County issued a revised Draft EIR for the Pine Creek Communities Development (the "Pacifica Project"), located in Rovana just about 4 miles south of Paradise. Whereas the initial project application called for a 322-lot subdivision on the 280-acre parcel, the revised Draft EIR addressed 189 lots. Public review of the Draft EIR closed on April 30, 2004. The Revised Draft EIR identified 10 impacts of the project that would be significant, adverse and unavoidable including water supply, scenic impacts, conflict with General Plan goals concerning biological resources, increased deer mortality, impacts on 6 special status bird species, risk of predation from mountain lions, threats to native special status birds from increased cowbird population, loss of critical winter range habitat for deer herd, and destruction of cultural resources. The project review was not continued past the Draft EIR. During 2007, Inyo County received an application for a new project proposal for this site, now called Pine Creek Village. The 2007 application encompassed a total of 143 lots, 70 of which would be sold at below-market prices.

Current Status: The county anticipates that a NOP will be circulated in 2008, and work on the Draft EIR will commence thereafter.[2]

The above-referenced county documents are available for public review at the Mono County Planning Department.

Mono County Planning Department
P.O. Box 347
(SE corner Meridian/Old Mammoth Rd)
Mammoth Lakes, CA
760.924.5450

[2] Source: Inyo County website: http://inyoplanning.org/projects/Pine%20Creek%20Village/index.html

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.1 GEOLOGY AND HYDROLOGY

5.1.1 INTRODUCTION

The following discussion is drawn from detailed studies conducted by Sierra Geotechnical Services, Inc. (SGSI), Triad Holmes, Associates (Triad), as well as AMEC Environmental and other firms to assess geotechnical and hydrologic conditions on the proposed Rock Creek Ranch project site. The report findings are contained Appendices D (Geotechnical Report), E (Drainage Report), and F (Well Testing Report). A summary of impacts and mitigations is provided below, followed by detailed discussion of findings and recommendations developed in the Assessment. This section addresses several issues raised during the scoping process including geotechnical suitability for the proposed development; potential exposure to seismic events, erosion, and sedimentation; availability and quality of groundwater to serve the development; the impact of additional groundwater production on the performance of existing wells; the status of water rights; and ability to meet fire flow requirements.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT WQ 5.1-1:	**Potential demands on groundwater resources**
Mitigation WQ 5.1-1a:	**Well design and operation recommendations of Slade report to be implemented**
Mitigation WQ 5.1-1b:	**Install individual water meters at each residential connection**
Significance:	**Less than Significant with Mitigation**
IMPACT WQ 5.1-2:	**Potential impacts on LRCMWC wells and groundwater recharge**
Mitigation:	**No mitigation required.**
Significance:	**Less than significant**
IMPACT WQ 5.1-3:	**Potential impacts on water quality standards**
Mitigation WQ 5.1-3a:	**Further testing for aluminum and iron if required.**
Mitigation WQ 5.1-3b:	**Treatment may be needed to eliminate light hydrogen sulfate odors**
Significance:	**Less than significant**
IMPACT GEO 5.1-4:	**Potential for erosion and sedimentation**
Mitigation GEO 5.1-4a:	**Stormwater Pollution Prevention Plan with BMPPs to be prepared**
Mitigation GEO 5.1-4b:	**Soil conservation plan to be prepared and included in CC&Rs.**
Significance:	**Less than significant with mitigation**
IMPACT GEO 5.1-5:	**Exposure to seismic and volcanic risks**
Mitigation GEO 5.1-5a:	**Subsequent geotechnical review to be conducted by qualified engineers**
Significance:	**Less than significant with mitigation**
IMPACT GEO 5.1-6:	**Potential loss of mineral resources**
Mitigation GEO 5.1-6:	**No mitigation required.**
Significance:	**Less than significant**
IMPACT FL 5.1-7:	**Increased volume and velocity of surface runoff**
Mitigation:	**Planned improvements are adequate; no supplemental mitigation required.**
Significance:	**Less than significant**

5.1.2 EXISTING CONDITIONS

5.1.2.1 Regional Water Quality

The project study area is part of the Lahontan Region (Region 6), one of nine regions administered under the California Water Resources Control Board for the purpose of implementing the Clean Water Act in the state of California. This mandate is implemented through establishment of state water policies, including water quality objectives, principles, and guidelines. These in turn are contained in formal *Water Quality Control Plans* ("Basin Plans") that identify beneficial uses of water resources, environmental characteristics of the hydrographic study

area, feasible water quality goals, economic considerations, housing requirements, and the need for and uses of recycled water resources.[1]

The community of Paradise is located at the northern end of the South Lahontan Basin. This basin contains 3 major surface water systems (Mono Lake, Owens River, and Mojave River), as well as many smaller closed basins. Most waters in this part of the basin are derived from snowmelt and are of very good to excellent quality, as is typical of high elevations. Water**Error! Bookmark not defined.** quality problems in Region 6 are generally related to heavy metals and radioactive elements (mainly from geothermal discharges), the sensitivity of lakes and streams to acidification, and the low acid-buffering capacity of native soils and water supplies. These problems in turn derive from a variety of non-point sources (erosion from construction, timber harvesting, and cattle grazing), stormwater runoff, acid drainage from inactive mines, acid content in rainfall, and widespread use of individual wastewater disposal systems.

A key element of the *Basin Plan* is the designation of beneficial uses for each hydrologic unit (HU). The beneficial use designations are used to determine water quality criteria. The Owens HU is comprised of 4 subareas including the Upper Owens Hydrologic Area [HA] in which the project site is located. The project site is located on Rock Creek, a perennial stream. Designated Beneficial Uses for Rock Creek include Municipal, Agriculture, Industry, Groundwater Production, Freshwater Habitat, Hydropower Generation, Recreation I and Recreation 2, Cold Water Habitat, Wildlife Habitat, and Spawning Habitat. The water quality objectives listed in the *Basin Plan* are presented in both numerical and narrative terms and include criteria that apply to all waters in the region as well as criteria established for selected waters. The criteria for Rock Creek (including the stretches by Mosquito Creek, above the diversion, and in Round Valley) are presented in Table 5.1-1.

Table 5.1-1
WATER QUALITY OBJECTIVES FOR ROCK CREEK (mg/L)[2]

Surface Waters	*TDS*	*Cl*	*SO4*	*F*	*B*	*NO3-N*	*Total N*	*PO4*
Rock Creek (Mosquito Flat)	10	1.0	-	0.05	0.03	0.2	0.2	0.04
Rock Ck. (above diversion)	21	1.2	-	0.05	0.06	0.3	0.4	0.01
Rock Ck. (Round Valley)	48	1.8	5.0	0.16	0.03	0.4	0.6	0.15

The site is also part of the Long Valley groundwater basin, which occupies an area of 102 square miles. Water quality objectives have been set for groundwaters of the region to address coliform bacteria, chemical constituents, radioactivity, taste and odor. No special criteria have been set for groundwaters in the Long Valley Basin. It has been noted that groundwaters in the region contain comparatively elevated levels of uranium and arsenic due to the subsurface weathering of volcanic and granitic materials.[3] This concern is substantiated in the inclusion of Crowley Lake on the 303(d) List of Impaired Water Bodies. The 303(d) listing is part of a program established under the Clean Water Act to identify and remediate water bodies that do not meet water quality standards. The listing for Crowley Lake cites arsenic and nutrients as pollutants of concern, both of which are indicated to derive from natural sources.[4]

5.1.2.2 Existing Water Supplies[5]

Water service in the Paradise community is provided by LRCMWC, which serves 64 existing homes as well as the Paradise Lodge. Future plans call for service to an additional 69 homes including required improvements to the LRCMWC system. The existing system comprises a single supply well, a water storage reservoir with a capacity of 110,000 gallons that is located on a permanent easement on the northwest corner of the Rock Creek Ranch project site, and a single source of electrical power. Due to concerns that the existing system may leave the community vulnerable to fire, LRCMWC in 1996 adopted a capital improvements plan that prioritized capital improvement goals and associated financing.

[1] Unless otherwise noted, the information provided in this section has been drawn from the California Regional Water Quality Control Bd-Lahontan Region, Water Quality Control Plan for the Lahontan Region, North and South Basins, October 1994.
[2] LRWQCB *Basin Plan*, Table 3-17. Data given in annual average values. TDS=total dissolved solids; Cl=chlorine; SO4=sulfates; F=flourine; B=boron; NO3-N=nitrates-nitrogen; Total N=total nitrogen; PO4=phosphates.
[3] Source: Dave Herzog, Kleinfelder, Inc., June 2001.
[4] Source: Doug Feay, Lahontan Regional Water Quality Control Board, April 2000.
[5] Source: Unless noted, information in this section is drawn from correspondence between Pountney & Assoc. and Mr. Dave Smith, President of Lower Rock Creek Mutual Water Co. concerning evaluation of the LRCMWD Business Plan. The correspondence was specifically entered into the record for this EIR by LRCMWC.

The evaluation noted that water use in Paradise was higher than predicted and attributed that usage to the presence of older homes without conservation fixtures, and to higher demand from arid conditions in the area. To estimate future system requirements, the report assumed a peaking factor of 2.44 and a maximum day demand of 193,000 gpd. Based on these estimates, it was concluded that LRCMWC had adequate fire storage but not enough well pump capacity or storage to meet maximum day demands in a situation where the reservoir had been depleted by fire use. The report therefore recommended that maximum day storage be increased from 110,000 to 193,000 gallons, and that the improvements be financed by increased connection fees.

The report also recommended that new development incorporate conservation restrictions to reduce consumption by at least 25% to about 415 gpd/lot. This alone was estimated to reduce maximum day demand to 170,000 gallons. The report noted that additional savings could be realized through retrofit of existing homes. The report noted that the LRCMWC well was capable of producing 168,000-192,000 gpd, which would fall short of ultimate maximum demand (193,000 gpd). Water conservation was considered adequate to bridge this gap. However, the report concluded that the well pump would be unable to meet maximum day demand and unable to replenish the reservoir under worst case fire conditions.

To reduce power costs, the report recommended that the well be operated during off-peak hours except during fires. However, off-peak operation was considered inadequate to meet replenishment requirements for future development. The report recommended that installation of a second well would resolve this concern and address other goals including enhanced system maintenance. Cost was the cited drawback. The report also noted that metering of individual accounts could facilitate a more equitable fee structure and encourage conservation.

The report considered the need for emergency power supply. A review of past events indicated that power outages were rare, supporting use of less-costly short-term power as a back up supply source. The report included information for a 100 KW, diesel-powered generator. The report concluded that reliability of the LRCMWC system was enhanced by a sound management, and outlined 8 specific recommendations:

- Update demand figures to calculate updated storage and supply requirements;
- Consider adopting water conservation measures;
- Continue maintenance of the surface supply pump system;
- Install 2 additional valves near the well pump;
- Add a new underground concrete storage tank with 60,000-83,000 gallon capacity (depending on conservation measures) adjacent to the existing storage tanks with an interconnection between all;
- Install a new well prior to serve future development;
- Delay purchase of a generator & instead direct funds to loop piping or extra storage;
- Construct the new loop piping as an upper pressure zone line.

The 2006 LRCMWC Business Report[6] references recommendations from the 1996 'Poutney Report' as described above. The 2006 Report indicates that construction was about to begin on a new water storage tank project. With respect to the recommended second well, the report notes that a package treatment plant to use water from Rock Creek would be a viable alternative, and indicates that a request had been submitted for grant assistance to construct a new surface water treatment plant, a second well and the new water storage tank. The loop line project was on hold due to easement problems, but LRCMWC anticipated that development of the Paradise Lodge, consistent with a development application submitted to the County in 2007, could facilitate construction of the loop line. The Report indicated that efforts were currently underway to obtain a standby generator.

5.1.2.3 Existing Drainage[7]

There are no formal drainage facilities on the property at present. Runoff enters the site from upgradient areas on the north and east, and then crosses the site as sheet flow, exiting to the south and west. Apart from Lower Rock Creek, there are no distinct drainage swales or ditches on the site. As described in the Drainage Study (Appendix E), the tributary area has been estimated by the project engineers to be 18.34 acres, with a runoff coefficient of 0.20. The total historic contribution to runoff from the site during a 25-year storm is calculated to be 25.76 cfs.

5.1.2.4 Site Topography

The project site is located on a pronounced slope and most of the site exhibits a uniform gradient from a high point at the northeastern corner (elevation of 5345') to a low point at the southwestern corner (elevation 4,910'), for an overall elevation differential of 435 feet. The uniform gradient ends abruptly along the northwestern part

[6] Source: LRCMWC, 2006 Business Report (second revision), provided in April 2008 by Jim Moyer, LRCMWC President.
[7] Source: Unless otherwise noted, information in this section is drawn from *Tract 37-56 Sierra Paradise Drainage Study* Prepared by Tom Platz of Triad/Holmes Associates, 2007 (see Appendix E).

of the site, which slopes steeply down into the Lower Rock Creek and includes roughly an acre of the creekbed; elevation in this area is about 5,000.'

5.1.2.5 Soils and Hydrogeologic Characteristics[8]

The project site is underlain almost entirely by Bishop tuff, a geologically young material comprised of welded volcanic ash that extends a depth of approximately 500-1,000 feet below project ground surface. Underlying the Bishop tuff is older alluvial material including silt, sand and gravel with a thickness of 500-1,000 feet. The older alluvium is in turn underlain by crystalline basement rock comprised of quartz monzonite.

Groundwater in Bishop tuff is thought to occupy fracture, joints and voids (known as 'vugs') in the rock materials. Since this area is characterized by a high degree of faulting, it is anticipated that there are many such joints and fractures available for water storage. The accessibility of such water would depend on numerous factors including the number, size, frequency, openness, interconnectivity and continuity of the fractures and on the presence of vugs in the vicinity of a well borehole. Yields are thus anticipated to vary widely, with a range of 10 to 100 gallons per minute (gpm).

Groundwater in the underlying alluvium would occur in the pore spaces and voids created by the interaction of the alluvial materials. Although yields are not known in this material, it is estimated that they could be high – as much as hundreds of gallons per minute (gpm). Groundwater in the crystalline basement rock occurs chiefly in fractures and is expected to have generally low yields of 1-10 gpm.

5.1.2.6 Seismicity, Liquefaction, Hydrogeology and Well Data[9]

The Mono County General Plan *Safety Element* notes that the entire County is located in Seismic Zone 4 indicating risk of earthquake exposure. All new construction must comply with stringent engineering and construction requirements. The Mono County Master Environmental Assessment, prepared in 2001, contains maps that broadly depict seismic hazard zones. Mapping for Long Valley (including Paradise) shows several quarternary faults in the vicinity of Paradise. The County's studies are supported by findings in the project geotechnical study, which provide more detailed information about faults located near the project site as shown in Table 5.1-2 below.

Table 5.1-2
FAULT ZONES IN THE STUDY REGION[10]

Fault Name	*Slip Rate (mm/yr)*	*Maximum Magnitude*
Hilton Creek	2.5	6.7
Hartley Springs	0.5	6.6
Silver Lake	2.0	7.5
Mono Lake/Lee Vining	2.5	6.6
Laurel-Convict	NA	6.8
Round Vly./Wheeler Crest	1.0	6.8
Owens Valley	1.5	7.6
Volcanic Tableland/Fish Slough	0.2	6.6
White Mountain	1.0	7.1
Long Valley Caldera	NA	7.0

To assess site exposure to seismic activity, the project engineers conducted a deterministic seismic analysis within a 100 km radius of the site. Results indicate that peak ground acceleration for a maximum earthquake event of 6.8 (Mw) on the Round Valley fault (located about 1.9 km from the project site) is 0.51g. The Hilton Fault (about 5.4 km from the site) could produce a maximum 6.7 (Mw) earthquake with a peak acceleration of 0.38g. The Design Basis Earthquake for this site is 0.47g. The project engineers conclude that this site is not located within any "Earthquake Fault Zone" or Alquist-Priolo Hazard Zones as defined in the Alquist-Priolo Geologic Hazards Zones Act of 1972.

Faulting can impact groundwater movement and well production in a number of ways. In particular, the grinding motion tends to result in an accumulation of fine materials along the fault plane that retard groundwater flow.

[8] Source: Unless noted, information in this section is drawn from a Preliminary Geotechnical investigation prepared by Sierra Geotechnical Services, Inc., May 2004 (see Appendix D).
[9] Source: Unless noted, information in this section is drawn from a Preliminary Geotechnical investigation prepared by Sierra Geotechnical Services, Inc., May 2004 (see Appendix D), and from a Summary of Well Construction Operations Domestic-Supply Water Well No. 2 prepared by Richard C. Slade, May 2007 (see Appendix F).
[10] Crowley Lake Estates Final EIR, 12/01 (Geotechnical studies for that project were also prepared by SGSI).

Based on long-term observations of the well operated by LRCMWC, however, faulting has not adversely impacted well production in the project area.

Until recent well testing for the proposed Rock Creek Ranch project, the well operated by LRCMWC is the only well known to exist in the vicinity of the site. The well casing extends to a depth of about 920 feet below ground level with a diameter of 12.5 inches. Perforations extend from a depth of 241 to 920 feet, and there is a 30-horsepower pump in the well with an intake at a depth of about 700 feet below grade. Although aquifer tests performed in 2001 were not sufficient to use for the current analysis, the results at that time showed a static water level of 238 feet just before pumping commenced, dropping to 301 feet after 45-minutes of continuous pumping. Following a 45-minute recovery period, water levels had risen to 241 feet below grade. The following year, SCE performed a static water level measurement that indicated a groundwater depth of 249 feet. Following 24 hours of pumping, water level drawdown was measured to be 88 feet. Specific capacities (i.e., gallons per minute per foot of drawdown, or gpm/ft ddn) for the 2002 test were estimated at 1.5 gpm/ft ddn for drawdown values, and 0.5 gpm/ft ddn for pumping rates.

Well productivity also derives from 'transmissivity' (T), the ability of an aquifer to transmit water to a pumping well. T is expressed in units of gallons per day per foot of aquifer thickness (gpd/ft). For the existing LRCMWC well, T values have been calculated in the range of 1000-3000 gpd/ft.

Liquefiable soils typically consist of cohesionless sands and silts that are loose-to-medium dense and saturated. These soils liquefy when subjected to ground shaking of sufficient magnitude and duration. The project site has no potential for liquefaction due to the lack of a high water table and the well-indurated (i.e., hardened) nature of bearing soils on the site. There was no evidence of past landslides during the site survey or based on aerial photo review.

5.1.2.7 Other Geologic Hazards[11]

The project engineers note that the project area has a long history of volcanic eruptions; the Long Valley Caldera was created by a massive eruption that occurred about 760,000 years ago. Eruptions of this size are extremely rare, and there is no evidence at present that an eruption of similar proportions is currently forming beneath the Long Valley Caldera. Small to moderate volcanic eruptions could occur along the Mono-Inyo Craters volcanic chain, producing pyroclastic flows and surges as well as ash and pumice fallout, which could significantly impact the project site. The probability of such an event would be about 1 in 1,000 in any given year.

The region is subject to rockfall and snow avalanches that can be triggered by earthquakes and other factors in alpine terrain. Because the site is well removed from steep mountain slope areas, the risk of rockfall or avalanche is low; some rockfall may occur along Lower Rock Creek due to the steep adjoining slopes. There is no potential for tsunamis or seiches on the site due to the distance of the site from large water bodies. The 2001 Mono County MEA notes that the study region is characterized by active geothermal and volcanic systems. Recent geothermal changes include variable topographic changes resulting from movement of the resurgent dome of the Long Valley Caldera, as well as declines in hot-springs discharges, increases in fumarolic discharges, and potentially dangerous gas emissions. In addition, at least 19 episodes of volcanism have occurred over the past 3,000 years. The Mono-Inyo Craters and the resurgent dome of the Long Valley Caldera are considered to be the most significant sources of potential volcanic activity.

5.1.2.8 Mineral Resources

The Mono County General Plan notes that significant mineral resources are present throughout Mono County. However, the project site is not an area with mineral resource value. The *Mono County Master Environmental Assessment*[12] (MEA) indicates that the project site has a mineral resource designation of MRA-1: "Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that there is little likelihood for their presence."

5.1.3 APPLICABLE FEDERAL AND STATE REGULATIONS

5.1.3.1 Regulations Governing Geotechnical Issues

[11] Source: Unless noted, information in this section is drawn from a Preliminary Geotechnical investigation prepared by Sierra Geotechnical Services, Inc., May 2004 (see Appendix D).
[12] Source: Mono County Master Environmental Assessment, 2000, Figure 17 L, Mineral Resources in Wheeler/Paradise.

Federal Regulations

The federal regulations governing geotechnical issues are expressed through the federal Uniform Building Code, which is implemented at the state level through the adoption of state building codes. The California Building Code is discussed below.

State Regulations

- The California Building Code (CBC, Title 24, Part 2 of the Code of Regulations) sets minimum standards for building construction in California.[13] The CBC allows local agencies to establish standards more (but not less) restrictive than Title 24. The CBC contains standards for the full breadth of building safety including seismic design, slope and foundation preparation, demolition, grading, occupational safety, seismic load requirements for electrical distribution, and other issues pertinent to construction and design practices. The CBC also establishes seismic hazard classifications and appropriate building standards. Seismic Zone 1 has the least potential for seismic activity, and Zone 4 the highest potential.[14]
- Alquist-Priolo Earthquake Fault Zoning Act and Seismic Hazards Mapping Act:[15] The Alquist-Priolo Earthquake Fault Zoning Act was passed by the California legislature in 1972 (following the 1971 San Fernando earthquake) to establish construction design standards to mitigate seismic hazards related to surface faulting in structures used for human occupancy. Parcels subject to requirements of the Alquist-Priolo Act are required to set a minimum setback of 50 feet from the projected fault trace for any building that will be used for human occupancy.
- The Alquist-Priolo Act is complemented by requirements of the Seismic Hazards Mapping Act, which focuses on seismic hazards other than surface rupture, including liquefaction and earthquake related landslides, as well as expansive soils, soil settlement, slope stability and other construction practices necessary to ensure the structural integrity of buildings used for human occupancy. The Seismic Hazards Mapping Act established the right of local agencies to require that geologic investigations and recommendations be completed and incorporated prior to issuance of building permits.

5.1.3.2 Regulations Governing Hydrological Issues

Federal Regulations

- Clean Water Act (CWA):[16] Originally adopted as the Federal Water Pollution Control Act Amendments of 1972, and amended as the Clean Water Act in 1977, this law set the framework for regulating the discharge of pollutants into waters of the USA. The Act requires states to adopt water quality standards for surface water contaminants. In California, the State Water Resources Control Board is responsible for administering CWA requirements, as implemented through nine Regional Boards statewide (Paradise is located in the jurisdiction of the LRWQCB). The Regional Boards regulate both 'point source' discharges (those from a specific location) and 'non-point source' discharges (those from diffuse sources over an extended area), with a goal of protecting the highest quality and beneficial uses of land and surface waters. Regulation occurs through issuance of either National Pollutant Discharge Elimination System (NPDES) permits or Waste Discharge Requirements (WDRs). Each Permit contains effluent limitations to protect the quality of the receiving waters.
- Safe Drinking Water Act (SDWA):[17] Congress passed the SDWA in 1974 to protect public health by regulating the nation's public drinking water supply. The law was subsequently amended in 1986 and 1996, and now requires a wide range of actions designed to protect drinking water and all of its sources including rivers, lakes, reservoirs, springs, and ground water wells (but not including private wells that serve fewer than 25 individuals). EPA is responsible for administering the SDWA at the federal level, and is also responsible for setting Maximum Contaminant Levels (MCLs) for bacteriological, organic, inorganic, and radiological constituents. Individual states are responsible for implementation at the state level, and California has adopted its own SDWA which incorporates, and is in some instances more stringent and comprehensive than, the federal standards (California Health and Safety Code, §116350).

State Regulations[18]

- California Water Resources Control Board (CWRCB): Established in 1969 as an outgrowth of the Porter

[13] USGS National Seismic Hazard Mapping Project, Levandecker et al., Rpt. 95-596, Special Response Maps and Their Relationship to Seismic Design Forces in Building Codes (http://eqhazmaps.usgs.gov/html)
[14] The federal Uniform Building Code contains 6 seismic zones including 2 (Low & Very Low) not found in the CBC.
[15] Calif. Dept. of Conservation, California Geological Survey website (http://www.consrv.ca.gov/CGS/rghm/ap/)
[16] Source: EPA website (http://www.epa.gov/region5/water/cwa.htm)
[17] Source: EPA website (http://www.epa.gov/safewater/sdwa/basicinformation.html)
[18] SARWQCB, *Water Quality Control Plan, Santa Ana River Basin (8),* 1995, amended in May 2000.

Cologne Water Quality Act, the SWRCB has overall responsibility for managing water quality in California. This goal is accomplished through varied requirements that include the listing of impaired water bodies and establishment of total maximum daily loads to facilitate their restoration, and implementation of permitting requirements for discharges to surface waters, including National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements (WDRs). Much of the responsibility for implementing the SWRCB programs has been delegated to the 9 regional water quality control boards.

- Lahontan Regional Water Quality Control Board (LRWQCB): As with other regional boards, the LRWQCB implements permitting requirements and discharge controls through NPDES permits consistent with §402 of the Clean Water Act. These activities are guided by standards specific to this region as expressed in the *Water Quality Control Plan* for the Lahontan Region (generally referred to as the *'Basin Plan'*). The *Basin Plan* describes applicable policies, designates beneficial uses, identifies water quality objectives, and sets forth an implementation plan that includes NPDES permits, WDRs, waivers, reclamation requirements, discharge prohibitions, and water quality certification requirements. The Plan also incorporates a series of monitoring and assessment programs to assure progress toward meeting established objectives.
  - o NPDES Permits: The Regional Boards use NPDES Permits to regulate discharges to 'navigable waters' of the US. NPDES permits also regulate pretreatment programs for municipal sanitation facilities exceeding 5 mgd. NPDES Permits are required for all construction storm water discharges involving clearing, grading and/or excavation to 1+ acre of land. To administer requirements, SWRCB adopted statewide general permits for industrial and construction storm water discharges. Under the program, Regional Boards issue General Permits to counties which then have oversight responsibility for municipal industrial storm water discharges in their boundaries.
  - o Waste Discharge Requirements (WDRs): The Regional Boards issue WDRs to regulate waste discharges that may impact groundwaters of the state. Thus, WDRs are issued for publicly-owned treatment works, reclamation activities, industrial waste discharges, subsurface waste discharges (such as septic systems), sanitary landfills and other similar activities.
  - o Water Reclamation Requirements: SWRCB has adopted a Reclamation Policy that encourages development of water reclamation in California as a means of fulfilling increasing water demands throughout the state. SWRCB issues loans for the development of such facilities and in support of studies on water reclamation.
  - o Waste Discharge Prohibitions: The Regional Boards adopt waste discharge prohibitions that specify conditions or areas within which waste discharges are prohibited. These include general prohibitions, prohibitions applicable to inland surface waters, prohibitions applicable to oceans/bays/estuaries, and prohibitions that apply to groundwaters.
  - o Water Quality Certifications: The Regional Boards issue Water Quality Certifications pursuant to §401 of the Clean Water Act, which requires dischargers to verify that their activities will comply with water quality standards. The §401 certification must be obtained *before* other licenses and permits may be granted, and are directed to activities involving the discharge of dredged or fill material to surface waters. The permits are issued by the Army Corps of Engineers (ACOE) under the aegis of the U.S. Environmental Protection Agency. States may assume responsibility for the 404 permit program, but California has thus far declined to do so.
- California Department of Health Services (DHS): Per §13521 of the Calif. Water Code, the Dept. of Health Services (DHS) is responsible for establishing reclamation criteria which, when adopted, are contained in Title 22 of the Calif. Code of Regulations (CCR). The Regional Boards implement provisions of Title 22 by issuing Water Reclamation Requirements (WRRs) to entities that produce and/or use recycled water.
  - o Drinking Water Standards: DHS is also responsible for developing and enforcing drinking water standards, also under Title 22. Standards reflect the maximum contaminant levels (MCLs) set by USEPA. In turn, the MCLs are associated with public health goals developed by the Calif. Office of Environmental Health Hazard Assessment Drinking water standards have been expanded over the years in accordance with the results of risk assessments for a wide range of chemicals and compounds.

The programs and requirements described above are designed to protect water quality in California. Where it is determined that objectives cannot be met, agencies have the option of establishing interim requirements that are coupled with a timeframe for achieving adopted standards.

5.1.4 SIGNIFICANCE CRITERIA

Impacts on geologic and hydrologic resources would be considered significant if project activities would:

- Have an adversely impact with respect to groundwater supplies or groundwater quality
- Trigger substantial erosion slope instability, landslides, or erosion on-site or on surrounding lands
- Create a risk of liquefaction, settlement, ground-rupture, or damage from volcanic or seismic activity
- Generate cut materials or require substantial fill quantities greater than 100,000 cubic yards (cy)
- Result in the loss of availability of a known mineral resource of value to the region and the state
- Place critical facilities in a 100-year flood zone or expose people to significant flood risk

5.1.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Anticipated Impacts on Groundwater Supplies

IMPACT WQ 5.1-1: Potential for increased demands on groundwater resources.

A key issue for the proposed project was the determination of whether groundwater supplies were adequate in volume and quality to meet applicable standards and regulations without impacting the volume or quality of LRCMWC groundwater production activities. To make this determination, the project applicant during 2005 undertook steps as required to install a test well and undertake groundwater testing and monitoring. All phases of the testing and monitoring effort were subject to oversight by the County's engineering consultant, AMEC Environmental; the testing protocols and results have been confirmed through this independent third-party review. Appendix F presents the test report in its entirety.[19] Key findings are summarized in this section.

The well testing process was first initiated during 2004, when drilling began at a potential well site located at the northeastern corner of the project site. Drillers were able to reach a depth of 900' at this location. However, because the borehole was not straight, it was necessary to drill a second borehole on the same site. The second drilling was successful in reaching water, but the flow rate of 40 gallons per minute (gpm) was well below the minimum 160 gpm flow requirements identified by Triad Holmes Associates in May 2004 for the proposed Rock Creek Ranch project (which at that time consisted of 53 units). Based on these results, the drilling effort was moved to an entirely new location at the southwestern corner of the project site. Again, numerous difficulties were encountered during the drilling process that related to caving, loss of drilling fluids, and problems with the underlying Bishop Tuff material, which extends to a depth of 690 feet below ground. Aquifer testing of the new well commenced in March of 2007, at which time the pre-test groundwater level was approximately 314 feet below ground. The test phase included a 12-hour step-drawdown, and a 72-hour constant rate pumping test.

Data obtained during the testing indicates an overall specific capacity of 1.6 gallons per minute per foot of drawdown. Water levels near the end of the pumping portion of the test were relatively stable, as indicated by the fact that recovery water levels were about 13.2 feet lower than the pre-test static water level. The water system perforated by the well is considered to be confined, with a transmissivity ("T") value of approximately 2,650 gallons per day per foot. Results of the testing program indicate that the well can be placed online at a rate of 250 gpm. The project engineers included a number of recommendations intended to maintain a high level of performance. The recommendations are addressed under §5.1.6, Mitigation Measures.

AMEC Environmental worked with the County to determine appropriate water demand factors for the proposed project. The analysis included a review of water system demands in the neighboring LRCMWC, as well as comparative data for other water systems in Truckee, Mammoth Lakes, Bishop and Mountain Meadows Mutual Water Company. In 1994, LRCMWC served a total of 64 homes plus the Paradise Lodge which has 30 equivalent connections. By 2005, LRCMWC had 82 residential connections plus 30 connections for the old Paradise Resort.[20] The total average annual water demand for these 112 connections was about 15 million gallons per year. When converted to a 'per lot' average, the data indicate that LRWQCB had an annual water consumption factor of about 133,928 gallons per lot (i.e., approximately 0.41 acre feet per year [AFY] per lot). LRCMWC noted that water consumption within the Paradise community has been declining over time, particularly since water meters were installed in 1997-1998.

Based on these data, AMEC forecast that average water demands for Rock Creek Ranch would include approximately 200 gallons per day per household, plus 4.5-5.0 gallons per square foot per day of irrigated land area. In whole, water demands in the 60-unit development are projected to total about 200,000 gallons per year per household, for an overall project-wide annual average demand of 12 million gallons (approximately 38 acre-feet per year). The project engineers indicate that the well is more than capable of meeting this demand.

Additionally, although the 40 gpm flow from the second well was inadequate to support the project as a whole, the project applicant plans to utilize this well as a secondary back-up supply source. During February of 2008, this well was tested for water quality.[21] Testing results indicate that the water supply complies with all applicable standards and regulations:

- General: Total dissolved solids, fluoride, sulfate and all other general mineral constituents were either not detected or were present in concentrations below established Maximum Contaminant Levels;

[19] Summary of Well Construction Operations, op cit. (Appendix F).
[20] Though Paradise Lodge is now closed, LRCMWC Gen. Mgr. Jim Moyer indicates (communication of 11/18/2007) that water use factors for this facility are a reasonable 'stand-in' for future water demands if the site transitions to residential development.
[21] Sierra Geotechnical Services Inc. (SGSI), *Summary of Sampling and Analytical Testing, Well Nos. 1 and 2,* Correspondence to C&L Development dated 26 March 2008 and revised 18 April 2008.

- Inorganics: All detected trace metals were below their listed regulatory levels;
- Organic Compounds: All tested organic compounds (volatile organic compounds (VOCs), semi-VOCs, pesticides and polychlorinated biphenyls (PCBs)) were reported as 'Not-Detected";
- Radiological Constituents: The radiological constituents (gross alpha, gross beta, strontium 90, radium 226 and 228, tritium and uranium) were each below their current MCLs;
- Other Constituents: asbestos was not detected.

To meet maximum day demands, provide reliability, and ensure adequate fire flow, the project applicant proposes to construct a 138,000 gallon bolted steel water storage tank along the northern property boundary.[22] Elevations are highest in this location, which will allow gravity flow. The capacity of this reservoir was determined on the basis of the factors summarized in Table 5.1-3 below. As shown, the tank will be sized to meet demand factors for the 60 primary units, the 11 deed-restricted secondary units and fire flow requirements under a maximum day demand scenario. Irrigation requirements for open space will be fully met with tertiary treated water from the package sanitation facility.

Table 5.1-3
WATER DEMAND AND WATER STORAGE FACTORS

DEMAND	FACTOR	USAGE
Average Day Residential Demand (total)	500 gallons/day/primary unit and 150 gallons/day/secondary unit	31,700 gallons per day
Maximum Day Demand Factor	2.5x average day/primary unit and 2.0x average day/secondary unit	78,300 gallons per day
Fire Flow Demand Factor	500 gallons per minute for 2 hours	60,000 gallons

The water reservoir will represent adequate storage to meet anticipated maximum day demand factors, provide for fire flow reserve, and provide recommended reserves. With implementation of the well design and construction measures below, impacts would be reduced to less than significant levels.

MITIGATION WQ 5.1-1a: Rock Creek Ranch well improvements shall be undertaken in accordance with recommendations outlined in the *Summary of Well Construction Operations Domestic-Supply Water Well No. 2* prepared by Richard C. Slade, May 2007 (see Appendix F).

MITIGATION WQ 5.1-1b (Individual Water Meters): Individual water meters shall be installed at each residential connection in order to provide for long-term accurate water usage data**.**

Significance: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

IMPACT WQ 5.1-2: Potential impacts on water quality and production in existing LRWQCB wells.

As noted above, the groundwater well test phase included a 12-hour step-drawdown, and a 72-hour constant rate pumping test. The key objective of the constant rate pumping test was to determine whether sustained production in the proposed project well would impact the rate of flow or the quality of groundwater produced by LRCMWC at either of its existing wells (note that LRCMWC Well No. 1 is located in an outparcel on the northwestern portion of the Rock Creek Ranch project site; the other well is located offsite).

Water levels in onsite Well No. 1 and occasional manual water levels recorded in the offsite LRCMWC well revealed that no water level drawdown interference was created in either well by virtue of pumping test Well No. 2 at a constant rate of 250 gallons per minute (gpm) for a continuous period of 72 hours. (Note that similarly long durations of continuous pumping at a rate of 250 gpm are unlikely to occur in the future).

The aquifer from which the proposed Paradise well would draw water supply is located in the underlying older alluvium. The primary recharge source for this groundwater supply is anticipated to be runoff from local streams (Lower Rock Creek and Owens River). Local rainfall is not expected to provide significant recharge since the project is in an arid environment with average precipitation of 5.2 inches. The project would not impact stream flows (for further analysis of this conclusion, please see the discussion under Impact 5.2-4 on p. 5.2-6) nor would it substantially reduce recharge from precipitation, and is thus not expected to have a significant effect on

[22] Aesthetic impacts of the water storage tank are considered in EIR §5.12.

groundwater recharge. Based on these findings, it is concluded that the project would not impact the existing LRCMWC wells or cause a substantial reduction in groundwater recharge. No mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Water Quality Considerations

IMPACT WQ 5.1-3: Potential impacts on the quality of the groundwater supply

As part of the well testing program described above (please also see Appendix C), a final well blend water quality sample was collected from the well prior to shut down of the constant-rate discharge test. Lab results reveal a sodium bicarbonate character, low levels of total dissolved solids (TDS), and low to non-detectable concentrations of most other chemicals and inorganic constituents. The metals aluminum and iron were detected at concentrations above their respective secondary Maximum Contaminant Levels (MCLs), and may necessitate treatment. Slight hydrogen sulfide odors were noted in the pumped discharge during testing of the new well. The project engineers speculated that these odors may have been a temporary result of remnant drilling muds. Gross Alpha levels were detected at a concentration above the 5.0 pCi/L trigger level. These results were communicated to the DHS,[23] which indicated that all new wells require initial radiological monitoring for gross alpha and radium 228 for two quarters (if results show no detection) or four quarters. Based on the gross alpha and gross alpha counting error, DHS would determine whether uranium and radium 226 monitoring is required and the monitoring frequency. If the well does not exceed the MCL, the source would receive a permit provided all other monitoring is in compliance, and the monitoring frequency for gross alpha would be increased to keep track of the levels. Treatment would not be required for gross alpha.

Although results of the initial water quality testing were sufficient to permit domestic use of the well, the project applicant elected to complete additional testing to clarify results of the initial test for gross alpha levels. Results of the laboratory analysis of radiological constituents from Well No. 2 revealed that the gross alpha, gross beta, strontium 90, radium 226 and 228, tritium and uranium were each below their current MCLs. SGSI personnel did not detect any hydrogen sulfide odor during this subsequent test, which was conducted in February of 2008 (see Appendix L). Based on these later results, it is not anticipated odor treatment or further water quality sampling will be required. Measures WQ 5.1-3a and 5.1-3b are provided below to acknowledge and address the possibility that further testing and/or treatment may be needed.

MITIGATION WQ 5.1-3 (Water Quality Sampling): If additional sampling is mandated by DHS, the project engineers recommend that further pumping development be performed prior to that sampling. Further testing for aluminum and iron is also recommended at that time also to determine whether remnant drilling muds were the cause of the slightly excessive detections of these metals.

MITIGATION WQ 5.1-3b (Treatment for Odors): Treatment shall be provided if necessary to eliminate the light hydrogen sulfide odors that were noted in the pumped discharge during testing of the new well but not noted during subsequent water quality testing of that well.

Significance: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

Geology and Soils[24]

IMPACT GEO 5.1-4: Potential for erosion and sedimentation

Project approval would authorize the applicant to undertake grading, soil preparation and construction as necessary to create pads, infrastructure, utilities, recreation areas and appurtenant features on much of the 54-acre project site. These earthwork activities would have the potential to pollute surface waters through soil erosion and subsequent sedimentation of suspended soil particles. Sedimentation in turn may contribute to the transport of pollutants suspended in the stormwater runoff**.**

Project engineers estimate that the area of direct earthwork disturbance for construction of project infrastructure will be approximately 8-10 acres. Since this exceeds 1 acre, the project will be subject to requirements of the NPDES requirements for construction projects. These requirements are enforced by the Lahontan Regional Water Quality Control Board and include preparation of a Storm Water Pollution Prevention Plan (SWPPP) with BMPs to

[23] E-mail from Andrés Aguirre, Sanitary Engineer, Calif. Dept. of Health Services to Brett Whitford, AMEC, dated 21 June 2007.
[24] Information in this section was obtained from *Preliminary Geotechnical Investigation for Specific Plan 03-02,* prepared by Sierra Geotechnical Services, Inc., May 21, 2004.

reduce potential erosion and sedimentation to less than significant levels as outlined in the Mitigation Measure provided below.

Construction of the internal road, water and sanitation facilities and pads for construction of homes will have a minor impact on the area of open land available for percolation of rainfall and sheet flows across the project site, and hence the volume of surface recharge contributed to the underlying groundwater basin. As noted under Impact WQ 5.1-2 above, the aquifer from which the proposed Paradise well would draw water supply is located partially in the Bishop tuff and partially in the underlying older alluvium. The primary recharge source for this groundwater supply is anticipated to be runoff from local streams (Lower Rock Creek and Owens River). Local rainfall is not expected to provide significant recharge since the project is in an arid environment with average precipitation of 5.2 inches. The project would not impact stream flows nor would it substantially reduce recharge from precipitation, and is thus not expected to have a significant effect on groundwater recharge. No mitigation is required for this impact.

MITIGATION WQ 5.1-4a (Best Management Practices): A Best Management Practices Program (BMPP) shall be implemented during all construction stages, including pre-construction and post-construction practices for stormwater management and for the prevention of erosion, sedimentation, and contamination resulting implementation of all project elements. BMPP measures shall at a minimum include: (1) disposal of all construction wastes in designated areas outside the path of storm water flows; (2) minimizing the footprint of construction zones and prompt installation of erosion controls; (3) stabilizing disturbed soils with landscaping, paving or reseeding to reduce or eliminate the risk of further erosion; (4) perimeter drainage controls to direct runoff around disturbed construction areas; (5) internal erosion controls to allow direct percolation of sediment-laden waters on the construction site; and (6) regular inspection and maintenance of all equipment used during construction. The project shall also comply with the requirement to obtain a General Construction Stormwater Permit, and prepare a Stormwater Pollution Prevention Plan.

MITIGATION GEO 5.1*-4b (Soil Conservation Plan):* A soil conservation plan shall be prepared and incorporated into the CC&Rs as a requirement for each individual lot at the time of the grading permit application to provide for the conservation of soil resources and the control and prevention of soil erosion associated with landscaping activities and the use of trails and open space areas within and adjacent to the project site.

⇨ Significance: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

Geotechnical Considerations

IMPACT GEO 5.1-5: Risk of seismic & volcanic activity, liquefaction, seich, and tsunami

As noted in the discussion of baseline conditions, the site is not subject to any significant risks associated with liquefaction (due to the absence of a high groundwater table), tsunami or seiche (due to the distance of large water bodies) or landslide (due to the absence of evidence of historic landslides).

The site is subject to potentially significant impacts resulting from volcanic and seismic activity. With respect to volcanic activity, the impacts are potentially significant and there is no mitigation that can effectively reduce risk. However, because the probability of a small-to-medium volcanic occurrence is very low (1:1,000 in any given year), this potential impact is considered to be less than significant. The risk of damage from seismic activity in the project region is also potentially significant. Seismic parameters for the site are presented in Table 5.1-4:

Table 5.1-4
SEISMIC PARAMETER RECOMMENDED VALUES

UBC Ch. 16 Table #	Seismic Parameter	Discussion
16-I	Seismic Zone Factor 4	Corresponds to highest risk factor
16-J	Soil Profile Type SB	Indicates a 'rock' subgrade
16-Q	Seismic Coefficient Ca 0.52	Used to estimate ground acceleration
16-R	Seismic Coefficient Cv 0.64	Used to estimate ground acceleration
16-S	Near Source Factor Na 1.3	Used to estimate near-source acceleration
16-T	Near Source Factor Nv 1.6	Used to estimate near-source acceleration
16-U	Seismic Source Type B	Describes maximum moment & slip rate of Round Valley Fault (nearest seismic source); Type B is mid-range.

The project engineers note that conformance to these criteria would not guarantee avoidance of significant structural damage or ground failure during a large magnitude earthquake. Reduction of impact potential to reasonable levels will require additional steps as outlined in the mitigation measures below.

MITIGATION WQ 5.1-5 (Subsequent Geotechnical Review): Adequate construction review is essential in order to assure the performance of foundation and earthwork. To this end, a qualified engineer shall be retained to review compliance with all specifications outlined in Appendix D.

Significance: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

Mineral Resources

IMPACT GEO 5.1-6: Potential loss of mineral resources.

According to the Mono County *General Plan,* the project site is not located in an area with significant mineral resources. No impact on mineral resources is foreseen, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Drainage, Flooding and Runoff

IMPACT FL 5.1-7: Potential increases in the runoff and flood exposure.

Lower Rock Creek is designated as a 100-year flood zone in the vicinity of the project site.[25] Due to the steep banks, flood flows in the project area are confined to the river channel and do not include the sloping mesa upon which the Rock Creek Ranch improvements are proposed for construction.

Proposed onsite storm drainage facilities will be designed to carry the flows generated during a 100-year storm. Where feasible, storm flow velocities will be limited to less than 5 feet per second; where this is infeasible, rip-rap will be installed to protect facilities. The potential for direct onsite exposure of residents and property improvements to 100-year flood flows is therefore considered less than significant.

Offsite drainage enters the site along the north and east boundaries from an 18.34-acre tributary area. Offsite drainage entering the project site will be collected in swales and directed around the site perimeter to maintain historic flow patterns, with energy dissipaters to retard erosive flows (i.e., greater than 5 feet per second [fps]). Onsite drainage will be conveyed to drywell retention systems located at selected points throughout the site. Runoff uninfluenced by site improvements will be allowed to exit the site along historical flow channels.

Following development, runoff from the site during a 25-year storm is calculated to increase by 63% over existing flows, for a developed total of 40.76 cfs. Conveyances are proposed to include brow ditches, road side swales, drop inlets and pipes. To reduce 'first flush' contamination from storm flow runoff, the drywell systems will be sized to retain the first inch of runoff during a 20-year storm event. All drainage facilities will be designed in accordance with standards of the County of Mono. Proposed storm drain improvements will reduce runoff to less than significant levels, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

5.1.6 SIGNIFICANCE AFTER MITIGATION

All potential project impacts associated with geologic and hydrologic conditions on the site can be reduced to less than significant levels through the mitigation measures identified above.

[25] Source: FEMA & ESRI Flood Hazard Web site (online: http://www.esri.com/hazards/makemap.html).

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.2 BOTANICAL RESOURCES

5.2.1 INTRODUCTION

The following discussion of botanical resources is condensed from detailed analyses prepared for the project by James Paulus, Ph.D. Appendix G presents the Botanical Survey Report in its entirety, and key findings are summarized in the section below. A number of comments received on the NOP or during the scoping process requested information about botanical resources and impacts (please see §2.0 Introduction for a full summary). Areas of interest included wetland and riparian areas, sensitive botanical species and habitats, invasive species, low-impact landscaping, biota that contribute to deer herd recovery, and loss of native vegetation.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT BOT-5.2-1:	**Potential loss of sensitive, rare or endangered species or habitat**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**
IMPACT BOT-5.2-2:	**Potential introduction of invasive species**
Mitigation BOT-5.2-2a:	**Landscaping to feature native or native-compatible species with temporary irrigation & buffering between the project and open space areas**
Mitigation BOT-5.2-2b:	**Weed abatement program for open space areas subject to spray irrigation**
Significance:	**Less than significant with mitigation**
IMPACT BOT-5.2-3:	**Potential impact on prime or unique farmland**
Mitigation:	**Less than significant impact; No mitigation required**
Significance:	**Less than significant**
IMPACT BOT-5.2-4:	**Potential impact of groundwater production on surface botany**
Mitigation:	**Less than significant impact; No mitigation required**
Significance:	**Less than significant**

5.2.2 EXISTING CONDITIONS

Literature Search

Based on a review of available data, it has been determined that eight rare plant species could have some potential to occur within the study area. All are herbaceous perennials, as outlined in Table 5.2-1.

Table 5.2-1
RARE PLANT SPECIES THAT COULD POTENTIALLY OCCUR ON THE PROJECT SITE[1]

Scientific Name Common Name Life Form	Rank or Status					Habitat	Flowering Period
	USFWS	DFG	USFS	CNPS	NDDB		
Arabis cobrensis Masonic rock cress herbaceous perennial	NL	NL	NL	2	S1-S2	sagebrush scrub	June-July

[1]USFWS=U.S. Fish & Wildlife Service status under Endangered Species Act (ESA; CDFG, 2004a); SC=species of concern (former C1/C2, as listed by Sacramento USFWS office); DFG=CA Dept. of Fish & Game listings under Native Plant Protection Act & CA ESA (CDFG, 2004a); R=Rare; S=Sensitive List, 6/98; W=Watch List, Dec. 1998; USFS=US Forest Service, Inyo National Forest, Bishop Office (1998a,b); CNPS=CA Native Plant Society listings (CNPS, 2001, 2004); 1B=rare & endangered in CA & elsewhere; 2=rare, threatened or endangered in CA, but more common elsewhere; NDDB=CA Natural Diversity Data Base rankings by CDFG (CDFG, 2004b); S1 is <6 occurrences or <1000 individuals or <1000 acres; S2 is 6-20 occurrences or 1000-3000 individuals or 2000-10000 ac; "threat numbers" follow decimal: .1=very threatened, .2=threatened, .3=no threat currently known, ? indicates CNDDB uncertainty in status. Flowering period data is from CNPS (2001). NL=not listed.

Arabis dispar Pinyon rock cress herbaceous perennial	NL	NL	W	2	S2.3	pinyon-juniper woodland	March-June
Astragalus johannis-howellii Long Valley milkvetch herbaceous perennial	NL	R	W	1B	S2.2	sagebrush scrub	June-August
Astragalus lemmonii Lemmon's milkvetch herbaceous perennial	SC	NL	NL	1B	S2.2	alkaline scrub, meadow	May-August
Astragalus monoensis var. *monoensis* Mono milkvetch herbaceous perennial	SC	R	S	1B	S2.2	open scrub or forest, pumice	June-August
Hulsea vestita ssp. inyoensis Inyo hulsea; herbaceous perennial	SC	NL	W	2	S1.2	pinyon-juniper woodland	April-June
Mentzelia torreyi Torrey blazing star; herbaceous perennial	NL	NL	NL	2	S2.2	pinyon-juniper woodland	June-August
Thelypodium integrifolium ssp. Complanatum foxtail thelypodium; herbaceous annual/perennial	NL	NL	NL	2	S2.2	scrub, alkaline soils	June-October

Field Surveys

Following completion of the literature search, thorough field surveys were conducted on the project site to determine whether the project site provides habitat suitable for any of 8 rare plant species that may occur in the project area. The field searches for rare plants were conducted on April 15-17, May 1-5, and June 1-2, 2004, with preliminary visits during March 14-15 to map plant communities. Due to unusually warm weather in early spring 2004, upland annuals were nearing complete senescence when survey work was concluded in June; work then focused on assessment of late-developing riparian vegetation along Lower Rock Creek. All plant species encountered were identified (Appendix G). Exhibit 5.2-1 presents plant communities on the site as observed during the 2004 survey. A supplemental botanical survey was conducted on August 13, 2007 (Appendix G).

None of the 8 rare species that may occur in the region were found during any of the site surveys, nor were populations of any other rare plants found during the surveys. The noxious weed Salsola tragus had spread throughout the site, and two new weeds (Triticum sp. and Avena sp.) had been introduced. These findings imply the High Desert Blackbush Scrub community in this project area is susceptible to invasion by common non-native weeds wherever new soil disturbance occurs.

Plant Communities and Species

Most of the project site supports a contiguous stand of open scrub vegetation that is classified as High Desert Blackbush Scrub. Big Sagebrush Scrub can be found on thin strips of terrain west of the Lower Rock Ck. riparian zone and between the base of the steep slope and Lower Rock Ck. Road. The relatively small portion of the study area immediately adjacent to Lower Rock Ck. is classified as Water Birch Riparian Scrub (Table 5.2-2).

The High Desert Blackbush Scrub and Big Sagebrush Scrub communities are widespread throughout the Great Basin Floristic Province and on the eastern slopes of the Sierra Nevada. High Desert Blackbush Scrub occurs in the study area as a rather diverse assemblage, and could be characterized as a blackbush-dominated variant of the regional Great Basin Mixed Scrub community. Big Sagebrush Scrub in the study area is relatively uniform, with greater structural complexity, a transitional location in the landscape, and to some degree by its species assemblage. Water Birch Riparian Scrub habitat, a water birch-dominated variant of Great Basin Riparian Scrub, occurs as a continuous but narrow corridor in the Lower Rock Creek riparian zone both upstream and downstream from the study area. Though locally "widespread" at Lower Rock Creek, Water Birch Riparian Scrub is regionally confined to relatively small habitats, and is considered rare by CDFG.

Table 5.2-2
PLANT COMMUNITIES FOUND IN THE PROJECT STUDY AREA

Plant Community Name	Holland Number[2]	CNDDB Number	Acreage in Study Area
High Desert Blackbush Scrub	34300	33.020.00	52.0
Big Sagebrush Scrub	35210	35.110.00	1.3
Water Birch Riparian Scrub	63510	63.610.00	0.1

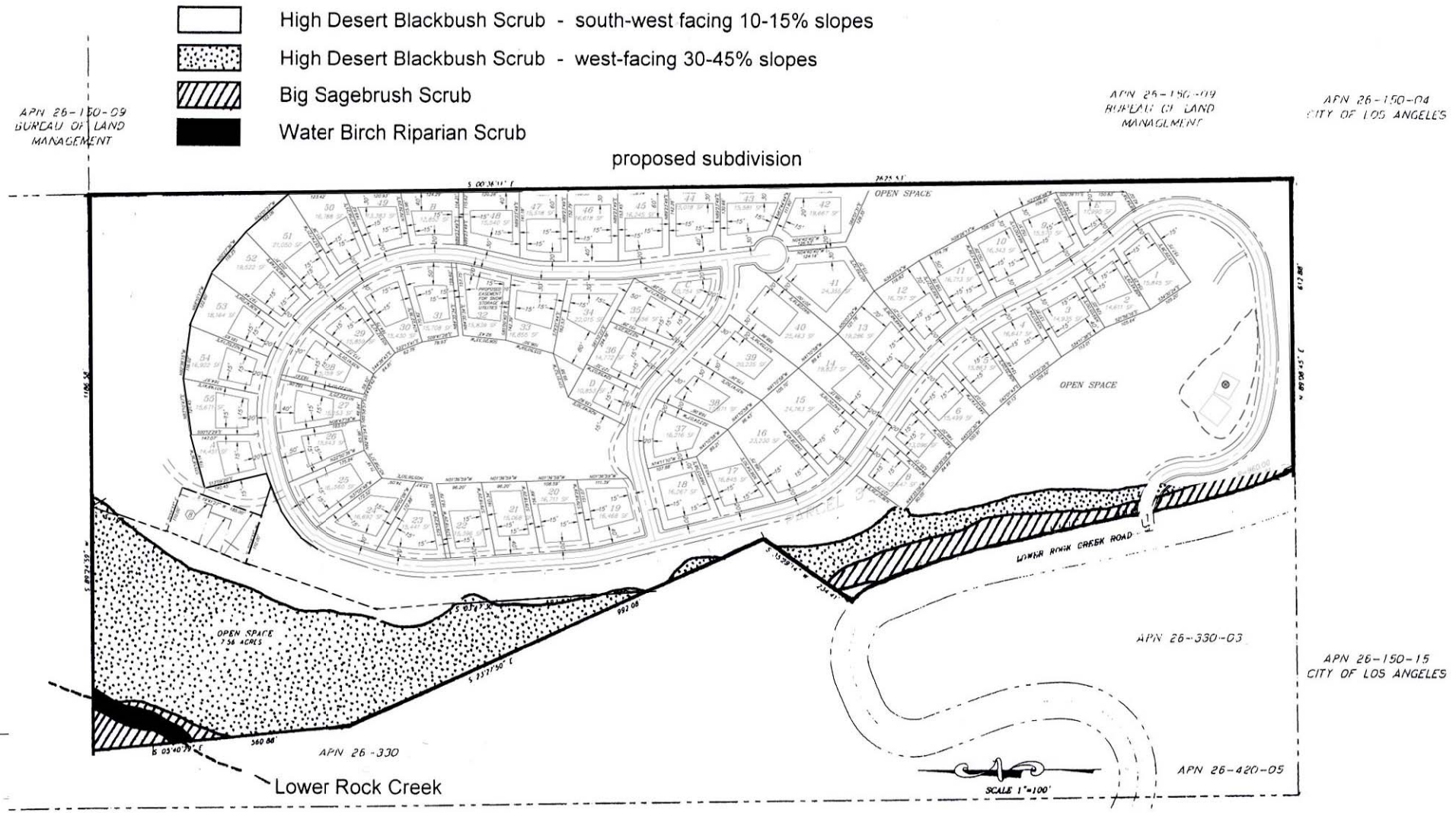

Figure 2. Plant communities mapped in 2004 within the study area for the proposed Paradise Housing Subdivision project. Project elements are overlain on the communities, which include High Desert Blackbush Scrub, Big Sagebrush Scrub, and Water Birch Riparian Scrub.

Plant Communities

Jim Paulus, Ph.D.
June 18, 2004

BAUER PLANNING & ENVIRONMENTAL SERVICES, INC.

ROCK CREEK RANCH EIR

EXHIBIT 5.2-1

All plant communities on the site show evidence of disturbance from human use. High Desert Blackbush Scrub exhibits the least disturbance overall, and appears to be recovering from partial burning that occurred 20-30 years ago. Two unpaved roadways that cross the study area, totaling less than 1 acre of surface area, were judged to be in current use where they pass through either High Desert Blackbush Scrub or Big Sagebrush Scrub. Moderately to highly disturbed scrub vegetation at abandoned firebreaks and roadways is recovering to frequencies similar to the surrounding less disturbed scrub.

High Desert Blackbush Scrub - Upland community type

High Desert Blackbush Scrub vegetation on dry slopes is dominated by shrubs with stiff (but generally not thorny) habit. Mature blackbush forms 40-60% of the diverse shrub canopy, but attains 80% dominance on lower slopes of the southern half of the site, with similar prominence on slopes adjacent to the north (upslope) and east (cross-slope) site boundaries. The average height of High Desert Blackbush Scrub is 2 ft, and total cover is rarely greater than 10% (higher cover is found only on the lowest slopes in the area proposed for the new approach road). Although flows cross the scrub areas, as evidenced by shallow channels and recent scour marks, no changes in species frequencies or abundances were observed.

Moderate slopes characterize most of the habitat occupied by High Desert Blackbush Scrub, with widespread areas of shallow soil profile. Soil depth appears to strongly influence the shrub species assemblage, average height, and total cover. While blackbush is the most ubiquitous canopy species outside of the riparian corridor, High Desert Blackbush Scrub also includes areas where other species dominate. Mountain monardella, wishbone bush, and several native buckwheat perennial herbs and shrubs are more important in smaller areas where Bishop Tuff is near or at the soil surface. Big sagebrush averaging 1-2 ft in height may patchily attain numerical dominance where soils are deeper. Similarly, rubber rabbitbrush, green rabbitbrush, and curl-leaved rabbitbrush usually are sub-dominant, but sub-community-sized patches of up to 40% relatively frequency were recorded for each of these species. Blackbush, rabbitbrush, and big sagebrush widely co-dominate the northern, upslope half of the area, which is the area that would be most impacted by home construction. The patchiness of dominants in this case could be soil-related, but also is typical of the appearance of a post-fire sere; other patch-sized successional mosaics are common on slopes of the nearby Round Valley.

The steep west-facing slope, proposed as open space, includes 6.8 acres of High Desert Blackbush Scrub habitat with a few species that were absent or scarce on land where homes are proposed. Chia, cut-leaved thelypody, brickellbush, and California thistle grow only from cracks in outcrops and in areas of intense ground creep. Where soil and rockfall have accumulated, desert peach, four-wing saltbush and antelope bitterbrush join with big sagebrush and blackbush to form a thin canopy. Trees are absent from High Desert Blackbush Scrub, except for two stunted singleleaf pinyon pine (*Pinus monophylla*) found on the steep west-facing slope. Native perennial grasses are consistently present between the shrubs, but always at relatively low frequencies. The most common upland scrub species include Cusick bluegrass, foxtail barley, and two needlegrasses (*Achnatherum hymenoides* and *A. speciosum*). Cheatgrass was by far the most abundant grass in 2004, forming dense stands under and between shrub canopies. Cheatgrass is present throughout the site with lower abundance only on the steepest, rockiest slopes and in deep leaf litter next to Lower Rock Creek. The stand of native annuals was overall thinner in 2004 than in 2003, with white tidytips, Fremont yellow throats, Great Basin woollystar, Nevada gilia, blazing star, cushion cryptantha, spotted buckwheat, and moth combseed being the most common of the native annuals.

Big Sagebrush Scrub - Transitional community type

Species typical of High Desert Blackbush Scrub in the study area are absent at two locations near Lower Rock Creek, where big sagebrush contribute 50-60% of the canopy. These two relatively dense and tall stands were classified as Big Sagebrush Scrub. Average Big Sagebrush Scrub community height is 4 ft, but scattered Sierra coffeeberry (up to 10 ft in height) and the nearby riparian corridor trees add greater structural character. Large talus boulders account for most of the canopy gaps. The presence of scattered wild rose and narrow-leaved willow stems, and the community's location on relatively level ground near a perennial stream, suggests that periodic increases in the water table play a role in maintaining the current Big Sagebrush Scrub assemblage.

Herbaceous plants were generally not prominent in Big Sagebrush Scrub in 2004. Herbs and grasses found in greater abundance in High Desert Blackbush Scrub were present at low frequencies in Big Sagebrush Scrub. Open soil habitat is limited and the habitat for herbs is sparse due to dense talus along Lower Rock Ck. Rd. On-going disturbance from the paved road and trail is associated with a higher diversity of non-native colonizers; non-native bromes (especially cheatgrass) were abundant and the non-native annual Russian thistle, which has apparently not invaded other communities in the study area, was found throughout Big Sagebrush Scrub in 2004.

Water Birch Riparian Scrub - Wetland community type

Surface water was encountered in the study area only at Lower Rock Creek. A portion of the perennial flow there is diverted for municipal water consumption. Narrow strips of stream bank and exposed bed directly adjacent to

the flowing water were classified as Water Birch Riparian Scrub. This entire "corridor" community, which ranges between 20-40 feet wide, is found in the area proposed as open space (Figure 2). Again, changes in species composition are abrupt and complete at the community's outer edges. The presence of a coniferous overcanopy and riparian understory trees visually distinguishes Water Birch Riparian Scrub. All trees are native species. A total of five Jeffrey Pine averaging 50 ft tall and 24-36 inch diameter at breast height (dbh), occur in the small segment of corridor that intersects the study area. Water birch to 10 ft tall, arroyo willow and narrow-leaved willow form a dense subcanopy that shades Lower Rock Creek.

The dense birch and willows, when combined with a wild rose understory, can make this community impassable, despite its narrow profile in the study area. The tree canopy provided by understory birch and willows is nearly continuous; these rapidly growing species have filled in much of the bank area that was disturbed when water diversions structures were installed. Any new disturbance to the narrow strip of Water Birch Riparian Scrub would have a high likelihood of creating temporary, discontinuous subcanopy gaps. Existing gaps provide small, less shaded habitats along the water's edge and support vigorous populations of spreading perennials.

The herbaceous groundcover is continuous, except in the deepest shade and where fishing trails approach the stream. Emergent twotooth sedge is often dense, and helps to stabilize the bank. In general, a high degree of native character has been maintained. The widely spread Kentucky bluegrass is one of only two non-native species found in the Water Birch Riparian Scrub, the other is cheatgrass. Leaf litter from the overstory Jeffrey pine and other trees has accumulated deeply and may, with the increased degree of shading, explain why even cheatgrass is nearly absent.

Rare plant communities and species

One known on-site occurrence of a rare plant community was found during the literature search: Water Birch Riparian Scrub was documented in CNDDB records as occurring in 1994 and 1998 along Lower Rock Creek, including the section intersected by the study area. The extent of this occurrence was verified and mapped during field surveys in 2004. Two stands of Water Birch Riparian Scrub, located upstream of the study area at 6,900-7,200 ft, were compared with the stand that crosses through the study area. Both are associated with perennial surface flow and characterized by species similar to the riparian corridor vegetation classified onsite as Water Birch Riparian Scrub. No known occurrences of rare plant species within the study area were uncovered during the literature search. Recent CNDDB records indicate that 5 rare species (2 *Mentzelia torreyi* occurrences, and 1 occurrence each of *Arabis dispar*, *Hulsea vestita* ssp. *inyoensis*, and *Thelypodium integrifolium* ssp. *complanatum*) occur within 5 miles of the study area. No rare plants were found in the study area during searches in April, May, and June 2004.[2] [3] The upland and streamside habitats support only non-native species and native species considered common in the region.

During the transect surveys, sign of light use by deer was seen throughout the property. High deer use areas were observed to be concentrated in scrub atop the upper edge of the steep west-facing slope, and along trails leading from there down to Lower Rock Creek. No areas used for grazing of cattle were found. Annual plants were common but not abundant (excepting cheatgrass) in 2004, while perennial herbs and most shrub species bloomed and set seed during the survey period. It is concluded that grazing activity and climate did not influence ability to detect rare plants during this survey. Vegetation is prone to fire, and noxious weeds are pervasive throughout the project area. Cheatgrass is rated A-1 by California Invasive Plant Council (CalIPC, formerly CalEPPC) indicating that this is among the most invasive exotic plants, and already widespread. Russian thistle has been rated CBNL ('considered but not listed') by CalEPPC, and C ('not subject to eradication') by the California Department of Food & Agriculture (CDFA).

5.2.3 APPLICABLE STATE AND FEDERAL REGULATIONS

5.2.3.1 Federal Regulations

- Federal Endangered Species Act (FESA): U.S. Fish & Wildlife Service (USFWS) is responsible for protecting threatened and endangered species through FESA implementation. The FESA prohibits the taking of a listed species or habitat that may be important for the species' survival, unless an incidental take permit is obtained under §7 for federal projects, and §10 for non-federal actions. The listing process requires a proposed ruling, followed by a final listing if supported by available data; emergency listings are permitted for species on the brink of extinction.

[2] Two *Arabis* species found in the study area share broadly cruciferous characters that could allow confusion with the potentially occurring rare species *A. cobrensis* or *A. dispar*. Appendix G discusses factors used to distinguish among these species.
[3] One member of the genus *Astragalus* found growing in recently disturbed soil in Big Sagebrush Scrub was readily distinguished from the 3 potentially occurring rare species of *Astragalus* (*A. johannis-howellii*, *A. lemmonii*, & *A. monoensis* var. *monoensis*.

5.2.3.2 State Regulations

State regulations governing biological resources are summarized below:

- California Endangered Species Act (CESA): CESA provisions, permits & definitions parallel those of FESA, and are administered through DFG, but also include 'candidate species' (under formal review for listing) and species of special concern (about which DFG has information that populations are declining). DFG also has jurisdiction over lakes, streambed and banks under §1601-1603 of the DFG Game Code, which requires a 'Streambed Alteration Agreement' for activities that would alter stream channels or lake edges.
- California Natural Diversity Database (CNDDB): CNDDB is a compilation of data concerning sensitive species and communities throughout California. The list includes ranking from 1 (most sensitive) to 5 that indicates species' global condition.
- California Native Plant Society (CNPS): The CNPS provides a catalogue of rare and endangered plants in the state according to distribution and viability, wherein 1A represents species that are presumed to be extinct and 4 represents plants that bear watching.

5.2.4 SIGNIFICANCE CRITERIA

Impacts on botanical resources would be considered significant if the project could:

- Substantially affect a sensitive, rare or endangered plant species or habitat.
- Pose a risk to local habitat through the introduction of invasive species.
- Convert Prime or unique Farmland to non-agricultural use.
- Adversely impact surface plant materials as a result of well operation.

5.2.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Sensitive Species and Habitats

IMPACT BOT 5.2-1: Potential impacts to sensitive, rare and/or endangered species or habitats

Project development would replace a majority of existing habitat on the site with pads for residential construction, impervious road surfaces, utility improvements and introduced landscaping. Findings presented in the botanical report indicate that no sensitive species were identified during the site survey, and no sensitive species are expected to occur on the site. Additionally, there are no sensitive, rare, protected or uncommon vegetation communities on the site that could be impacted by project implementation. No mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Invasive Species

IMPACT BOT 5.2-2: Potential introduction of invasive species

The replacement of native plant materials with non-native species could have a significant adverse impact on local habitat as a result of the introduction of invasive plants. For the Rock Creek Ranch project, habitat replacement could occur through landscaping of private lots and the shared recreational area, and as a result of spray irrigation of open space areas as a means to dispose of surplus tertiary treated effluent from the package treatment plant (the project engineers have estimated that an area of 4.8 acres will be needed to dispose of this surplus). Both situations have the potential to introduce species that would replace native habitat in the area of defined impact. The potential impacts associated with introduction of invasive species can be reduced to less than significant levels through landscaping controls and through an aggressive weed management program in areas used for spray irrigation, as provided in the mitigation measures below.

MITIGATION BOT 5.2-2a (Landscaping Controls): (a) Landscaping in Rock Creek Ranch shall consist of plant materials that are native to the Mono County region and have value to native wildlife, and nonnative species that are compatible with native plant materials, have low propagation characteristics and are not invasive; (b) A temporary irrigation system shall be provided for irrigation of the common landscape areas. The temporary system shall remain in place until the County finds that supplemental irrigation is no longer required to maintain plant viability, and shall then be removed; (c) All landscaping shall be maintained in a neat, clean, and healthy condition. This shall include proper pruning, mowing, weeding, litter removal, fertilizing, replacement, and irrigation as needed; (d) During building permit review, each residential lot application shall be accompanied by a detailed landscaping plan that identifies materials to be used for the residential building pad as well as any cut and fill slopes for the residential street; and (e) All common open space areas shall be addressed in a detailed landscape plan that incorporates intensive buffering (using native

or native-compatible plant materials) for bluff-top areas facing the existing Paradise community and for the open space corridors extending through the residential lots.

MITIGATION BOT 5.2-2b (Irrigation): Open space areas used for spray irrigation with surplus recycled water shall be subject to an ongoing landscape control program designed to prevent establishment of non-native species that could spread to surrounding environments. Species that will be eradicated upon discovery include any non-native species not established in the open space area prior to project implementation. Weed control will be accomplished to the maximum extent feasible by rotating water spreading applications within the open space area designated as suitable for spray irrigation. Ponding and long-term surface saturation will be avoided to the maximum extent feasible. If populations of new non-native species nevertheless appear, they shall be controlled through mechanical or accepted herbicidal practices.'

Significance: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

Agriculture

IMPACT BOT 5.2-3: Potential loss of prime or unique farmland

Soils on the project site are characterized almost entirely by Bishop tuff, a geologically young material comprised of welded volcanic ash. This classification is not suited to agriculture and the project would not have an impact on farmland resources if approved. No mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Groundwater Production Impacts on Surface Plants

IMPACT BOT 5.2-4: Potential impacts of groundwater production on surface botany

Groundwater production can lower the water table around a well, which is known as a 'cone of depression.' Under some circumstances, the cone of depression from a pumping well may extend over a large area, and can lower the water table in surrounding area. This phenomenon has the potential to impact surface plant materials through changed soil moisture levels.

Within Rock Creek Ranch, the point of groundwater withdrawal is proposed to be at a depth of 700 feet below ground surface. Based on results of the pump test conducted by Richard Slade & Associates (including the water elevation above the interface of the Bishop Tuff and underlying sand deposits, as measured within a cased well), the aquifer appears to be artesian. The surface water level was measured at a depth of 305.8' just before the start of the 72 hour pump test, and the demonstrable minimum separation between the surface water level and Rock Creek is approximately 206'. If the Bishop tuff acts as an aquitard above the underlying sand deposits, which appears to be the case, the separation between groundwater and Rock Creek may be as much as 590'. Reliance on either figure for the separation indicates that Rock Creek has no direct connection with the underlying aquifer. Accordingly, it is very unlikely that groundwater pumping (regardless of the size of the cone of depression, if any) would have any corresponding effect on the flux of water to the soil and rock under and immediately adjacent to Rock Creek. Furthermore, deviation of the bottom of the well would have no significant effect on the foregoing analysis. Based on these considerations, it is concluded that project-related groundwater production would not have any impact on surface plant materials or flows in Rock Ck. No mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

5.2.6 SIGNIFICANCE AFTER MITIGATION

All potentially significant impacts on botanical resources would be reduced to less than significant levels through implementation of the mitigation measures outlined above.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.3 WILDLIFE

5.3.1 INTRODUCTION

The following discussion of wildlife resources is condensed from analyses prepared by Miller's Consulting. Appendix H presents the Wildlife Assessment in its entirety; key findings are summarized herein. Wildlife issues raised in the NOP comments and during scoping include impacts to migrating deer and other wildlife and regional conservation plans for wetland species and migrating deer herds, impacts on bighorn sheep, bats, and the Round Valley deer herd, the impact of increased traffic and domestic animals on wildlife.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT WILD 5.3-1:	**Potential loss of natural communities and wildlife**
Mitigation WILD 5.3-1a:	**Easements in open space areas**
Mitigation WILD 5.3-1b:	**Landscaping limited to native and native compatible vegetation**
Mitigation WILD 5.3-1c:	**Dogs prohibited during construction phases**
Mitigation WILD 5.3-1d:	**Clearing of native vegetation prohibited except for construction**
Mitigation WILD 5.3-1e:	**Domestic animals to be restrained at all times**
Mitigation WILD 5.3-1f:	**Exterior lighting to be limited or shielded**
Significance:	**SIGNIFICANT UNAVOIDABLE ADVERSE IMPACT**
IMPACT WILD 5.3-2:	**Impacts to special status species and habitats**
Mitigation:	**Less than significant impact; No mitigation required.**
Significance:	**Less than significant**
Impact WILD 5.3-3:	**Potential impacts to jurisdictional areas**
Mitigation:	**Less than significant impact; No mitigation required.**
Significance:	**Less than significant**
Impact WILD 5.3-4:	**Potential impacts on movement of the Round Valley deer herd**
Mitigation WILD 5.3-4a:	**Signage warning of deer; maximum 25 mile per hour interior speed limit**
Mitigation WILD 5.3-4b:	**Construction periods limited to minimize impacts on migrating & wintering deer**
Significance:	**SIGNIFICANT UNAVOIDABLE ADVERSE IMPACT**

5.3.2 EXISTING CONDITIONS

Literature Search and Field Surveys

Literature searches were conducted in June 2004 and August 2007. Field surveys were conducted on April 10, 2004 and August 18, 2007. Vertebrate wildlife observed during the field survey include: mourning dove, Steller's jay, white-crowned sparrow, common raven, northern flicker, and black-tailed jackrabbit. Evidence of coyote was observed and sign of mule deer was found throughout the site. Table 5.3.1 shows wildlife expected and observed on the site. Although no bat surveys have been done on the project site, several species are known to occur in the immediate vicinity of the site. These species are expected to forage above the project site, and may roost in the trees in the water birch riparian scrub or in crevices between large rocks on the project site. As shown, there are thirty-five (35) special status animal species known to occur in the region of the project site. A brief discussion follows for those species likely to occur on the site.

5.3.2.1 Fish Slough springsnail, Owens Valley springsnail, Aardhal's springsnail

Fish Slough springsnail, Owens Valley springsnail and Aardhal's springsnail generally inhabit aquatic vegetation and gravel substrates in flowing water where they feed on algae (USFWS 1998). These three Owens Basin springsnails typically inhabit only springs and short sections of spring brooks with good water quality that are below 7,500 ft elevation (USFWS 1998). Fish Slough springsnail, Owens Valley springsnail and Aardhal's springsnail may occur in Lower Rock Ck.

Table 5.3.1: Special Status Animal Species Known to Occur in the Project Region				
English name	Species name	State Status	Federal Status	Other Status
INVERTEBRATES				
Wong's springsnail	*Pyrgulopsis wongi*			OBWS
Fish Slough springsnail	*Pyrgulopsis perturbata*			OBWS
Owens valley springsnail	*Pyrgulopsis owensensis*			OBWS
Aardhal's springsnail	*Pyrgulopsis aardhali*			OBWS
FISH				
Owens pupfish	*Cyprinodon radiosus*	SE	FE	OBWS
Owens sucker	*Catostomus fumeiventris*	CSC		
Owens tui chub	*Gila bicolor*	SE	FE	
Owens speckled dace	*Rhinichthys osculus* ssp 2	CSC		
Long Valley speckled dace	*Rhynichthys osculus* spp. 5			OBWS
AMPHIBIANS				
Yosemite toad	*Bufo canorus*	CSC	FC	
Mountain yellow-legged frog	*Rana muscosa*	CSC	FE	
Northern leopard frog	*Rana pipens*	CSC		
Mount Lyell salamander	*Hydromantes platycephalus*	CSC	FSC	
BIRDS/RAPTORS				
Swainson's hawk (nesting)	*Buteo swainsoni*	ST	FSC	PIF
Northern goshawk (nesting)	*Accipiter gentilis*	CSC	FSC	
Prairie falcon (nesting)	*Falco mexicanus*	CSC		
Osprey (nesting)	*Pandion haliaeteus*	CSC		OBWS
Least bittern	*Ixobrychus exilis*			OBWS
Yellow rail	*Coturnicops noveboracensis*	CSC		OBWS
Western snowy plover (nesting)	*Charadrius alexandrinus nivosus*	CSC		OBWS
Yellow-billed cuckoo	*Coccyzus americanus*			PIF
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	SE	FC	PIF
Bank swallow (nesting)	*Riparia riparia*	ST	FSC	PIF
Swainson's thrush	*Catharus ustulatus*			PIF
Bell's vireo	*Vireo bellii*			PIF
Least Bell's vireo (nesting)	*Vireo bellii pusillus*	SE	FE	PIF
Warbling vireo	*Vireo gilvus*			PIF
Yellow breasted chat (nesting)	*Icteria virens*	CSC		PIF
Common yellowthroat	*Geothylypis trichas*			PIF
Willow flycatcher	*Empidonax traillii*	SE		PIF
Southwestern willow flycatcher	*Empidonax traillii extimus*	SE	FE	PIF
Yellow warbler	*Dendroica petechia*			PIF
Wilson's warbler	*Wilsonia pusilla*			PIF
Black-headed grosbeak	*Pheuticus melanocephalus*			PIF
Blue grosbeak	*Guiraca caerulea salicaria*			PIF
Song sparrow	*Melospiza melodia*			PIF
MAMMALS				
California bighorn sheep	*Ovis canadensis californiana*	SE	FE	
Owens Valley vole	*Microtis californicus vallicola*	CSC		OBWS
LEGEND				
State Status: SE =Calif. State Endangered; ST=Calif. State Threatened; CSC= Calif. Species of Special Concern				
Federal Status: FE Federal Endangered; FT=Federal Threatened; FPE=Federal Proposed Endangered; FPT=Federal Proposed Threatened; FC=Federal Candidate for Listing; FSC=Federal Species of Concern				
Other Status: PIF=Partners in Flight Riparian Focal Species; OBWS-Owens Basin Wetland and Aquatic Species				
Sources: DFG 2007, DFG 2004b, MacMillen 1996, RHJV 2003.				

5.3.2.2 Owens sucker

Little is known of the life history of Owens sucker (DFG 1995). Based on knowledge of the Tahoe sucker it is thought that Owens suckers are nocturnal feeders that eat aquatic insects, algae, detritus and inorganic matter picked off the bottom. It is also thought that Owens suckers spawn from late May to early July. Young Owens sucker larvae are usually found in quiet sedge-dominated margins and backwaters (DFG 1995). In the lower Owens River and two of its tributaries, Lower Rock Creek and Lower Hot Creek, Owens sucker adults are most abundant in sections with long runs and few riffles. The substrate in these sections consists mostly of fine material, with lesser amounts of gravel and rubble. Adults occur in lakes and reservoirs, but presumably need gravelly riffles in tributary streams for spawning (DFG 1995).

The Owens sucker currently occurs in Crowley and Convict Lakes in the upper Owens River drainage, Mammoth Ck. and Hot Ck. in Long Valley, Bishop and Rock Creeks, irrigation canals near Bishop, and the Owens River through Pleasant Valley. They have been found in lower Horton Ck., Lower Rock Ck., Pine Ck., and other waters near Bishop (USFWS 1998). The Owens sucker is expected to occur in Lower Rock Creek on the project site.

5.3.2.3 Mountain yellow-legged frog

The mountain yellow legged frog occurs at elevations from 4,500' to 12,000' in the Sierra Nevada Mountains from Plumas County to southern Tulare County. In the north, a population in Butte Co. is separated from the main Sierra group by the Feather River Canyon. In southern California, isolated populations exist in the San Gabriel, San Bernardino, and San Jacinto Mountains.

This aquatic species is always encountered within a few feet of water. In the Sierra, this species is associated with streams, lakes and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitat types. The mountain yellow-legged frog appears to prefer open stream and lake margins that gently slope. It seems to be absent from habitats with introduced predatory fish and bullfrogs. In southern California, populations are restricted to streams in ponderosa pine, montane hardwood-conifer, and montane riparian types. The mountain yellow-legged frog feeds primarily on aquatic and terrestrial invertebrates and favors terrestrial insects. (DFG 1994, DFG 2004) The mountain yellow-legged frog may occur on the project site in Lower Rock Creek and the immediately adjacent water birch riparian scrub.

5.3.2.4 Mount Lyell salamander

The range of the Mount Lyell salamander extends through the Sierra Nevada Mountains from the Smith Lake area in El Dorado County to Franklin Pass in Tulare County (DFG 1994). They are found from 4,000 to 11,600' elevation. Mount Lyell salamanders are insectivorous with hatchlings and juveniles apparently restricted to eating smaller foods. Mount Lyell salamanders are largely restricted to alpine or subalpine vegetation communities. Mount Lyell salamanders occur where extensive outcrops of rock and scattered boulders are found near water. They are highly dependent on water, always found within a few feet of water, and associated with permanent streams, waterfalls seeps and snowmelt runoff. Mount Lyell salamanders may occur in Lower Rock Ck on the project site.

5.3.2.5 Prairie falcon (nesting)

Prairie falcons are fast flying birds of prey, which generally eat small mammals and small to medium size birds. They capture mammals on the ground and birds in flight. They are birds of open country habitats, which allow for fast pursuit of prey. They nest on high, protected cliff faces that are 20 to 400 feet in height (Verner and Boss 1980). The peak of prairie falcon nesting is from early May to late August (Verner and Boss 1980). Nest sites may be rock outcrops of thirty feet, to high vertical cliffs. The nest sites typically have commanding views of the surrounding open countryside. Prairie falcons are not expected to nest on the project site although they may use the project site and surrounding open habitats in the project area for hunting.

5.3.2.6 Swainson's thrush

The Swainson's thrush is a robin-sized bird that is olive-brownish on the back with spots on a whitish breast. It is a migrant and summer resident in California and is common east of Sierra Nevada crest. The Swainson's thrush inhabits wooded riparian areas, preferring those with a dense understory. The Swainson's thrush consumes insects, and spiders, berries and other fruits. Although the Swainson's thrush has not been observed breeding on Lower Rock Creek (PIF 2004), the thrush may occur on the project site as the site contains suitable riparian habitat and is within the range of the thrush.

5.3.2.7 Warbling vireo

The warbling vireo is common summer resident throughout much of California. It breeds in montane and valley foothill riparian, valley foothill hardwood, valley foothill hardwood-conifer, & aspen habitats. It is also found in

desert riparian, orchard-vineyard and urban habitats. The vireo nests in riparian areas (preferring large deciduous trees) and eats insects, spiders and occasionally fruits and seeds. The vireo has been observed breeding along Upper Rock Ck (PIF 2004) and may occur along Lower Rock Creek in the project site.

5.3.2.8 Common yellowthroat

The common yellowthroat is considered a common summer resident, and fairly common winter resident throughout most of California, but is considered a transient in the Sierras and desert regions of California (DFG 2004c). The common yellowthroat breeds and winters in wet meadow, fresh emergent wetland, and saline emergent wetland habitats. It also breeds in valley foothill riparian, and occasionally in desert riparian, annual grassland, and perennial grassland habitats. The common yellowthroat has not been observed breeding along Upper or Lower Rock Creek (PIF 2004). The common yellowthroat may occur in the water birch riparian scrub on the project site, but it is not expected to breed onsite.

5.3.2.9 Black-headed grosbeak

The black-headed grosbeak is a common breeder throughout most of California, except in the higher mountains, Great Basin, and southern deserts (DFG 2004c). The grosbeak inhabits valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, and montane riparian habitats. It is often found near water and areas where deciduous oaks are numerous. The black-headed grosbeak is a rare and local breeder in lowlands east of the Cascade Sierra Nevada crest. The black-headed grosbeak has not been observed breeding along Upper or Lower Rock Creek (PIF 2004). It may occur along Lower Rock Creek on the project site.

5.3.2.10 Song sparrow

The song sparrow is a common resident of most of California. It generally breeds in riparian thickets of willows, other shrubs, vines, and tall herbs (DFG 2004c). The song sparrow has been observed breeding along Upper Rock Creek, and is a possible breeder along Lower Rock Creek (PIF 2004).

5.3.2.11 California bighorn sheep

The California bighorn sheep is one of three subspecies of bighorn sheep that occur in California. Prior to 1979 there were two native California bighorn herds, Mt. Baxter and Mt. Williamson, in the southern Sierra Nevada. Since then the Mt. Baxter herd has been used as a source for reintroduction of bighorns into Inyo County south of the project site. California bighorn sheep inhabit the alpine and subalpine zones above 10,000 feet during the summer, using open slopes where the land is rough, rocky, sparsely vegetated and characterized by steep slopes and canyons. They migrate to lower elevation areas of sagebrush-steppe habitat to winter. California bighorn sheep winter above 7,000 feet in elevation. There is a small population of about 30 bighorn at near Wheeler Crest, 10 miles northwest of Bishop, at an elevation of 9,200 feet (DFG 2007, DFG 2004b). California bighorn sheep are not expected to occur on the project site.

5.3.2.12 Raptors

No raptor nests or potential raptor nest sites were found within the project site.

5.3.2.13 Sensitive habitats

The riparian zone along Lower Rock Creek is considered a sensitive habitat due to its biological importance, and because it meets the criteria for U.S. Army Corps of Engineers (ACOE) and California Department of Fish and Game (DFG) jurisdiction.

5.3.2.14 Jurisdictional areas

The Lower Rock Creek channel and immediately adjacent areas with periodically saturated soils are considered ACOE jurisdictional. The Lower Rock Creek channel and the adjacent water birch riparian scrub is considered DFG jurisdictional.

5.3.2.15 Round Valley Deer Herd

Mule deer occur on the project site. They forage in the high desert blackbush scrub, water birch riparian scrub and big sagebrush scrub on site. They are expected to use the water birch riparian scrub for shelter from inclement weather and to use Lower Rock Creek as a water source.

The project site is within the winter range of the Round Valley Deer Herd (BLM 1991, CAJA 2007). The Round Valley Herd was previously identified as two herds: the Buttermilk Deer Herd and the Sherwin Grade Deer Herd. The Round Valley Herd is a migratory herd: deer from this herd spend the summer months at elevations ranging

from 7,500–11,000 feet, and winter months at lower elevations ranging from 5,000–7,500 feet on the east side of the mountains. The winter range of the herd is located in the lower elevations of Round Valley, extending north of Pine Creek in Inyo County into southern Mono County including the area around Paradise.

With the onset of winter snows, the Herd migrates quickly downslope; in heavy snowfall years the fall migration can take just a few days. The spring upward migration is slower, taking several weeks to a month with deer staying in several holding areas for periods before migrating upslope again.

During winter months, the Round Valley Deer Herd is dependent on forage in the Round Valley region. The quality and abundance of winter forage affects winter survival and herd population numbers. Deep winter snow at lower elevations reduces survivorship in the herd. In late winter and early spring (generally February and March) vegetation on the winter range provides nutrition that is important to reproduction. Late, unavailable, or poor nutritional quality spring forage lowers reproduction.

The number of deer in the herd has varied from a high of over 6,000 in 1985 to an estimated low of 900 in the mid-1990's (Ellsworth pers. com., Pierce *et. al.* 2004). As of 2006, the herd was estimated to number approximately 2,500 (Taylor pers. Com), up from roughly 2,200-2,300 deer in 2003 (Quad Knopf 2004). The decline from 1985 levels (over 6,000) to less than 1,000 in the mid-1990s was primarily caused by poor food conditions in the Round Valley winter range (CAJA 2007). Over 10,000 acres of bitterbrush winter and spring feeding habitat, important to the Round Valley deer herd, has been lost in the last 5 years (Ellsworth 2007). The 2,700-acre Birch Fire in 2002 just north of the project site contributed to this loss (Ellsworth 2007).

5.3.3 APPLICABLE REGULATIONS

5.3.3.1 Federal Regulations

- Federal Endangered Species Act: USFWS is responsibility for the protection of threatened and endangered species through implementation of the FESA. The FESA prohibits the taking of a listed species or habitat that may be important for the species' survival, unless an incidental take permit is obtained (under §7 for federal projects, and §10 for non-federal actions). The procedure for listing first requires a proposed ruling, followed by a final listing if supported by available data; emergency listings are permitted for species on the brink of extinction.
- Clean Water Act: CWA§404 gives USACE jurisdiction over wetlands and waters of the USA. Permits are required for any action that would result in a discharge of dredge or fill material into eligible waters, including all waterways, streams and tributaries that could be used for interstate commerce. Activities subject to §404 but with only minor impact are eligible for Nationwide 404 permits.

5.3.3.2 State Regulations

- California Endangered Species Act: CESA provisions, permits and definitions parallel those of the FESA and are administered by DFG but also include 'candidate species' (under formal review for listing) & species of special concern (about which DFG has information that populations are declining). DFG also has jurisdiction over lakes, streambeds & banks under DFG Game Code §1601-1603, which requires a 'Streambed Alteration Agreement' for activities that would alter stream channels or lake edges.
- California Natural Diversity Database: The CNDDB is a compilation of data concerning sensitive species and communities throughout California. The list includes ranking from 1 (the most sensitive) to 5 that indicates species' global condition.
- California Native Plant Society: The CNPS provides a catalogue of rare and endangered plants in the state according to distribution and viability, wherein 1A represents species that are presumed to be extinct and 4 represents plants that bear watching.

5.3.4 SIGNIFICANCE CRITERIA

Impacts on wildlife resources would be considered significant if the project could:

- Result in a significant loss of natural communities or wildlife;
- Substantially impact a special status animal species or habitat;
- Substantially impact a jurisdictional wetlands area or wetlands habitat for fish, wildlife or plants;
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.

CEQA Guidelines §15065(a) states that a project may have a significant effect on the environment when it "has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal."

Substantial impacts would be those that diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide, or region-wide, basis.

In addition, all native breeding birds, whether or not they are considered sensitive by resource agencies, are protected by the Migratory Bird Treaty Act. Impacts to breeding birds and their nests during the breeding season would be considered significant. All raptors and their nests are protected under §3503.5 of the California Fish and Game Code. Loss of any active raptor nest is considered a significant impact.

5.3.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Native Communities

IMPACT WILD 5.3-1: Potential loss of natural communities and wildlife

Project development will result in the permanent loss of about 30 acres of high desert blackbush scrub natural community. This loss is not considered significant under CEQA, as this natural community is widespread in the region. No big sagebrush scrub or water birch riparian scrub habitat would be impacted by project development.

There will be a permanent loss of about 30 acres of high desert blackbush scrub that may provide roosting habitat for bats. This is an adverse impact but is not considered significant under CEQA as there is substantial potential roosting habitat in the vicinity and this loss of potential roosting habitat is not expected to substantially diminish habitat for bats. This impact is not expected to substantially reduce bat populations in the area.

There will be a permanent loss of approximately 30 acres of high desert blackbush scrub that serves a wintering habitat for mule deer in the Round Valley deer herd. This is considered a significant impact, as it would diminish an important biological resource. Indirect impacts to mule deer are expected to occur from project development. An increase in traffic along Lower Rock Creek Road and Highway 395 is expected due to the project. This is expected to cause an increase in deer mortality. The increase in human activity, noise, increased night lighting, and the presence of dogs and other domestic pets is expected to indirectly impact deer in the area through decreased use of habitat and alteration of migration routes. These indirect impacts are potentially significant, as the loss of breeding age does would reduce the reproductive capacity of the Round Valley Deer Herd.

MITIGATION WILD 5.3-1a (Open Space Easements): Open space easements for all open space areas except the homeowners' recreation area shall be recorded on the final maps for the project. The final maps shall note that permitted land uses within the open space easements shall be limited to undisturbed natural uses and trails (for non-motorized access only, except for emergency purposes) and spray irrigation with surplus tertiary treated effluent from the package sanitation plant, subject to the landscape controls set forth in Mitigation Measure 5.2-2b.

MITIGATION WILD 5.3-1b (Retention of Natural Vegetation): Natural vegetation shall be retained except where it must be removed for project development. Project CC&Rs shall incorporate the following requirement which mandates that homeowners landscape with native vegetation and prohibits use of invasive plant species for landscaping in order to minimize the degradation of deer habitat: *"Areas disturbed during construction shall be revegetated with native species in order to establish deer habitat as soon as possible following construction. Revegetation of disturbed areas shall require the use of native seeds, native plants grown from seeds or seedlings obtained from local native stock. Revegetated areas shall be monitored for a period of five years to ensure the success of the project and shall be replanted if necessary."*

MITIGATION WILD 5.3-1c (No Dogs during Construction): Dogs belonging to individuals involved in construction activities shall be prohibited in the project area during construction phases.

MITIGATION WILD 5.3-1d (Limits on Clearing of Vegetation): Property owners shall refrain from clearing native vegetation except as necessary for construction or fire safety.

MITIGATION WILD 5.3-1e (Pet Restraints): Domestic animals shall be restrained at all times, either through the use of leashes or private fenced areas. Project CC&Rs shall specify that pets shall be under owners control at all times. No domestic animals shall be allowed to be free roaming.

MITIGATION WILD 5.3-1f (Minimal Exterior Lighting and Noise): To minimize impacts on deer and other wildlife, all exterior lighting and noise in Rock Creek Ranch will comply with applicable Mono County code requirements.

Significance: SIGNIFICANT UNAVOIDABLE ADVERSE IMPACT

Special Status Species

IMPACT WILD 5.3-2: Potential impacts to special status animal species and habitats

No impacts are expected to the following special status animal species because potential habitat on the project site will not be impacted: Fish slough springsnail, Owens Valley springsnail, Aardhal's springsnail, Owens sucker, Mount Lyell salamander, mountain yellow-legged frog, Swainson's thrush, warbling vireo, common yellowthroat, black-headed grosbeak, song sparrow,

The project would impact about 31 acres of potential foraging habitat for the prairie falcon. This would not significantly impact prairie falcon populations in the area as there are large areas of potential foraging habitat in the region. No impacts to sensitive habitats are expected from site development, nor would the project impact any special status animal species. No mitigation is required with respect to special status species or habitats.

Significance: LESS THAN SIGNIFICANT IMPACT

Jurisdictional Areas

IMPACT WILD 5.3-3: Potential impacts to jurisdictional areas

The wetlands area at the base of the slope along Lower Rock Creek (on the west side of the Rock Creek Ranch site) would be designated open space and would not be developed. Consequently, no impacts to jurisdictional areas are expected from development of the project and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Deer Migration

IMPACT WILD 5.3-4: Potential impacts on Round Valley deer herd migration

Project development would have a number of direct and indirect impacts on the Round Valley deer herd. Traffic increases along Lower Rock Creek Road and Highway 395 would be expected to cause increased deer mortality. The loss of open land area would reduce deer habitat, and the additional human activity, noise, increased night lighting, and the presence of dogs and other domestic pets would be expected to result in an alteration of migration routes. Finally, the increased human and domestic animal activity is expected to decrease deer foraging opportunity and increase deer energy expenditure during winter. In combination, these impacts are expected to reduce deer reproduction. The direct and indirect impacts on considered potentially significant, as the loss of breeding age does and reduced winter nutritional intake would reduce the reproductive capacity of the Round Valley Deer Herd.

MITIGATION WILD 5.3-4a (Deer Signage): To minimize direct mortality impacts to deer from vehicle collisions, signs shall be posted along roads within the project area warning drivers of the presence of deer. A 25-mile per hour speed limit shall be enforced on residential streets in the proposed project.

MITIGATION WILD 5.3-4b (Limits on Construction Timing): Parcel grading operations, structural foundation work, framing work and similar heavy construction activities shall be restricted to the period between May 15 and October 1 to minimize disturbance to migrating and wintering deer.

Significance: SIGNIFICANT UNAVOIDABLE ADVERSE IMPACT

5.3.6 SIGNIFICANCE AFTER MITIGATION

The cumulative impacts of the proposed project and other projects in the area on the Round Valley Deer Herd are considered significant, unavoidable and adverse. Implementation of the mitigation measures identified in §5.3.4 would reduce all other impacts on wildlife to less than significant levels.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.4 CULTURAL RESOURCES

5.4.1 INTRODUCTION

The following discussion of cultural resources on the Rock Creek Ranch Estates project site is condensed from more detailed analyses prepared by Trans-Sierran Archaeological Research (TSAR). The full report is provided in Appendix I. None of the NOP comment letters raised issues pertaining to cultural resources, although several persons requested information about potential impacts on archaeological, paleontological or historical features at the scoping meeting.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT CUL 5.4-1:	**Potential impacts to cultural resources**
Mitigation:	**Less than significant impact; No mitigation required**
Significance:	**Less than significant**

5.4.2 EXISTING CONDITIONS

A records search and archaeological survey were completed to determine whether cultural resources are present on the site and evaluate potential impacts associated with the Rock Creek Ranch proposal. Results of the records search indicated that 4 surveys have been conducted within a 1-mile radius of the site, one of which included a small part of the subject property. The prior investigations identified 6 prehistoric sites in the survey area, including one with evidence of substantial habitation. Two historic sites were found. No sites were recorded in the project area. The field survey was conducted in April 2004 under good conditions. Four isolated occurrences of cultural material were found during the site survey, but no archaeological sites were encountered. The isolates do not meet CEQA or regional criteria for important, significant or unique resources as outlined below.

5.4.3 APPLICABLE FEDERAL AND STATE REGULATIONS

Federal Regulations

The National Register Preservation Act of 1966 established the National Register of Historic Places (NRHP) as the official list of resources nominated as having local, state or national historic significance. Properties that qualify for listing must meet at least one of four established criteria: (a) association with an event that has made a significant contribution to broad patterns of history; (b) association with significant persons in our past; (c) characteristic of a distinctive type, period or method of construction, or reflecting the work of a master, or containing high artistic value; and/or (d) offering information important to history or prehistory.

The standards for protection of these resources are set forth by the Department of Interior in its *Standards for the Treatment of Historical Properties with Guidelines for Rehabilitating Historic Buildings.* Projects that adhere to these guidelines are considered to have less than significant impacts, consistent with §15064.5(b) of the California Public Resources Code.

State Regulations

- California Register of Historic Places (CRHR): The CRHR follows guidelines similar to those of the National Register. Listings are based on the findings of CEQA evaluations to identify historic & prehistoric resources, using significance thresholds provided in CEQA Guidelines §15064.5. The State Historic Preservation Office maintains the CRHR, which includes all properties eligible for listing on the NRHP and sites identified through local surveys or ordinances.
- Senate Bill 297: The California senate in 1987 passed SB 297, which sets forth procedures for protecting Native American burial grounds from inadvertent destruction, vandalism or other disturbances. The Native American Heritage Commission was created as part of this law, with responsibility for resolving disputes over the disposition of such remains. SB 297 is reflected in the significance thresholds provided in §15064.5.

- GGC §65253.3 requires that a tribal consultation be completed for each project that incorporates a proposed General Plan Amendment. A tribal consultation was undertaken for the Rock Creek Ranch project on October 1, 2007 and continued through January 2008 in accordance with requirements for consulting with California Native American tribes as outlined in CGC §65352.3. No comments were received during that period.

5.4.4 SIGNIFICANCE CRITERIA

Impacts on historical, archaeological, and/or paleontological resources would be considered significant if project implementation would result in the loss of:

- Resources that exemplify cultural history, yield information about history or prehistory, structures important to history or prehistory, or resources with high artistic or cultural value

5.4.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

IMPACT CUL 5.4-1: Potential project impacts on cultural resources

Results indicate that no cultural sites have been recorded in the project area. Isolated cultural materials uncovered during the site survey did not meet significance criteria and no archaeological sites were encountered. The findings indicate that the project would not have potential to impact significant cultural resources. No mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

5.4.6 SIGNIFICANCE FOLLOWING MITIGATION

No significant adverse impacts are foreseen, and no mitigation is required.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.5 LAND USES, RECREATION AND RELEVANT PLANNING

5.5.1 INTRODUCTION

The following section describes existing and planned land uses, recreation, and planning initiatives within the project area. Comments received during scoping and in response to the NOP comment letter requested provisions to limit the height of homes on the project site, and information about proposed uses and restrictions on existing site uses and on the open space portion of the site. Impacts and mitigation measures described in this section are summarized below.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT LU 5.5-1a	**Potential conflicts with Land Use Element policies regarding critical habitats**
Mitigation LU 5.5.1a:	**Incorporate following into Specific Plan & CC&Rs: (a) leash laws, (b) prohibit removal of blackbrush scrub in open space areas; (c) provide information about habitat protection to homeowners; (e) develop a soil conservation plan; (f) restrict off-highway vehicle use in open space areas**
Significance:	**SIGNIFICANT UNAVOIDABLE ADVERSE IMPACT**
IMPACT LU 5.5-1c:	**Potential adverse impact on native soils.**
Mitigation LU 5.5-1c:	**Soil Conservation Plan to be developed as part of the Grading Permit Application.**
Significance:	**Less than significant**
IMPACT LU 5.5-1b:	**Potential conflict with Land Use Element policies concerning service districts**
Mitigation LU 5.5-1b:	**Require that applicant annex into LRCMWC and/or incorporate integrated water system elements that accomplish equivalent public health and safety objectives**
Significance:	**Less than significant**
IMPACT LU 5.5-2:	**Potential to divide or be incompatible with an existing community**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**Less than significant**

5.5.2 EXISTING CONDITIONS

5.5.2.1 Existing Land Uses

The project site is located in the southernmost part of Mono County. As a whole, Mono County is dominated by lands that are owned by the public and managed by various federal, state, and local entities: the *General Plan* estimates that approximately 94% of the county land area is publicly owned, including 88% that is managed by federal agencies. The majority of privately held property is concentrated in community areas that have limited potential for expansion due to public ownership of the surrounding lands.[1]

The project site is characterized by undeveloped open space in the Rock Creek area of southern Mono County. Vegetation includes one riparian corridor along the Lower Rock Creek riverbed that occupies about one-half acre of land in the northwestern-most property boundary. The majority of the site is xeric, with desert scrub vegetation. The site currently includes dedicated utility easements for Lower Rock Creek Community Water Company facilities including a potable water storage tank and water transmission pipelines. The site also contains an unpaved access road and gate, plus numerous informal trails, granitic rocks and small boulders, and a number of rock mounds and soil pits created during prior soil and percolation testing activities. No prior formal uses of the site have been recorded, nor have any formal development applications been filed with the county prior to the current application.[2]

[1] Mono County, *General Plan Land Use Element,* 1993 (§II-5).
[2] Source: C&L Development, correspondence of 7 May 2004.

Mixed uses characterize surrounding parcels. Parcels to the northeast, east and southeast are undeveloped publicly owned land that is managed by the BLM. Land directly to the south is undeveloped and owned by the LADWP. Land immediately to the west of the site is part of the Paradise Resort and Restaurant which is located in the Lower Rock Creek drainage channel and has been in operation for nearly 60 years as a recreational and resort destination. Farther to the west and northwest are approximately 135 privately owned residential parcels that comprise the existing community of Paradise. The volunteer Paradise Fire Station is located about ½ miles to the northwest. Apart from Paradise Resort, there are no commercial enterprises in the community of Paradise.

5.5.2.2 General Plan Land Use Guidelines

The Mono County General Plan currently designates the site for Estate Residential Uses. Table 5.5-1 compares development standards provided in Rock Creek Ranch Specific Plan with standards provided in the Mono County General Plan for the Estate Residential land use category.

Table 5.5-1
COMPARISON OF ROCK CREEK RANCH SPECIFIC PLAN
WITH GENERAL PLAN ESTATE RESIDENTIAL DEVELOPMENT STANDARDS[3]

	Estate Res'l Gen'l Plan	Rock Creek Ranch Specific Plan
Permitted Uses[4]		
Single family dwellings	YES	YES
Small scale agriculture (personal use)	YES	YES
Accessory buildings and uses	YES	YES[5]
Mobile Home as single family dwelling[6]	YES	NO
Animals and pets	YES	YES
Home occupations	YES	YES
Open Space Uses	YES	YES
Access Roads	YES	YES
Sanitation Facilities	YES	YES
Water Facilities	YES	YES
Secondary units (<640 sf)	YES	YES[7]
Permitted Subject to Director Review		
Animals and Pets that do not conform	YES	YES
Other Compatible Uses	YES	YES
Private solar and wind energy systems	YES	YES
Permitted Subject to Use Permit[8]		
Secondary units (>640 sf)	NO	NO
Art galleries, country clubs, golf courses	YES	NO
Accessory bldg before primary	YES	NO
Kennel	YES	NO
Mobile Home Parks	YES	NO
Development Standards		
Minimum Parcel Size:	1 acre	10,000sf
Minimum District Area:	5 acres	NA
Minimum Average Lot Dimensions	Width – 60'	70'
	Depth – 100'	100'
Maximum Lot coverage:	40%	Bldg. Envelopes
Minimum Setbacks:	Front-50'	Bldg. Envelopes
	Rear-30'	Bldg. Envelopes
	Side-30'	Bldg. Envelopes
Building Density:	*FOR ALL:* One Primary unit + up to 11 secondary unit/lot	
Maximum Building Height:	35 feet	28'[9]

[3] Mono County, *General Plan Land Use Element,* Estate Residential (ER), page II-118.
[4] Open Space Uses, Access Roads, Sanitation Facilities and Water Facilities are not specifically mentioned in the General Plan as permitted in Estate Residential or Single Family areas but would generally be found consistent and a furtherance of the objectives of the General Plan and therefore are permitted as 'similar to the listed uses.' (GPLUE, page II-110).
[5] Accessory uses permitted without director review *only* if customarily incidental to permitted uses on the same lot *and* if constructed at the same time as or later than the primary building.
[6] The term 'mobile home' is no longer widely used and has been replaced by the term, 'manufactured housing.'
[7] Only eleven secondary units are permitted; all must be located on deed-restricted lots and all must be no more than 640 sf
[8] This Specific Plan does not identify any uses permitted in Rock Creek Ranch subject to a use permit.
[9] Building height shall be 28 feet above existing grade at any given point of the site, inclusive of all utilities and ornamentation.

To set the framework for development of appropriate objectives, policies and actions, the General Plan identifies and evaluates issues, opportunities and constraints that shape development potential within the unincorporated area. The analyses include identification of issues that affect the county as a whole, as well as issues that are specific to land uses in the special planning areas and those applicable to the county's Airport Land Use Plans for the airport facilities in Bridgeport, Lee Vining and Mammoth Lakes. Rock Creek Ranch does not fall within any of the special planning areas for which Area Plans have been developed, nor is it in the vicinity of any of the airport planning areas. However, it is impacted by many of the countywide issues identified in the General Plan. Table 5.5-2 summarizes applicable issues, opportunities and constraints described in the *General Plan* for the county as a whole.

Table 5.5-2
COUNTYWIDE LAND USE ISSUES/OPPORTUNITIES/CONSTRAINTS[10]

TOPIC	SUMMARY DISCUSSION
DEVELOPMENT PRESSURE	May result in shifting population distribution through the unincorporated areas of Mono County.
JOB-HOUSING SEPARATION	Many residents do not work in their community of residence; the separation of jobs and housing may continue due to limited opportunities for economic expansion.
LAND CONSTRAINTS	Only 6% of county lands are privately owned and available for development; much of that land is in small parcels that cannot be used to resolve area-wide issues.
LAFCO POLICIES	LAFCo policies favor expansion of existing communities over development of new communities.
LAND OWNERSHIP PATTERNS	The dispersed nature of private land ownership results in planning challenges, especially in environmentally sensitive areas.
CONSTRAINTS ON LARGE PARCELS	Infrastructure & service costs may be prohibitively high for development of large private parcels.
INFRASTRUCTURE LIMITATIONS	Development opportunities are constrained by the suitability of soils for septic systems, water quality standards, and access.
NEED FOR INDUSTRY	The countywide need for industry is complicated by the absence of environmentally suitable sites.
RURAL CHARACTER VALUES	Most local residents and planning advisory groups support efforts to maintain rural character, limit growth, protect agricultural areas & maintain scenic values.
ENVIRONMENTAL CONSTRAINTS	Development opportunities are further constrained by resource conservation requirements and natural hazards.
ECONOMIC CONCERNS	New development must pay its own way by generating adequate taxes to support service systems and maintain a diverse economy.

5.5.3 APPLICABLE FEDERAL AND STATE REGULATIONS

5.5.3.1 Federal Regulations

There are no federal regulations governing land use that would be applicable to the proposed project.

5.5.3.2 State Regulations

There are no state regulations governing land use that would be applicable to the proposed project.

5.5.4 SIGNIFICANCE CRITERIA

Impacts on land use and land use compatibility would be considered significant if:

- The project would conflict with adopted goals and policies of the *General Plan Land Use Element* or conflict with land uses designated for the project site*;*
- The project or project activities would divide an existing community or be substantially incompatible with existing land uses;

5.5.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Compatibility with General Plan Goals and Policies

IMPACT LU 5.5-1a: Potential conflict with Land Use Element policies regarding habitat

[10]Paraphrased from Mono Co. *Land Use Element,* Countywide Issues/Opportunities/Constraints (II-4 through II-7).

IMPACT LU 5.5-1b: Potential conflict with Land Use Element policies regarding service districts

During the scoping process, area residents expressed a number of concerns about the project including visual and light/glare impacts, impacts on fire services and school facilities, geotechnical and hydrologic suitability and impacts to existing water supply systems, exposure to public safety risks, impacts to plant and wildlife habitat and disruption of deer migration corridors, loss of open space lands, noise and air quality impacts, cumulative impacts of area development. These concerns were expressed at the Scoping Meeting held during January 2004, as well as written comments, as summarized in the Introduction (please see Tables 2-2 and 2-3).

Many of these issues are addressed in other sections of this EIR. However, the Mono County General Plan and MEA provide a basis for evaluating the significance of potential land use compatibility impacts. Table 5.5-3 evaluates consistency between the Rock Creek Ranch proposal and relevant countywide goals and policies of the Mono County General Plan *Land Use Element*.

Table 5.5-3
PROJECT CONFORMANCE WITH *LAND USE ELEMENT* POLICIES[11]

APPLICABLE COUNTY POLICY	*STATUS*	*CONFORMANCE REVIEW*
OBJECTIVE A: Accommodate growth in a manner that preserves resources and is consistent with public facility capacities.		
POLICY 1: Contain growth in existing communities	✓	▪ The project is an undeveloped large parcel in the existing Paradise community area.
Action 1.1: Encourage in-fill		
Action 1.2: Place new development for year-round residents in existing communities	✓	▪ Paradise is an existing community.
Action 1.3: Provide sufficient land to accommodate affordable housing	✓	▪ Secondary homes ("granny units") are permitted on up to 11 deed-restricted lots, along with 5 workforce housing units.
Action 1.5: Growth potential must be evaluated where applicable	✓	▪ Potential for growth inducement is evaluated in the EIR for Rock Creek Ranch
POLICY 2: Assure availability of public services & infrastructure	✓	
Action 2.1: Require that necessary services and facilities are provided	✓	▪ Project conditions of approval require all necessary services and facilities
Action 2.2: Require annexation into existing service districts where feasible	✓	▪ Annexation into LRCMWC is unresolved, but mitigation provides equivalent protection.
Action 2.3: Require the development to fund service and infrastructure costs	✓	▪ All service and infrastructure costs will be privately funded by the project applicants.
POLICY 4: Avoid juxtaposition of incompatible land uses		▪ Only single family residential and open space uses are proposed, consistent with surrounding lands.
Action 4.1: Compatibility of adjacent uses to be a top development priority	✓	▪ Project implements visual resource policies except screening of parking, varied massing, and native plantings.
POLICY 5: Regulate development to minimize visual impacts		
Action 5.1: Implement the Visual Resource Policies in Conservation/ Open Space Element	✓	
POLICY 7: Limit development in areas of critical wildlife habitat.		▪ Paradise is a designated deer migration corridor with critical winter range habitat; see discussion below & mitigations in this section.
Action 7.1: Implement policies in the Conservation/Open Space Element.	✓	
POLICY 10: To protect resources, require high quality development that exceeds minimum standards where feasible.		▪ The proposed Specific Plan meets or exceeds development standards and will be reviewed by county staff.
Action 10.1: County staff review to assure consistency with this policy	✓	
POLICY 11: Coordinate with applicable federal, state and local agencies		▪Coordination has occurred through NOP, scoping, technical studies, and communication.
Action 11.1: County to coordinate planning with other public agencies		

[11] Mono County *General Plan Land Use Element*. Note: discussion is paraphrased from the original text.

OBJECTIVE C: Provide for housing needs of all income groups – resident, part time and visitor		
POLICY 2: Provide for affordable housing		
Action 2.2: Implement Housing Element policies re affordable housing	✓	▪ The Specific Plan implements the Housing Ordinance through a requirement for 11 secondary units and 5 workforce housing units.
OBJECTIVE G: Prevent exposure to unreasonable risks by limiting development on hazardous lands		
POLICY 1: Restrict development in areas constrained by natural hazards	✓	▪The project is in the boundaries of the Paradise Fire Protection District
Action 1.2: Avoid intensive development outside existing fire protection districts		
Action 1.3: Implement provisions of the Safety Element.	✓	▪The project conforms to goals and policies of the Safety Element (see discussion in §5.7).

On the basis of the above analyses and discussions, it is concluded that the proposed Specific Plan would be in substantial compliance with most but not all relevant goals and policies of the Mono County General Plan. The exceptions concern:

- Critical Deer Habitat and Migration Corridor
- Project may not annex into Lower Rock Creek Mutual Water Company

With respect to critical habitat, it has been determined that the project would result in significant, unavoidable adverse direct impacts on the Round Valley mule deer herd due to permanent loss of high desert blackbrush scrub community habitat, and interference with deer herd movement along a migration corridor that includes the project study area. This conflicts with General Plan Policy 7 to: 'Limit development in areas of critical wildlife habitat.' Enforcement of Policy 7 is outlined in General Plan Action 7.1, which is to "Implement policies in the Conservation/Open Space Element." Table 5.5-4 evaluates consistency between the project and relevant goals and policies of the Mono County General Plan *Conservation/Open Space Element* with respect to habitat values.

Table 5.5-4
PROJECT CONFORMANCE WITH BIOLOGICAL RESOURCES HABITAT POLICIES OF THE *CONSERVATION/OPEN SPACE ELEMENT*[12]

APPLICABLE COUNTY POLICY	*STATUS*	*CONFORMANCE REVIEW*
OBJECTIVE A: Maintain and restore botanical, aquatic and wildlife habitats in Mono County.		
POLICY 1: Development projects shall avoid potential significant impacts to habitats or mitigate impacts to a level of non-significance, unless a statement of overriding considerations is made through the EIR process.		
Action 1.1: Projects shall assess site-specific resource values and potential impacts prior to project approval. Mitigation measures shall be included and made a condition of project approval. Examples of mitigation include:	✓	▪ This EIR provides site-specific assessment of resource values with detailed mitigation measures.
◗ Cluster development and/or large-acre minimum parcel sites: in key deer habitat, 20+ acres for winter range/migration corridors & 40+ acres for critical range & migration corridors	✓	▪ The project incorporates semi-clustering to maximize contiguous open space. Parcel sizes are less than recommended for key and critical habitat area but meet gross density objectives in the General Plan.
◗ Encourage development in less sensitive areas or adjacent to developed areas	✓	▪ The project site is adjacent to the developed community of Paradise.
◗ Encourage fence designs that allow wildlife movement	✓	▪ The Specific Plan limits fenced enclosures to no more than 20% of the area of the building envelope; no fencing allowed in setback areas.
◗ Require leash laws to control pets; monitor dogs in deer habitat	✓	▪ Leash laws are included in Specific Plan, CC&Rs
◗ Protect or replace important habitat features	✓	▪ This EIR prohibits removal of blackbrush scrub except as needed for lot development and fire safety
◗ Protect cultural habitat features such as bat shelters	✓	▪ Native/native-compatible landscaping required, native materials to remain in open space areas.
◗ Use features that minimize visual disturbance in deer use areas.	✓	▪ Project includes features to minimize visibility (see discussion in §5.12)

[12] Mono County *General Plan Conservation/Open Space Element*. Note: discussion is paraphrased from the original text.

Action 1.7: Monitor adopted mitigation measures to refine future efforts	✓	▪ Mitigations will be monitored/reported per CEQA requirements.
Action 1.9: Limit road development in valuable habitat areas to the minimum required.	--	▪ The length and width of the on-site roadway has been held to a minimum.
Action 1.12: Where other mitigation cannot reduce impacts to less than significant levels, consider a mitigation fee to enhance habitat elsewhere.	✓	▪ No fees established to mitigate deer impacts.
Action 1.13: Coordinate with DFG and other agencies to provide homeowners with educational info about protecting habitat.	✓	▪ Specific Plan requires that habitat protection information to be provided as part of the CC&Rs.
POLICY 5: During construction, use soil conservation and management techniques to conserve natural soils.	✓	▪ Mitigation LU-3 requires a soil conservation plan prior to issuance of grading permits.
Action 5.1: As part of Grading Permit, prepare plan for protection & future use of natural soils suitable as plant growth medium. Protect stockpiled soils from degradation prior to reuse.	✓	▪ Soil conservation plan to be prepared.
POLICY 7: Restrict OHV use in valuable habitat areas.		▪ Specific Plan prohibits OHV use in open space areas except for maintenance, emergency or public safety purposes.

As indicated in the baseline analysis, the *General Plan* currently designates the site for Estate Residential Uses with a gross density of 1 acre per parcel. The project as proposed incorporates 60 residential lots on 54.7 acres of land, and the average lot size is 16,103 square feet. These facts indicate that density and lot size exceed the *General Plan* designations, but both have been proposed in response to county recommendations.

With respect to overall density, the initial application included 53 lots on 54.7 acres. Rather than allocating 1 acre to each lot, the applicant's design incorporated semi-clustering; this layout was specifically recommended by county staff as a way to optimize the acreage of dedicated open space. The county adopted a workforce housing ordinance prior after the application had been submitted, but before the application was accepted. The new ordinance required that a minimum of 5 workforce homes be constructed on this site, with an additional requirement for payment or fees and/or provision for deed-restricted secondary units on up to 11 of the proposed market rate lots. In compliance with the new ordinance, the site plan was redrawn to include 5 workforce units and the original 53 lots plus 2 additional market rate density bonus units as allowed by the new Ordinance, plus 11 deed restricted secondary units. As shown previously in Table 5.5-1, the project continues to be substantially in conformance with the development standards set forth in the *General Plan* for estate residential uses (as well as single family uses), varying only in the following areas:

- Mobile homes are not allowed in Rock Creek Ranch
- Land uses permitted in Rock Creek Ranch do not include art galleries, kennels or mobile homes
- Rock Creek Ranch development standards include adjustments in parcel size, lot dimensions and setbacks to accommodate semi-clustering and workforce housing

Even with these adjustments, the project will continue to have an overall gross density of 0.91 acres per lot, and all proposed land uses will be within the range of uses allowed for Estate Residential development. In light of the foregoing considerations, it is concluded that the land uses proposed for Rock Creek Ranch are substantially compatible with the land uses envisioned in the General Plan and no mitigation is required.

As noted in Tables 5.5-3 and 5.5-4, the *General Plan Land Use Element* contains a number of goals and policies intended to enhance the compatibility of new development with existing uses and protect habitat values. Mitigation Measure LU 5.5-1 has been incorporated to ensure compliance with these goals and policies.

MITIGATION LU 5.5-1a (Minimize Impacts in Critical Habitat Area): The Rock Creek Ranch Specific Plan and CC&Rs shall contain the following provisions to minimize impacts on critical wildlife habitat: (a) leash laws, (b) prohibit removal of blackbrush scrub in open space areas except as required for fire safety; (c) provide informational handouts about habitat protection to homeowners; and (d) restrict recreational OHV (off-highway vehicle use) in open space areas.

MITIGATION LU 5.5-1b (Conservation of Native Soils): As part of the Grading Permit application, the applicant shall prepare a Soil Conservation Plan for protection and future use of natural soils suitable as a plant growth medium. At a minimum, the plan shall require that (a) native soils be stockpiled during construction and used for subsequent revegetation, and (b) stockpiled soils be protected from degradation during the construction and maintained in a condition suitable for reuse.

MITIGATION LU 5.5-1c (Integrated Water Services): The project applicant shall annex into Lower Rock Creek Mutual Water Company, and/or water system elements of Rock Creek Ranch shall be integrated with those of LRCMWC to accomplish equivalent public health and safety objectives as outlined in Mitigation Measure UTIL 5.8-3a (requiring two intertie points).

⇨ Significance: SIGNIFICANT UNAVOIDABLE ADVERSE IMPACT ON CRITICAL DEER HABITAT; other impacts reduced to less than significant levels

Existing Land Uses and Recreational Resources

IMPACT LU 5.5-2: Potential to divide an existing community or be incompatible with existing land uses

The proposed project would not divide the existing community of Paradise. The site is separated from the existing developed community by the Lower Rock Creek drainage, and all access, land uses and facilities would be confined to the project site (no facilities, land uses or access improvements are proposed within the existing Paradise community). Similarly, the uses proposed for development in Rock Creek Ranch are compatible with uses found in the existing community of Paradise. Land uses in both areas would be limited to homes and the services and infrastructure required to serve those homes; as with the existing Paradise community, no commercial, industrial or public uses are proposed for Rock Creek Ranch. The potential loss of open space lands and trails was a concern raised during the public scoping process. To examine the significance of this potential effect, Table 5.5-5 evaluates consistency between the Rock Creek Ranch proposal and relevant goals and policies of the Mono County General Plan *Conservation/Open Space Element* with respect to outdoor recreation.

Table 5.5-5
PROJECT CONFORMANCE WITH OUTDOOR RECREATION POLICIES OF THE *CONSERVATION/OPEN SPACE ELEMENT*[13]

APPLICABLE COUNTY POLICY	STATUS	CONFORMANCE REVIEW
OBJECTIVE B: Provide sufficient recreational facilities & opportunities outside of community areas.		
POLICY 3: Reduce incompatibility between recreational & neighboring uses	✓	▪ The proposed recreation area would be at the center of the Rock Creek project, and wholly surrounding by project residences. No incompatibilities with the existing community are foreseen.
Action 3.1: Review locations of proposed recreational uses to ensure the location is compatible with neighboring uses		
OBJECTIVE C: Provide convenient, safe access to recreation.		▪ Tentative Map 37-56 includes trails linking the project to open space areas within and around the project site.
POLICY 2: Encourage connections between trails and other transportation systems.	✓	

Results of the analysis in Table 5.5-5 indicate that the project would be consistent with county goals for outdoor recreation. In particular, the project would maintain public access to the site and provide linkage between existing off-site trails and proposed onsite trails. Based on these considerations, no significant impacts are foreseen with respect to existing land uses or recreational resources, and no mitigation is required.

⇨ Significance: LESS THAN SIGNIFICANT IMPACT

5.5.6 SIGNIFICANCE FOLLOWING MITIGATION

Incorporation of the mitigation measures outlined above will reduce all impacts on land use, recreation and planning initiatives to less than significant levels, except for impacts on critical deer habitat.

[13] Mono County *General Plan Conservation/Open Space Element*. Note: discussion is paraphrased from the original text.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.6 POPULATION, HOUSING AND EMPLOYMENT

5.6.1 INTRODUCTION

The following discussion addresses the potential impacts on population and housing associated with the proposed Rock Creek Ranch project. None of the comments on the Notice of EIR Preparation or at the scoping meeting raised concerns pertaining to direct impacts on population or housing; however, secondary project impacts on area growth was an area of concern. Key findings are summarized below.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT POP 5.6-1:	**Potential to increase population and housing**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**
IMPACT EMPL 5.6-2:	**Potential to contribute to an imbalance of jobs to housing**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**
IMPACT HSNG 5.6-3:	**Potential to conflict with affordable housing requirements**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**

5.6.2 EXISTING CONDITIONS

5.6.2.1 Population

The boundaries of Mono County were formally established in April of 1861 with a total population of 3,800 residents, and for the next hundred years the growth rate remained very low. In the past 30 years, however, population has nearly tripled reaching about 12,900 permanent residents in 2000. The proportion of county residents living in unincorporated areas has declined slightly over the past decade from 51.9% in 1990 to 50.9% as of 2000.[1] Table 12 summarizes population growth data for the county as a whole from 1970 to 2000.

Table 5.6-1
MONO COUNTY POPULATION GROWTH 1970-2000

YEAR	POPULATION	% CHANGE
1970	4,100	NA
1975	7,100	+73
1980	8,600	+21
1985	8,800	+2.3
1990	10,100	+15
2000*	12,900	+28

In recent years, growth rates have varied widely within the County. In general, the unincorporated areas have experienced a slowing of growth since 1990 and this trend is expected to continue for most areas. However, from 1990 to 2000 Wheeler Crest/Paradise had the highest growth rate of 78.4%, increasing from 186 to 332 residents, and population growth is forecast to continue in these areas due to growth in Mammoth Lakes and the need for low to moderate income housing opportunities in the surrounding areas. The *Housing Element* also anticipates continued population growth in the Tri-Valley area due to increased housing pressure from the Bishop area and the anticipated availability of developable lands.

[1] CA Institute for County Govt., County Demographic & Economic Data, 2003 County profiles. (Online: http://www.cicg.org/publications/profiles/)

Ethnicity too has remained fairly constant through this period. Residents are predominantly white (85.4% for the County as a whole in the 2000 census; 91.4% in the Wheeler Crest/Long Valley area), and the percentage of Hispanic or Latino residents has also been relatively stable in the unincorporated areas as a whole (increasing from 11.3% in 1990 to 12.4% in 2000). In contrast, median age in the unincorporated areas has increased fairly dramatically, from 33 years in 1990 to 40.1 years in 2000. Simultaneously, the proportion of children under 5 years decreased overall, but the Long Valley/Wheeler Crest and Tri Valley Planning Areas all had high percentages of both children under 5 and senior residents.

5.6.2.2 Housing

Household growth from 1990 to 2000 paralleled population trends. During this period, the greatest increase in housing occurred in the Long Valley/Wheeler Crest area with a 37% increased in housing inventory. Average household size declined slightly (from 2.51 persons per household in 1990 to 2.4 in 2000). Long Valley/Wheeler Crest was at the lower end of the range, with an average 2000 household density of 2.39 persons.

The proportion of renters in the county decreased from 1990 to 2000, falling from 40% to 31% of all households. The decrease was especially pronounced in Long Valley/Wheeler Crest, which dropped from 41% rental households in 1990, to 14% in 2000. Vacant housing rates declined somewhat (from 44% in 1990 to 39% in 2000) but seasonal occupancy continued to be an important factor in the local housing market due to the large proportion of vacation homes and recreational housing.

Overcrowding continued to be a minor occurrence. Countywide, less than 3% of all households sheltered more than 1.51 persons per room (the criterion for severe overcrowding); the figure for Long Valley/Wheeler crest was 2.8%. Overpayment was more prominent, however, with an estimated 22% of all unincorporated county households paying 30% or more of total income toward housing costs. Long Valley/Wheeler Crest had the second-highest rate of overpayment (28%); only June Lake had a higher percentage (38%).

Single family detached homes and mobile homes have historically represented the dominant form of housing and continued as such in 2000. Countywide, both categories declined in relation to other housing types, but this trend was only partially evident in the nearby Long Valley/Wheeler Crest planning areas, which showed a strong increase in single family detached units (from 484 to 655 units) coupled with a marked decline in mobile homes (from 154 to 116 units).

The Housing Element identifies a need to increase the availability of affordable (workforce) housing countywide, with specific objectives for new construction of 26 workforce units, rehabilitation of 35 units, and conservation/preservation of 40 units. For the Long Valley/Wheeler Crest planning area, undeveloped parcels generally fell in the range of 0.5-2 acres in size. Significant numbers of sales occurred during the period from 2000-2004, with an average price of $41,445/acre during that time. On whole, the Housing Element identifies fifteen key factors as shaping housing in Long Valley/Wheeler Crest over the next decade:

- Increasing population and growth pressures
- Comparatively higher number of Hispanic persons than elsewhere.
- Higher numbers of seniors and children under 5 than elsewhere.
- Overall rental rate of about 14%.
- High number of seasonal use units.
- Overpayment rate of about 28% of households.
- Higher number of large households (5+ persons) than elsewhere.
- Low (but increasing) number of female headed households
- Average travel time to work.
- Low number of persons below poverty level (mainly female headed households).
- Higher number of self-employment residents than elsewhere.
- Higher number of 5+ multifamily units than elsewhere.
- Higher number of older units (40+ years old) than elsewhere.
- Some Mixed Use and Multifamily Residential.
- Water & sewer availability in Crowley Lake; water available in Sunny Slopes and Rimrock Ranch (Wheeler Crest); individual wells & septic systems elsewhere.

To address this need, Mono County adopted a new ordinance establishing affordable housing mitigation requirements most types of new development within the county.[2] Ordinance 06-06 is comprehensive in its scope, including an affordable housing trust fund, participation requirements for non-residential development, inclusionary requirements for residential development projects. Alternative compliance proposals may be submitted. Developer incentives include density bonuses, fee waivers, and reduced site development standards.

For residential development projects, the new Ordinance requires that one workforce housing unit be provided for each ten lots or housing units developed, and requires that the inclusionary units comply with all General Plan criteria governing size, design, and location (the requirements vary by location in the county).

5.6.2.3 Employment and Income

Compared with the county as a whole, the unincorporated communities have higher employment rates in agriculture, construction & mining manufacturing, transportation and public utilities, and services, and lower percentages in wholesale trade, retail trade, finance, insurance, real estate, and government. Between 1990 and 2000, there was a decline in the proportion of jobs in agriculture, mining, manufacturing, finance, insurance and real estate, other services, and public administration, and an uptick in wholesale trade, retail trade, information, educational and health services, and arts, recreation, accommodation and food services.

Consistent with the large number of vacation homes, a large number of county residents work outside of Mono County in the community in which they live. Nearly one-quarter of unincorporated county residents work outside of California. Census data from 2000 indicates that roughly 17% of Long Valley/Wheeler Crest residents worked in California but outside of Mono County, with an average commute in the range of 30-44 minutes (suggesting that many work in Inyo County).

Overall median household income in the unincorporated county was $65,900 as of 2008.[3] Income varied widely within planning areas; higher income levels predominated in the southern half of the county. Reported income was derived from a variety of sources, with comparatively high levels of self-employment, investment income and retirement income in the Long Valley/Wheeler Crest planning area. At the same time, Long Valley/Wheeler Crest also experienced a significant increase in the proportion of residents with incomes below the poverty line. This trend was in contrast to the unincorporated county as a whole, which generally saw declining poverty rates (June Lake was the only other planning area with an increase during this period). Undeveloped parcels in the Long Valley/Wheeler Crest planning area generally fall in the range of 0.5-2 acres in size. Significant numbers of sales occurred during the period from 2000-2004, with an average price of $41,445/acre during that time.

5.6.3 APPLICABLE FEDERAL AND STATE REGULATIONS

5.6.3.1 Federal Regulations

There are no federal regulations that govern or otherwise apply to population, housing and employment conditions in the project area.

5.6.3.2 State Regulations

The workforce housing provisions provided in Rock Creek Ranch are required by the newly adopted County ordinance. However, the County's requirements are rooted in a number of state policies and regulations. Most significant would be the state policies governing affordable housing including Govt. Code §65915 which requires local agencies to grant a density bonus or similar incentives when a housing developer agrees to certain conditions, and CGC §65852.1, which establishes procedures for the creation of secondary units. Both of these may result in future housing and population levels that exceed planned levels. Other provisions include CGC §65890.1.h which supports the ability of workers to live near their place of employment, and California Health & Safety Code Div. 13 §3341.0 et seq. that governs redevelopment activities in the state.

[2] Ordinance No. 06-06, an Ordinance of the Mono County Board of Supervisors Adding Chapter 15.10 to Title 15 of the Mono County Code enacting housing mitigation requirements, May 2006.

[3] Source: State Department of Housing and Community Development data provided by Mono County.

5.6.4 THRESHOLDS OF SIGNIFICANCE

Impacts on population, housing and employment would be considered significant if:

- The project could create a substantive inducement for population or housing growth.
- The project could create an imbalance of jobs to housing opportunities.
- The project could conflict with policies for affordable housing.
- The project could displace residents or jobs without replacement opportunity.

5.6.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Population and Housing

IMPACT POP 5.6-1: Potential impacts on population and housing

Approval of the proposed project would have a direct impact of increasing the housing inventory in Mono County by 60 primary units plus 11 secondary units, which would increase the number of households in Long Valley/Wheeler Crest from 614 (2000 Census) to 674 primary units (685 units including the deed-restricted secondary units. Population would also increase: based on the average household density of 2.4 persons per primary unit for the nearby Long Valley/Wheeler Crest planning areas, it is estimated that total population of the primary units within Rock Creek Ranch (with full occupancy) would be 144 persons. Given the small size of the mandatory secondary units (no more than 640 square feet), it is anticipated that these units would add another 11 persons, for a total of 155 residents. This would increase the population in Long Valley/Wheeler Crest from 1,467 (2000 Census) to 1,622 – an increase of 10.5%. The forecast housing increase is generally consistent with County planning, since the property General Plan designates the site for Estate Residential land uses which would permit single family homes with a minimum parcel size of 1 acre. Impacts on population and housing are thus generally consistent with Mono County planning, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Employment Ratios

IMPACT POP 5.6-2: Potential to contribute to an imbalance of jobs to housing

No employment-generating uses are proposed within Rock Creek Ranch. The project would thus contribute to an existing jobs/housing imbalance, but this impact is not considered significant because the project area has not been identified in the *Land Use Element* for job-creating land uses. Indirectly, the project would be expected to generate secondary employment opportunities through the multiplier effect (expenditures associated with the maintenance, repair and upkeep of residential units, transportation costs, a wide range of services, goods and supplies). These expenditures would support existing employment in the community, and also induce a certain amount of growth in sectors that provide the services. Estimates of the multiplier effect in Mono County include 0.05 primary employment positions per unit, plus 0.01 secondary employment positions per unit, for a total multiplier of 0.06 per unit.[4] For the 60 residential units in Rock Creek Ranch, this would indicate that an additional 3.6 job opportunities would be supported in the region as a result of the multiplier effect from the added housing.

There is no aspect of the project that could result in the displacement of residents or businesses or jobs, since the project site is not now and has never been developed with any land uses other than a limited number of utility easements and improvements. Furthermore, based on considerations presented in §8 (Growth Inducing Impacts), it is concluded that the project would not represent a significant inducement for growth in the community of Paradise or the County as a whole.

Significance: LESS THAN SIGNIFICANT IMPACT

Affordable Housing Goals and Policies

IMPACT POP 5.6-3: Potential impacts related to workforce housing

[4] Land Use Economics, July 2001 (from an analysis prepared for Crowley Lake Estates).

The need for workforce housing in Mono County is well documented, and exists throughout the County. To address this need, Mono County during 2006 adopted a new Ordinance No. 06-06 establishing affordable housing mitigation requirements most types of new development within the county.[5]

As noted previously, the new affordable housing requirements were enacted during the time that the Rock Creek Ranch application was under review, but had not yet been accepted by the county. As a result, the project became subject to the new provisions. Application of the county's formula indicates that this project would require 5 deed-restricted workforce housing units (the new law requires that these units be constructed by the applicant), plus 11 market rate lots with deed-restrictions requiring the construction of secondary housing units on each lot. In accordance with the new Ordinance, the project applicant revised the Tentative Map to incorporate a total of 60 lots, including 55 market rate lots (11 of which will include a secondary unit) plus 5 requested density bonus lots that will contain deed-restricted workforce housing units to be constructed by the developer.

General Plan Housing Element places emphasis on providing workforce housing opportunities in unincorporated areas, and contains a number of goals, policies, objectives and recommended actions pertaining to workforce housing. Key elements are identified and discussed in Table 5.6-2.

Table 5.6-2
AFFORDABLE HOUSING POLICIES - MONO COUNTY *GENERAL PLAN HOUSING ELEMENT*[6]

GENERAL PLAN GOAL/POLICY	*PROJECT DISCUSSION*
Elimination of obstacles to workforce housing in the General Plan and subdivision regulations, and planned review of a regional housing authority.	*Not applicable to Rock Creek Ranch*
Support of policies that allow mobile home construction on all parcels zoned for residential construction along with streamlined procedures that support mobile home development.	*The proposed Specific Plan does not include mobile homes among the allowed housing types.*
Emphasis on mixed-use development allowing employee housing in commercial areas.	*Not applicable (neither the General Plan nor the Specific Plan would allow commercial development)*
Compliance with requirements of the newly adopted 2006 Affordable Housing Ordinance.	*The project has been modified to comply with provisions of the 2006 affordable housing ordinance.*
Requirements for developers of large scale multifamily residential projects, commercial lodging projects, or resort projects, to construct affordable employee housing.	*Not applicable to the proposed project.*

The analysis contained in Table 5.5-6 indicates that the project is consistent with the County's adopted Affordable Housing requirements and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Displacement of Jobs or Homes

IMPACT POP 5.6-3: Potential to displace homes or jobs

The project site is undeveloped and there is no indication that the site has ever been developed. The property has no homes or employment generating uses on it, and there is no potential to displace homes, residents or jobs as a result of project approval and implementation. No mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

5.6.6 SIGNIFICANCE FOLLOWING MITIGATION

No potentially significant adverse impacts have been identified with respect to population, housing or employment, and no mitigation is required.

5 Ordinance No. 06-06, an Ordinance of the Mono County Board of Supervisors Adding Chapter 15.10 to Title 15 of the Mono County Code enacting housing mitigation requirements, May 2006.

6 Mono County General Plan Housing Element. Note: discussion is paraphrased from the original text.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.7 PUBLIC HEALTH AND SAFETY

5.7.1 INTRODUCTION

This section evaluates the potential impacts related to public health and public safety that may be associated with implementation of the proposed Rock Creek Ranch project. The focus is on the types of hazards to which future residents may be exposed, and safety hazards that may be created as a result of project development. Responses to the NOP raised the question of potential project impacts on cyclists, pedestrians and horseback riders. Key findings are summarized below.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT SFTY 5.7-1:	**Potential Risk of Rockfall.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**
IMPACT SFTY 5.7-2:	**Potential Exposure to Avalanche Risk.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**
IMPACT SFTY 5.7-3:	**Potential Risk of Volcanic Activity.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**
IMPACT SFTY 5.7-4:	**Potential Risk of Wildland or Structural Fire.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**
IMPACT SFTY 5.7-5:	**Potential Impact to Evacuation Options.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**
IMPACT SFTY 5.7-6:	**Potential Risk of Subsidence.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**
IMPACT SFTY 5.7-7:	**Potential Risk of Flooding.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**
IMPACT SFTY 5.7-8:	**Potential Impacts on Pedestrians, Cyclists, Horseback Riders.**
Mitigation:	**Less than significant impact; no mitigation required.**
Significance:	**LESS THAN SIGNIFICANT**

5.7.2 EXISTING CONDITIONS

5.7.2.1 General Plan Safety Element

The Mono County General Plan *Safety Element* and the *MEA* evaluate countywide health and safety issues including ground failure, slope instability, seismic hazards, flooding, infrastructure adequacy, evacuation routes and other safety concerns for the region. Relevant findings from the *Safety Element* and MEA for the county and for the community of Paradise are summarized in Table 5.7-1.

Table 5.7-1
GENERAL PLAN SAFETY ELEMENT ISSUES OVERVIEW[1]

SUBJECT	RELEVANT ISSUES
Geologic Materials	The entire Wheeler Crest/Paradise area is derived from Quaternary Volcanic Material, and the around and including Paradise is shown as having several quaternary earthquake faults. No areas of soil erosion have been mapped in Paradise, although a large area subject to stream sheet rill erosion is shown in the area of Wheeler Crest (north of Paradise). The reader is referred to Draft EIR §5.1 which contains primary discussion of geotechnical issues.
Rockfall Hazards	The *Safety Element* notes that rockfall is common along steep slopes of the Sierra escarpment, especially during spring and winter. The western boundary of Paradise Community is designated as a rockfall risk area, but the community proper (including Rock Creek Ranch) is outside of this zone.
Avalanche Risk	The highest risk of avalanche in Mono County is confined to the backcountry. However, lives have been lost and over 40 properties have suffered damage since 1969 due to avalanches. Avalanche hazard maps prepared for Mono County indicate that the project site is outside of a avalanche risk zone. Avalanches have been observed as far as the westernmost portion of the Paradise Community over the past 100 years, but none has extended closer than 2 miles from the Rock Creek Ranch site, and none extend into the Lower Rock Creek road alignment.
Flooding, Dam Failure, Seiching	The *Safety Element* identifies 4 areas considered to be most at risk of impact from a 100-year flood, including Antelope Valley, Bridgeport Valley, the June Lake Loop, and the Tri-Valley area that includes Benton Valley, Hammill Valley, and Chalfant Valley in eastern Mono County. None of these zones include the community of Paradise. However, the Lower Rock Creek riverbed widens just south of the Rock Creek Ranch site; land in that area is shown as part of a 100-year flood zone per the Federal Emergency Management Agency. The flood zone is outside of and downgradient of Rock Creek Ranch and other homes in the community of Paradise. Paradise is not located in an area identified for risk of dam failure (the county as a whole has a low risk), and there is no evidence of seiching (seismic-induced sloshing) in any Mono County lakes or reservoirs. Drainage issues are discussed in EIR §5.1.
Subsidence	Tectonic movement is the prime cause of subsidence in Mono County, especially beneath the Long Valley Caldera (located well north of the Paradise community). Groundwater extraction has not been a cause of subsidence to date, though it is cited as a potential factor in all major groundwater basins. MEA maps place the community of Paradise at the southwest tip of the 250 sq. mi. Benton/Hammel/Chalfant Valley groundwater basin. This basin is replenished primarily by runoff from the White Mountains. There are no areas of shallow groundwater shown in or around Paradise. The reader is referred to EIR §5.1 which contains primary discussion of groundwater and surface water issues.
Volcanic Hazards	Historic volcanic activity in Mono County extends from north of Mono Lake to the deposits of Bishop Tuff in southern Mono County (including the Paradise site). Present day volcanic risk is from the Long Valley Caldera and from the Inyo Mono Crater Chain; both of these areas are located well north of Paradise (10+ miles from the project site).
Fire Risk	Wildland fire is considered a significant natural hazard throughout most of the county due to the presence of high fuel loading, steep slopes, and long, dry summers. All county lands outside of Bridgeport and Antelope Valleys are rated by the California Dept. of Forestry as having a 'very high fire hazard.' Please refer to EIR §5.8 (Public Services & Utilities) for discussion of fire conditions and impacts in the project area.
Evacuation	Evacuation is a significant challenge for large areas of the county. Major routes (including Highway 395) are subject to closure from natural hazard, and many communities are served by single access routes. Paradise is one of the county areas served by a single access route (Lower Rock Creek Road) for a distance of roughly 3 miles to the south, and 8 miles to the north. The General Plan *Safety Element* notes that the Wheeler Crest Area Plan calls for development of additional access routes. When realized, this access would provide some additional options for egress to the north; however, county staff members indicate that there are no active plans to construct additional access.[2]

[1] Mono County *General Plan Safety Element*. Note: discussion is paraphrased from the original text.
[2] Communication with Larry Johnston, Mono County Planning Department, May 2004.

The General Plan *Safety Element* contains numerous objectives, goals and policies to reduce public safety risks. Table 5.7-2 identifies those that are directly relevant to the Paradise project.

Table 5.7-2
PROJECT CONFORMANCE WITH *SAFETY ELEMENT* POLICIES[3]

APPLICABLE COUNTY POLICY	STATUS	CONFORMANCE REVIEW
GOAL 1/OBJECTIVE A: Direct development in a way that reduces risks of damage /injury from known earthquake and geo hazards to acceptable levels.		
POLICY 2: Ensure that new construction is designed to withstand seismic/geologic events		
Action 2.4: Building Dept. may require geotechnical studies…to comply with Uniform Building Code.	✓	▪ Geotechnical studies have been prepared for Rock Creek Ranch, as detailed in EIR S5.1.
GOAL II/OBJECTIVE A: Regulate development in flood hazard areas to protect people & property from unreasonable risk of flood damage.		
POLICY 1: Regulate placement of new structures in the 100-year flood plain.		
Action 1.4: Projects with potential to cause substantial flooding, erosion or siltation shall [analyze] impacts prior to project approval.	✓	▪ Drainage plans have been prepared for the project as detailed in EIR §5.1.
OBJECTIVE B: Regulate development [to] protect people & property from unreasonable… wildland & structural fire hazards.		
POLICY 1: Require adequate structure fire protection for new developments.		
Action 1.1: Projects shall demonstrate availability of adequate structural fire protection prior to or as a condition of permit issuance. Applicants shall provide…a will-serve letter from the applicable FPD.	✓	▪ The project applicants shall provide evidence of adequate fire protection as required, including a will-serve letter from the Paradise Fire Protection District.
POLICY 2: Require new construction to [meet] minimum wildland fire…standards: emergency access, signing, building numbers…water supply reserves, fuel modification…		
POLICY 3: Mitigate fire hazards through the environmental and project review process.		
Action 3.1: Consider the severity of…fire hazards, the adequacy of fire protection, appropriate project modifications & mitigations…	✓	▪ The Paradise FPD Fire Chief indicates the site is not subject to severe fire hazard & can be adequately protected (§5.8)
Action 3.2: Refer project proposals to FPD & CDF for review & comment.	✓	▪ Communication with the FPD is underway including ongoing review & comment.
Action 3.3: Require on-site detection & suppression, such as automatic sprinkler systems, where adequate…services are unavailable.	✓	▪ Onsite fire protection facilities will be provided as directed by the Paradise FPD.
POLICY 4: Assist FPDs in securing adequate funding for capital facilities and ongoing operations to serve new development.	✓	▪ Project will be required to pay new development fire protection fees, as discussed in §5.8.
GOAL III/OBJECTIVE B: Inform residents & visitors of potential avalanche hazards…	✓	▪ The project is not located in a designated avalanche hazard zone.
GOAL IV/OBJECTIVE A: Inform the public of the nature & extent of natural hazards in Mono County;	✓	▪ Future residents will be informed of hazards through CC&Rs.
POLICY 1: Inform affected persons of potential natural hazards in the area during [permitting & property transfer]		
OBJECTIVE C: Provide for safe ingress/ egress of emergency vehicles & equipment.	✓	▪ The Paradise FPD has reviewed proposed site access and indicted that it will be adequate for safe ingress/egress of emergency vehicles and equipment.
Action 1.1: Refer applications to CDF and local FPD for review & comment re. emergency access		

[3] Mono County *General Plan Safety Element*. Note: discussion is paraphrased from the original text.

5.7.3 APPLICABLE REGULATIONS

5.7.3.1 Federal Regulations[4]

- Federal agencies with oversight authority for the manufacture, use, transport and remediation of hazardous materials used in water, recycled water and wastewater treatment include the EPA, the Dept. of Labor/ OSHA, and the federal Dept. of Transportation. These agencies oversee a number of laws and statutes pertaining to hazardous materials including (a) Resource Conservation & Recovery Act of 1976 (RCRA); (b) the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); (c) the 1994 Hazardous and Solid Waste Amendments; (d) The 1986 Superfund Amendments and Reauthorization Act (SARA); and (e) the 1987 Emergency Planning and Community Right-to-Know Act (EPCRA).

5.7.3.2 State Regulations

- State agencies with oversight authority for hazardous materials include California EPA, the Dept. of Toxic Substances Control, the 9 Regional Water Quality Control Boards, Cal/OSHA, the Office of Emergency Services, the Air Resources Board, the Calif. Integrated Waste Management Board and other agencies. Key laws & statutes include the 1989 Hazardous Waste Source Reduction & Management Act; the Safe Drinking Water & Toxic Enforcement Act of 1986; and various hazardous waste control laws.
- The Lahontan Regional Water Quality Control Board has responsibility, under Title 27 of the Code of Regulations, for managing soils and groundwater resources. LRWQCB also has responsibility under Title 22 of the California Code of Regulations for the treatment and use of recycled water supplies.

5.7.3.3 Local Regulations

- The Mono County Code designates the Sheriff-Coroner as the Director of the Office of Emergency Services (OES). The OES ensures that the county is prepared to prepare for, respond to, mitigate and recover from the effects of emergencies that threaten lives, property, and the environment. OES coordinates the activities of all county Departments relating to preparation and implementation of the Emergency Plan, and also coordinates response efforts of local, state, and federal agencies to ensure maximum effect with minimum overlap and confusion. The Sheriff-Coroner partners with numerous agencies in it's emergency management effort including the Town of Mammoth Lakes, USFS, LADWP, USGS, BLM, Calif. OES, CHP, Caltrans, Mono County Volunteer Fire Districts, USMC Mountain Warfare Training Center, Mammoth Unified School District, and Eastern Sierra Unified School District.

5.7.4 SIGNIFICANCE CRITERIA

Public safety impacts would be considered significant if the project would:

- Expose project or area residents to substantial risk of rockfall
- Expose project or area residents to substantial avalanche hazards
- Expose project or area residents to substantial risk from volcanic hazards
- Expose residents or firefighters to substantial risk from wildland or structure fire
- Cause or exacerbate inadequate evacuation options
- Expose residents to substantial risk of subsidence
- Expose residents to substantial risk of flooding
- Create Hazards to pedestrians, cyclists and horseback riders
- Expose residents to hazardous materials

5.7.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Risk of Rockfall

IMPACT SFTY 5.7-1: Potential risk of rockfall

The *Safety Element* notes that rockfall is common along steep slopes of the Sierra escarpment, especially during spring and winter. Land along and west of the western boundary of Paradise Community is designated as a rockfall risk area, but the community proper (including Rock Creek Ranch, which adjoins the eastern community boundary) is outside of this zone. There is a potential for rockfall in the vicinity of Lower Rock Creek, but this is considered less than significant because no structures are proposed in this area. Project implementation would therefore not expose future residents to significant rockfall hazards, and no mitigation is required.

[4] Sources: USEPA websites for RCRA (http://www.epa.gov/region5/defs/html/rcra.htm); CERCLA (http://www.epa. gov/region5/defs/html/ cercla.htm), SARA (http://www.epa.gov/region5/defs/html/sara.htm) and EPCRA (http://www.epa.gov/region5/defs/html/epcra.htm).

Significance: LESS THAN SIGNIFICANT IMPACT

Avalanche Hazards

IMPACT SFTY 5.7-2: Potential exposure to avalanche hazards

The *Safety Element* indicates that Rock Creek Ranch project site is located outside of any avalanche risk zone. Avalanches have been observed as far as the westernmost portion of the Paradise Community over the past 100 years, but none has extended closer than 2 miles from the Rock Creek Ranch site, and none has extended into the Lower Rock Creek road alignment. Project implementation would therefore not expose future residents or property to significant avalanche hazards, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Volcanic Hazards

IMPACT SFTY 5.7-3: Potential exposure to volcanic hazards

The *Safety Element* indicates that Rock Creek Ranch is in the range of historic volcanic activity. However, the site is well removed from (and south of) the area subject to present-day volcanic risk. Project implementation would not exposure residents or homes to a substantial risk of volcanic hazards, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Fire Hazards

IMPACT SFTY 5.7-4: Potential exposure to wildland or structural fire hazards

The *Safety Element* indicates that wildland fire is considered a significant natural hazard throughout most of Mono County due to the widespread presence of high fuel loading, steep slopes, and long dry summers. All county lands outside of Bridgeport and Antelope Valleys are rated by the California Dept. of Forestry as having a 'very high fire hazard.' However, as discussed in §5.8 (Public Services and Utilities), the Fire Chief of the Paradise Fire Protection District considers fire risk to be less than significant for the Paradise community due to the relatively limited fuel loading and available fire-fighting resources. The risk from wildland or structural fire is therefore considered to be less than significant, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Emergency Evacuation

IMPACT SFTY 5.7-5: Potential impact to evacuation options

The *Safety Element* indicates that evacuation is a significant challenge in many areas of the county where major routes are subject to closure from natural hazard. Paradise is one of the county areas served by a single access route (Lower Rock Creek Rd.) with 2 access points to Highway 395 (one access is about 3 miles to the south, the second access is about 8 miles to the north). The General Plan *Safety Element* notes that the Wheeler Crest Area Plan calls for development of additional access routes that would provide an additional ingress/egress option to the north. County staff indicates that there are no active plans to construct additional access,[5] but considers the existing 2 access points to be sufficient in light of the absence of significant public health threats from fire, avalanche, volcanic activity, flooding, subsidence or other factors.

Within the project site, only 1 point of ingress and egress is proposed to serve the 60 homesites, which may hamper evacuation of Rock Creek Ranch under some emergency circumstances. However, the site is also connected to Lower Rock Creek Road via a private dirt road that crosses land owned by the Los Angeles Dept. of Water and Power (LADWP). The applicant contacted LADWP regarding a formal easement allowing use of this road. LADWP responded that it does not enter into easement agreements with private landowners, but would be willing to consider a proposal by the county. The county has indicated that emergency use of the road would not require a formal easement, and has no plans to seek an easement at this time. Unless prohibited by the LADWP,

[5] Communication with Larry Johnston, Mono County Planning Department, May 2004.

this secondary access would likely be available for emergency evacuation. Project approval and implementation would not play a significant role in causing or exacerbating inadequate evacuation options.

Significance: LESS THAN SIGNIFICANT IMPACT

Subsidence

IMPACT SFTY 5.7-6: Potential risk of subsidence

The *Safety Element* indicates that the project site is outside of the primary zone of subsidence (in the Long Valley Caldera), and is also free of groundwater extraction-induced subsidence. Additionally, subsidence is not mentioned as a site hazard in geotechnical studies prepared for the project proposal. The potential risk of subsidence is therefore considered to be less than significant.

Significance: LESS THAN SIGNIFICANT IMPACT

Flood Hazards

IMPACT SFTY 5.7-7: Potential risk of flooding

The *Safety Element* indicates that Paradise is located outside of the 4 areas considered to be at greatest risk from a 100-year flood (Antelope Valley, Bridgeport Valley, June Lake Loop, and the Tri-Valley area (Benton, Hammill, and Chalfant Valleys). The Lower Rock Creek riverbed widens just south of the Rock Creek Ranch site. Land in that area (which is outside of and downstream of Rock Creek Ranch and other homes in Paradise) is shown as part of a 100-year flood zone.[6] Paradise is not located in an area identified for risk of dam failure (the county as a whole has a low risk), and the project proposes no homes in the immediate vicinity of Lower Rock Creek. There is no evidence of seiching (seismic-induced sloshing) in any Mono County lakes or reservoirs. The risk of flooding is therefore considered less than significant, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Pedestrian, Riding and Cycling Hazards

IMPACT SFTY 5.7-8: Potential hazards to pedestrians, cyclists and horseback riders

The tentative map incorporates a trail system that is specifically designed to separate onsite road traffic from pedestrians, cyclists and horseback riders. The trail system has linkages to surrounding public open space lands, to the Lower Rock Creek gorge, and into the private homeowners' recreational area in the center of the project. The layout also provides easements that allow passage between the residential lots to these open space nodes. These proposed trail elements are expected to maximize future residents' use of onsite trail systems and recreational elements. No significant hazards to pedestrians, cyclists or horseback riders are anticipated, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

5.7.6 SIGNIFICANCE FOLLOWING MITIGATION

No potentially significant adverse impacts pertaining to public health and safety have been identified, and no mitigation measures are proposed.

[6]Federal Emergency Mgmt Agency Hazards Awareness Map (http://www.esri.com/hazards/makemap.html).

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.8 PUBLIC SERVICES, UTILITIES AND HAZARDOUS MATERIALS

5.8.1 INTRODUCTION

The following section evaluates potential impacts of the Rock Creek Ranch project on services and utilities including fire, police, health care, schools, school bussing, public transportation, sanitation services, solid wastes, and hazardous wastes. Impacts pertaining to the proposed package sanitation treatment plant are based on a *Wastewater Generation Study* and materials provided by Santec Corp. (please see Appendix K). The reader is referred to §5.1 for discussion of water resources. Written comments on the NOP requested that the EIR analyze impacts on emergency services, schools and child care. Comments received during the scoping meeting requested that the EIR assess the impact of the package sewage system on water quality as well as impacts on fire service capability and equipment (including ability to traverse the 12% grade internal road), and impacts on local schools including school bus transportation. Key findings are summarized below.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT UTIL 5.8-1:	**Potential increased demands on fire protection services**
Mitigation UTIL 5.8-1a:	TT Map to be provided to Paradise FPD for review and comment prior to final approval.
Mitigation UTIL 5.8-1b:	CC&Rs to be provided to Paradise FPD for review and comment prior to final approval.
Significant:	Less than significant
IMPACT UTIL 5.8-2:	**Potential impacts associated with propane tank farm**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-3:	**Potential impacts on community fire flow**
Mitigation:	The project water system shall have at least two intertie points with LRCMWC system.
Significance:	Less than significant
IMPACT UTIL 5.8-4:	**Potential impacts of sanitation treatment facility**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-5:	**Potential increased demands on police protection services**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-6:	**Potential increased demands on social services**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-7:	**Potential increased demands on health care services**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-8:	**Potential increased demands on educational services**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-9:	**Potential increased demands for transit services**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-10:	**Potential increased demands on solid waste facilities**
Mitigation:	Impacts are less than significant; no mitigation required
Significance:	Less than significant
IMPACT UTIL 5.8-11:	**Potential release of hazardous wastes during construction**
Mitigation UTIL 5.8-11:	Use of BMPs throughout construction to minimize erosion, sedimentation, contamination.
Significance:	Less than significant

5.8.2 EXISTING CONDITIONS

5.8.2.1 Fire Protection and Safety[1]

The Mono County General Plan identifies wildland fire as a significant natural hazard throughout most of the county due to the presence of high fuel loading, steep slopes and long, dry summers. The Fire Severity Hazard Zone was recently downgraded from 'very high hazard' to 'moderate hazard.'[2] The Community Wildfire Protection Plan (CWPP) is a federal directive from the 2003 Healthy Forests Initiative Act that directs communities at high risk to a wildfire event to begin efforts to mitigate those risks. The CWPP brings together key forestry professionals, local officials, fire departments, and other concerned agencies and groups to collaboratively identify areas in the district at risk of wildfire, and to develop an action plan for reducing those risks. The Mammoth Lakes Fire Safe Council has contracted with Anchor Point Group to complete two CWPPs for the area encompassing Mono and northern Inyo Counties.[3] The State has adopted fire safe regulations to reduce fire hazards, effective January 1, 2008, and the county has already adopted a local ordinance to implement these regulations. The requirements address adequate clearance of flammable vegetation, clustering of structures to minimize spread, minimum fire flow levels from water sources, and road lengths and capacities adequate to support fire fighting equipment.

There are 11 fire protection districts (FPDs) countywide; the project site is part of the Paradise FPD. Most of the districts are staffed by community volunteers, including Paradise FPD. Table 5.8-1 summarizes key information for county FPDs including and surrounding the community of Paradise. Emergency Medical Service (EMS) is provided by Mono County Paramedics and Symons Emergency Specialties out of Bishop.

Table 5.8-1
FIRE PROTECTION DISTRICTS IN THE PROJECT REGION[4]

DISTRICT	*Sq. Miles*	*# Stations*	*EMS Provided*
Long Valley	114	1	Yes
Wheeler Crest	4	1	EMT only
Paradise	0.3	1	EMT only
Chalfant Valley	75	1	Yes

The 2001 General Plan MEA also notes that Paradise is an area with the highest level of ISO risk ("10").[5] However, the Fire Chief for Paradise FPD notes that the risk level has been reduced in the past few years. The current ISO rating (between 8 and 9) reflects the acquisition of new equipment, implementation of better testing systems, and a new training program; the District is working to achieve additional ISO credits. Among the equipment owned by Paradise FPD is a 1973 Type 1 Van Pelt Fire Truck. This truck has capabilities typically found in urban areas including 500 gallons of reserve water storage and hoses capable of delivering up to 1,200 gallons per minute (gpm) of fire flow, with a fork attachment. A 1981 Type 1 Van Pelt Fire Truck with similar capabilities was recently acquired and is expected to go into service in 2008, replacing the 1973 model. The FPD also has a Type 4 Dodge Truck, 4-wheel drive with 250 gallons of storage and 250 gpm delivery capability. Both trucks can pump directly from Lower Rock Creek.

Paradise FPD has no permanent staffing, and operates exclusively through the volunteer services of community residents; twenty volunteers are presently serving. The District considers staffing adequate to meet current need which averages about 12-18 calls per year, approximately half of which are medical/EMT calls. Most of the remaining calls are for structural or brush fires. The community has some exposure to forest fires but this is not considered to be a major threat and the District has responded successfully without losses of life or significant property damage. Local fire protection and emergency response is strengthened through auto-aid agreements between Paradise FPD and Wheeler Crest FPD, the BLM, the Calif. Division of Forestry, and the USFS, as well as an informal mutual aid exchange with the Bishop Rural FPD.

5.8.2.2 Sheriff and Law Enforcement[6]

The project site is located in the jurisdiction of the Mono County Sheriff's Department, which provides protection to all of Mono County. The Department maintains a Sheriff's substation in the Crowley Lake community that is staffed by 1 to 4 sheriff's deputies. Overall reported crime rates in Mono County are on a par with the state as a whole. However, Mono County has a lower violent crime rate (4.37 events per 1,000 residents compared with

[1] Craig Williams, Chief, Paradise Fire Protection District, telephone conversation of 30 October 2007.
[2] Berkeley Fire Center website, http://firecenter.berkeley.edu/fhsz/.
[3] Anchor Point website, http://www.anchorpointgroup.com/.
[4] Mono County MEA, 2001 (Table 2). EMS=Emergency Medical Services.
[5] The ISO Rating is a credit rating applied by the Insurance Service Office (ISO) to determine rates in different areas. An ISO rating of 1 denotes the highest level of fire protection and lowest level of risk; a rating of 10 denotes the lowest level of protection and highest risk.
[6] Shannon Kendall, Administrative Assistant, Services, Mono County Sheriff's Dept., October 2007.

5.12 for the State) and a lower level of property crimes (18.81 events per 1,000 residents compared with 19.52 for the State).[7] The Sheriff's Department is able to provide adequate protection for the community.

5.8.2.3 Sanitation[8]

The project site is currently undeveloped and there are no sanitation facilities in place. Existing residents of the Paradise community utilize engineered individual septic systems. The engineered systems are required by LRWQCB due to concerns that conventional septic disposal could cause groundwater contamination. In particular, studies have confirmed the presence of shallow fractured bedrock less than 3 feet below the ground surface that could act as a conduit for untreated waste to contaminate the underlying groundwater table. Groundwater is the source of water supply for existing residents. For this reason, LRWQCB has required that existing home sites in the community of Paradise utilize engineered individual septic systems (rather than conventional septic disposal).

5.8.2.4 Paramedic and Health Care Services[9]

The Paradise community is served by Mammoth Hospital, located about 20 miles north in the Town of Mammoth Lakes, and Bishop Hospital located about 15 miles southeast of the site. The Paramedics are based in the Town of Mammoth Lakes at the Fire Station, and travel about 20 miles to provide paramedic services to county residents in Paradise. Emergency medical services are also provided by Symons Emergency Specialties in Bishop. A variety of health care services are offered through the Mono County Department of Public Health and the county Mental Health Department, both of which offer facilities in Mammoth Lakes.

5.8.2.5 Social Services[10]

The project would be served by the Mammoth Lakes office of the Mono County Dept. of Social Services. There are no offices in Paradise. Residents can apply for Social Services by mail or in person at the Mammoth office. The Department provides or coordinates a wide range of services that include General Relief, Cash Aid, Food Stamps, Medi-Cal, alcohol and drug services, arts and cultural programs, children's services, job employment and training, legal support, senior services, Native American services and women's services, self-help groups and other types of aid. The Mammoth office is able to meet the needs of the current residents of Mono County.

5.8.2.6 Schools, Libraries and School Busing

Educational needs of the Paradise Community are served by Round Valley Joint Elementary School District (JESD) and Bishop High School. The generation factor that the state office of public school construction currently uses is .5 children from each new housing source in grades K-8. These factors are based on statewide averages, and somewhat higher than experienced in the Owens Valley. The .5 factor would predict 30 K-8 students from Rock Creek Ranch. The current enrollment at Round Valley Elementary School is 125 students, which is close to the capacity in the existing facility of 130 students. Thirty new students would require at least one new classroom and potentially two depending on the grade level of the incoming students. Round Valley JESD has reduced the K-3 class size to conform to state recommendations calling for a maximum of 20 students per class. Bishop High School has a current enrollment of 741 students; the addition of students from Rock Creek Ranch is not expected to push the high school over capacity. Again, because many of these homes are expected to be second homes it is expected that actual school generation from this project will be lower than the average factors cited above.

Developer fees are currently in place. There is no charge for student transportation and the District does not anticipate charging fees to bus students from Rock Creek Ranch.[11] Adult educational opportunities (including an Associate of Arts degree) are available through the Mammoth Branch of the Eastern Sierra College Center, a division of Cerro Coso Community College. The Mammoth Lakes Park and Recreation Department also offers recreational and adult education classes.

The Library system includes 7 branch libraries throughout Mono County. The library closest to Paradise, located in Crowley Lake, is also the newest facility. Paradise is also served by a bookmobile that travels on alternating weeks to north and south county communities; the bookmobile is located in Paradise 1 day every 2 weeks.[12]

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[7] California Office of the Attorney General, Criminal Justice Statistics Center, 2005 data, http://caag.state.ca.us/cjsc/datatabs.htm.
[8] Information in this section is drawn from a *Wastewater Generation, Treatment & Disposal Study* prepared by Triad/Holmes Assoc. for the Rock Creek Ranch Project and dated May 2004.
[9] Sources: Communication with Gary Meyers, Chief Exec. Officer, So. Mono Health Care District, 9/10/04; Shannon Kendall, Mono Co. Sheriff's Dept, Sept. 2004; Mono County MEA, 2001; Mammoth Hospital website (online: www.mammothhospital.com),
[10] Sources: Julie Timermain, Project Manager, Mono County Department of Social Services, 10 Sept. 2004; and Department website: http://monohealth.com.Monocountyresourcedirectory.pdf
[11] Gary Mekeel, Superintendent/Principal, Round Valley Joint Elementary School District, communication of October 2007.
[12] Bill Michael, County Librarian, communication of October 2007.

5.8.2.7 Public Transportation[13]

Eastern Sierra Transit Authority (ESTA) provides public transportation services throughout Mono and Inyo Counties. Due to increased demand, ESTA has added routes and now offers twice-daily service between Bishop and Mammoth Lakes to meet morning and evening peak hour needs of residents and employees. The bus does not go through or stop in Paradise. However, Paradise residents can contact ESTA to arrange for the bus to stop en route along Hwy. 395 in the vicinity of Paradise (at the 'Round-Up'). Decisions regarding bus routes are made by the Local Transportation Commission, which holds hearings during which residents can request new routes based on need. The Commission allocates funds for such routes and contracts with ESTA for service.

5.8.2.8 Solid Waste and Landfill Capacity[14]

Six waste transfer and landfill sites operate in the county, two of which are owned by Mono County (one each in Benton and Chalfant). Two additional facilities are leased from BLM (Walker and Bridgeport) and two are leased from LADWP (Pumice Valley and Benton Crossing). The Mono County Public Works Dept. provides solid waste disposal services to residents of Paradise. The county maintains a waste collection site south of Paradise for use by community residents (including Wheeler Crest), and hauls full containers to Benton Crossing Landfill once a week. Each single-family residence is charged an annual $60 solid waste parcel fee on their property tax bill. Solid waste generation rates are considerably lower for Mono County than for the state as a whole. As of 2005, each county resident generated approximately 1.1 pounds of solid waste per day (of which 40% was diverted from landfills in the Mammoth District and 70% was diverted in the County Unincorporated District), compared with approximately 2.1 pounds per resident per day statewide (of which about 52% was diverted from landfills).[15]

The design capacity of the Benton Crossing Landfill is about 1.3 million cubic yards. As of October 2001, the landfill had a remaining capacity of about 695,000 cubic yards, with an annual fill rate of roughly 29,400 cubic yards and an estimated life span of 23 years.[16] Assembly Bill 939, the California Integrated Waste Management Act of 1989 (AB 939), requires every city and county in the State of California to prepare a Source Reduction and Recycling Element of the General Plan (SRRE) that identifies how each jurisdiction will meet the mandatory waste diversion goals of 25% by 1995 and 50% by the year 2000. The law also required every jurisdiction to develop a Household Hazardous Waste Element (HHWE) to plan for the proper management of hazardous wastes generated by households. The Public Works Department meets these requirements in Mono County.

5.8.2.9 Hazardous Wastes

The Mono County General Plan *Hazardous Waste Management Element* (HWME) notes that county management of hazardous wastes is guided by a "Fair Share Principal" that calls for each agency to dispose of its own wastes. Governing priorities include:

- Reduction of wastes
- Recycling of wastes
- Waste Treatment, and
- Land disposal of treatment residuals

There are no sites on the 2007 Cortese List within Mono County[17] and there are no Superfund sites listed on the EPA Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) database and Superfund Information System.[18]

The county's *Hazardous Waste Management Element* also notes that there are no listed contaminated sites within Mono County, and thus no cleanup programs are underway. Households are recognized in the *Element* as a source of hazardous wastes and an avenue for management of such waste loads through proper education, and the HWME contains a number of goals, policies and actions directed to public outreach. Moreover, the HWME identifies education as a higher priority than enforcement because small businesses and households comprise the main hazardous waste generators in Mono County. Goals and actions relevant to household wastes are outlined in Table 5.8-2.

[13] Monica Watterson, Eastern Sierra Transit Authority, communication of October 2007; and ESTA website: http://www.inyocounty.us/transit/Bishop%20to%20Mammoth%20Commuter%20page.htm.
[14] Evan Nikirk, Mono County Assistant Director of Public Works, 22 June 2001; Mono County Department of Public Works website: http://www.monocounty.ca.gov/departments.html.
[15] http://www.ciwmb.ca.gov/Profiles/default.asp.
[16] Integrated Waste Mgmt Bd website, www.ciwmb.ca.gov/Landfills/ComplyStudy/DB/general.
[17] California Dept. of Toxic Substances Control, Envirostar Database: http://www.envirostor.dtsc.ca.gov/public/search
[18] USEPA website: http://cfpub.epa.gov/supercpad/cursites/srchrslt.

5.8.2.10 Existing Hazards

With few exceptions, the project site is currently undeveloped and in its native condition. The excepts include several graded access roads, several test wells that were constructed to evaluate water supply and water quality, and improvements made by LRCMWC in an existing easement at the northwest corner of the site. The easement

Table 5.8-2
***RELEVANT HAZARDOUS WASTE MANAGEMENT ELEMENT* POLICIES[19]**

APPLICABLE COUNTY POLICY	*STATUS*	*CONFORMANCE REVIEW*
GOAL/OBJECTIVE A: Manage and minimize the amount of hazardous waste generated in Mono County.		
POLICY 4: Hazardous waste generated in Mono County will be properly collected, recycled, and disposed.		
Action 4.1: Assist…households to identify their hazardous waste [&] manage and minimization needs.	✓	■ CC&Rs will provide information about waste management and disposal.
Action 4.2: Maintain a list of waste haulers, recyclers, treatment companies	✓	■ County provides waste collection services.
POLICY 6: Ensure that the public is informed about the hazards associated with improper disposal of hazardous waste.		
Action 6.1: Provide hazard information as part of education… program for…households.	✓	■ CC&Rs will provide information about waste management and disposal.

is occupied by a subsurface 110,000-mg potable water storage tank, and distribution lines leading westward to existing homes in the community of Paradise (please refer to the Civil Site Plan, Exhibit 3-5). There is no prior land use history suggesting that this site may have been contaminated by leaking underground tanks, chemical discharges, waste disposal or other means. The site is not included on the Cortese List of Hazardous Waste & Substances Sites.[20]

5.8.2 APPLICABLE FEDERAL AND STATE REGULATIONS

Federal – Fire

Community Wildlife Protection Plan: The federal Community Wildfire Protection Plan is part of the 2003 Healthy Forests Initiative Act that directs communities at high risk of wildfire to mitigate those risks. The CWPP brings together federal, state and local forestry professionals, local officials, fire departments and other concerned agencies and groups to collaboratively identify areas at risk of wildfire and develop an action plan for reducing those risks.

Federal & State – Hazards

Federal Emergency Management Agency (FEMA): The Federal Emergency Management Agency (FEMA, now part of the Dept. of Homeland Security) has a primary mission to reduce the loss of life and property and protect the U.S.A. from hazards including natural and man-made disasters by implementing a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

Environmental Protection Agency (EPA): The federal EPA is responsible for implementing a wide range of laws and regulations to promulgate safety emergency planning, environmental protection, chemical safety, clean air, clean water and safe drinking water, occupational safety and health, pollution prevention and a wide range of programs directed to resource conservation, hazard remediation, and the control of toxic substances. Generally, these federal programs are implemented in tandem with state programs managed by the California Environmental Protection Agency (CalEPA). Among the programs administered by EPA is the Resources Conservation and Recovery Act (RCRA) which regulates all stages of hazardous substances uses from generation through transportation, storage and disposal.

EPA also administers the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 which is intended to protect environmental resources from degradation due to inadequate historic practices governing chemical use and disposal. CERCLA includes the National Contingency Plan (NCP) which sets forth appropriate response to hazardous releases, as well as the National Priorities List (NPL) which sets priorities for responding to such releases. CERCLA was amended in 1986 to incorporate the Superfund Amendments and

[19] Mono County *General Plan Hazardous Waste Element*. Discussion is paraphrased from original text.
[20] California Department of Toxic Substances Control, Envirostar database website: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm

Reauthorization Act (SARA). SARA strengthened the provisions for emergency response, increased funding, broadened the response powers of EPA, and required expansion of the Hazard Ranking System that is used to assess human health risks.

CalEPA oversees the Hazardous Materials Release and Response Plans and Inventory Act, which is also known as the Business Plan Act. This act requires businesses that use hazardous materials to prepare a comprehensive plan outlining the materials used, inventories, emergency response procedures, staff training.

Right to Know: Among the provisions of SARA is the Community Right-to-Know regulation (EPCRA, the Emergency Planning and Community Right-To-Know Act). These provisions are intended to educate the public about hazardous materials and increase public access to information about chemicals used at individual facilities. The Act requires businesses to develop plans for emergency response, and to report chemical information to the State Emergency Response Commission (SERC), the Local Emergency Planning Committee (LEPC), the local fire department, and tribal nations. EPA allows states to implement their own management programs provided such programs are at least as stringent as the RCRA. Many of the programs implemented under the California EPA (CalEPA) incorporate standards more stringent than the minimum levels set by the USEPA. The California Hazardous Waste Control Act (HWCL) is an example of a state program that expands upon the federal guidelines. Implemented through the California Code of Regulations (26 CCR), the HWCL addresses identification, classification, sources, transport, facility design and permitting, treatment standards, facility operation and closure, operator training, and liability issues for more than 800 potentially hazardous materials.

California Department of Toxic Substances Control (DTSC): DTSC is the agency with primary responsibility for implementing the HWCL in California. DTSC tasks include development of hazardous permit regulations, management practices, disposal protocols, and development of criteria to guide the packaging and labeling and identification of hazardous substances.

Transport: The federal Dept. of Transportation (DOT) oversees the transport of hazardous materials under the Hazardous Materials Transport Act. Within this context, DOT establishes requirements for driver training, load labeling, and container design as well as enforcement of other regulations (such as the RCRA) governing the transport of hazardous materials. Within California, only registered transporters may transport hazardous wastes. Requirements include formal registration, maintaining specified liability insurance policies, and licensing of both the transport vehicles and drivers. DOT works with California Department of Transportation and the California Highway Patrol to implement and enforce these regulations and to respond to emergencies as needed.

Occupational Safety and Health Administration (OSHA): Among its responsibilities for ensuring the safety of laborers, the federal OSHA sets standards for the handling of hazardous substances including training programs, contaminant exposure limits, and safe handling protocols. States are allowed to implement their own programs provided such programs are at least as stringent as the federal standards, and Cal OSHA has assumed primary responsibility for OSHA programs within California.

Local – Hazards

County Level Planning: Under Assembly Bill 2948, each county in California is required to prepare a Hazardous Waste Management Plan (HWMP) that establishes goals, policies and programs for the management, recycling and disposal of hazardous materials. Each HWMP must be approved by the California Department of Health Services (DHS). Once approved, the HWMP creates a tool for local implementation of state and local programs.

Federal and State – Waste Diversion

Hazardous and Solid Waste Act: In 1984, the RCRA was amended to incorporate the Hazardous and Solid Waste Act (HSWA) which provides additional regulations governing the disposal of hazardous materials.

The California Integrated Waste Management Act: of 1989 (AB 939), requires every city and county in the state to prepare a SSRE that identifies how the mandatory waste diversion goals will be met (25% by 1995, 50% by the year 2000). The law also requires every jurisdiction to develop a Household Hazardous Waste Element governing proper management of household hazards.

5.8.3 SIGNIFICANCE THRESHOLDS

Project impacts on utilities and services would be considered significant if the project would have potential to:

Fire Protection

- Cause substantial deterioration in the fire response capability of Paradise FPD.
- Pose a public safety risk or hazard due to the propane farm.
- Be served by water supplies with inadequate fire flow capability.

Sanitation and Water Service

- Contaminate the ground or surface water supplies, or create a health hazard due to improper design, operation or chemical releases.

Police Protection

- Cause substantial deterioration in the response capability of Mono County Sheriff's Dept.

Social and Health Care Services

- Cause substantial deterioration in the ability of the Dept. of Social Services to administer aid to the members of the community.
- Cause a substantial deterioration in the ability of Mammoth Hospital to provide medical treatment or emergency medical services to members of the community.

Community Services

- Substantial reduce the ability of local schools to provide educational services or transport students.
- Cause an unmet demand for public transit services.
- Impair the ability of Mono County to meet solid waste disposal demands or waste diversion goals.
- Cause a potential exposure to or release of Hazardous Materials.

5.8.4 ENVIRONMENTAL IMPACTS

Fire Protection and Safety

IMPACT UTIL 5.8-1: Potential increase demands on fire protection services

The project would result in an increased demand for fire protection services, and would also provide a source of additional manpower assistance for the volunteer Paradise FPD. Provided that minimum fire flows and facilities are available, the Paradise FPD does not anticipate a development of Rock Creek Ranch would cause a significant adverse impact on fire protection or firefighting capability. Minimum flow requirements have been incorporated into the project design, including fire flow capability of 500 gallons per minute for up to 2 hours, and placement of fire hydrants no less than 400-feet apart throughout the project site. Site access has been reviewed with the Chief of the FPD and found adequate as long as the slope gradient does not exceed 12% on the main internal roadway, and does not exceed 16% on any individual driveway. Existing mandatory codes and standards are considered adequate with respect to the regulation of building materials, design elements and landscaping. [21] The following mitigation measures are provided to ensure that the project complies with these standards.

MITIGATION UTIL 5.8-1a (Fire Dept. review of Tentative Map): A copy of the Tentative Map shall be provided to Paradise FPD for review and comment prior to final approval.

MITIGATION UTIL 5.8-1b (Fire Dept. review of CC&Rs): A copy of the CC&Rs shall be provided to Paradise FPD for review and comment prior to final approval.

Significance: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

IMPACT UTIL 5.8-2: Potential public safety risks associated with propane tank farm

Early in the project review, Paradise Fire Chief Craig Williams raised concerns regarding placement of the proposed propane tank farm. The Propane Tank Farm was originally proposed for construction at the northeast corner of the project site. After review of the project plans, the Fire Chief noted that a leak could result in contamination and fire risk to homes downgradient of this site. The Fire Chief recommended that the propane tank farm be moved to the south end of the site, downgradient of all project homes and well removed from other existing or proposed residences as well. This recommendation has been incorporated into the current (revised) Tentative Map layout.

In accordance with 2007 Fire Code requirements, propane will be stored in a single 10,000 gallon tank with a minimum 50' separation from any structure. An off-street transfer area will be provided, and vehicle barricades will be placed around the tank to avoid any contact. A fire hydrant will be placed between 300'-500' above the propane farm to ensure an adequate water supply in the event of fire.[22] Individual homeowners will also be permitted to have propane tanks up to 250-gallons for emergency and reserve power supply. The provisions outlined above have been reviewed with the Fire Chief and found to reduce potential public safety risks to less than significant levels; no supplemental mitigation requirements are required.[23]

Significance: LESS THAN SIGNIFICANT IMPACT

[21] Source: Chief Craig Williams, op cit.
[22] Correspondence from Fire Chief Craig S. Williams to Matthew Lehman, C&L Development, 21 April 2008.
[23] Telephone communication with Fire Chief Craig S. Williams on 26 June 2008.

IMPACT UTIL 5.8-3: Potential project impacts on fire flow demands

Concerns have also been raised with respect to water service for the proposed Specific Plan project. In particular, the Paradise Fire Chief has indicated that fire safety will require that an intertie be provided between Rock Creek Ranch and the existing LRCMWC water system as a minimum requirement. The Chief recommended that it would be preferable, in terms of public safety for the community as a whole, if the two systems could be integrated through a transmission line that tie into the water system at the Paradise Resort and Lodge as well as the LRCMWC reservoir, providing fully flexible fire flow throughout the delivery system. This recommendation has been incorporated as mitigation measure UTIL 5.8-3a below, and Exhibit 5.8-1 depicts the layout of proposed system interconnections.

Paradise FPD revenues are based on funds collected through fire-fighting mitigation fees that include $27 per year for undeveloped lots and $80 per year for developed lots. At present, these funds amount to under $9,000 per year, including $27 from the project site (as a single undeveloped lot). Construction of 60 homesites, as proposed, would increase revenues by $4,800 annually. In addition, there is a one-time 75 cent-per-square-foot fee on new construction. At this time there is no fee waiver for workforce housing. The Fire Chief anticipates that these funds would be adequate to meet fire protection demands associated with the project proposal. In summary, no significant adverse impacts upon fire services are anticipated provided the mitigation measures recommended below are implemented.

MITIGATION UTIL 5.8-3 (Intertie): The Rock Creek Ranch water system shall have at least two points at which an intertie can be accomplished with the existing LRCMWC for fire flow purposes. One intertie point shall be placed in the vicinity of the existing LRCMWC water storage tank, and a second intertie shall be extended to the western property boundary where the private project road intersects Lower Rock Creek Road.

Significance: LESS THAN SIGNIFICANT IMPACT

Sanitation and Water Facilities[24]

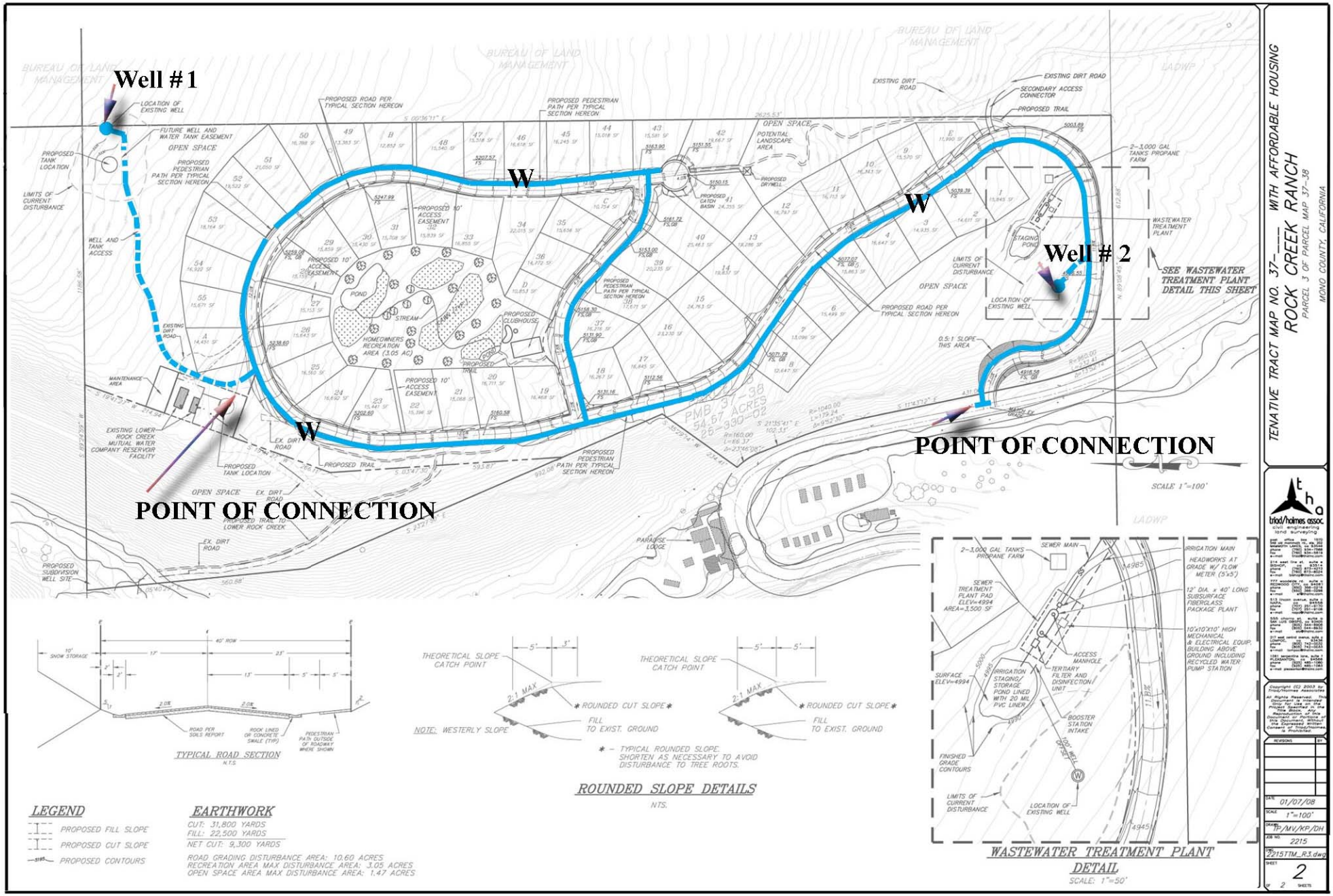
IMPACT UTIL 5.8-4: Potential impacts associated with the package sanitation facility

Information in this section is drawn from a *Wastewater Generation, Treatment and Disposal Study* prepared by Triad/Holmes Associates for the Rock Creek Ranch Project and dated May 2004. The full report is provided in Appendix K; key findings and conclusions are summarized in the discussion below. As noted previously, LRWQCB has required engineered individual septic systems in the existing community due to shallow fractured bedrock less than 3 feet below the ground surface that could act as a conduit for untreated waste to contaminate the underlying groundwater table. For similar reasons, Rock Creek Ranch will be required to construct a wastewater treatment plant in lieu of onsite disposal systems. To determine appropriate sizing of the treatment plant, the project engineers assumed that all lots would be occupied by full-time residents and that average family size of the Rock Creek Ranch project would be 3.3 persons per dwelling unit. Both assumptions are conservative in light of the residential density of 2.4 persons per unit and vacancy rate of 33% in Long Valley/Wheeler Crest as of 2000.[25] Based on per capita flows of 90 gpd, total average wastewater flows were calculated to be about 15,800 gpd with a peaking factor of 4 (weekday mornings) and weekend maximum day flows of 23,000 gpd.

The project applicant is planning to utilize a custom treatment system designed for this site by Santec Corporation. The proposed wastewater collection system would consist of subsurface sewer laterals connecting each residence to sewer mains located in the project roadway. The sewer mains would convey flows to a wastewater treatment plant proposed for construction in the southern portion of the site. As shown in the schematic layout provided as an inset in Exhibit 3-4, the treatment facility will consist of the following elements:

- Headworks: with a comminutor to break up solids, a bar screen, a grit chamber and a flow meter;
- Treatment: a 12' wide by 40' long subsurface fiberglass package tertiary treatment plant with a tertiary filter and a UV lamp disinfection unit,
- Pond: an irrigation staging/storage pond lined with a 20-millimeter PVC liner. The irrigation staging pond will have a surface elevation of 4,994'.
- Equipment: a 10'x10'x10' above-grade building to house the recycled water pump station, air blowers, sludge pumps and an electrical control panel including a SCADA system for remote monitoring of plant processes and equipment

[24]Unless noted, information in this section is drawn from *Wastewater Generation, Treatment and Disposal Study* prepared by Triad/Holmes Associates, May 2004 (please see Appendix K).
[25] Mono County Housing Element, March 2004.



Water Facility Intertie Concept

BAUER PLANNING & ENVIRONMENTAL SERVICES, INC.

ROCK CREEK RANCH EIR

EXHIBIT 5.8-1

Table 5.8-3 below outlines effluent quality (August to October in 2003-2004) for a tertiary treatment system designed by Santec Corporation for a residential project in Flagstaff, Arizona at an elevation of 7,500' (the project site is about 5,000' in elevation):

Table 5.8-3
Anticipated Effluent Performance Criteria[26]

Constituent	Influent Average (mg/l)	Effluent Average (mg/l)
Biological Oxygen Demand	357.2	6.3
Total Suspended Solids	406.0	5.7
Total Kjeldahl Nitrogen (TKN)	48.7	1.3
Nitrate-Nitrite	0.2	2.1
Total Nitrogen (calculated)	48.7	4.9

The project is expected to generate average sewage flows of 17,300 gallons per day (gpd) based on an average of 90 gpd per capita and 3.2 persons per home. Peak flows are expected to be 3 times the average flow, and the maximum day weekend flows are expected to be 26,000 gpd. The applicant proposes to utilize all of the treated effluent for spray irrigation of the landscaped homeowners' recreation park and the open areas within the project site. Storage ponds (including the staging pond adjacent to the treatment plant and ponds in the homeowner recreation area) will be constructed to provide storage for 520,000 gallons of recycled water supply, which is the volume that would be produced over a period of 30 days.

As described more fully in Appendix K, the project engineers have estimated that 4.8 acres of land would be adequate for disposal (by spray irrigation) of the annual 6.31 million gallons (mg) of recycled water that would be generated by this project. The project site plan incorporates most of this area in the 3.05-acre Homeowner Recreation Area. However, the engineers anticipate that irrigation may also occur within the project open space areas. Section 5.2 of this EIR contains a measure that limits use of open space for this purpose to an area around the package treatment plant (as designed on the Tentative Map), and requires a detailed weed abatement program to ensure that the additional water supplies do not result in the introduction of invasive plant materials or noxious weeds.

All aspects of the proposed treatment facility would be regulated by the LRWQCB, including design, construction, permitting (including a Waste Discharge Permit) and operation. The facility would be maintained and monitored by a certified treatment plant operator with a level 2 certification. The operator would also be responsible for water quality testing and reporting to LRWQCB. The treatment plant will incorporate an alarm system to notify the operator in the event of an equipment or process malfunction. Costs associated with the proposed sanitation treatment system would be borne by future residents of the site through a homeowners' association or community services district. The proposed sanitation treatment facility is located approximately 100 feet upgradient of the proposed primary water supply well. The treatment facility will be fully enclosed and, as noted above, the staging pond will be lined with a 20 millimeter PVC liner to prevent the percolation of treated supply in this area. Spray irrigation areas are well removed from the water supply well (the recreation area is roughly 1,000 feet to the north, and the supplemental open space irrigation areas would exclude the parcel on which the sanitation facility is located). LRWQCB has indicated that it may require installation of groundwater monitoring wells downgradient of the treatment plant to monitor for potential impacts on groundwater. Requirements associated with the Waste Discharge Permit will be determined by LRWQCB at the time of the permit review, and no supplemental mitigation measures are required or provided herein.

Significance: LESS THAN SIGNIFICANT IMPACT

Sheriff and Law Enforcement[27]

IMPACT UTIL 5.8-5: Potential increase demands on police protection services

The Sheriff's Department has previously indicated that there is no way to determine the increase in demand that would result from approval of a residential project. However, the Sheriff's Department has indicated that it could most likely meet the foreseeable increased demand resulting from such a project. No mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

[26] Source: Correspondence from Santec Corporation to Matthew Lehman, 29 February 2008. Santec notes that this facility was not designed to meet Title 22 requirements, but was designed to allow golf course irrigation with the treated effluent.
[27] Source: Shannon Kendall, op cit.

Social Services[28]

IMPACT UTIL 5.8-6: Potential increase demands on social services

The Social Services Dept. indicates that the project would have no adverse effect on its ability to provide services to the community. No adverse impacts are foreseen, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Health Care Services[29]

IMPACT UTIL 5.8-7: Potential increase demands on paramedic and health care services

Southern Mono Health Care District indicates that existing hospital and paramedic facilities will be adequate to meet the health care needs of Rock Creek Ranch residents if the project is approved and implemented. No significant adverse effects are foreseen, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT IMPACT

Schools, School Busing and Library Services

IMPACT UTIL 5.8-8: Potential increased demands on educational services

The proposed project would increase student demands on the Round Valley JESD and Bishop Joint Union High School District. Based on a student generation rate of 0.134 high school students per unit, and 0.5 elementary and middle school students per unit,[30,31] it is anticipated that the project would increase enrollment at Bishop High School by 8 students, and would increase enrollment at Round Valley Elementary and Middle School by 30 students, for a total student population of 38.

As noted, Round Valley Elementary and Middle School is currently close to its housing limit. Currently Level 1 fees will be levied on new construction. The School Fee Payment Certification for 2007 is based on construction fees of $2.14 per square foot of residential "conditioned" space for half the square footage, and $2.63 per square foot of residential "conditioned" space for the remaining square footage.[32] For the current project, these mandatory fees would average roughly $5,962 per unit, based on an average 2,500 sf each, and $1,526 per secondary unit, based on an average 640 sf each, for a combined project total of $374,506. These funds are also used to support school busing. The District anticipates that added demand may in the future necessitate fee-based services, but current policy calls for the provision of "free" school busing for all students. In whole the project impact is considered adverse but less than significant due to the payment of mandatory fees, and the fact that the District as a whole is under capacity. The project would also place increased demands on library services. Residents are also likely to utilize the new branch facility in Crowley Lake. These added demands are within the capability of the Library system, and no significant adverse effects are anticipated.[33]

Significance: LESS THAN SIGNIFICANT IMPACT

Public Transportation[34]

IMPACT UTIL 5.8-9: Potential increased demands for Public Transit Services

There is no permanent transit stop in Paradise. ESTA is willing to make special arrangements, however, and welcomes public input concerning new stops and routes. No adverse impact is foreseen, and no mitigation is required.

[28] Source: Julie Timermain, Project Manager, Mono County Department of Social Services, September 10, 2004.
[29] Sources: Gary Meyers, Southern Mono Health Care District, op cit.; S. Kendall, Sheriff-Coroner, op cit.
[30] Generation rates were obtained from The Bluffs Draft EIR, 1996, prepared for Mono Co. by L.K. Johnston & Assoc.
[31] Dr. Gary Mekeel, op. cit.
[32] Sharon Carkeet, Building Technician, Mono Co. Community Devt. Depr., July 2001. "Conditioned" space is a heated interior space.
[33] Bill Michael, Mono County Library, October 2007.
[34] Monica Watterson, ETSA, op cit.

Significance: LESS THAN SIGNIFICANT IMPACT

Solid Waste and Landfill Capacity[35]

IMPACT UTIL 5.8-10: Potential increased demands on solid waste facilities

The project would add roughly one-half ton per day to the solid waste load that residents now produce. This addition would not seriously affect the life capacity of the Benton Crossing landfill. No negative impact is anticipated. In the event that all residents of the project had their solid waste collected, waste collection would have no difficulty meeting this need. The county has indicated that the project would not compromise its ability to meet waste diversion goals established in the 1989 California Integrated Waste Management Act.[36]

Significance: LESS THAN SIGNIFICANT IMPACT

Construction Hazards

IMPACT UTIL 5.8-11: Potential Risk of Hazardous Materials Releases

As noted in the baseline, there are no Cortese List or Superfund sites in Mono County.[37] The project site is generally in its native condition, and will not place future residents at risk of exposure to hazards from prior land uses. During construction of the road, utilities and home sites, there will be a potential for short-term but significant release of hazardous wastes used in the construction process and equipment. Hazards associated with long-term residential uses are less than significant. Mitigation is provided below that would reduce short-term construction hazards to less than significant levels.

The proposed package sanitation treatment plant will utilize ultraviolet lamps (UV) for the disinfection treatment stage. Under this system, disinfection would be achieved by passing the effluent through UV lamps. Use of the UV lamps would significantly reduce the quantities of chemicals transported to, stored and used at the subregional sites. Solid chlorine (in the form of tablets) would be stored on site for use during maintenance or repair of the UV lamps. The reduced chemical quantities and use of solid (as opposed to liquid or gaseous) chlorine would enhance public safety through elimination of the potential for accidental releases, and through reduced frequency of chemical deliveries, and through reduced volume of chemical storage. The proposed disinfection system would not pose a significant hazard to public health, and no mitigation is required.

MITIGATION UTIL 5.8-11 (Construction BMPs): BMPs shall be used throughout construction of project infrastructure and during subsequent construction of individual homesites, to minimize or prevent erosion, sedimentation, and contamination. BMPs shall comply with the special conditions outlined in §5.3[38] and shall also include: (1) short-term storage of all construction wastes areas outside the path of storm flows, and disposal in appropriately-rated landfills; (2) minimizing the footprint of construction zones and prompt installation of erosion controls; (3) stabilizing disturbed soils with landscaping, paving or reseeding to reduce or eliminate erosion; (4) perimeter drainage controls to direct runoff around disturbed construction areas; (5) internal erosion controls to allow direct percolation of sediment-laden waters on the construction site; and (6) bid specifications that require regular inspection and maintenance of all equipment used during construction.

Significance: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

5.8.6 SIGNIFICANCE AFTER MITIGATION

Impacts on utilities and services and hazards would be less than significant following implementation of proposed mitigation measures.

[35] Evan Nikirk, Mono County Assistant Director of Public Works, 22 June 2004.
[36] Larry Johnston, communication of October 2007.
[37] California Dept. of Toxic Substances Control, Envirostar Database: http://www.envirostor.dtsc.ca.gov/public/search
[38] Measures in §5.3 require that construction be restricted to the period between May 15-Oct. 1 to minimize disturbance to deer; areas disturbed during construction shall be promptly revegetated with native species to reestablish deer habitat, and revegetation of disturbed areas shall use native seeds, native plants grown from seeds or seedlings obtained from local native stock. Revegetated areas shall be monitored for 5 years to ensure success and shall be replanted if necessary; and dogs belonging to individuals involved in construction activities shall be prohibited in the project area during construction.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.9 TRAFFIC AND CIRCULATION

5.9.1 INTRODUCTION

The following discussion of traffic and circulation is condensed from a detailed analysis prepared by Traffic Safety Engineers (TSE). The full report is provided in Appendix J. The existing circulation system in and around the community of Paradise is discussed, as well as anticipated project impacts and mitigation measures to eliminate, reduce or avoid potentially significant impacts to less than significant levels. Comments received on the NOP requested that the EIR evaluate traffic and safety associated with the proposed access road, and consider alternatives to the proposed access road. Comments received during the scoping meeting requested that the EIR consider the cumulative impacts on Lower Rock Creek Road of this and other area developments. Provided below is a summary of key findings.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT TFFC 5.9-1:	**Potential construction traffic impacts on local roads**
Mitigation TFFC 5.9-1a:	**Road closures not permitted without approval**
Mitigation TFFC 5.9-1b:	**Emergency access to be maintained during construction**
Significance:	**Less than significant**
IMPACT TFFC 5.9-2:	**Potential long-term increased traffic on local & regional transportation system**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**
IMPACT TFFC 5.9-3:	**Potential impacts on parking or alternative transportation plans or policies**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**

5.9.2 EXISTING CONDITIONS

The project site is located on Lower Rock Creek Road which is the only route providing access in and out of Paradise. Lower Rock Creek Road links to State Highway 395 at 3 locations, including a main junction south of Tom's Place (roughly 7 miles north of the project site) and two connections south of the project.

Until early in 2004, there were no paved roads on the Rock Creek Ranch project site. A graded dirt road provided access to water system improvements owned by LRWMWC and located on an easement (about 2/3 acre) in the northwest corner of the project site. The dirt road was partially paved in early 2004 to support the transport of heavy equipment onto the site for the purpose of hydrogeologic testing as part of the current environmental review.

Lower Rock Creek Road is a 2-lane, often winding connector road that is used predominantly by local residents. As with many similar roads throughout Mono County, Lower Rock Creek Road does not have Level of Service concerns wherein demand exceeds roadway capacity. Exhibit 5.9-1 presents current peak hour traffic for Lower Rock Creek Rd. and Hwy 395 as obtained from counts taken during September 11 and 12 of 2007. Lower Rock Creek Road is the only route available for emergency evacuation by automobile -- a risk factor given regional exposure to seismic shaking, wildland fires and other natural hazards. The county has identified a number of transportation safety issues, some of which are directly relevant to the proposed project. Table 5.9-1 summarizes key concerns outlined in the Mono County MEA.

Table 5.9-1
TRANSPORTATION-RELATED SAFETY ISSUES

TOPIC	*CONCERNS*
TRUCK TRAFFIC	Highway 395, a designated truck route, is experiencing increased truck loads. Concerns include the impact of oversized trucks in areas with narrow shoulders, reduced lanes and limited sight distances, especially when mixed with bicycles, RVs and other vehicle types.
SEASONAL & AVALANCHE CLOSURES	Access to parts of Mono Co. can be limited or even closed during winter conditions and avalanche, exacerbating the management of accidents and emergency medical transport efforts.
LIMITED COMMUNI-CATION	Topographic conditions and extreme weather can limit cellular communication capability, particularly in some parts of the county.
HAZARDOUS SPILLS	As the main truck routes, Highways 395 and 6 are vulnerable to closure from accidental hazardous spills.

The MEA notes that Highway 395 is and will remain the major access to and through Mono County. This critical route links the Eastern Sierra with southern California and with the Reno/Tahoe region in northern Nevada. Principal objectives for this route include expansion to 4-lanes from the Inyo/Mono County line up to Lee Vining, safe winter access countywide, increased passing opportunities, assuring adequate shoulders during maintenance work to accommodate cyclists, flexible congestion relief programs, and revenue sources to fund the identified improvements.

Congestion is limited to certain confined areas of the transportation system including Highway 395 in the northern part of Mono County, State Route 203 into Mammoth, and State Route 158 (the June Lake Loop). Traffic volume estimates from the MEA for selected Mono County Highways as of 1990 and 1998 are summarized in Table 5.9-2. As shown, traffic volumes actually decreased on many of the more congested routes over the 8-year period.

Table 5.9-2
1990 and 1998 AVERAGE DAILY TRAFFIC VOLUMES

ROUTE	LOCATION	PEAK HOUR 1990/1998	PEAK MONTH 1990/1998	ANNUAL 1990/1998
395	Junction @ 203	710/970	9600/9600	6000/5500
	Junction @ 158	640/690	6000/6800	4000/3900
6	Junction @ 395	190/310	3300/3400	3200/3200
	Benton Station	180/130	1350/1450	1200/1200
120	Yosemite E. Gate	360/250	2050/2000	1500/1350
	Benton Station	50/70	460/700	400/400
270	Bodie State Park	80/130	450/720	340/540

Local county roads (including Lower Rock Creek Road) comprise a system with over 678 miles, of which about one-fourth are paved. Substandard roads are a concern in many areas (especially June Lake), but improvements are hampered by funding limitations. Property owners on private roads will continue to bear the full cost of maintenance, as these routes do not qualify for state or federal funding assistance. Maintenance issues on these roads include snow removal, pavement maintenance, and major rehabilitation in many areas. The MEA cites special concern for the potential impact of major developments on county roads that are inadequate to accommodate the increased traffic volumes. Data provided in the MEA does not include Long Valley within the most critical demand areas for increased traffic, but does include the Tri-Valley area as reflected in Table 5.9-3.

Table 5.9-3
TRAFFIC DEMAND PROJECTIONS

Planning Area	Avg. Daily Traffic (est.)	Peak Hour Trips (est.)	% Increase over Current
Antelope Valley	334	36	1.5%
Bridgeport Valley	330	35	1.2%
Mono Basin	121	13	2.5%
June Lake	271	28	14.5%
Long Valley	329	34	4.9%
Tri-Valley	172	19	9.8%

The *Mono County Regional Transportation Plan* also sets forth guidelines for planning areas throughout the county, including the Tri-Valley area. The *Plan* identifies 5 policies, only one of which applies broadly to the region as a whole ("Policy 1: Ensure the safety of the transportation and circulation system in the Tri-Valley"). However, the three Actions listed under this policy all refer to areas outside of the community of Paradise.[1]

5.9.3 APPLICABLE FEDERAL AND STATE REGULATIONS

Federal Regulations: There are no federal regulations governing circulation that would apply to the proposed Rock Creek Ranch project.

State Regulations: The California Dept. of Transportation ("Caltrans") is responsible for the construction and maintenance of state and interstate freeways, the designation and maintenance of scenic highways, the licensing of drivers (commercial and non-commercial), litter controls (including voluntary highway 'adoption' programs), roadway signage and a wide range of additional tasks. The governing laws embrace a range of regulations and standards including requirements for safe driving, for the licensing of permits to transport hazardous materials in-state, and procedures addressing the transport of oversized or excessive loads on California highways.

Local Regulations: The Mono County Local Transportation Commission (LTC) is responsible for maintaining the *Regional Transportation Plan* for the county. The effort is collaborative, involving close coordination with the Town of Mammoth Lakes as well as 17 local programs, 7 regional programs, 8 state programs and 5 federal plans and programs. Goals of the *Regional Transportation Plan* include establishment of overall circulation goals and strategies, an assessment of existing circulation, projections of future demands, compilation of relevant public policy guidelines, identification of needed transportation improvements, consistency with other transportation planning efforts, public and agency outreach, and interagency collaboration.

5.9.4 SIGNIFICANCE CRITERIA

Impacts on circulation and traffic safety would be considered significant if the project would:

- Cause significant traffic disruption during construction
- Reduce the long-term Level of Service on Lower Rock Creek Road to "C" or lower;
- Impact air traffic patterns, create road hazards, restrict emergency access, or conflict with programs supporting alternative transportation

5.9.5 ENVIRONMENTAL IMPACTS

Construction Traffic Impacts

IMPACT TFFC 5.9-1: Potential construction-related traffic impacts

Approval of the proposed project would impact study area traffic conditions during the construction of project infrastructure and subsequent construction of 60 homesites and 11 secondary units. Due to site conditions, there will be ample onsite parking for construction workers and construction equipment, and no parking-related impacts are anticipated. However, construction activities would have the potential to cause temporary traffic impacts on Lower Rock Creek Road due to the transport of materials and equipment.

Because local roads are all operating at a level of service "B" or higher (indicating unimpeded flow), it is not anticipated that construction traffic will cause significant traffic delays or congestion apart from periodic and very short-term events. However, infrastructure construction activities would have the potential to impede emergency access along Lower Rock Creek Road (the only route serving Paradise), and may pose other hazards for motorists, pedestrians and cyclists. Construction would also have potential to cause damage to local roads due to the transport of heavy equipment, particularly if vehicles exceed the design weight of Lower Rock Creek Road. Measures are provided below to address the potential localized conflicts associated with construction. Implementation of these measures would reduce the direct construction impacts to less than significant levels.

Following completion of infrastructure work on the site, the construction of individual homes will also result in traffic impacts. However, the impacts will be of short duration, the equipment will be lighter and the events will occur discontinuously over a period of several years. No mitigation is required to reduce the impacts on traffic associated with construction of individual homes to less than significant levels.

[1] *Mono County Regional Transportation Plan*, adopted October 2001.

MITIGATION TFFC 5.9-1a (Restrictions on Road Closures): Roadway closures shall not be permitted on any street or highway unless written approval is first obtained from the Public Works Department, Police Department and Fire Department.

MITIGATION TFFC 5.9-1b (Clearance Requirements): At all times, adequate clearance shall be maintained within the Lower Rock Creek right-of-way to permit the safe passage of emergency vehicles and evacuating vehicles.

⇨ **Significance: LESS THAN SIGNIFICANT WITH MITIGATION**

Long-Term Travel Demands

IMPACT TFFC 5.9-2: Potential long-term increased traffic on area roads

Traffic volumes associated with the proposed project were calculated by multiplying the appropriate trip generation rate by the number of primary units proposed, as shown in Tables 5.9-4 and 5.9-5 below. The daily trip generation estimate of 9.57 trips per unit is a standard urban residential factor. As such, it does not account for the fact that rural residential trip generation is typically lower than urban areas due to higher rates of second homeownership and retired residents. In Mono County, second homeownership is a significant factor in housing occupancy. According to the Housing Element,[2] the unincorporated area had a vacancy rate of 39% in 2000 (down from 44% in 1990), which reflects the large number of vacation homes in the area. In addition to the considerations above, it is anticipated that at least some of the secondary units would be used to house individuals employed by the homeowners, which would serve to reduce vehicle trips associated with employees traveling to and from work each day. In consideration of these facts, the daily trip generation factor of 9.57 trips per unit is considered more than sufficient to incorporate traffic generation that would be associated with the 60 primary units and the eleven deed-restricted secondary units.

Table 5.9-4
PEAK HOUR TRIP GENERATION RATES
FOR ROCK CREEK RANCH[3]

LAND USE	DAILY TRIPS/ DWELLING UNIT	AM PEAK HOUR/ PM PEAK HOUR		
		% IN	% OUT	TRIPS PER DWELLING
Single Family Residential	9.57 Trips/Unit	25% am 63% pm	75% am 37% pm	0.75 trips 1.01 trips

Table 5.9-5
ROCK CREEK RANCH TRIP FORECASTS

LAND USE	#	DAILY TRIPS	AM PEAK HOUR			PM PEAK HOUR PM		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Residential	60 Homes	575	11	34	45	38	23	61

The added traffic loads that would be generated by Rock Creek Ranch are not expected to have an adverse impact on roadway capacities. As shown in Table 5.9-6, all surrounding roads will continue to operate at existing levels of service.[4]

[2] *Mono County Housing Element*, March 2004.
[3] Trip Generation, 6th Ed., Institute of Transportation Engineers.
[4] "Level of Service" is a relative measure of driver satisfaction, with 6 levels ranging from A (free flow with a volume to capacity ratio of less than 0.60) through F (with a volume to capacity ratio greater than 1.0).

Table 5.9-6
PROJECT IMPACTS ON ROADWAY LEVELS OF SERVICE

Intersection	Existing AM Peak	Existing PM Peak	Existing+Project AM Peak	Existing+Project PM Peak
Swall Meadows/ Owens Gorge & Hwy 395	B	B	B	B
Lower Rock Ck Rd. & Hwy 395	B	B	B	B
Lower Rock Ck Rd. & Swall Meadows	A	A	A	A
Lower Rock Creek Rd	A	A	A	A

As shown, all area roads and highway are currently operating and will continue to operate at level-of-service "B" or higher, which indicates that traffic flow is and will remain unimpeded. No mitigation is required.

⇨ **Significance: LESS THAN SIGNIFICANT**

Travel Hazards

IMPACT TFFC 5.9-3: Potential impacts on air traffic patterns, road hazards, emergency access and alternative transit

The project site is located more than 5 miles from each of the two closest airports (in Bishop and Mammoth Lakes) and would neither impact nor be impacted by air traffic patterns or airport access requirements. Ingress and egress to the project site would be taken from a proposed entry location approximately 650 feet south of a sharp "S" curve in Lower Rock Creek Road. This separation will provide adequate line-of sight for traffic entering and exiting the project site, and for through traffic approaching vehicles turning into or out of the project site. As discussed in §5.8, the proposed road layout and design would be adequate to accommodate emergency access vehicles. Project construction would require the assembly of heavy equipment and construction workers, but the site is adequately large to accommodate all parking and equipment staging within the project boundaries. Additionally, Mitigation Measures 5.9-1a and 5.9-1b include a series of provisions to protect public safety throughout construction phases, including a requirement that adequate clearance be maintained at all times within the Lower Rock Creek right-of-way to permit the safe passage of emergency vehicles.

The Specific Plan requires that all parking within the project comply with General Plan requirements. The county's requirements were designed to assure year-round access and minimize on-street parking. Additional limitations are provided in the Rock Creek Ranch Specific Plan, including a requirement that all RV units, boats, trailers, and similar items be parked out of view from the street as well as adjacent lots and highways. As noted in §5.8, the ESTA does not currently have any busses serving Paradise proper. Bus service would not be adversely impacted by implementation of the project, if approved, nor would other forms of transportation. In summary, no significant impacts are foreseen with respect to air traffic patterns, road hazards, emergency access or alternative transit, and no mitigation is required for these issues other than already provided in Measures 5.9-1a and 5.9-1b.

⇨ **Significance: LESS THAN SIGNIFICANT**

5.9.6 SIGNIFICANCE AFTER MITIGATION

The proposed mitigation measures would reduce all potential impacts on traffic and circulation to less than significant levels.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.10 AIR QUALITY

5.10.1 INTRODUCTION

This section evaluates impacts on air quality that could result if the Rock Creek Ranch project is approved and implemented. The focus is on potential to conflict with or obstruct implementation of applicable clean air plan requirements, or contribute to existing or projected air quality violations, or expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors in the project region. None of the comments received during scoping or on the NOP raised issues pertaining to air quality. Key findings of this section are summarized below.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT AQ 5.10-1:	**Potential short-term increase in construction emissions**
Mitigation AQ 5.10-1a:	**Use of Best-Available dust control measures during construction**
Significance:	**Less than significant with mitigation**
IMPACT AQ 5.10-2:	**Potential long-term increase in automobile emissions**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**
IMPACT AQ 5.10-3:	**Potential long-term increase in greenhouse gas emissions**
Mitigation AQ 5.10-3a:	**Use of voluntary energy conservation and enhanced landscaping (advisory measure)**
Significance:	**Less than significant (no threshold yet established)**
IMPACT AQ 5.10-4:	**Potential increased stationary source emissions**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**
IMPACT AQ 5.10-5a:	**Potential odor impacts from the sanitation system**
Mitigation AQ 5.10-5a:	**Secondary carbon filtration in the sanitation system for odor control**
Mitigation AQ 5.10-5b:	**Stand-by aeration system to control stagnant pond conditions if needed**
Significance:	**Less than significant with mitigation**

5.10.2 EXISTING CONDITIONS

5.10.2.1 Air Basin Characteristics

The project region is part of the Great Basin Valleys Air Basin (Great Basin, or GBVAB) which includes Inyo, Mono and Alpine Counties. This basin has generally very good air quality even though the airshed has limited dispersive capacity. Because of the airshed configuration, however, small air pollution increments have a greater impact here than in less confined basins.

Limited measurements of gaseous air pollution in the air basin have shown that the types of air pollutants found in more developed areas of California generally do not occur in significant levels in the Great Basin. However, the California Air Resources Board has determined that the primary source of 'imported' pollutants entering Owens Valley is from the San Joaquin Valley Air Basin which comprises Fresno, Kings, Madera, San Joaquin, Stanislaus and Tulare Counties as well as portions of Kern County.[1]

Air quality regulations in the Great Basin Valleys Air Basin are enforced by the Great Basin Unified Air Pollution Control District (GBUAPCD). Since the 1997 closure of the monitoring station in Bishop, the air monitoring station closest to Paradise is located in Mammoth Lakes. Published monitoring data from the Mammoth Lakes station indicate that the project area is in compliance for all pollutant standards except those governing ozone and

[1] Inyo County, *Revised Draft EIR, Pine Creek Communities Development Project*, March 2004.

particulates (PM-10). The elevated particulate levels result from the use of wood-burning fireplaces and stoves, and are generally limited to the winter months.

Air basins or portions of air basins are classified as being in attainment or non-attainment with ambient air quality standards. Basins with inadequate monitoring data to make such a determination are considered unclassified with respect to a given clean air standard. State standard designations are made by the California Air Resources Board (ARB). Determinations of federal standard compliance are made by the USEPA. The current designations for the Paradise area of Mono County are as follows:

Table 5.10-1
PROJECT AREA COMPLIANCE WITH STATE AND FEDERAL STANDARDS

Pollutant	Exposure Period	State Standard	Federal Standard
Ozone	1-Hour	Non-attainment	No Standard
Ozone	8-Hours	Non-attainment	Unclassified
PM-10	Annual	Non-attainment	Unclassified
PM-2.5	Annual	Unclassified	Unclassified

Differences in topography between the Paradise area and Mammoth create micrometeorological differences in winds, temperature and humidity. These factors would allow for more efficient dispersion of pollutants at Paradise than in Mammoth. Additionally, air quality in Paradise is likely better than at Mammoth because of a much smaller population density. It is anticipated that particulate levels would be lower at the project site, which is located about 20 miles south of the developed area around Mammoth Lakes.

5.10.2.2 Greenhouse Gas Emissions[2]

Greenhouse gases include a variety of gases that trap heat in the atmosphere and contribute to global atmospheric warming. The principal gases contributing to this effect include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H2O). Of these, carbon dioxide is most prevalent in the atmosphere and it is often used as a reference (CO2 equivalents) for quantifying the full spectrum of greenhouse gas emissions.

No guidelines have yet been established for the evaluation of greenhouse gas emissions, and the California Office of Planning and Research has until July 2009 to develop guidelines for addressing global warming in EIRs. However, the state has identified global warming as a serious environmental threat with potentially significant effects on air quality, water supply, human health and marine ecosystems. By 2020, the California Air Resources Board (ARB) is required to adopt rules that would roll greenhouse gas emissions back to levels experienced during 1990. The ARB has already identified early actions that could help mitigate greenhouse gas emissions. The measures do not address land use decisions, but instead focus on carbon sequestration and best management practices through low carbon fuel standards, heavy duty vehicle emissions reductions, tire inflation programs, reduced greenhouse gas emissions by public electric utilities, and a range of measures addressing agriculture, commerce, education, fire fighting, forestry, transportation, and fuel production.

5.10.3 APPLICABLE FEDERAL AND STATE REGULATIONS

5.10.3.1 Federal and State Regulations

In 1988, the California Legislature enacted the California Clean Air Act. The CCAA requires that regional emissions be reduced by 5% per year, averaged over 3 year periods, until attainment can be demonstrated. The 1990 federal Clean Air Act Amendments requires all states that have airsheds with "serious" or worse ozone problems to submit a revised State Implementation Plan (SIP). The federal Clean Air Act required that an updated plan be submitted by February 8, 1997 that included attainment plans for all pollutants exceeding federal standards. The California Clean Air Act also required an update of the State-mandated clean air plan every three years.

The GBUAPCD was formed in 1974 when Inyo, Mono and Alpine Counties formed a joint powers agreement with the purpose of meeting and enforcing applicable Federal, State and local air quality regulations. To date, GBUAPCD has prepared State Implementation plans for Owens Lake (the largest single source which violates the federal PM-10 standard) and Mammoth Lakes (which has high levels of PM-10 in the winter due to a combination of wood smoke and cinders used for traction on icy roads during the winter.) In cooperation with GBUAPCD, the Town in 1990 developed an ordinance to control both sources. The Mammoth Lakes SIP was submitted to and

[2] Sonoma County, *Dutra Haystack Landing Asphalt & Recycling Facility DEIR*, prepared by Christopher A. Joseph & Assc., 2008.

approved by the federal government. Since implementation of the ordinance, PM-10 levels have dropped significantly.

5.10.4 SIGNIFICANCE CRITERIA

Neither Mono County nor the GBUAPCD have established numerical significance thresholds for air quality impacts, and the closest air quality management district with adopted numerical standards is the Mojave Desert AQMD. Since air quality issues in portions of the Mojave Desert Air Basin (MDAB) are similar to those of the Great Basin, the numerical thresholds set for MDAB are considered adequate to serve as significance thresholds for the current project. Given this background, project impacts on air quality would be considered significant if:

- Construction emissions would conflict with established standards
- Long-Term mobile source emissions would conflict with established standards
- Project would generate significant quantities of greenhouse gas emissions
- Long-Term stationary source emissions would conflict with established standards
- Operation of the package treatment plant would result in significant odors

5.10.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Construction Impacts

IMPACT AQ 5.10-1: Potential short-term increase in construction emissions

Daily dust emissions average about 26 pounds per disturbed acre during a typical construction project. This emissions volume can be reduced by more than half with use of best available control measures (BACM) for dust control; additional reduction of about 10% can be achieved for construction vehicle emissions through proper maintenance practices.

Construction activity emissions were calculated using the California ARB URBEMIS2007 computer model for an assumed simultaneous construction on the project site. "Default" emission rates for fugitive dust and heavy equipment operations for residential construction incorporated into the model were used in the analysis. Grading activities were assumed to occur in late 2008 with building erection and finish construction to be completed by the end of 2009. If construction is phased and occurs over a longer time-frame, the above assumptions as to an accelerated build-out will generate a conservative (over-predictive) estimate. The results of the construction activity emissions calculations are shown in Table 5.10-2 (pounds/day):

Table 5.10-2
CONSTRUCTION ACTIVITY EMISSIONS

Activity	Mitigation	ROG	NOx	CO	PM-10	PM-2.5	CO2
Grading	No	3.4	28.1	15.4	51.4	11.8	2,403.7
	Yes	3.4	28.1	15.4	4.9	2.0	2,403.7
Building	No	28.1	21.1	27.5	1.8	1.6	3,215.7
	Yes	25.7	21.1	27.5	1.7	1.6	3,215.7
Significance Threshold		137	137	548	82	55*	n/a

* - using the South Coast AQMD emissions significance threshold for PM-2.5

Even without the application of mitigation measures, construction activities would not cause any of the adopted significance thresholds to be exceeded. However, because of the non-attainment status of the region for PM-10 and ozone, best available control measures for PM-10 and reactive organic gasses (ROG, an ozone precursor) should be implemented. The menu of recommended measures is detailed in Mitigation Measure AQ-1.

MITIGATION AQ 5.10-1 (Best-Available Dust Control Measures): The project applicant shall comply with best-available dust control measures (BACM) that call for watering of all active construction areas at least twice daily throughout project construction phases, plus at least two of the following additional BACM: (a) require that all haul trucks be covered, or that a minimum freeboard of 2 feet be maintained at all times; and/or (b) Pave all parking and staging areas, or water such areas at least 4 times daily; and/or (c) Sweep or wash public access points within 30 minutes of dirt deposition; and/or (d) Cover all on-site dirt/debris stockpiles, or water the stockpiles a minimum of twice daily; and/or (e) Suspend all construction operations on any unpaved surface when winds exceed 25 mph; and/or (f) Hydroseed or otherwise stabilize all cleared areas that would

remain inactive for more than 96 hours after clearing is completed; and/or (g) Use of low-VOC[3] paints (not to exceed 100 grams of VOC per liter).

Significance: LESS THAN SIGNIFICANT WITH MITIGATION

Operational Activity Impacts

IMPACT AQ 5.10-2: Potential long-term increase in auto emissions

Project development would likely cause an increase in regional particulate levels due to dust generated from travel on paved roads. Dust near roadways varies in size; a large fraction is comprised of very large particles that settle close to the roadway; some particles are of intermediate size and remain semi-suspended for a period of time; and some particles are small enough to remain suspended almost indefinitely and thus add to the regional PM-10 burden.[4] Dust generation along lightly traveled roads is estimated to be around 0.001 lb/mile of travel. During winter and spring, dust generation triples where abrasive material has been applied for snow and ice control. An even larger fraction of very large diameter particulate is generated by the passage of vehicle tires over roadways containing residual snow/ice control "cinders" (or other traction material), as evidenced by the dirt build-up along the shoulders and yards as this material is gradually worn away.

At build-out, the proposed project will generate around 10,000 vehicle miles traveled on a daily basis (575 "new" trips at 17 miles per average semi-rural trip). This would add around 8 pounds of PM-10 per day of roadway dust throughout the air basin. In the spring, the PM-10 generation rate may be as high as 25 pounds per day. The more highly traveled the roadway, the faster the dust will be removed by vehicular turbulence and abrasion. Site development would increase travel volumes and remove the material faster, but dust emissions will continue to be most directly controlled by the amount of abrasive material applied to regional roadways, which would not likely increase in direct proportion to regional growth. The proposed project would thus likely accelerate the rate of particulate generation from treated roadways into shorter time periods, but not necessarily increase the annual PM-10 burden to the region.

Calculations of project-related mobile source emissions from traffic generated by project residents and from miscellaneous residential area sources (consumer products, cleaning products, landscape equipment, fireplaces in winter, etc. were made using the URBEMIS2007 computer model. The operational emissions, assuming each home is occupied by 2010 and generates 12 vehicle trips per unit per day (a conservative estimate), are presented in Table 5.10-3. As shown, all emissions would be lower than the significance thresholds. These results indicate that no mitigation is required for mobile source emissions.

Table 5.10-3
PROJECT OPERATIONAL EMISSIONS (pounds per day)

Time	Source	ROG	NOx	CO	PM-10	PM-2.5	CO2
Summer	Area	4.4	0.8	3.1	0.0	0.0	964.0
	Mobile	7.1	10.1	91.5	13.3	2.6	7,716.0
	TOTAL	11.5	10.9	94.6	13.3	2.6	8,680.0
Winter	Area	15.9	2.2	63.9	10.2	9.8	2,978.6
	Mobile	8.2	14.7	97.5	13.3	2.6	6,716.9
	TOTAL	24.1	16.9	161.4	23.5	12.4	9,695.5
Significance Threshold		137	137	548	82	55	n/a

Greenhouse Gas Emissions

IMPACT AQ 5.10-3: Potential long-term increase in greenhouse gas emissions

The project will contribute incrementally to global greenhouse gas (GHG) emissions implicated in global warming. The project would generate almost 10,000 pounds per day of CO_2, a GHG that has been linked to global climate change. These emissions would result primarily from auto emissions associated with the travel patterns of future

[3] VOC=volatile organic compounds.
[4] Because mechanical abrasion processes are generally incapable of grinding dust into ultra-small diameter material, road dust contributes minimally to the overall PM-2.5 particulate burden.

project residents; other contributions will result from the use of natural gas for heating, and minor contributions due to leakage from products that use hydroflourocarbons and nitrogen fluorocarbons.

As noted in the baseline discussion, California has adopted a 2020 goal to return statewide GHG emissions to their 1990 levels. Specific programs have not yet been adopted, and no individual project impact significance thresholds for GHG have been adopted by any statewide jurisdiction. On a local project level, use of energy-conserving building practices and vehicles are the primary means to reduce a project's carbon footprint. Extensive use of landscaping as a source of O_2 and a sink for excess CO_2 should also be encouraged. The following mitigation measures outline these recommendations, and require compliance with future regulations that are expected to be promulgated over the coming years.

MITIGATION AQ 5.10-3a (Energy Conservation and Landscaping): Use of energy conserving construction practice beyond the minimum requirements of the California Building Code is encouraged through participation in one of several existing certification programs. Use of enhanced landscaping for carbon dioxide uptake is also encouraged, provided such landscaping is consistent with Specific Plan standards and mitigation measures contained in Sections 5.2 (Botany) and 5.3 (Wildlife) of this EIR.

MITIGATION AQ-5.10-3b (Regulatory Compliance): The project shall comply with any applicable strategies adopted by ARB or other responsible agencies.

Significance: LESS THAN SIGNIFICANT IMPACT (NO THRESHOLD)

Stationary Source Emissions

IMPACT AQ 5.10-4: Potential long-term increase in stationary source emissions

The major air quality concern for new development in the project region concerns the smoke and soot that is released from fireplaces and wood stoves. During the winter, extremely strong inversion layers trap these emissions. To address this issue, the GBUAPCD has adopted stringent standards to improve the efficiency of wood stoves. These standards would apply to any wood stoves used in the project, and no additional mitigation is required. Impacts associated with the use of decorative fireplaces would be less than significant.

Significance: LESS THAN SIGNIFICANT IMPACT

Odors

IMPACT AQ 5.10-5: Potential odor impacts associated with package treatment plant[5]

The package tertiary treatment plant proposed for Rock Creek Ranch will utilize subsurface aerobic treatment that is typically associated an earthy smell similar to a compost pile. More pungent odors will occur during periodic removal of the excess solids by the septic hauler for transportation to a disposal site, particularly if the hauler leaves the door or hatch open while transferring the solids. In addition, upset conditions can cause a release of odors if, for example, pressure in the sewer main exceeds safe limits and air vents are opened, or if the treatment system malfunctions and sewage becomes septic or overflows, or if maintenance activities require breaking system containment). The staging pond would not normally be a significant odor source, but could become so under stagnant conditions.

The creation of an odor nuisance is specifically prohibited by Great Basin Air Pollution Control District Rule 402, which includes fines and penalties for facilities that do not comply with applicable requirements. Although there is no hard-and-fast rule to govern buffer distance between an odor source and potential receptors, odors do follow prevailing winds. At the Rock Creek Ranch site, prevailing wind are from the south-southeast, which means that the proposed package treatment facility is downwind of the proposed residences. Furthermore, some of the lots are very close to the package plant; the building pad closest to the facility (on Lot 1) is about 100 feet away, and the lot line is about 25 feet removed. Because the transport distance from the site to the closest residences is limited, there is an increased need for operational controls to ensure that Rule 402 requirements concerning odor impacts are maintained at less than significant levels. Measures 5.10-4s and 5.10-4b below provide mitigation for odors that may be associated with the treatment system and the staging pond.

[5] This discussion draws on a communication with Hans Giroux of Giroux & Associates, 18 April 2008.

MITIGATION AQ 5.10-5a (Treatment System Odor Controls): A secondary carbon filtration system shall be incorporated into the tertiary package sanitation system, and maintained over time, to remove and treat odors resulting from the treatment process and ensure that objectionable odors are not released into the atmosphere.

MITIGATION AQ 5.10-5b (Staging Pond Odor Control): A standby aeration system shall be kept in the maintenance building for use in the event that stagnant conditions develop in the tertiary water staging pond.

Significance: **LESS THAN SIGNIFICANT IMPACT WITH MITIGATION**

5.10.6 IMPACT SIGNIFICANCE AFTER MITIGATION

The mitigation measures shown above would reduce all potentially significant impacts on air quality to less than significant levels.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.11 NOISE

5.11.1 INTRODUCTION

This section reviews existing noise levels and impacts associated with project implementation. Comments raised during the project scoping meeting included a request that this EIR consider the impacts of blasting, if proposed, and the long-term increase in ambient noise levels if the project is approved and implemented. Blasting will not be part of project construction and therefore is not examined herein. Key findings are summarized below.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT NOISE 5.11-1:	**Potential short-term construction noise increases**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**
IMPACT NOISE 5.11-2:	**Potential long-term increase in ambient noise levels**
Mitigation:	**Less than significant impact; no mitigation required**
Significance:	**Less than significant**

5.11.1 EXISTING CONDITIONS

The project site is located on Lower Rock Creek Road, a narrow winding route that is used primarily by a small population of local residents. Traffic along Highway 395 (about 1 mile to the east) contributes to background noise levels, and occasional military overflights also generate noise. Overall ambient noise levels are low and the project site and vicinity can be characterized as quiet. The county's General Plan *Noise Element* contains an objective to maintain low ambient noise levels by minimizing new noise sources. As outlined in Table 5.11-1, this objective includes a number of specific policy actions relevant to the Rock Creek Ranch project area.

Table 5.11-1
RELEVANT *NOISE ELEMENT* POLICIES[1]

APPLICABLE COUNTY POLICY	*IMPLEMENTING POLICIES*
GOAL: Maintain existing ambient noise levels to preserve the quiet, rural atmosphere. ***OBJECTIVE B: Minimize impacts of new noise sources on the noise environment.***	**Policy 1: Regulate Noise Generating Activities** Action 1.1: Enforce noise standards Action 1.2: Enforce permit conditions for regulated activities Action 1.3: Encourage CHP and Sheriff's Dept. to enforce vehicular noise codes Action 1.4: Implement airport land use plan noise policies **Policy 2: Limit roadway noise & ensure compatibility with adjacent uses** Action 2.1: Work with Caltrans to design roads for lowest-possible noise levels Action 2.2: Implement measures that limit peak traffic volumes to reduce noise Action 2.3: Select road alignments that minimize noise impacts on sensitive uses Action 2.4: Work with Marine Corps to reduce military overflights

5.11.2 APPLICABLE FEDERAL AND STATE REGULATIONS

Federal Regulations:

Federal regulations governing noise include the (1) Code of Federal Regulations (CFR Title 40, Part 205 Subpart B), and (2) the Noise Control Act of 1972:

1. *Noise Control Act of 1972:* Requires EPA to develop regulations ensuring that environmental noise does not jeopardize public health. EPA guidelines (for use by local and state governments) state that average residential outdoor noise should not exceed 55 dB(A), and indoor levels should not exceed 45 dB(A).

[1] Mono County *General Plan Noise Element.* Note: discussion is paraphrased from the original text.

2. *Code of Federal Regulations (Title 40, Part 205 B):* Sets a noise limit of 80 dB(A) at a distance of 15 meters (about 50') for trucks over 4.5 tons gross weight. Enforced occurs via controls on truck manufacturers.

State Regulations:

State regulations include the California (1) Vehicle Code, (2) Code of Regulations, and (3) Government Code:

1. *California Vehicle Code:* The state regulates noise levels for vehicles licensed to operate on public roads, including a limit of 80 dB(A) for all trucks at 15 meters from centerline. As with federal regulations, the State implements code requirements through manufacturing controls.
2. *California Code of Regulations (Title 8 §1096):* These regulations control occupational noise exposure by limiting worked exposure to no more than 85 dB(A) over an 8-hour period.
3. *California Govt. Code (§65302(f))*: Requires local agencies to prepare and implement noise elements and ordinances, recognizing land use compatibility guidelines promulgated by the Dept. of Health Services. These guidelines identify as 'normally acceptable' the following exterior noise limits: 60 dB(A) CNEL for single family, 65 dB(A) CNEL for multi-family residences, and 70 dB(A) CNEL for most other uses.

5.11.3 SIGNIFICANCE CRITERIA

"Substantial effect" in acoustic analyses generally refers to a sound that is clearly perceptible. For human beings, under ambient conditions, "clearly perceptible" is +3 dB. Thus, noise impacts would be considered significant if:

- Construction activities would cause a violation of Noise Standards
- Long-term project activities would cause a significant increase in ambient noise levels

5.11.4 ENVIRONMENTAL IMPACTS

Noise impacts include short-term noise associated with conventional project construction, and long-term impacts associated with development of residential uses on the project site. Under the original access road alignment, it was also anticipated that the project noise impacts would include short-term noise and vibration impacts associated with blasting. It has subsequently been determined by the project applicant that blasting will not be required, and no further assessment of blasting is provided herein.

Conventional Construction Noise Impacts

IMPACT NOISE 5.11-1: Potential short-term construction noise increases

Noise levels for conventional construction activities would increase to levels as high as 85 dB (average) and 90 dB (peak) during project construction. Given the standard sound decay rate of 6 dB per doubling of distance, as well as irregular terrain, the construction equipment noise may be audible as far as several thousand feet from the source. County permitting would limit construction activities to daytime hours of lesser noise (typically weekdays from 7 a.m. to 5 p.m., 8 a.m.-5 p.m. on Saturdays, and no construction on Sundays). Because construction noise ceases when construction is complete, this impact is considered to be adverse, but less than significant. Limits on hours of operation will be adequate for this impact; no supplemental mitigation is required.

Significance: LESS THAN SIGNIFICANT

Long-Term Ambient Noise Level Impacts

IMPACT NOISE 5.11-2: Potential long-term increases in ambient noise levels

Project implementation would result in a long-term increase in ambient noise levels on the site and in the surrounding area due to added traffic noise and noises generated by future residents on the project site. Under worst case conditions, traffic noise impacts would increase noise levels by 2 dB for the 24-hour CNEL, and by 1 dB for the peak-hour level. The traffic-related ambient noise level increases would be below established thresholds of significance. On-site noise would increase from activities of future residents as well as stationary noise sources including air conditioning, pets, gatherings and other activities. The increased stationary noise source increases would also be below established thresholds of significance, and no mitigation is required.

Significance: LESS THAN SIGNIFICANT

5.11.6 SIGNIFICANCE AFTER MITIGATION

Impacts on noise would be less than significant following implementation of proposed mitigation measures.

ROCK CREEK RANCH SPECIFIC PLAN & DRAFT EIR

SECTION 5
ENVIRONMENTAL BASELINE AND IMPACT ANALYSIS

5.12 AESTHETICS, LIGHT AND GLARE

5.12.1 INTRODUCTION

The following discussion addresses aesthetic resources in and around Rock Creek Ranch and considers potential impacts associated with proposed project modifications. Comments on the NOP requested an assessment of ways to limit impacts to scenic and aesthetic values (including restrictions on bluff-top development), as well as the impacts of project lighting on night skies. Persons attending the scoping meeting requested that the EIR assess the visual impacts of homes & road cuts on existing views and community character, as well as impacts on the Hwy. 395 Scenic Corridor and the potential for light and glare effects. Key findings are summarized below.

SUMMARY OF IMPACTS AND MITIGATIONS

IMPACT AES 5.12-1:	**Compliance with General Plan policies for protection of visual resources**
Mitigation:	**No mitigation is required.**
Significance:	**Less than significant impact.**
IMPACT AES 5.12-2:	**Potential impacts on Lower Rock Creek Road and Scenic Highway 395**
Mitigation:	**Specific Plan provisions would limit impacts but some significant effects remain**
Significance:	**SIGNIFICANT AND UNAVOIDABLE**
IMPACT AES 5.12-3:	**Potential impacts on aesthetic values in the existing Paradise community**
Mitigation AES 5.12-4:	**Specific Plan provisions would limit visual impacts but significant effects remain**
Significance:	**SIGNIFICANT AND UNAVOIDABLE**
IMPACT AES 5.12-4:	**Potential impacts on Night Sky Visibility**
Mitigation AES 5.12-3:	**Specific Plan shall comply with Mono County Outdoor Lighting Ordinance**
Significance:	**Less than significant impact with mitigation.**
IMPACT AES 5.12-5:	**Potential impacts of light and glare**
Mitigation AES 5-12-5:	**No mitigation required**
Significance:	**Less than significant**

5.12.2 EXISTING CONDITIONS

5.12.2.1 Conservation/Open Space Element Guidelines

The project site is located in on a visually prominent parcel in the scenic southern portion of Mono County. The County's General Plan *Conservation/Open Space Element* contains a wide variety of goals and actions designed to identify and protect scenic resources. Table 5.12-1 identifies applicable policies from the *General Plan*.

Table 5.12-1
RELEVANT *CONSERVATION/OPEN SPACE ELEMENT* POLICIES[1]

GOAL: Protect and enhance the visual resources … of Mono County
POLICY 1: To protect scenic resources, designate such areas for low-intensity uses
POLICY 3: Preserve visual identity of areas outside communities.
Action 3.1: Concentrate development in or adjacent to existing communities.
OBJECTIVE B: Maintain system of designated scenic highways
POLICY 1: Maintain existing state designated scenic highways
Action 3.1: Enforce regulations for protection of scenic roadways.

[1] Mono Co. *Conservation/Open Space Element*. Discussion is paraphrased from the original text.

OBJECTIVE C: Ensure that development is visually compatible with community & environment.

POLICY 1: Future development projects shall avoid or mitigate significant visual impacts unless a statement of overriding considerations adopted in EIR process.

Action 1.1: Projects with potentially substantial...aesthetic effect shall provide visual analysis [for]:

- ***Reflective Materials***
- ***Excessive Height/bulk***
- ***Incongruous design elements***
- ***Dust or steam plumes***
- ***Excessive night lighting***

POLICY 2: Future development projects shall be sited & designed in scale with surrounding community & natural environment.

Action 2.1: Develop guidelines including, at a minimum:

- ***Appropriate scale/design/siting***
- ***Varied building mass***
- ***Design sensitive to setting***
- ***Colors/materials fit surroundings***
- ***Offensive elements screened***
- ***Parking areas screened***
- ***Signs comply with sign ordinance***
- ***Exterior lighting shielded***
- ***Underground utilities***
- ***Use of existing roads if possible***
- ***Minimized earthwork***
- ***Revegetation with indigenous species***

Action 2.2: Require project modifications to implement Action 2.1

Action 2.5: Establish building envelopes to mitigate visual effects

5.12.2.2 Scenic Highway 395

The project site is located about 1 mile west of Highway 395, the entire length of which (in Mono County) has been designated by the California Department of Transportation (Caltrans) as a Scenic Highway of statewide significance.[2] The Scenic Highway classification extends 350 feet from the centerline of selected highways, and reflects the presence of exceptional natural beauty, unimpeded by visual intrusion. The designation is not readily applied: it entails a detailed nomination process, public participation, implementation of a Scenic Corridor Protection Program, and monitoring to assure that standards are maintained.[3]

The study region as a whole is defined by extraordinarily scenic, 360-degree views of the Sierra Nevada Mountains to the south and west, and the White Mountains to the north and east. The project area is located in Round Valley and offers broad vistas, an open expanse, and an almost dizzying array of slopes, gradients and landforms. These qualities draw the eye in many directions and tend to lessen the prominence of individual features. Notwithstanding this broad context, the project site is highly visible from some vantage points along Highway 395, Rock Creek Road, Pine Creek Road and the existing Paradise community. Visibility of the site is most strongly influenced by the differential elevations of surrounding lands, and by intervening topography between the site various vantage points. These factors are discussed below, with reference to existing site photographs presented in Exhibits 5.12-1 through 5.12-6 (note that the existing photos are paired with photo simulations to show 'before' and 'after' views of the project site).

The elevation of the Round Valley floor rises rapidly along the Sherwin Grade, gaining about 2,500 feet in approximately 8 miles. The community of Paradise is mid-point along this slope, at an elevation that ranges from about 4,900 feet on the southwest corner to about 5,345 feet on the northeast corner. For motorists traveling north on Highway 395 out of Bishop, the community of Paradise can be seen from a number of vantage points. The view becomes increasingly prominent as the motorist nears Paradise. Because the project site is located on a broad and south-tilting slope, and because of the short distance between the site and Highway 395 (less than one mile at the closest point) the view is especially direct and immediate as Highway 395 approaches the site heading north. Just south of the point where Highway 395 and Rock Creek Ranch are at equal elevation, views are abruptly terminated by an intervening ridge. The site can be seen, but is not prominent, from more northerly points. The site is also visible from vantages in the adjacent Sierra Nevada Mountains.

Like the sloping valley of which it is a part, the project site has a notably uniform tilted gradient that is highest on the northeast corner and lowest at the southwest. Lower Rock Creek cuts through the western boundary of the

[2] R. Kaiser, CalTrans Scenic Highway Coordinator, June 2000.
[3] CalTrans, Guidelines for the Official Designation of Scenic Highways, March 1996.

site, creating steep walls as high as 300-feet at the northwestern corner of the site. The former Paradise Resort and Lodge is nestled in the creek bed just west of the project site at the hairpin curve on Lower Rock Creek Road.

Because of the fairly even and southward sloping topographic surface, almost all parts of the site are uniformly visible. Only Rock Creek Gorge is out of the line of visibility from most southerly locations. Visibility is also influenced by lighting and atmospheric conditions. Backlighting from the sun generally tends to wash out detail and increase the visual prominence of surrounding ridgelines. Foreground lighting tends to increase detail, texture and color differences. Cloud cover can increase contrast, while haze can decrease visibility. Atmospheric conditions in southern Mono County tend to be clear a large percentage of the time, increasing the visual prominence of landscape features.

5.12.2.3 Dark Sky Ordinance[4]

Mono County has adopted an Outdoor Lighting Ordinance (Chapter 23 of the Mono County Code) that identifies 6 primary goals:

- To promote a safe and pleasant nighttime environment for residents and visitors;
- To protect and improve safe travel for all modes of transportation;
- To prevent nuisances caused by unnecessary light intensity, direct glare, & light trespass;
- To protect the ability to view the night sky by restricting unnecessary upward projection of light;
- Through new building permits phase out existing non-conforming fixtures that violate this chapter;
- To promote lighting practices and systems to conserve energy.

These goals are supported by general standards that apply to all non-exempt outdoor lighting fixtures. The standards require all outdoor lighting fixtures to aim downward or toward structures, to be maintained in good condition, to avoid harsh contrasts of lighting between the project site and surrounding properties, to utilize low wattage incandescent, LEDs or compact fluorescent lamps for residential lighting, to use fixtures that fully shield the light source with a maximum output of 600 lumens (equivalent to one 40-watt incandescent bulb), and to limit outdoor accent lighting. The Ordinance also requires preparation of an outdoor lighting plan for all new outdoor lighting installations on commercial, industrial, public and institutional properties.

5.12.3 APPLICABLE STATE AND FEDERAL REGULATIONS

Federal Regulations: There are no federal agencies with jurisdiction over aesthetic values in the community of Paradise, and none of the federal visual resource management programs would apply to the proposed project.

State Regulations

- California Scenic Highway Program: This program, outlined in Streets and Highways Code §260, is implemented by the California Department of Transportation (Caltrans). Caltrans is responsible for the nomination, designation, and maintenance of scenic highways in the state of California, and is also responsible for establishing the criteria used to assess the aesthetic values of state highways.[5] §261 of the Streets and Highways Code sets forth 5 minimum requirements for the evaluation of a scenic highway, including (1) regulation of land use and density, (2) detailed land use and site planning, (3) prohibition against off-site outdoor advertising, (4) restrictions on grading and landform alteration, and (5) standards for the design of utilities, structures and equipment.
- Undergrounding of Utilities: Among the Scenic Highway program requirements is a policy to place all future electric and communications facilities underground, where feasible, if such facilities are visible from a scenic highway. This policy was adopted in 1972 under Public Utilities Code Division 1, Part 1, Ch. 2, §320.

Local Regulations

- Dark Sky Ordinance: Mono County has adopted an Outdoor Lighting Ordinance that is intended to protect night-time visual and aesthetic values. The ordinance is described in detail in §5.12.2.3 above.

5.12.4 SIGNIFICANCE CRITERIA

Impacts on aesthetic resources would be considered significant and adverse if project elements would:

- Conflict with County Policies to Protect Visual Resources
- Significantly impact Aesthetic Values of the Highway 395 Scenic Corridor
- Significantly impact Aesthetic Values for existing Residents of Paradise Community
- Impact dark skies in the project area
- Cause substantial glare

[4] Mono County Code, Chapter 23, Outdoor Lighting Ordinance.
[5] CalTrans, *Guidelines,* op cit., March 1996.

5.12.5 ENVIRONMENTAL IMPACTS

General Plan Conformity

IMPACT AES 5.12-1: Conformance with County Policies to protect visual resources.

As evaluated in Table 5.12-2 below, the proposed Rock Creek Ranch Estates Specific Plan substantially conforms to the objectives, policies and actions outlined in the Mono County General Plan for protecting scenic resources.

Table 5.12-2
CONFORMANCE WITH GENERAL PLAN GOALS FOR SCENIC RESOURCES

APPLICABLE COUNTY POLICY	STATUS	CONFORMANCE REVIEW
GOAL: Protect and enhance the visual resources…of Mono Co.		
POLICY 1: To protect scenic resources, designate such areas for low-intensity uses ***POLICY 3: Preserve visual identity of areas outside communities.***	✓	▪ Mono County MEA does not assign an aesthetic value to project area (information is 'not available') but shows surrounding lands as 'R' (for 'Retention')
Action 3.1: Concentrate development in or adjacent to existing communities.	✓	▪ Project is proposed in existing Paradise community
OBJECTIVE B: Maintain system of designated scenic highways ***POLICY 1: Maintain existing state designated scenic highways***		
Action 3.1: Enforce regulations for protection of scenic roadways.	✓	▪ Project has been redesigned to minimize impacts on Hwy. 395.
OBJECTIVE C: Ensure that development is visually compatible with surrounding community, natural environment.	✓	▪ Specific Plan requires design and materials that conform to natural materials and colors
POLICY 1: Future development projects shall avoid or mitigate significant visual impacts unless statement of overriding considerations adopted in EIR process.	✓	▪ Proposal includes measures to minimize impacts & Statement of Overriding Considerations
Action 1.1: Projects with potentially substantial…aesthetic effect shall provide a visual analysis [for]: ◗ ***Reflective Materials*** ◗ ***Excessive Height/bulk*** ◗ ***Incongruous design elements*** ◗ ***Dust or steam plumes*** ◗ ***Excessive night lighting***	✓	▪ Visual analysis prepared: -Reflective materials prohibited -Building height/cover less than code -Design incorporates natural materials, colors -No dust/steam impacts; utilities to be placed underground or screened from offsite view -Specific Plan prohibits excessive lighting
POLICY 2: Future development projects shall be sited & designed in scale with surrounding community & natural environment.	✓	▪ Specific Plan elements designed to harmonize with existing area. ▪ Height & areas limits will assure that scale is compatible with environs.
Action 2.1: Develop guidelines including, at a minimum: ◗ ***Appropriate scale/design/siting*** ◗ ***Varied building mass*** ◗ ***Design sensitive to setting*** ◗ ***Colors/materials fit surroundings*** ◗ ***Offensive elements screened*** ◗ ***Parking areas screened*** ◗ ***Signs comply with sign ordinance*** ◗ ***Exterior lighting shielded*** ◗ ***Underground utilities*** ◗ ***Use of existing roads if possible*** ◗ ***Minimized earthwork*** ◗ ***Revegetation with native species***	✓	▪ Design compatible w/ community & setting ▪ Colors/materials will fit surroundings ▪ SP requires screening for utilities ▪ Each lot to provide 2 garage parking spaces; RVs etc. must be screened ▪ No signs allowed ▪ All lighting must be shielded ▪ Utilities to be underground ▪ No paved roads onsite ▪ Mitigations will minimize earthwork. ▪ Revegetation must use native or compatible, noninvasive species
Action 2.2: Require project modifications to implement Action 2.1 ***Action 2.5: Establish building envelopes to mitigate visual effects***	✓	▪ Plan modified to minimize visual impacts ▪ Building envelopes have been established for all lots

Conformity with adopted County goals and policies indicates that project impacts on visual resources on the site and surrounding lands would be less than significant, and no mitigation is required for this impact.

Significance: LESS THAN SIGNIFICANT IMPACT

Scenic Highway Impacts

IMPACT AES 5.12-2: Potential impacts on Lower Rock Creek Rd. and Scenic Highway 395 aesthetic values.

One of the key adverse effects identified in this EIR is the project impact on views from State Scenic Highway 395. This site is characterized by a sloping mesa that is closer to Highway 395 and with somewhat higher average elevation than the rest of the Paradise community; both of these features add to the visual prominence of the site and the potential for adverse scenic impacts. Caltrans has developed formal evaluation criteria by which to assess the significance of visual changes on adopted Scenic Highway values.[6] To assess visual intrusions associated with building construction along Scenic Corridors, Caltrans' guidelines set forth the following definitions:

- *Minor Visual Intrusion:* Widely dispersed buildings. Natural landscape dominates. Wide setbacks and buildings screened from roadway. Exterior colors and materials are compatible with environment. Buildings have cultural or historical significance.
- *Moderate Visual Intrusion:* Increase in number of structures, but buildings complement the landscape. Smaller setbacks and lack of roadway screening. Buildings do not degrade or obstruct scenic view.
- *Major Visual Intrusion:* Intrusions that dominate the landscape, degrading or obstructing scenic views. Dense and continuous development. Highly reflective surfaces. Buildings poorly maintained. Visible blight. Development along ridge lines. Buildings degrade or obstruct scenic view.

The impacts are assessed in terms of three categories of visual composition and value, including:

- *Vividness:* The extent to which the landscape is memorable, including distinctiveness, diversity and contrast. A vivid landscape makes an immediate and lasting impression on the viewer.
- *Intactness:* The integrity of visual order in the landscape and the extent to which the natural landscape is free from visual intrusions. Not more than 1/3 of the highway should be impacted by major intrusions (i.e., those that dominate the landscape, degrading or obstructing scenic views).
- *Unity:* The extent to which intrusions are sensitive to and in harmony with the natural landscape.

The impacts are also rated according to four aesthetic factors including changes in visual quality, view quality, landform and regional character:

- *Visual Quality* is defined as the physical elements of the area, including landform, vegetation, color and diversity.
- *View Quality* is defined as the character of broad panoramas as seen from a distance, including views of ridgelines and geologic features.
- *Landform* is defined as the degree of change associated with proposed landform alterations, including lot grading, road improvements and berm recontouring.
- *Regional Character* is defined as the loss of or modification to notable landmarks, or change in the visual continuity of the region as a whole.

To evaluate project impacts, several existing site photographs were selected for visual simulations (see Exhibits 5.12-1 through 5.12-6). The simulations depict project elements superimposed over the baseline setting, as seen from Highway 395, Pine Creek Road, Lower Rock Creek Road, and from the existing Paradise community. The added project elements are dimensionally correct and incorporate color schemes, roof heights and orientations consistent with standards contained in the Specific Plan. The simulations show the effects associated with construction of homes and landscaping, utilities, and the proposed access road.

In all instances, the existing project setting is considered to have high visual quality and high visual sensitivity. The primary viewer groups include motorists along Highway 395, residents of the existing Paradise community, recreational users of the surrounding National Forest and wilderness lands, and residents of surrounding communities. The proposed project elements include (1) 60 new homes with landscaping and ancillary facilities including 11 secondary units, (2) an access road connecting to Lower Rock Creek Road and extending throughout the project site, (3) utility improvements including a new water storage tank in the northeast corner and a subsurface package wastewater treatment and reclamation plant on the southern half of the property, and (4) open space lands on the southwest, southeast, northwest and northeast portions of the site.

[6] Caltrans, op cit., March 1996.

Table 5.12-3 rates project impacts according to the levels and types of impacts described above based upon the existing photographs and visual simulations provided in Exhibit Nos. 5.12-1 through 5.12-4. Exhibit 5.12-1 depicts the project site from the perspective of a motorist on Pine Creek Road in the vicinity of the schoolhouse, looking northward. The visual simulation indicates that the Rock Creek Ranch Estates development would be clearly visible from this location. Though visible, the project profile from this perspective is relatively minor. The eye is drawn away from the mid-field view to the larger horizon created by the Sierra Nevada on the west, the White Mountains on the east, and the rising topography of the Sherwin Grade. Visibility from this location is further minimized by the fact that the project site is separated from Pine Creek Road by about 5 miles and intervening slope gradients are low (between 2-3%). Development of Rock Creek Ranch would thus have a moderate impact on overall visual quality, view quality, landform and regional character with respect to views from this area.

Table 5.12-3
VIEWSHED IMPACTS

VISUAL QUALITY	EXH. 5-12-1 Pine Ck.	EXH. 5.12-2 Lower Rock Ck. Rd.	EXH. 5.12-3 Hwy 395-Distant	EXH. 5-12-4 HWY 395-Close	EXH. 5-12-7 Swall Meadows
VIVIDNESS (Distinctiveness Diversity, contrast)	**M**	**M**	**M**	**M**	**L**
INTACTNESS (Visual Integrity, View Obstruction)	**M**	**H**	**M**	**M**	**L**
UNITY (In Harmony with Natural Forms)	**M**	**H**	**M**	**H**	**L**
VISUAL QUALITY (changes to landform, vegetation)	**M**	**H**	**M**	**H**	**M**
VIEW QUALITY (changed panoramas, ridgelines, geology)	**M**	**M**	**M**	**M**	**M**
LANDFORM (extent of landform alteration)	**M**	**M**	**M**	**M**	**L**
REG'L CHARACTER (loss of continuity, overall values)	**M**	**M**	**M**	**M**	**L**

Exhibit 5.12-2 depicts the project site from the perspective of a motorist heading northbound on Lower Rock Creek Road, just south of the project boundary. The visual simulation indicates that Rock Creek Ranch would be highly visible from this vantage point, dominating near-field and mid-field views and defining the north-northeastern horizon. In contrast, the existing community of Paradise is somewhat screened by the trees to the left of the road and lies below the horizon formed by Wheeler Crest. From this vantage point, Rock Creek Ranch would thus have a high impact on *intactness, visual quality* and *unity* of the view, and a moderate impact on *view quality* and vividness of the overall scene. Impacts on *landform* unity and *regional character* would be moderate since the overall form of the site and the community as a whole would not substantively change, nor would the project impact notable landforms or change visual continuity of the region as a whole.

Exhibit 5.12-3 depicts the project site from the perspective of a motorist northbound on Highway 395 roughly 7-8 miles south of the site. The exhibit and simulation indicates that the site would be visible from this location but with a relatively low profile. As with Exhibit 5-12.1, the site is fairly distant and the eye is drawn to the dominant horizon created by the Sierra Nevada and Wheeler Crest on the west, Swall Meadows on the north, and the rising topography of the Sherwin grade. Development of Rock Creek Ranch would thus have a moderate on overall visual quality, view quality, landform and regional character with respect to views from this area.

Exhibit 5.12-4 depicts the project site from the perspective of a motorist heading northbound on Highway 395 roughly 1.5 miles south of the project site. Rock Creek Ranch would be visible from this vantage point, with near-field and mid-field views that would largely block views of the existing Paradise community. Although the Sierra Nevada Mountains continue to define overall visual character, the simulation indicates a moderate-to-high level of contrast between adjacent undeveloped lands and the proposed new homes on Rock Creek Ranch. Project landscaping would soften the visual impact of more linear project elements and blend with landscaping in

Existing View Looking North from Pine Creek Road in Front of Elementary School

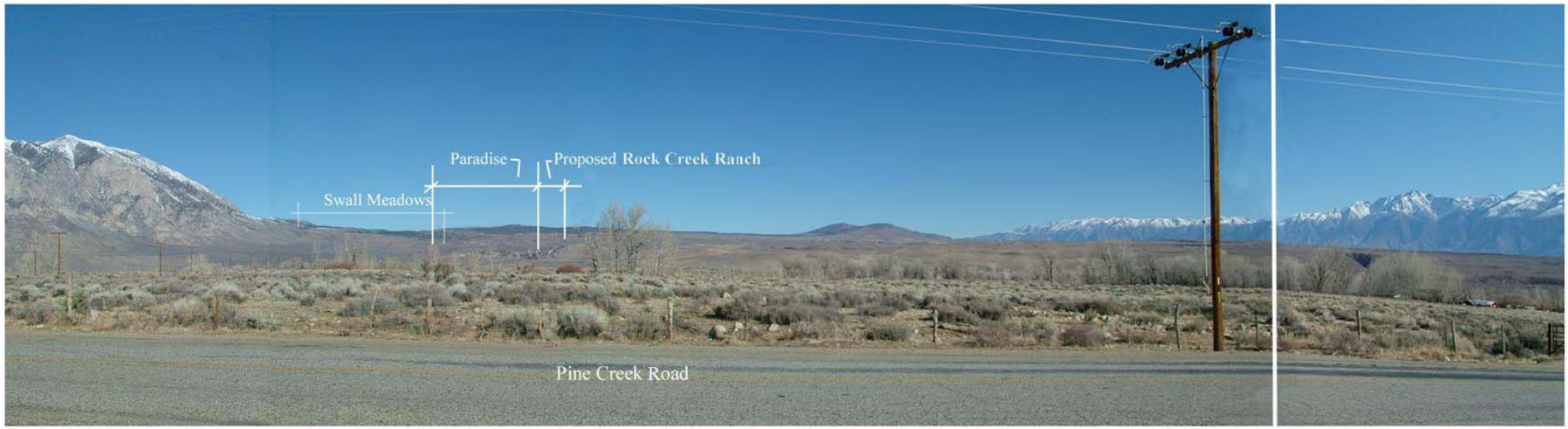
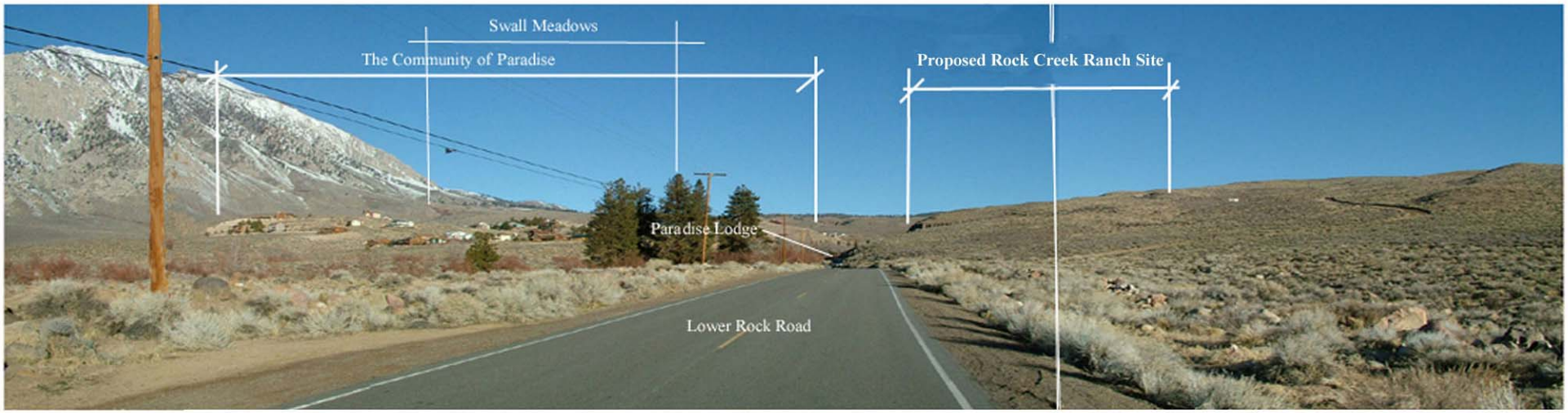


Photo Simulation Viewing North from Pine Creek Road to Rock Creek Ranch



Existing View Looking North from Lower Rock Creek Road to the Community of Paradise & Proposed Rock Creek Ranch

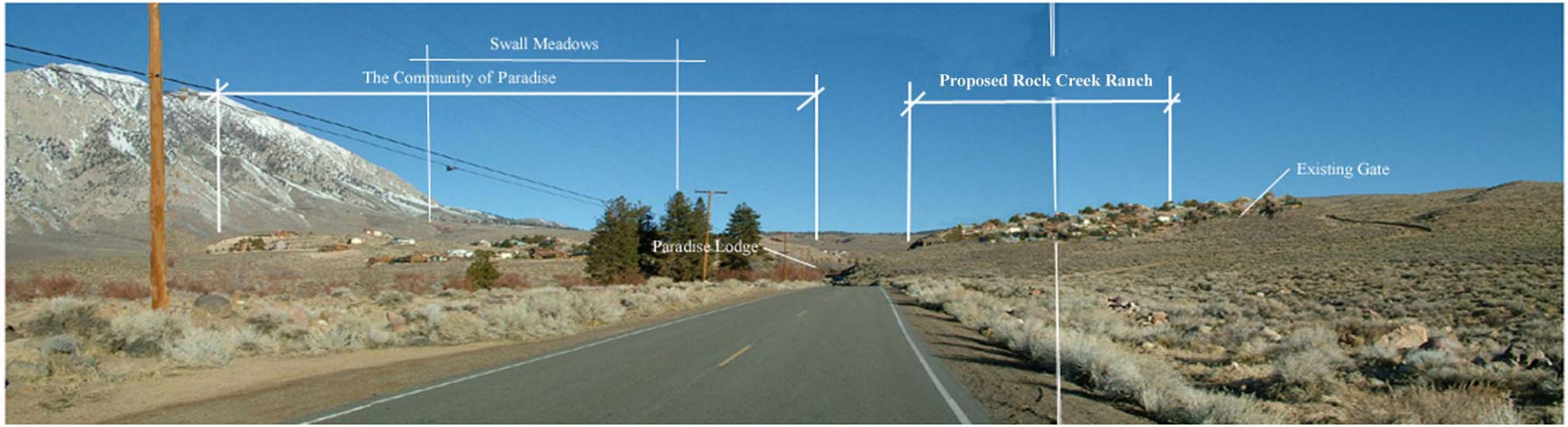


Photo Simulation Viewing North from Lower Rock Creek Road to the Community of Paradise & Proposed Rock Creek Ranch

Existing View Looking North from State Highway 395 at Rock Creek Road to Rock Creek Ranch

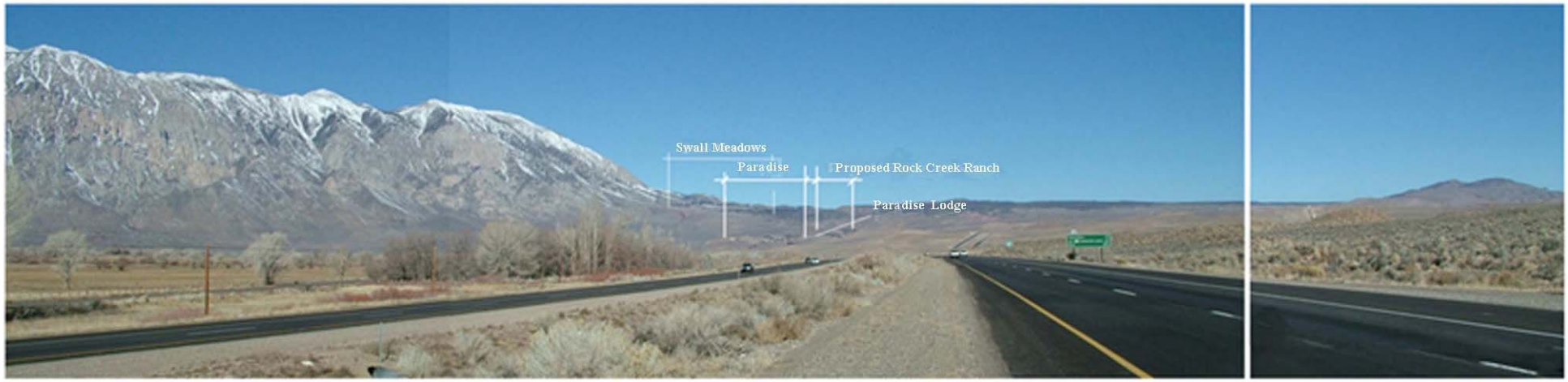
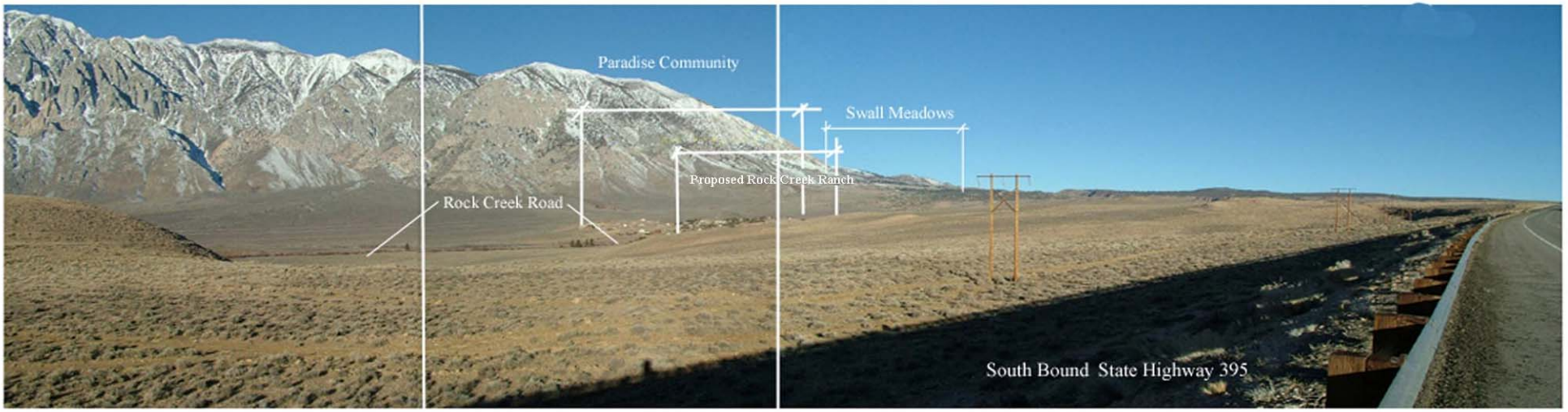


Photo Simulation Viewing North from Pine Creek Road and State Highway 395 to Rock Creek Ranch



Existing View Looking Northwest from State Highway 395 on Lower Sherwin Grade

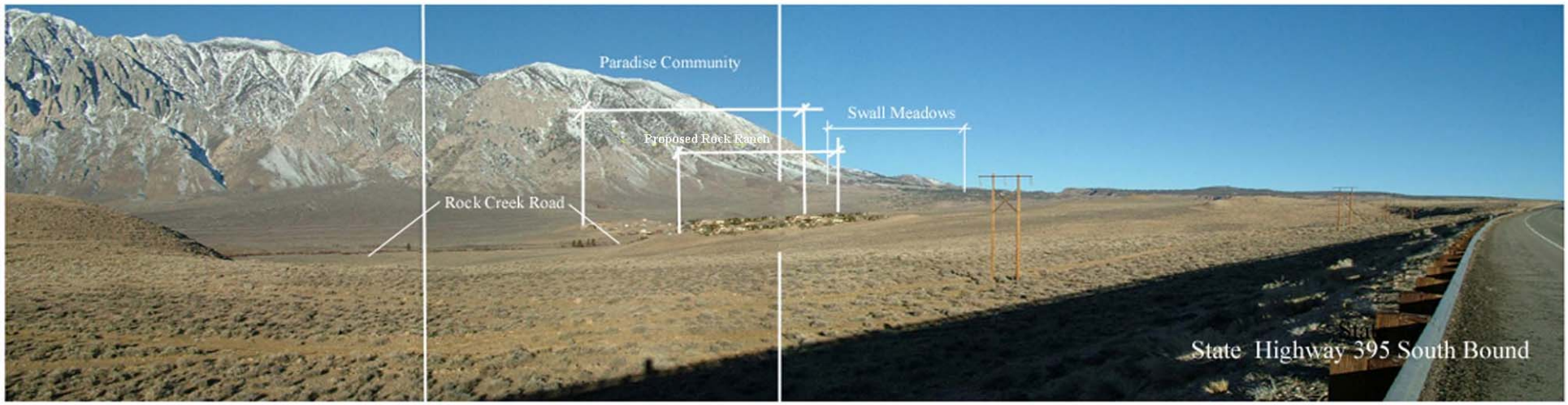


Photo Simulation Viewing Northwest from Highway 395 on lower Sherwin Grade to Rock Creek Ranch

Existing View Looking Northwest

the existing Paradise community, but the introduced trees would contrast noticeably with the low-lying native scrub communities on undeveloped lands to the southeast and northeast. Moreover, the project is located on a sloping mesa that is somewhat higher than many homes in the developed community of Paradise. In consideration of these factors, Rock Creek Ranch would have a high impact on *visual quality* and *unity* of the view from Highway 395 close to the site. Impacts on *vividness, intactness, view quality, landform* and *regional character* would be moderate since the overall form of the site and the community as a whole would not substantively change, nor would the project impact notable landforms, obstruct scenic views or change the visual continuity of the region as a whole. Site views from the north, as depicted in Exhibit 5.12-7, would have a low impact on *vividness, intactness, unity, landform* and *regional character*, and a moderate impact on *visual quality and view quality.*

Based on the criteria noted above and the photo simulations presented in Exhibits 5.12-1 through 5.12-4 and 5.12-7, it is concluded that development of the Rock Creek Ranch Specific Plan as proposed would represent a significant adverse impact on scenic values from Lower Rock Creek Road approaching the project site, and from some points along the Highway 395 scenic corridor.

MITIGATION AES 5.12-2 (AESTHETIC DESIGN ELEMENTS): The Rock Creek Ranch Specific Plan incorporates numerous provisions that are specifically intended to minimize impacts on Scenic Highway 395. Additionally, the project design has been substantially altered to minimize visual intrusiveness from surrounding viewpoints. These provisions would reduce visual impacts on the Highway 395 scenic corridor and Lower Rock Creek Road, but not to a level that is less than significant.

⇨ **Significance: SIGNIFICANT UNAVOIDABLE IMPACT ON VIEWS FROM LOWER ROCK CREEK ROAD AND SOME POINTS ALONG THE HIGHWAY 395 SCENIC CORRIDOR**

Impacts to Existing Paradise Community

IMPACT AES 5.12-3: Potential aesthetic impacts on the existing Paradise community.

For existing residents of the community of Paradise, development of the proposed project would have an impact on the viewscape from and around their properties. Caltrans' approach was applied to ascertain the extent of this effect. As described above, Caltrans assesses visual changes according to 3 levels of impact:

- *Minor:* Intrusions that complement the landscape or have recognized cultural or historical significance.
- *Moderate:* Intrusions that are integrated into the landscape and do not degrade or obstruct scenic views.
- *Major:* Intrusions that dominate the landscape, degrading or obstructing scenic views.

The impacts are assessed in terms of three categories of visual composition and value, including:

- *Vividness:* The extent to which the landscape leaves an immediate and lasting impression on the viewer.
- *Intactness:* The integrity of visual order and extent to which visual intrusions are absent. Not more than 1/3 of the view should be impacted by intrusions that dominate, degrade or obstruct scenic views.
- *Unity:* The extent to which intrusions are sensitive to and in harmony with the natural landscape.

The impacts are also rated according to four aesthetic factors including changes in visual quality, view quality, landform and regional character:

- *Visual Quality* comprises physical elements including landform, vegetation, color and diversity.
- *View Quality* refers to broad panoramas seen from a distance, including ridgelines and geologic features.
- *Landform* addresses the extent of landform alteration including grading, roads and berm recontouring.
- *Regional Character* is the loss of or changes to notable landmarks or overall visual continuity.

To evaluate project impacts from within the existing community of Paradise, two existing site photographs were selected for visual simulations, including Exhibits 5.12-5 and 5.12-6. As with the earlier simulations, the simulations are dimensionally correct and consistent with standards contained in the Specific Plan. The simulations depict full project development including homes, landscaping, utilities, and internal roads.

Table 5.12-4 rates project impacts according to the levels and types of impacts described above based upon the existing photographs and visual simulations provided in Exhibit Nos. 5.12-6 and 5.12-6. Exhibit 5.12-5 depicts the project site from the perspective of a person standing on the western rim of Lower Rock Creek Canyon looking eastward toward the project site. The visual simulation indicates that the Rock Creek Ranch Estates development would be highly visible from this location. The project profile would dominate near- and mid-field views and prominently define the east-southeastern horizon. Overall, the project would change the character of this view from one of undeveloped open space to that of a suburban residential development. From this vantage

Existing View Looking East from the Community Edge of Paradise to the Rock Creek Ranch

Photo Simulation Viewing East from the Community of Paradise to Rock Creek Ranch

Photo Simulation Viewing South from Swall Meadows to Paradise and Rock Creek Ranch

Existing View Looking South to the Community of Paradise & the Proposed Rock Creek Ranch

Existing View Looking East from the West Edge of the Community of Paradise to Rock Creek Ranch

Photo Simulation Viewing East from the West Edge of the Community of Paradise to Rock Creek Ranch

point, Rock Creek Ranch would have a high impact on *intactness, visual quality* and *unity* of the view, and a high impact on *view quality* and *vividness* of the overall scene. Impacts on *landform* unity and *regional character* would also be high since the overall form and character of the community as a whole would be substantively changed, as would the visibility of local landforms and visual continuity within and around Paradise.

Table 5.12-4
VIEWSHED IMPACTS

VISUAL QUALITY	EXH. 5.12-5 View from West Canyon Rim	EXH. 5.12-6 View from West Paradise Boundary
VIVIDNESS (Distinctiveness Diversity, contrast)	**H**	**H**
INTACTNESS (Visual Integrity, View Obstruction)	**H**	**H**
UNITY (In Harmony with Natural Forms)	**H**	**H**
VISUAL QUALITY (changes to landform, vegetation)	**H**	**H**
VIEW QUALITY (changed panoramas, ridgelines, geology)	**H**	**H**
LANDFORM (extent of grading, landform alteration)	**H**	**H**
REG'L CHARACTER (loss of continuity, overall values)	**H**	**H**

Exhibit 5.12-6 depicts the project site from the perspective of a person standing along the western developed boundary of Paradise looking eastward over the existing developed Paradise community toward the project site. The visual simulation indicates that the Rock Creek Ranch Estates development would be highly visible from this location as well. Although the existing developed homes would continue to define near-field views from this location, the project would clearly dominate mid-field views and define much of the east-southeastern horizon. The character of this view would change from one of relatively sparse development surrounded by open space to that of a residential community; the open space context would be diminished. From this vantage point, Rock Creek Ranch would have a high impact on *intactness, visual quality* and *unity* of the view, and a high impact on *view quality* and *vividness* of the overall scene. Impacts on *landform* unity and *regional character* would also be high since the overall form and character of the community as a whole would be substantively changed, as would the visibility of local landforms and visual continuity within and around Paradise.

Based on the criteria noted above and the photo simulations presented in Exhibits 5.12-1 through 5.12-4, it is concluded that development of the Rock Creek Ranch Specific Plan as proposed would represent a significant adverse impact on scenic values from within the existing Paradise community.

MITIGATION AES 5.12-3 (AESTHETIC DESIGN ELEMENTS): The Rock Creek Ranch Specific Plan incorporates numerous provisions that are specifically intended to minimize visual impacts on the existing Paradise community. Additionally, the project design has been substantially altered to minimize intrusiveness on views from developed homesites and vantage points within Paradise. These provisions and modifications would reduce visual impacts on the existing community, but not to a level that is less than significant.

⇨ **Significance: SIGNIFICANT UNAVOIDABLE IMPACT ON EXISTING PARADISE COMMUNITY**

Dark Sky Visibility

IMPACT AES 5.12-4: Potential impacts on Dark Sky Ordinance.

The Rock Creek Ranch Specific Plan requires that all outdoor lighting comply with requirements of the County's Dark Sky Ordinance. As noted above, the Ordinance requires all outdoor lighting fixtures to aim downward or toward structures, to be maintained in good condition, to avoid harsh contrasts of lighting, to use low wattage incandescent, LEDs or compact fluorescent lamps, to use fixtures that fully shield the light source with a maximum output of 600 lumens, and to limit outdoor accent lighting. Compliance with the Dark Sky Ordinance requirements will reduce project impacts on night-sky visibility to less than significant levels.

MITIGATION AES 5.12-4 (Outdoor Lighting): The Rock Creek Ranch Specific Plan and CC&Rs shall incorporate all applicable provisions of the Mono County Dark Sky Ordinance.

⇨ **Significance: LESS THAN SIGNIFICANT WITH MITIGATION**

Light and Glare

IMPACT AES 5.12-5: Potential glare from windows and solar panels.

Solar systems are generally encouraged as a means to reduce importation of energy supplies, and would be permitted within the Rock Creek Ranch Specific Plan. To further address potential light and glare associated with such systems, the Specific Plan requires units to be designed in a manner that does not create glare and is visually compatible with surrounding land uses and scenic values. These requirements would reduce potential light and glare impacts from solar systems to less than significant levels, and no supplemental mitigation is required.

MITIGATION AES 5.12-5 (AESTHETIC DESIGN ELEMENTS): The Rock Creek Ranch Specific Plan requires use of materials, colors and design elements for all structures (including solar panels) that would minimize the potential for glare. These requirements would reduce potential light and glare impacts to less than significant levels, and no supplemental mitigation is required.

⇨ **Significance: LESS THAN SIGNIFICANT IMPACT**

5.12.6 RESIDUAL IMPACTS AFTER MITIGATION

The Specific Plan incorporates a number of provisions expressly intended to minimize or avoid potential adverse project impacts on the scenic environment. These include height limitations more stringent than standard zoning provisions; provisions that require all building materials and colors to harmonize with the colors and materials found in the surrounding landscape; use of native plant materials or compatible non-native species; strict limitations on lighting and prohibition of any signage, and other similar provisions. Based on these proposed requirements and the considerations discussed above, it is concluded that a majority of project impacts on designated scenic resources would be moderate (i.e., less than significant). However, not all scenic impacts can be reduced to less than significant levels. In particular, the view simulations indicate that the project could have significant adverse impacts on aesthetic resources from adjacent stretches of the designated Scenic Highway 395 and from the existing community of Paradise. Although these adverse effects would be reduced by Specific Plan requirements, the residual impacts would represent significant unavoidable adverse impacts of project implementation.