

November 6, 2015

Kirkwood Specific Plan

Mitigation Compliance 10-Year Review

Prepared for:

**Tri-County Technical Advisory
Committee**

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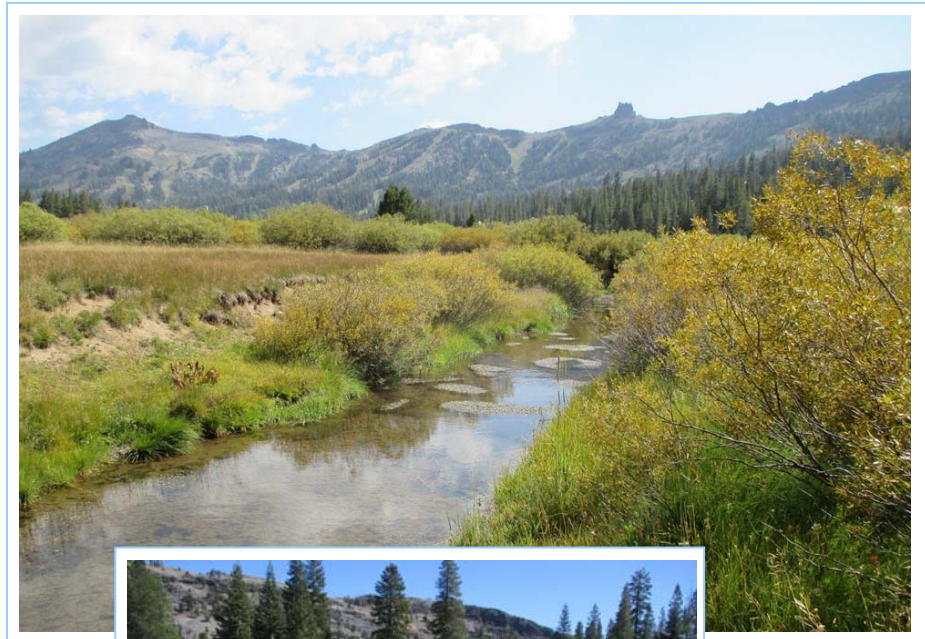
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October 28, 2015

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(RCI # 14-600.1)

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Table of Contents

Executive Summary	1
Introduction.....	2
Purpose of Report.....	2
Background.....	4
Status of 2003 Specific Plan Implementation	4
New Circumstances and Need for Supplemental CEQA.....	5
Electrical Utilities	5
Change in Resort Operator	6
Mountain Master Development Plan	6
CEQA Compliance	7
Mitigation Compliance.....	8
General Compliance.....	8
<i>Geology, Soils, and Geologic Hazards</i>	<i>8</i>
<i>Water Resources</i>	<i>9</i>
<i>Aquatic and Biological Resources</i>	<i>11</i>
<i>Air Quality</i>	<i>13</i>
<i>Cultural Resources.....</i>	<i>13</i>
<i>Land Use.....</i>	<i>14</i>
<i>Traffic.....</i>	<i>14</i>
<i>Visual and Aesthetic Resources.....</i>	<i>14</i>
<i>Noise</i>	<i>15</i>
<i>Socioeconomics.....</i>	<i>15</i>
<i>Hazardous Materials.....</i>	<i>15</i>
<i>Recreation</i>	<i>17</i>
<i>Public Services.....</i>	<i>18</i>
<i>Utilities and Infrastructure.....</i>	<i>18</i>
Summary of Recommendations.....	19

ATTACHMENTS

- Attachment A Summary of Compliance with Kirkwood Specific Plan Mitigation Monitoring Plan
- Attachment B Reference Materials
- Attachment C Site Photographs
- Attachment D Revised Grazing Management Plan

LIST OF ACRONYMS

BMPs:	Best Management Practices
CC&Rs:	Covenants, Conditions, & Restrictions
CDFW:	California Department of Fish & Wildlife
CEQA:	California Environmental Quality Act
COE:	U.S. Army Corps of Engineers
CVRWQCB:	Central Valley Regional Water Quality Control Board
EIR:	Environmental Impact Report
EIS:	Environmental Impact Statement
EPA:	Environmental Protection Agency
GBUAPCD:	Great Basin Unified Air Pollution Control District
HMBP:	Hazardous Material & Business Plan
HOA:	Home Owners Association
KCA:	Kirkwood Community Association
KMD:	Kirkwood Mountain Development
KMOA:	Kirkwood Master Owner's Association (now referred to as Kirkwood Community Association or KCA)
KMPUD:	Kirkwood Meadows Public Utility District
KMR:	Kirkwood Mountain Resort
MMDP:	Mountain Master Development Plan
MMP:	Mitigation Monitoring Program
NPDES:	National Pollutant Discharge Elimination System
SPCC:	Spill Prevention, Control, & Counter Measures
SSMP:	Sewer System Management Plan
SWPPP:	Stormwater Pollution Prevention Plan
TC-TAC:	Tri-County Technical Advisory Committee

Executive Summary

The Kirkwood Specific Plan (Plan) was created in 2003 to guide development on private land within the Kirkwood community. Anticipated environmental impacts resulting from implementation of the Plan were analyzed and disclosed within the October 2002 Kirkwood Recirculated Revised Final Environmental Impact Report (Final EIR). A Mitigation Monitoring Program (MMP) was developed to insure that the mitigation measures committed to in the Final EIR are implemented appropriately, and that environmental effects from development remain within the context of impacts disclosed. This report serves as a 10-year review (2003-2013) of the overall compliance with the Specific Plan Mitigation Monitoring Program.

Overall, the parties responsible for implementation of the mitigation measures adhere to the general conditions of the MMP. Inclusion of mitigation measures into project design, monitoring during construction, and annual reporting requirements provide a framework in which effective mitigation is achieved. When deviations have occurred, the framework of the MMP provides opportunities to identify and correct. As a result of the established framework and diligence by the responsible parties, potentially significant environmental effects have been mitigated to less-than-significant levels and no new potentially significant environmental effects have been introduced that were not analyzed in the 2002 Final EIR or subsequent environmental documentation.

Introduction

The 2003 Kirkwood Specific Plan (Plan) was prepared to illustrate the ultimate development of private lands within the Kirkwood community, located within Alpine, Amador, and El Dorado counties, California. The Plan, which is enforced through county ordinance, was adopted by Amador and Alpine Counties in 2003 and establishes the community's goals, objectives, and policies and designates land use zoning. In 2003 El Dorado County was in the process of revising the County's General Plan and not able to formally adopt Kirkwood's Specific Plan. Now that El Dorado County has a General Plan in place (2004), Kirkwood Mountain Development is actively pursuing formal adoption of the Plan by El Dorado County.

In accordance with the California Environmental Quality Act of 1970 (CEQA), a Draft Environmental Impact Report (EIR) was prepared in November 1999 to disclose the potential environmental effects of the proposed activities identified in the Plan. Amador County served as the lead CEQA agency. A Final EIR was published in 2000, but later revised to provide a more comprehensive effects analysis that included potential impacts associated from the Kirkwood Mountain Resort's 2003 Mountain Master Development Plan and Kirkwood Meadows Public Utility District Wastewater Treatment Plant upgrades and expansions. In October 2002, the Kirkwood Recirculated Revised Final Environmental Impact Report was completed and included a Mitigation Monitoring Program (MMP). The MMP identifies mitigation measures required to minimize negative effects of the proposed activities, the timing of the mitigation measure, and the entities responsible for implementation, review, and enforcement.

Proposed development within Kirkwood is reviewed for conformance with the Plan and MMP by the Tri-County Technical Advisory Committee (TC-TAC) comprised of representatives of Alpine, Amador, and El Dorado counties and the building department of the county in which the project is proposed. Representatives of the U.S. Forest Service serve as ex-officio members of TC-TAC. The applicable county planning department may be involved if the project requires a use permit, tentative map, or variance.

Purpose of Report

This report is required by the Amador County Condition of Approval #2, which states the following:

During the tenth year following approval of the Proposed Project, KMR or its successor will retain a qualified consultant to review the development for compliance with the mitigation requirements in the MMRP and any other conditions of approval of the Proposed Project. The selection of the consultant will be mutually agreed to by TC-TAC. The consultant will identify any shortcomings and make recommendations for adjustment to conditions to overcome those shortcomings. Additionally, the consultant will identify any new circumstances or unanticipated impacts that were not foreseen when the 2002 Final EIR was certified and the Proposed Project approved. The

consultant will recommend whether or not supplemental CEQA documentation may be necessary.

The consultant's report and recommendations will be reviewed at a regular meeting of TC-TAC. Prior to the meeting, the report will be made available to the public. TC-TAC will consider the report and forward recommendations, along with the consultant's report, to the planning commissions and boards of supervisors of all three counties.

Any decision regarding preparation of supplemental CEQA documentation will be made by the lead agency subject to the requirements of CEQA. Further action - including additional mitigation measures, adjustments to the Proposed Project, and additional conditions of approval - may be considered and imposed only in accordance with the requirements of CEQA and other applicable laws, ordinances, and regulations.

This report serves as the 10-year review of compliance with the Specific Plan Mitigation Monitoring Program. Specifically, the purpose of this report is:

1. To review implementation of the Kirkwood Specific Plan for compliance with the mitigation measures found in the Mitigation Monitoring Program and other conditions of approval of the project;
2. Identify short comings, if any, and make recommendations for adjustments to overcome shortcomings;
3. Identify any new circumstances or unanticipated impacts that were not foreseen when the 2002 Final EIR was certified and Plan approved; and,
4. Make recommendations as to whether new projects that were not within the scope of the original Environmental Impact Review require supplemental CEQA documentation.

Background

Status of 2003 Specific Plan Implementation

The 2003 Specific Plan primary objective is to create a year-round destination resort. The proposed residential build-out is 1,413 housing units and a multiple use recreation and community center, with a maximum build-out (overnight) population of 6,142 persons. This report focuses on development approved under the 2003 Specific Plan and subject to the Mitigation Monitoring Program.

The following table summarizes the residential development to date.

Table 1. Summary of Specific Plan Development to Date.

Development	# of Units
Development Entitled Prior to 2003 Specific Plan	
Single-family (includes built and unbuilt lots in KMA, East Meadows, Juniper Ridge, Palisades III, IV, and V)	331
Multi Family (Includes Edelweiss, Thimblewood, Sentinels, The Meadows, Meadowstone, Sun Meadows I-IV, Base Camp, The Lodge at Kirkwood, Mountain Club, Timber Ridge, Employee Housing, Caples View)	461
Subtotal Completed Development under previous plans	792
Development Entitled and Subject to the 2003 Specific Plan	
Single-family (includes built and unbuilt lots in Palisades V)	15
Multi Family (Includes Sentinels West and Sentinels Way)	18
Timber Creek Lodge	--
Recreation and community center (phases 1 and 2)	--
Subtotal Completed Development Under 2003 Specific Plan	33
Pending Development /Approved Tentative Map	
Single-Family (includes lots in Palisades VI-A and VI-B, Martin Point, East Village)	70
Multi-Family (includes Timber Creek Village, Thunder Mountain Lodge, Expedition Lodge)	123
Subtotal of Pending Development	193
TOTAL COMPLETED OR PENDING DEVELOPMENT	1,018
Potential Development Remaining	395

Development plans for Thunder Mountain Lodge and Expedition Lodge were also reviewed and approved by TC-TAC and Amador County for compliance with the conditions of the 2003 Specific Plan, but have since been halted due to the economic downturn. Additionally, the temporary redevelopment of the Timber Creek Lodge commercial facilities was reviewed, approved, and constructed pursuant to the 2003 Specific Plan.

New Circumstances and Potential Supplemental CEQA Review

The Kirkwood Specific Plan describes a development project that consists of a series of actions, where the actions are both geographically related and governed by the same regulations. Pursuant to CEQA Guidelines, the 2002 Specific Plan EIR was completed as a Program EIR (CEQA Guidelines 15168[a]). A Program EIR is suitable for projects that have: 1) longer implementation schedules (greater than 3 year), 2) general parameters or conditions that will be applied to future activities, and 3) requires subsequent agency discretionary approvals for future implementation of the Plan. TC-TAC is responsible for reviewing proposed projects under the Plan for CEQA compliance in the context of impacts disclosed in the Kirkwood Recirculated Revised Final EIR (2002). If the review indicates that the effects of the proposed project were not disclosed in the EIR and the Plan has the potential to cause new significant environmental impacts, the Lead Agency must determine whether 1) the impacts have been avoided or reduced by existing mitigation measures or alternatives required by the Lead Agency, or 2) the impacts would be avoided or reduced by mitigation measures or alternatives which should be adopted by another agency. However, under CEQA there is a presumption that the certified EIR is adequate unless one of the events specified under the law triggers the need for a subsequent or supplemental EIR. These include substantial changes in the proposed project or circumstances under which the project was undertaken or new information that was not known at the time. However, supplemental CEQA review is only required if these changes or new information will have new significant environmental effects or a substantial increase in the severity of previously identified significant effects (CEQA Guidelines 15162).

Since inception of the 2003 Specific Plan, new circumstances have resulted in changes to the planned development within Kirkwood that were not analyzed in the 2002 EIR. Specifically, the following unforeseen changes warrant discussion and determination as to their need for subsequent environmental review under CEQA.

Electrical Utilities

In July 2011, the Kirkwood Meadows Public Utility District (KMPUD) purchased Mountain Utilities, and the following year became the electric service provider for the Kirkwood community and resort. Initially the KMPUD provided electrical power via a diesel fired electrical plant with an overall output capacity of 5.0 megawatts. The environmental effects of continued reliance on diesel generated electric power through build-out of the Plan was analyzed in the 2002 Specific Plan EIR.

In 2013, KMPUD began construction of the 28-mile Out-Valley Transmission Line Project, which provides a connection to the regional electric grid and sufficient electrical power to support build-out of the Specific Plan. Because the potential effects of the Out-Valley Transmission Line Project were not included in the 2002 Final EIR and had potential to result in significant impacts on both private and federally managed lands, KMPUD, in cooperation with the U.S. Forest Service, prepared a joint EIR/EIS that analyzed the environmental effects of construction, operation, and long-term maintenance of the transmission line (Kirkwood Meadows Power Line Reliability, Final Environmental Impact Statement/Environmental Impact Report, 2012.) The Final EIS/EIR for the Out-Valley Transmission Line (2012) analyzed the potential effects on natural resources (e.g. water resources, biological resources, air quality, greenhouses gases) and other areas of concern related to human use and perceptions (cultural resources, land use, traffic, visual and aesthetics, noise, and public safety) of a power supply from interconnection to the regional electric grid instead of diesel generated power as discussed in the 2003 Specific Plan. The Out-Valley connection was commissioned in November of 2014 and the diesel plant was converted to a backup facility. Because the effects were analyzed in the joint EIR/EIS and no new significant environmental effects were identified, the Out-Valley Transmission Line is in compliance CEQA regulations and no additional environmental review is required.

Change in Resort Operator

In April 2012 the resort operations and remaining undeveloped “West Village” parcels were sold to a subsidiary of Vail Resorts. Accompanying this change in ownership is the division of responsibilities for implementing required mitigation and monitoring responsibilities. These responsibilities have been divided and assigned to either the Resort Operator (Kirkwood Mountain Resort) or Master Developer (Kirkwood Mountain Development) and will continue to be implemented pursuant to the 2003 Specific Plan criteria. Therefore, this change in ownership is essentially an administrative change, and does not change the development plan or operational model assumed in the environmental analyses completed as part of the 2002 Final EIR. The ownership change will not result in new significant environmental impacts and no additional CEQA is necessary.

Mountain Master Development Plan

In November 2007 the United States Forest Service issued a Record of Decision approving the Environmental Impact Statement (EIS) for the 2003 Mountain Master Development Plan (MMDP) on National Forest Service land within the resort’s existing Special Use Permit area boundary. The MMDP documents long-term investment in the resort’s facilities and improvements, such as chairlifts, terrain and trails, infrastructure, and snowmaking facilities, and could result in cumulative impacts on private lands analyzed under the EIR. In compliance with CEQA and in order to provide a comprehensive analysis of the Specific Plan in its full context, the Kirkwood Recirculated Revised Final Environmental

Impact Report included analysis and disclosure of impacts associated with implementation of the MMDP. Therefore no additional environmental analysis is necessary.

CEQA Compliance

In general, compliance with the nearly 180 mitigation measures has been achieved, with very few measures requiring additional actions to bring them into compliance. TC-TAC's and the counties' planning departments review of proposed development plans, on-going monitoring, and reporting requirements provides a mechanism to ensure that projects conform to the mitigation measures and no new significant environmental impacts are incurred beyond what has been disclosed within the Final EIR. Additionally, many of the mitigation measures reflect standard regulatory requirements duplicated in county, State, and federal permit conditions, further reiterating appropriate implementation and providing additional compliance review and a means of enforcement.

Since adoption of the 2003 Specific Plan, numerous reports have been generated in compliance with or as documentation of compliance with required mitigation measures. Attachment B lists the documents that were reviewed in order to assess compliance with the various mitigation measures. Additionally, the following table lists the persons that were interviewed to gain insight on implementation of the measures, compliance, and recommendations for improvement.

Table 2. Persons Interviewed Regarding Compliance with Specific Plan Mitigation Measures.

Chuck Beatty <i>Planner, Amador County Planning Department</i>	September 4, 2014
Casey Blann, <i>Vice President & General Manager, Kirkwood Mountain Resort</i>	August 11, 2014.
Bruce Gianola <i>President, Kirkwood Community Association</i>	October 7, 2014
Susan C. Grijalva <i>Planning Director, Amador County Planning Department.</i>	September 4, 2014
LeAnne Mila <i>Senior Agricultural Biologist, County of El Dorado</i>	September 29, 2014.
Dave Myers <i>Sr. Director of Operations, Kirkwood Mountain Resort</i>	August 11, 2014
Brian Peters <i>Director, Community Development Department. Alpine County</i>	September 29, 2014
Michael Richter <i>Former Director Environmental Affairs, Kirkwood Mountain Resort</i>	September 19, 2014
Michael Sharp <i>General Manager, KMPUD</i>	August 22, 2014; September 18, 2014
Andrew Strain <i>Vice President of Planning and Governmental Affairs, Heavenly Ski Resort.</i>	August 11, 2014
Nate Whaley <i>Chief Financial Officer, Kirkwood Capital Partner</i>	May 15, 2014; August 11, 2014
Zach Wood <i>Planner II, Alpine County Community Development</i>	August 1, 2014

Mitigation Compliance

General Compliance

The Kirkwood Specific Plan Mitigation Monitoring Program and accompanying county conditions of approval contain over 180 measures that were reviewed in this report. Compliance with each individual mitigation measure is addressed within the Summary Table provided in Attachment A. The following sections provide a brief overview of compliance by resource topic and addresses issues that have been expressed as areas of concern and compliance measures which are in need of a more in depth discussion.

Geology, Soils, and Geologic Hazards

In general, the mitigation measures designed to protect geology, soils, and geologic hazards consist of construction related best management practices (BMPs) and building and public works code requirements. Many of these measures are taken directly from the Kirkwood Specific Plan Erosion Control Ordinance. The project proponent is responsible for integrating these mitigation measures into individual project design and specifications. Project plans are then submitted to the applicable county planning department for review to ensure that the mitigation measures have been sufficiently incorporated into design, and that the project is consistent with the Specific Plan prior to final plan approval. Geotechnical reports are prepared by a professional engineer for all developments and submitted with planning documents for county review. These reports address the suitability of soils and geologic stability of each development site and provide recommendations for design measures to avoid and minimize risks of geologic hazards.

Implementation of these measures during construction is assured through periodic construction monitoring completed by the appropriate county and the Kirkwood Community Association (KCA). The State's Construction General Permit (Water Quality Order 2009-0009-DWQ) augments and further enforces many of these protection measures by requiring development and implementation of Stormwater Pollution Prevention Plans (SWPPP) that require weekly site monitoring by a Qualified SWPPP Practitioner that has been trained in State adopted monitoring protocol. Additionally, SWPPPs require pre- and post- storm event monitoring to ensure proper installation of BMPs and review of effectiveness. Interviews with resort personnel did identify previous instances when measures were incorporated into design but initially implemented incorrectly during construction. These instances were discovered during required inspections and corrected before project completion, resulting in no new significant environmental impacts.

This suite of mitigation measures also addresses soil conservation and revegetation of disturbance post-construction. Pursuant to the MMP, development projects are required to prepare landscaping designs and revegetation plans, many of which are incorporated into the site's improvement plans. These plans

are reviewed by the appropriate county planning department and KCA for conformance with the Kirkwood Landscape and Revegetation Ordinance and the Kirkwood Community Association Design Guidelines. Compliance with revegetation measures are enforced through the withholding of a security bond in Amador County and public improvement bonds in Alpine County. Additionally, the KCA requires a security deposit to ensure development is in conformance with the approved plans. Final inspection of the project area and return of the bonds signify compliance and successful permanent revegetation efforts. Pursuant to the requirements of the 2003 Specific Plan, areas of temporary disturbance around Sentinels West have been revegetated. However, the revegetation bond for the Sentinels West development is being held by Amador County until additional remediation of the revegetated areas is completed and deemed successful.

Compliance Summary and Recommendations

Overall compliance with the geology, soils, and geologic hazard mitigation measures has been achieved through the process of design review, implementation and inspection during and post construction. Many of these mitigation measures are also required pursuant to State law and county code, providing a redundancy in review and compliance enforcement. No additional actions are needed to maintain compliance with the Specific Plan mitigation measures for geology, soils, and geologic hazards.

Water Resources

Similar to the measures discussed above, many of the mitigation measures designed to protect water resources are intended to slow surface runoff and avoid soil compaction. They are incorporated into the design by the project proponent, reviewed and approved by the appropriate county planning department, implemented during construction, and monitored post construction for compliance.

KMPUD's water supply and treatment system is regulated by the California Department of Public Health (CDPH) (Permit No. 85-015, amended April 2013). This permit regulation includes the addition or removal of wells to the water system. KMPUD has been proactive in implementation of conservation measures to reduce consumptive use as necessary and is actively pursuing additional water supply to meet demand at build out. In accordance with Mitigation Measure 4.02 (g), KMPUD developed a Water Stage Alert System in 2007, which was voluntarily implemented in the summer of 2014. Based on recommendations in the 2014 Services Capacity Analysis (Matt Wheeler Engineering), KMPUD intends to pursue the acquisition of surface water rights to meet the water supply demand at build-out of the Specific Plan, and does not anticipate the use of wastewater to meet future water supply demands as implied in Mitigation Measure 4.02 (f), though this simply increases the options available to the KMPUD should conditions warrant.

Additionally, water resource mitigation measures address protection of groundwater contamination from discharge of treated wastewater. KMPUD's wastewater facilities are operated under the jurisdiction of the State Water Resources Control Board (order number 2006-003-WQ) and the Regional Water Quality Control Board Waste Discharge Requirements (WDR R5-2007-0125). These permits

require monitoring and reporting on a regular basis for demonstration of permit compliance. Collection systems are operated and maintained pursuant to the Sewer System Management Plan (2012). The current wastewater treatment and disposal facilities are capable of meeting ultimate build-out flows and no expansion of the wastewater absorption beds is anticipated. KMPUD is in good standing with the state and regional boards (Michael Sharp, General Manager, KMPUD. personal communication. September 18, 2014).

Compliance Summary and Recommendations

In general, compliance with the mitigation measures designed to protect water resources are being met through the process of design review, implementation and inspection during construction, and through adherence to State permit conditions. While the objectives of the mitigation measure are being achieved, the following two measures require additional discussion and effort to bring them into full compliance with the Specific Plan.

Mitigation Measure 4.02 (dd) requires implementation of the grazing management practices from the Draft Grazing Plan prepared as part of the 2002 EIR for the northern portion of Kirkwood Meadow subject to grazing. The Draft Grazing Plan requires fencing of Kirkwood Creek, fencing of the grazing area, and use of remote water troughs. Based on interviews with KMR, no formal implementation of the Draft Grazing Plan has occurred. In preparation of this report, the grazing area and adjacent sections of Kirkwood Creek were inspected for evidence of overuse and degradation. Horse grazing was evident throughout the grazing area, but there was no evidence of degradation to the meadow and or Kirkwood Creek. The dense willow stands along the creek act as a natural barrier preventing degradation of the streambanks from horse grazing.

In November 2008, Kirkwood Mountain Development proposed a revised Grazing Management Plan (Attachment D) as part of a comprehensive mitigation plan to protect Kirkwood Meadow to the US Army Corps of Engineers (COE) and the Central Valley Regional Water Quality Control Board (CVRWQCB) as part of their Clean Water Act 404 and 401 permit applications. Once the final CWA 404 and 401 permits are issued by these agencies, implementation of the revised Grazing Management Plan will be required annually as a condition of these permits. The revised Grazing Management Plan requires establishment of baseline conditions, collection of use records submitted by the concessionaires and homeowners, and annual photo documentation and utilization mapping to track changes within the meadow. The Grazing Management Plan also requires evaluation of grazing practices based upon documented use and makes recommendations for modification of grazing practices as necessary. Because the revised Grazing Management Plan is based on actual utilization data and annual monitoring, it is recommended that TC-TAC and the counties adopt the revised plan in place of the Draft Plan included in the 2003 Specific Plan. Prior to adoption, the revised Grazing Management Plan should be updated to clarify the roles, responsibilities, and authority of the various parties, including the COE and CVRWQCB, the developer (KMD), and the property owner (KMR).

Mitigation Measures 4.02 (v) requires that street sweeping be conducted twice per year and when buildup of loose materials occurs on paved roadways. Review of mitigation compliance submittals prepared by KMR indicate that street sweeping is only being conducted once per year in the spring after snow melt and on an as needed basis. KMR agrees that there is a need to sweep streets after snowmelt, but under ordinary conditions, street sweeping is not warranted during summer months. Possible modification of this measure should be discussed with TC-TAC. If additional street sweeping is clearly not warranted during the summer months, then KMR should request a deferment from TC-TAC of the second sweeping requirement till when it is needed.

Aquatic and Biological Resources

Several of the aquatic and biological resource mitigation measures are specific to the protection of Kirkwood Creek. As such, many of the measures designed to protect Kirkwood Creek focus on soil stabilization and were included in the discussion on Geology, Soils, and Geologic Hazards above.

Mitigation Measure 4.03.1 (f) requires implementation of the site-specific recommendations from the Kirkwood Creek Floodplain Study (EBCE 1996) including: construction of a diversion structure between Lifts 10 and 11, construction of a low floodwall near Base Camp One, replacement of existing foot bridges on Kirkwood Creek, and enlargement of bridge opening or construction of a floodwall along the east creek bank. Most of these recommendations have been implemented with satisfactory results and flooding of Kirkwood Creek has not been an issue (Nate Whaley, personnel communication May 14, 2014). Remaining to be constructed are two replacement bridge crossings and are included as part of the East Village development plans. Future building pads proposed within the floodplain will be constructed above flood elevation as required by County Code.

Mitigation Measure 4.03.2 (f) requires that all projects minimize impacts to wetlands and streams, and projects with the potential to impact waters of the U.S., including wetlands, be reviewed by the Army Corps of Engineers (COE). To comply with this measure, KMD is in the final stages of permitting with the COE and the Central Valley Regional Water Quality Control Board (CVRWQCB) to complete permits which authorize impacts to waters of the U.S. necessary for build-out of the Specific Plan. A critical component of the agencies approval is adequate demonstration of impact avoidance and minimization. Additionally, as specific site plans are developed, KMD, or other project proponent, will prepare and apply for a Lake and Streambed Alteration Agreement permit from the California Department of Fish and Wildlife (CDFW), as necessary.

Although KMD has been diligent in obtaining appropriate permits, in 2005 the previous developers of Thunder Mountain Lodge proceeded with relocation of a jurisdictional stream without the necessary permits from the COE, CVRWQCB, or CDFW, and the developers were issued a notice of violation. However, the CDFW agreed that the stream had been constructed in a stable and non-erosive manner

and the developers received an after-the-fact authorization for the stream relocation. The objective of the mitigation measures had been met.

Pursuant to Mitigation Measure 4.03.2(h), pre-construction surveys for sensitive wildlife and plant species have been completed for all on-going projects and were recently updated (July 2014) for Martin Point, Timber Creek, East Village, North of Highway 88, and the Northwest Parcel project areas. Wildlife surveys were also completed at Kirkwood and Caples Lake as required by Mitigation Measure 4.03.2 (g). Surveys were completed using CA Department of Fish and Wildlife survey protocols when available. No state or federally listed species have been identified.

Compliance Summary and Recommendations

In general, compliance with the mitigation measures designed to protect biological and aquatic resources are being met through a process of pre-construction surveys, protection of sensitive resources through project design, and compliance with required permit conditions and there is no evidence of unanticipated negative impacts to aquatic and biological resources. Additionally, design based mitigation measures are being successfully implemented that protect degradation of aquatic resources from increased erosion and sedimentation during construction. However, the following mitigation measure regarding noxious weeds require additional discussion and effort to bring them into compliance.

Mitigation Measure 4.03.4 (b) requires that KMR implement the Draft Noxious Weed Management Plan for Kirkwood Mountain Resort that was included as Appendix B in the Environmental Impact Report (2002). The plan addresses prevention and control of noxious weeds through mitigation measures such as requiring the use of native seed mixtures, certified weed-free hay, and construction practices such as the cleaning of residual soil off of construction equipment transported from other areas prior to use at Kirkwood. Additionally, the plan requires annual monitoring for noxious weeds within Kirkwood. Interviews with KMR and KMD indicates that there have been no formal implementation of the noxious weed management plan, although aspects are implemented through other means such as annual noxious weed surveys completed by El Dorado County, pre-construction botanical studies, and implementation of Kirkwood's Landscape and Revegetation Guidelines and Erosion Control Plan.

Field inspections of the Kirkwood area by RCI staff and conversations with El Dorado County's Senior Agricultural Biologist (LeAnne Mila, personal communication September 29, 2014) indicates that the presence of State and Federally listed noxious weeds within Kirkwood is minimal and limited to two (2) known occurrences that are actively being treated. The environmental effects from establishment of listed noxious weed species is less than significant at this time. However, to improve the effectiveness and increase prevention of potential infestations, the Draft Plan should be updated to reflect current status of noxious and invasive weeds within the Kirkwood area, provide clarification and prioritization on the monitoring, reporting and treatment of the species considered, provide prevention measures to

reduce the risk of noxious weed introductions, and include an adaptive management protocol to routinely update the plan based on the survey data. The parties responsible for implementation of the plan should be clearly delineated and a mechanism of reporting and review be developed. Survey efforts should be coordinated with El Dorado County staff to reduce duplication of efforts.

Air Quality

Mitigation measures designed to protect air quality within Kirkwood Valley focus primarily on the reduction of particulate emissions from diesel generated power and wood burning stoves. Mitigation measures related to operation of the diesel-generated power plant (MM 4.04 (a) and MM 4.04 (b)) are no longer applicable to the project. With construction of the new power house in 2012, the emission control technologies installed at that time supersede those of the old power house and greatly reduce emissions air pollutants. The emissions from the new diesel generated power house are regulated by the Great Basin Unified Air Pollution Control District (GBUAPCD), and operation of the new power house is in compliance with permit conditions (Michael Sharp, General Manager, KMPUD, personal communications, August 22, 2014).

Mitigation Measure 4.04 (a) requires that the counties develop and enact an ordinance to reduce particulate emissions from wood burning within Kirkwood. This ordinance is to include incentives to replace existing wood burning devices with EPA Phase II Certified devices and require that all new residences install wood burning devices that incorporate EPA Phase II Certification requirements. However, since publication of the Specific Plan, CA State Building Codes were issued that required installation of EPA Phase II compliant wood burning stoves in all new residences. Concurrently, funding was provided by Alpine County to implement a rebate program that provided incentives to homeowners to retrofit their existing wood burning stove. Given the regulations in place, TC-TAC did not feel that development of a new ordinance with similar requirements to existing State Building Code was warranted and no new ordinance was developed.

Compliance Summary and Recommendations

Compliance with the mitigation measures designed to protect air quality is achieved through KMPUD's compliance with existing permit conditions under authority of the GBUAPCD and adherence to EPA regulations and California Building Codes for wood burning stoves.

Cultural Resources

In preparation of the 2002 Final EIR, cultural and historic resource surveys were completed for the entire Specific Plan project area. The Mitigation Measures 4.05 (b), 4.05 (c), 4.05 (d), 4.05 (f), and 4.05 (g) that require notification of newly found cultural and historic resources are standard construction protocols included on project design sheets. There is no new development or modification proposed to the Kirkwood Inn that may affect the historic integrity (Mitigation Measure 4.05(h)), and the specific plan

development area has been modified to avoid impacts to Mace Camp pursuant to Mitigation Measure 4.05(i).

Compliance Summary and Recommendations

Development is in compliance with all cultural resource related mitigation measures. No additional actions are needed to maintain compliance with the Specific Plan.

Land Use

No mitigation was required.

Traffic

Mitigation measures for traffic focus on the control of traffic flow and provision of sufficient parking during peak visitation. Pursuant to Mitigation Measure 4.07 (b), traffic counts and Level of Service (LOS) modeling during peak periods was conducted in 2010 and 2013. Further analysis has been deferred due to lack of development within Kirkwood that would result in significant changes in traffic levels. Traffic control during peak use periods is contracted to CA Highway Patrol to maintain the LOS rating required by Caltrans for SR 88. Documentation of parking spaces in KMR's annual report suggests that adequate parking is available for the number of documented visitors. Although KMR is currently in compliance with this mitigation measure, KMR intends to conduct a more detailed analysis of the factors impacting utilization of parking so that it can identify options to meet current and future demand, including improving the efficiency in which existing spaces are cleared, improving accessibility to visitors after heavy snow storms, and adding additional spaces along Kirkwood Meadow Drive.

Compliance Summary and Recommendations

Development is in compliance with all traffic related mitigation measures. No additional actions are needed to maintain compliance with the Specific Plan mitigation measures for traffic.

Visual and Aesthetic Resources

The Kirkwood Specific Plan Design Ordinance and KCA Design Guidelines form the foundation from which the visual and aesthetic resource mitigation measures were developed. All new developments are required to prepare and submit Landscape and Revegetation plans (often included within site improvement plans) to the appropriate county planning department and the Kirkwood Community Association (KCA), which are reviewed for consistency with the Specific Plan mitigation measures. KCA and County approval of plans signifies that these measures have been adequately incorporated into project design and that the project is in compliance with the Specific Plan mitigation measures for visual and aesthetic resources. Both the county and KCA provide periodic monitoring during construction to ensure the landscape design is implemented in conformance with the approved plans. Additionally, KCA

requires that all owners/developers execute and abide by a Construction Activities Agreement to ensure compliance with all rules, regulations, and guidelines pertaining to site aesthetics.

Compliance Summary and Recommendations

Compliance with the measures designed to protect Visual and Aesthetic Resources is met through design, review, and approval of landscape plans that incorporate the conditions of the Kirkwood Specific Plan Design Ordinance and the KCA Design Guidelines. No additional actions are needed to maintain compliance with the Specific Plan mitigation measures for visual and aesthetic resources.

Noise

Mitigation measures for noise restrict hours of construction activity and loudspeaker use at special events, which are specified on the construction plans or within the use permit, respectively. KMR continues to implement the Snowmaking Noise Management Program and provides annual reports documenting compliance for TC-TAC review.

Compliance Summary and Recommendations

Development is in compliance with all noise related mitigation measures. No additional actions are needed to maintain compliance with the Specific Plan mitigation measures for noise.

Socioeconomics

Mitigation Measure 4.10 (a) pertains specifically to the development of designated employee housing and requires that the counties develop and enact an ordinance requiring that employee housing be provided at Kirkwood. Mitigation Measure 4.10 (a) requires that the ordinance should address the following elements:

- A. A requirement that at least 30 percent of the number of average peak-season employees be provided with employee housing concurrent with future development of the resort.
- B. A method of ensuring that the amount of required employee housing will continue to be provided in the future.
- C. Consideration of possible allowance for a fee to be paid in lieu of constructing employee housing.
- D. Consideration of possible credit toward the employee housing requirement in exchange for KMR providing transportation for employees residing outside of the Kirkwood area.
- E. Consideration of possible credit toward the employee housing requirement for housing units located outside of the Kirkwood area which are reserved by KMR for use by employees within the Kirkwood area.

In 2003, and as part of the Specific Plan, Amador and Alpine counties developed an Employee Housing Ordinance (Ordinance) that meets the requirement that 30 percent of the average peak season full time equivalent (FTE) employees be provided with employee housing and outlines a program for completing new employing housing concurrently with approval of new project development. The existing Employee Housing Ordinance also provides criteria for receiving employee housing credit to fulfill the 30 percent requirement based on size and type of housing unit, and requires use restrictions for designated employee housing units. The Ordinance requires audits of the 30 percent housing requirement and the amount of housing available to be submitted by September 30th of each year.

Since the 2003/2004 ski season KMR has submitted annual reports demonstrating compliance with the Ordinance based upon the number of full time employees and the number of employee housing units available. TC-TAC annually reviews the report to determine its compliance with the Ordinance, and to date has accepted all KMR's annual reports indicating compliance with the Ordinance.

While KMR does not currently own or have plans to develop or provide employee housing outside of the Kirkwood area, during the ski season KMR currently provides daily transportation for employees living within the South Lake Tahoe area. No employee housing credit is given in compensation for these efforts.

Compliance Summary and Recommendations

Based upon TC-TAC's acceptance of all prior employee housing reports, Mitigation Measure 4.10 (a) is being complied with and no additional actions are required to maintain compliance with the Specific Plan mitigation measure. Further, the accepted annual audits suggest that the existing stock of employee housing within the Kirkwood area is nearly sufficient to meet the anticipated future developer requirements and achieve the 30% of average peak-employee housing requirement.

Although the mitigation measures pertaining to the Ordinance are being met, the various parties involved generally agree that the Ordinance could be amended to include additional options for compliance, such as additional funding mechanisms, introduction of a fee in-lieu option or introduction of credits for employee transportation from off-site locations.

In 2014 KMPUD adjusted their connection fees specifically to fund additional housing suitable for middle-level managers and year round staff under their employment. As this additional housing proposed by the KMPUD would satisfy the remaining employee housing requirements (deed-restriction) for anticipated future development and continue to achieve the objective of housing for 30% of full-time equivalent employees, the new KMPUD connection fees are viewed by KMD as an equivalent to an in-lieu fee system and as a duplicative process to the existing employee housing ordinance. KMD considers

the connection fees a well-suited and logical replacement to the employee housing ordinance or otherwise should be reversed.

While not necessary to bring the mitigation measure into compliance, based on review of the information presented above and discussions with the county Planning Departments and the major employers within Kirkwood, it is recommended that amendments to the Employee Housing Ordinance be considered to address the following issues:

- Target number of additional employee housing units required for build-out.
- Formalize an alternative funding mechanism, such as in-lieu-fees / connection fees.
- Clarify the measure with respect to an employer's ability to receive credit towards the employee housing requirement in exchange for providing transportation for employees to and from South Lake Tahoe or other areas outside of Kirkwood.
- Amend conditions D and E of the mitigation measure to clarify that employee housing credit for transportation or provision of off-site housing should not be limited to KMR but be an available option to any employer.

Hazardous Materials

Maintenance, storage, and handling of all hazardous materials is outlined in the Hazardous Material Business Plans (HMBP) prepared and maintained by both KMR and KMPUD in compliance with Title 19 of the California Code of Regulations as administered by the counties. Additionally, Spill Prevention, Control and Countermeasures Plans (SPCC Plans) have been prepared for the handling of petroleum products used at the maintenance shop, power house and other facilities throughout Kirkwood. SPCC Plans are reviewed and updated on an annual basis and submitted to the county for approval. KMPUD and KMR provide regular training to employees in the appropriate use and cleanup of hazardous materials.

Compliance Summary and Recommendations

KMPUD and KMR maintain compliance with the mitigation measures for hazardous materials through implementation of the HMBP and SPCC Plans as required by the CA Code of Regulations. No additional actions are needed to maintain compliance with the Specific Plan mitigation measures.

Recreation

Recreation Mitigation Measures 4.12 (b) and 4.12 (c) are designed to protect recreational resources within and surrounding Kirkwood through public outreach. KMR has created educational posters and brochures that describe the area's sensitive resources and regulations. These materials are made available at the Kirkwood Inn, The Lodge, Kirkwood General Store, and are posted at Kirkwood Lake and Caples Lake.

Compliance Summary and Recommendations

Mitigation Measure 4.12 (b) requires KMR to conduct surveys to identify on-and-off-site recreation use patterns of residents and guest every four (4) years. The most recent recreation survey report was completed in June 2006. Since 2006 little residential development within Kirkwood or to on-mountain facilities has occurred that would significantly increase the number of residents and guests at Kirkwood or influence their recreational patterns; however, to achieve compliance with this measure, it is recommended that KMR consult with TC-TAC on the need for and timing of future surveys.

Public Services

Public services includes the community's needs for police protection services, fire protection, medical services, and educational facilities. In 2011, a Crisis Management Plan was developed to guide and coordinate KMR's response to emergency situations and crisis that disrupt normal operations of the resort. The need for fire protection services is included in the Fire Services Master Plan (1997), which outlines the infrastructure and personnel that need to be maintained as the Kirkwood community is built out. During the ski season, KMR contracts with Barton Medical to provide medical services and temporary facilities as needed. Police protection services are provided by Alpine and Amador counties.

The Specific Plan designates a parcel north of Loop Road for educational facilities for elementary school children at Kirkwood. However, in 2008 it was determined by the Alpine County Unified School District that there was not sufficient need for an elementary school and the property was transferred to KMR.

Compliance Summary and Recommendations

Operation of the community's basic public services have been previously evaluated (Services Capacity Analysis, May 2014; Crisis Management Plan, 2011; and Fire Master Plan 1997), and plans have been developed to ensure Kirkwood maintains a safe level of services to protect the community and its resources through build-out. No additional actions are needed to maintain compliance with the Specific Plan mitigation measures for public services.

Utilities and Infrastructure

Under management of KMPUD and with completion of the Out-Valley power line in November 2014, the primary power supply is currently provided through interconnection to the regional electric grid and is capable of providing sufficient electric power to meet the anticipated build-out demand. The existing diesel generated power house will be used as a backup facility and no future expansion is anticipated.

In 2014, KMPUD completed a Services Capacity Analysis (Matt Wheeler Engineering) which evaluated their capacity to meet both water supply and wastewater treatment under current and estimated build-out demands. Based on this report, KMPUD has determined that their current wastewater treatment and disposal facilities are sufficient to meet ultimate build-out wastewater flows and loads, and no

expansion of existing or construction of new facilities will be necessary. The analysis also estimates that existing water supply wells will not meet maximum daily demand at build-out and recommends that KMPUD explore the options of increasing capacity of existing wells, drilling additional source water wells, or pursuing surface water from Caples Lake.

Compliance Summary and Recommendations

Operation of the community's utilities and infrastructure is in compliance with the mitigation measures. No additional actions are needed to maintain compliance with the Specific Plan mitigation measures for utilities and infrastructure.

Summary of Recommendations

Overall compliance with the nearly 180 mitigation measures is good, with very few measures requiring additional actions to bring them into compliance. Review of proposed development plans for conformance with the mitigation measures by TC-TAC, county planning departments, and KCA is critical to overall compliance success for many resources. Additionally, many measures are successfully implemented through adherence to permit conditions and general state and local regulations. Implementation of the Mitigation Monitoring Program has successfully avoided or minimized environmental impacts to less than significant, and the effects incurred from development authorized under to the 2003 Specific Plan are currently within the context of impacts disclosed in the Final EIR. The following recommendations are made for TC-TAC's consideration to improve upon compliance of a few specific measures and mediate potential future impacts as development continues within Kirkwood.

- **Mitigation Measure 4.02 (dd) Implementation of a revised Grazing Management Plan.** Formal implementation of the draft Grazing Plan has not occurred since 2003. At this time, it does not appear that utilization of the horse grazing pastures within Kirkwood Meadow has been sufficient to cause degradation to the meadow or adjacent reaches of Kirkwood Creek. However, as development continues and summer visitation at Kirkwood increases, potential changes to future grazing management practices could result in impacts to Kirkwood Creek and Meadow. Adoption and implementation of the KMD's revised Grazing Management Plan (Attachment D) is recommended in order to establish baseline vegetation conditions and annual utilization, allow for concise evaluation of changes to Meadow productivity, and provide a means by which to review and formally modify management practices should future use patterns result in significant impacts to Kirkwood Meadow and Creek.
- **Mitigation Measure 4.03.4 (b) Implementation of a Noxious Weed Management Plan.** Although formal implementation of the existing Noxious Weed Management Plan has not occurred, establishment of State and federally listed noxious weeds within Kirkwood private lands has been minimal. However, increased development activities will create more favorable opportunities for establishment of noxious weeds through removal of vegetation and ground

disturbance during construction. To minimize and avoid environmental impacts from the establishment of noxious weed species, it is recommended a more formal approach to noxious weed management be implemented in accordance with the mitigation measure. The existing Draft Noxious Weed Management Plan should be updated to reflect the current status of noxious weeds within the Kirkwood area, provide clarification and prioritization on the monitoring, reporting and treatment of the species present, and include an adaptive management protocol to routinely update the Plan based on survey data. The parties responsible for implementation of the revised Plan should be clearly delineated and a mechanism of reporting and review should be developed and included in the revised Plan. Survey efforts should be coordinated with El Dorado County staff.

- **Mitigation Measures 4.10 (a) and 4.10 (b) Employee Housing.** As written, implementation of these measures are currently in compliance. However, there appears to be a need for an amended Employee Housing Ordinance that better reflects the current needs of the communities' employers. It is recommended that KMR, KMPUD, and KMD jointly develop a new employee housing ordinance that:
 - Target number of additional employee housing units required for build-out.
 - Formalize an alternative funding mechanism, such as in-lieu-fees / connection fees.
 - Clarify the measure with respect to an employer's ability to receive credit towards the employee housing requirement in exchange for providing transportation for employees to and from South Lake Tahoe or other areas outside of Kirkwood.
 - Amend conditions D and E of the mitigation measure to clarify that employee housing credit for transportation or provision of off-site housing should not be limited to KMR but be an available option to any employer.
- **Mitigation Measures 4.02 (v) Street Sweeping.** As written, this measure requires KMR to complete street sweeping twice per year and as needed. Review of compliance reporting by KMR indicates that street sweeping is being completed one time per year after snow melt and as needed. In order to comply with the measure, KMR must complete street sweeping one additional time per year. If KMR determines that street sweeping is not warranted, a formal request to TC-TAC for deferment of the measure should be made.
- **Mitigation Measures 4.12 (b) Recreation Surveys.** The measure requires that surveys be completed every four years to identify on- and off- site recreation use patterns of residents and guests. The most recent recreation survey was completed in 2006. To comply with this measure, KMR needs to complete a new survey or demonstrate to TC-TAC that one is not warranted based on the lack of new development and changes in population from when the last survey was completed.

ATTACHMENTS

ATTACHMENT A

Summary of Compliance with Kirkwood Specific Plan Mitigation Monitoring Plan

Attachment A –

Table 1. Summary of Compliance with Kirkwood Specific Plan Mitigation Monitoring Plan

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
Amador COA #1	Biennial Review. Every two years KMR or its successor will provide a report on development to date, and projected development for the next two years. The report will contain information on the following: a. Status of total development within the resort b. Construction and phasing of necessary infrastructure and utilities. c. Status of any required off-site improvements necessary to support development of the resort. d. Compliance with the required mitigation monitoring and conditions of approval for the Proposed Project. e. Fiscal review as set forth in the Mitigation Monitoring Plan. The report will be reviewed at a regular meeting of the Tri-County Technical Advisory Committee (TC-TAC). Copies of the report, along with the comments of TC-TAC, will be forwarded to the planning commission and Boards of Supervisors of all three counties and will be made available to the public. KMR will provide a summary of the report to all property owners within the resort.	KMR ¹	TC-TAC	Compliant	Development update reports were prepared in 2007, 2009 and 2013. Due to a slowdown in development and as approved by TC-TAC, this interval has been extended to 5 years. KMR currently in compliance.
Amador COA #2	Ten Year Review. During the tenth year following approval of the Proposed Project, KMR or its successor will retain a qualified consultant to review the development for compliance with the mitigation requirements in the MMRP and any other conditions of approval of the Proposed Project. The selection of the consultant will be mutually agreed to by TC-TAC. The consultant will identify any shortcomings and make recommendations for adjustment to conditions to overcome those shortcomings. Additionally, the consultant will identify any new circumstances or unanticipated impacts that were not foreseen when the 2002 Final EIR was certified and the Proposed Project approved. The consultant will recommend whether or not supplemental CEQA documentation may be necessary. The consultant's report and recommendations will be reviewed at a regular meeting of TC-TAC. Prior to the meeting, the report will be made available to the public. TC-TAC will consider the report and forward recommendations, along with the consultant's report, to the planning commissions and boards of supervisors of all three counties. Any decision regarding preparation of supplemental CEQA documentation will be made by the lead agency subject to the requirements of CEQA. Further action - including additional mitigation measures, adjustments to the Proposed Project, and additional conditions of approval - may be considered and imposed only in accordance with the requirements of CEQA and other applicable laws, ordinances, and regulations.	KMR ⁴	TC-TAC	Compliant	Resource Concepts, Inc. was retained by Kirkwood Mountain Development (KMD) and Kirkwood Mountain Resort (KMR) in December 2013 to complete review of compliance with the mitigation requirements.
GEOLOGY, SOIL AND GEOLOGIC HAZARDS					
	Soil Disturbance and Erosion				
4.01(a)	Construction will comply with the requirements of the Kirkwood erosion control ordinance, which includes, but is not limited to measures (b) through (h) below.	Project Proponent	TC-TAC, County Planning, KCA.	Compliant	See comments below for measures 4.01(b) through (h). Reference photos in Attachment C.
4.01(b)	Practice selective soil exposure by removing soil only in areas of immediate development/ construction; coordinate erosion and sedimentation control with grading, development, and construction practices.	Project Proponent	TC-TAC, County Planning, KCA.	Compliant	Final design plan sets include a grading and erosion control plan that is submitted to TC-TAC, the applicable County Planning Department, and KCA for review and incorporation of mitigation measure. Approval of plans indicates adequate incorporation of these measures into plans. Successful implementation of the measure is periodically monitored by the County during construction. Projects must also comply with National Pollutant Discharge Elimination System (NPDES) permit requirements, which requires a Stormwater Pollution Prevention Plan that includes weekly monitoring and reporting on erosion and sediment controls.
4.01(c)	Stockpile topsoil for usage as a revegetative media on disturbed areas and restore sites with topsoil placed over subsoil fill; control runoff from these stockpiled areas to minimize erosion and sedimentation.	Project Proponent	TC-TAC, County Planning	Compliant	same as above
4.01(d)	Utilize sediment basin and retention structures when other control measures are unacceptable.	Project Proponent	TC-TAC, County Planning	Compliant	same as above
4.01(e)	Preserve floodplains and riparian areas adjacent to natural drainages and streams.	Project Proponent	TC-TAC, County Planning	Compliant	Specific Plan provides for floodplain and riparian protection by requiring a 35-foot required stream setbacks (see mitigation measure 4.03.3 (j).) Tentative maps are reviewed by the TC-TAC and appropriate County planning department for incorporation of this measure into project design. Approval of plans indicates compliance with measure.
4.01(f)	Design runoff control to fit the hydrologic setting of the area and in compliance with the Alpine County Subdivision, Parcel Map and Site Improvement Standards.	Project Proponent	TC-TAC, County Planning	Compliant	All approved development projects include grading and erosion control plans that incorporate this measure. Approval of plans indicates compliance with measure. All new development must also comply with any applicable National Pollutant Discharge Elimination System (NPDES) permit requirements, which require use of BMPs for runoff control.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.01(g)	Preserve natural features (e.g., existing vegetation, wetlands) through effective construction-site management.	Project Proponent	TC-TAC, County Planning, KCA.	Compliant	The County completes periodic inspections during construction to insure compliance with measure. Additionally, KCA review board reviews and monitors development activities. When applicable, impacts to jurisdictional wetlands require state and federal permits and adherence to permit conditions to minimize impacts.
4.01(h)	KMR will coordinate phasing with ENF and TC-TAC in order to preclude having the amount of concurrent construction so great that a torrential storm or other high-runoff event could cause significant erosion.	KMR	TC-TAC and Forest Service.	Compliant	TC-TAC reviews construction schedules each May. KMR submits summer operating plan to Forest Service for review and approval at annual operations meeting.
4.01(i)	Utilize construction roads only where and when necessary.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific improvement plans are reviewed by TC-TAC and the appropriate County planning department for incorporation of this measure into design. Approval of plans indicates compliance with measure.
4.01(j)	Limit soil disturbance and vegetation removal to only permanent disturbance locations and those areas necessary for access to construction zones.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific improvement and grading plans are reviewed by TC-TAC and the appropriate County planning department for incorporation of this measure into design. Approval of plans indicates compliance with measure. County completes periodic inspections during construction to assure implementation of the plan as designed and approved.
4.01(k)	Construction roads and road beds will require water bars, mulching, and other erosion control techniques.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific grading and erosion control plans are reviewed to TC-TAC and the appropriate County planning department for review and incorporation of this measure into design. Approval of plans indicates compliance with measure. County completes periodic inspections during construction to assure implementation of the plan as designed and approved.
4.01(l)	KMPUD will include sedimentation monitoring as a component of water quality monitoring efforts, including tests for total suspended solids.	KMPUD	Central Valley Regional Water Quality Control Board	Compliant	KMPUD does sedimentation monitoring as needed after large storm events or when activities are occurring that have potential to increase erosion and sedimentation within Kirkwood Creek. Sedimentation monitoring is <u>not</u> a requirement of their current permit from the CVRWQCB.
4.01(m)	Construction activities will be monitored to ensure compliance with soil erosion prevention practices and mitigation measures, outlined above.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	County and KCA completes periodic inspections during construction. Additional oversight provided through compliance with SWPPP, which requires weekly monitoring of erosion control materials, and pre- and post-storm event monitoring.
4.01(mm)	Utilities (power, phone, water, sewer, cable) for new projects will be placed in a common trench whenever feasible.	Project Proponent	TC-TAC, County Planning, KMPUD	Compliant	Project specific utility plans are reviewed by TC-TAC, the appropriate County planning department and KMPUD for incorporation of this measure into design. Approval of plans indicates compliance with measure.
	Decreased Soil Productivity				
4.01(n)	Apply Mitigation Measures 4.1 (a) through 4.1 (k), as described above to maintain soil stability.	N/A		Compliant	See comments above for measures 4.1(a) through 4.1(k).
4.01(o)	Promptly revegetate all disturbed ground immediately following construction. This revegetation effort will be supplemented by the placement of erosion matting during seeding to preserve topsoil and prevent erosion if an unforeseen runoff event occurs. Temporarily disturbed areas will be reseeded to re-establish the vegetation type and density comparable to native vegetation surrounding the disturbed area.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Project specific revegetation plans are reviewed by TC-TAC, the County planning department, and KCA for incorporation of this measure into design. Approval of plans indicates compliance with measure. KCA and the County requires a bond to insure compliance with this measure.
4.01(p)	Mulching, hydro mulching, landscape netting, sterile straw, or other protective materials will be used to maintain soil moisture. This will enhance revegetation efforts.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Project specific revegetation plans are reviewed by TC-TAC, the County planning department, and KCA for incorporation of this measure into design. Approval of plans indicates compliance with measure. KCA and the County requires a bond to insure compliance with this measure.
4.01(q)	Fill placed in areas to be revegetated will be compacted to a bulk density and porosity similar to adjacent native soils.	Project Proponent	TC-TAC	Compliant	Per project plans and specifications, areas to be revegetated are wheel roll compacted or tracked with heavy equipment to achieve relative compaction prior to seeding.
	Shrink/swell potential of soils				
4.01(r)	If shrink/swell soils are discovered at proposed building sites they should be avoided by relocating the proposed facility, or the material should be removed and replaced with non-expansive soils.	Project Proponent	TC-TAC, County Planning	Compliant	Presence of shrink swell soils are identified during pre-construction geotechnical investigations, and if necessary, make recommendations for removal of soil. Geotechnical recommendations are incorporated into design plans and submitted to County Planning Departments for review and approval. Final approval of plans indicates compliance with mitigation measure. The County completes periodic inspections during construction to assure implementation of the plan as designed and approved.
	Seismic hazards				
4.01(s)	Plans and specifications for structures should integrate engineering and design standards appropriate to UBC Seismic Zone III to minimize structural effects.	Project Proponent	TC-TAC, County Building Department	Compliant	All development projects are designed to Uniform Building Code standards as required by the County. Improvement plans are reviewed for compliance by the County building department.
4.01(t)	Specific building sites will be evaluated by a geotechnical or soils engineer to determine the level of liquefaction hazard. The factors to consider include: soil density, porosity, moisture content, water table, gradation, and depth.	Project Proponent	TC-TAC, County Planning	Compliant	A geotechnical report which assess the project's liquefaction potential has been prepared and submitted to the appropriate County for review with each set of improvement plans (see references Attachment B.)
4.01(u)	In areas of high liquefaction potential, engineering should include standard measures (e.g., increasing the density of foundation soils, employing larger foundations, and site drainage) to increase stability.	Project Proponent	TC-TAC, County Planning	Not Applicable	Soils with high liquefaction potential are identified within project specific geotechnical investigations. The geotechnical investigations for Palisades 5&6, Timber Creek and Sentinels West did not identify areas of high liquefaction potential.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
	Rockfall and unstable slopes.				
4.01(v)	During excavation, remove loose sediments and large boulders by scaling to minimize the hazard.	Project Proponent	TC-TAC, County Planning	Compliant	A geotechnical investigation report has been prepared for each development and evaluates the soil and rock excavation characteristics and makes recommendations site excavation. The geotechnical recommendations are incorporated into project design, which are submitted to the County Planning Department for review. Approval of final design indicates compliance with the mitigation measure. The County completes periodic inspections during construction to assure implementation of the plan as designed and approved.
4.01(w)	If appropriate, install temporary barricades and/or wire mesh fencing.	Project Proponent	TC-TAC, County Planning	Compliant	A geotechnical investigation report has been prepared for each development and evaluates the soil and rock excavation characteristics and makes recommendations site excavation. The geotechnical recommendations are incorporated into project design, which are submitted to the County Planning Department for review. Periodic inspection by the geotechnical engineer would identify loose sediments and large boulders and the appropriate measures would be taken, which may include installation of temporary barricades and/or wire fencing as appropriate.
4.01(x)	A professional engineer or engineering geologist should certify that slopes associated with excavation are designed to ensure stability.	Project Proponent	TC-TAC, County Planning	Compliant	A geotechnical investigation report has been prepared for each development and makes recommendations for fill and cut slopes. The geotechnical recommendations are incorporated into project design, which are submitted to the County Planning Department for review. Periodic inspection by the geotechnical engineer and County inspectors during construction ensures that slopes are constructed as designed.
	Ground settlement.				
4.01(y)	Alluvial soils at the site of specific structures should be evaluated by a geotechnical or soils engineer to determine if the risks associated with ground settlement are significant.	Project Proponent	TC-TAC, County Planning	Compliant	All projects since 2003 have been evaluated by a geotechnical or soils engineer and the risks associated with ground settlement were evaluated (see references in Attachment B.) Recommendations made by the geotechnical engineer were incorporated into the project design and submitted to the County Planning Department for review. Final approval of plans indicates compliance with mitigation measures.
4.01(z)	Where feasible, remove susceptible soils to eliminate risk.	Project Proponent	TC-TAC, County Planning	Compliant	Geotechnical reports identify soils that are not suitable for support of new structures and make recommendations for removal. Recommendations made by the geotechnical engineer were incorporated into the project design and submitted to the County Planning Department for review. Final approval of plans indicates compliance with mitigation measure (see references in report text).
4.01(aa)	Incorporate accepted engineering controls to minimize effects on the structure, or avoid problematic sites.	Project Proponent	TC-TAC, County Planning	Compliant	All projects since 2003 have been evaluated by a geotechnical or soils engineer. Geotechnical reports make recommendations made by the geotechnical engineer were incorporated into the project design and submitted to the County Planning Department for review. Final approval of plans indicates compliance with mitigation measure (see references in report text).
4.01(ab)	Note water table elevations and identify active springs at each site and adjust designs or preventative measures per accepted engineering standards.	Project Proponent	TC-TAC, County Planning	Compliant	All projects since 2003 have been evaluated by a geotechnical or soils engineer and water table elevations and active springs were identified within a geotechnical report prior to design.
	Avalanches.				
4.01(ac)	In accordance with the Specific Plan, avoid residential development, or development that concentrates human activity (ticket areas, parking lots, trail heads, etc.) in areas designated as high hazard (Figure 4.3; Mears 1995a, b, 1997). Limited road construction in these zones is acceptable.	Project Proponent	TC-TAC, County Planning	Compliant	No residential development is proposed within high hazard zones. Ski runs are located within areas designated as high hazard and KMR has posted signs along ski runs to warn people of potential avalanche hazards. Reference photos in Attachment C.
4.01(ad)	Construction of private buildings may be acceptable in zones of moderate hazard (Figure 4.3). However, reinforcement or protection for design avalanche loads is necessary. Incorporation of Mears (1997) four structural types of avalanche mitigation is recommended: (1) direct protection structures, (2) deflecting structures, (3) retarding mounds, and (4) catchment dams.	Project Proponent	TC-TAC, County Planning	Not Applicable	Construction of buildings has not been proposed within moderate hazard zones. Palisades VI is proposed adjacent to a moderate hazard zone, but no part of the development is located within the zone. Prior to the start of development, signs warning of avalanche danger must be posted where hazard zones encroach on roads or private property boundaries.
4.01(ae)	To minimize hazards, the current avalanche forecasting and control program carried out within the ski area boundaries at Kirkwood should continue, with annual evaluation of the program's effectiveness.	KMR	TC-TAC, County Planning	Compliant	Annual reports are submitted to TC-TAC by September 30th of each year.
4.01(af)	Properties located adjacent to the boundaries of mapped avalanche hazard zones should display signs identifying the potential for this hazard.	Project Proponent	TC-TAC, County Planning	Not Applicable	There are no existing developments adjacent to mapped avalanche hazard zones at this time. Palisades VI is proposed adjacent to a moderate hazard zone. Prior to start of development, signs warning of avalanche danger must be posted where hazard zones encroach on roads or private property boundaries.
WATER RESOURCES					
	Increased Surface Runoff Volumes, Velocities, Flooding, and Erosion.				
4.02(a)	Implement grading measures to retard and reduce runoff, e.g., minimize slopes, construct detention basins, and design swales to diffuse runoff and absorb excessive energy.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific grading and erosion control plans are reviewed by TC-TAC and the appropriate County planning department for incorporation of this measure into design. Approval of plans indicates compliance with measure. Implementation of this design features was evident during

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
					visual inspections. Reference photos in Attachment C.
4.02(b)	Use vegetation, geotextiles, rock, gravel, and other surface treatments to retard and absorb runoff.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific grading and erosion control plans are reviewed by TC-TAC and the appropriate County planning department for incorporation of this measure into design. Approval of plans indicates compliance with measure. Implementation of this design feature was evident during visual inspections. Reference photos in Attachment C.
4.02(c)	Avoid creation of future flow barriers, obstructions and constrictions in streams and gullies.	Project Proponent	TC-TAC, COE, CVRWQCB, CDFW	Compliant	Placement of barriers, obstructions and constrictions in streams require permits from U.S. Army Corps of Engineers, CVRWQCB, and CDFW. Any future proposed placement of materials within streams will be designed to maintain existing flows.
4.02(d)	Implement Mitigation Measure 4.1 (a).	N/A			See comments for mitigation measure 4.1
4.02(dd)	Implement grazing management practices outlined in the grazing plan (see Appendix B), such as fencing livestock out of the riparian area of Kirkwood Creek.	KMR	TC-TAC	Partial Compliance	There is no formal implementation of the Draft Grazing Plan included as part of the Specific Plan EIR. Components of the plan are implemented through other means (reference discussion in report text.)
	Increased future water demands and resultant consumptive use.				
4.02(e)	Implement maximum water conservation and xeriscape landscaping measures, such as limited yard watering and use of drought resistant native plants.	Project Proponent	TC-TAC, County, KCA	Compliant	Project improvement plans include revegetation specifications which are reviewed by the appropriate County, TC-TAC, and KCA for consistency with this mitigation measure. Approval of plan indicates compliance. Revegetation plans must comply with the Kirkwood Landscaping and Revegetation Ordinance and KCA Design Guidelines, which provides a list of appropriate native plants for use in landscaping.
4.02(f)	Reclaim wastewater if necessary to help meet future water supply demands.	Agency - KMPUD	TC-TAC	Not Applicable	KMPUD does not use reclaimed wastewater for drinking water supply and is not likely to in the future due to associated costs. If demand warrants an increase the supply of drinking water, other options will be pursued.
4.02(g)	To avoid sustained drawdown of the Kirkwood Valley water table, KMPUD will develop and implement a Water Stage Alert System establishing a sliding scale from voluntary to required water conservation measures based on their ongoing monitoring of aquifer levels, coupled with their projections of water supply (based on precipitation data) and water demand. This system would be triggered when aquifer levels fall to less than 40 feet above the top of well pumps. Specific water conservation measures may include restrictions on vehicle washing, landscape watering, and household consumption.	Agency - KMPUD	TC-TAC	Compliant	A Water Stage Alert System plan was developed on March 7, 2007 and was revised and updated in March 2014. The plan includes water conservation measures that are triggered based on depth of the aquifer levels or at the recommendation of the Board of Directors.
4.02(h)	To assist in minimizing impacts to instream flows in Kirkwood Creek and downstream waterways, KMPUD will limit or cease pumping from Well 2, which taps the shallow aquifer and is indirectly associated with the creek, when the Water Stage Alert System is in effect.	Agency - KMPUD	TC-TAC	Compliant	Pumping from Well 2 is discontinued when the Water Stage Alert System is in Effect.
	Reductions in groundwater surface elevations and supplies.				
-	Implement Mitigation Measures 4.2 (e), (f) and (g).	N/A			See comments for mitigation measures 4.2 (e), (f) and (g).
	Reduced infiltration rates and recharge of the Kirkwood Valley groundwater basin.				
4.02(i)	Minimize the extent of impervious surfaces and disturbed soils to those that are absolutely necessary for implementation of the Proposed Project.	Project Proponent	TC-TAC, County Planning	Compliant	Residential lots have designated building envelopes and no permanent disturbance may occur outside the building envelop. Location and size of envelopes as shown on tentative plans maps are reviewed TC-TAC and the County planning department. Approval of grading plans indicates compliance with mitigation measure. The area of disturbance is monitored during construction.
4.02(j)	Avoid soil compaction in disturbed areas by limiting use of heavy equipment, stockpiling and re-spreading of forest duff and topsoils, and use of geotextiles.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific improvement plans are reviewed for consistency with this mitigation measure by the TC-TAC and County planning department. Approval of plans indicates compliance with the mitigation measure. Project is monitored during construction.
4.02(k)	Install low-slope permeable swales, porous dams, such as hay bales, earthen benches, and infiltration basins to retard and capture runoff from impermeable surfaces.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific improvement plans are reviewed for consistency with this mitigation measure by the TC-TAC and County planning department. Approval of plans indicates compliance with the mitigation measure. Project is monitored during construction.
	Groundwater contamination from poor quality groundwater seepage.				
4.02(l)	Use sealed well casings and other wellhead protection measures to preclude any movement of poor quality groundwater (and surface water) into pumped aquifers.	Agency - KMPUD	TC-TAC, County Health Department	Compliant	All wellheads have a sealed casing for a minimum of 100-feet as required by County Health Code standards. No new wells are planned.
	Leakage or spillage of untreated wastewater.				
4.02(m)	Install sewage spill catch basins at vulnerable locations located outside the flood plain.	Agency - KMPUD	CVRWQCB	Not Applicable	Sewage spill catch basins located within flood plains are not proposed and would never be authorized by the CA State Water Resources Control Board.
4.02(n)	Use accepted engineering design and construction features at flood-prone locations, particularly stream crossings.	Project Proponent	TC-TAC, County Planning	Compliant	Project specific improvement plans are reviewed for consistency with this mitigation measure by the TC-TAC and County planning department. Approval of plans indicates compliance with the mitigation measure.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.02(o)	Install backup pump systems, auxiliary power sources, and system failure alarms.	Agency - KMPUD	TC-TAC	Compliant	The current system includes redundancy measures to protect against leakage or spillage of untreated wastewater.
	Groundwater contamination from the routine discharge of treated wastewater.				
4.02(p)	Avoid infiltration areas underlain by impermeable or poorly permeable soils.	Agency - KMPUD	TC-TAC, CVRWQCB	Compliant	KMPUD does not anticipate building any new absorption beds. Permitting of wastewater absorption beds requires review and approval by the Regional Water Quality Control Board. Placement of absorption beds in impermeable or poorly permeable soils would not be authorized.
4.02(q)	Pressure transducers have been connected to the existing absorption bed monitoring system in selected monitoring wells to monitor the projected increases in groundwater surface elevations. KMPUD will take avoidance actions such as more rapid rotation of the discharge to alternate beds and/or abandonment of individual beds that may cause problems, if monitoring results indicate potential surfacing or near-surfacing of effluent.	Agency - KMPUD	CVRWQCB	Compliant	Pressure transducers are no longer used in the wastewater treatment system. Groundwater elevation within the absorption bed is measured in monitoring wells. If monitoring results indicate potential surfacing or near-surfacing effluent, KMPUD stops pumping.
4.02(r)	Prevention of excessive infiltration of sewage collection and disposal systems by storm water.	Agency - KMPUD	CVRWQCB	Compliant	KMPUD maintains a Sewer System Management Plan (SSMP) as part of their operating permit through the Central Valley Regional Water Quality Control Board which outlines procedures to prevent excessive infiltration of sewage collection and disposal systems by storm water. SSMP was most recently updated in 2014.
4.02(s)	Police for and eradicate unauthorized discharges to the sewer system.	Agency - KMPUD	CVRWQCB	Compliant	SSMP outlines procedures for monitoring unauthorized discharges to the sewer system and stopping any such discharges detected. SSMP was most recently updated in 2014.
4.02(t)	Expand the wastewater absorption beds and construct new ones in suitable areas.	Agency - KMPUD	CVRWQCB	Not applicable	Evaluation of the existing wastewater absorption beds (2014) indicates that the capacity is sufficient through build-out of the Specific Plan. No need to expand wastewater absorption beds or construct new ones.
4.02(u)	Utilize low flow water conserving plumbing fixtures wherever possible.	Project Proponent	TC-TAC	Compliant	Project specific improvement plans are reviewed by TC-TAC and the County building department for consistency with mitigation measure. Approval of plans indicates compliance. Implementation of approved plans would be assured by inspections by county building department. Use of low flow water conserving plumbing fixtures is not required by KMPUD; however, they do have a "low flow toilet rebate" to encourage water conservation.
	Contamination from treated effluent inadvertently exceeding the intended and assimilated waste loads discharged to surface and ground waters.				
-	See Mitigation Measures 4.2 (p) through 4.2 (u).	N/A			Reference comments for Mitigation Measures 4.2 (p) through 4.2 (u).
	Contamination from non-point source emissions in storm water runoff from impervious and disturbed areas.				
4.02(v)	Conduct street sweeping twice-a-year and when buildup of loose materials occurs on paved road ways.	KMR HOA	TC-TAC	Partial Compliance	County is provided photo documentation and receipts by KMR that streets are swept. Based on 2013 compliance report submitted to Amador Co (May 22, 2013), sweeping was completed once in 2013. Additionally, at the request of an HOA, KCA may coordinate additional sweeping of private roads. See text within report for further discussion.
4.02(w)	Develop drainage systems for parking lots which collect runoff from impermeable surfaces and channel it to settling basins or through drainage filter strips, grassy swales, sand traps, or alternative sediment control features.	KMR	TC-TAC	Compliant	No new parking lots have been constructed since approval of the 2003 Specific Plan. Existing parking lots at Timber Creek and Red Cliff Lodge have been retrofitted with drainage strips and sand traps.
4.02(x)	Implement Mitigation Measure 4.3.3 (k).	N/A			See comments for mitigation measure 4.3.3 (k)
4.02(y)	Implement Mitigation Measure 4.3.1 (e).	N/A			See comments for mitigation measure 4.3.1 (e)
	Water quality degradation from erosion resulting from increased flooding or increased surface runoff velocities.				
4.02(z)	Implement mitigation measures 4.1 (a), 4.2 (a) and 4.2 (b). Implement surface and channel erosion control measures such as rock placement, bank stabilization, geotextiles, sedimentation basins and traps, and earthen benches.	N/A	TC-TAC	Compliant	See comments for mitigation measure 4.1 (a), 4.2 (a), and 4.2(b)
4.02(aa)	KMPUD will monitor for total suspended solids in Kirkwood Creek, and ensure that construction activities are monitored so as to implement necessary sediment prevention measures	Agency - KMPUD	CVRWQCB	Compliant	KMPUD does sedimentation monitoring as needed after large storm events or when activities are occurring that have potential to increase erosion and sedimentation within Kirkwood Creek. Sedimentation monitoring is <u>not</u> a requirement of their current permit from the CV Regional Water Quality Control Board.
	Contamination resulting from excessive treated effluent volumes.				
4.02(ab)	Provide accommodations for wastewater storage or hauling in case of emergency situations.	Agency - KMPUD	TC-TAC	Compliant	KMPUD has existing storage tanks to use in emergency situations. Due to the Kirkwood's remote location, KMPUD is not likely to haul effluent offsite.
4.02(ac)	Add additional nitrate removal to the advanced treatment processes.	Agency - KMPUD	CVRWQCB	Compliant	Since approval of the Specific Plan, KMPUD has upgraded its wastewater treatment system to an advanced membrane process which provides for a high level of nitrate removal. The level of nitrate removal is in compliance with State permit requirements.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.02(ad)	Implement previously described non-point source and erosion control measures, including mitigation measures 4.2 (a) - (d), 4.2 (w) - (z), and 4.2 (aa) - (ab).	N/A			See comments for mitigation measures 4.2 (a) - (d), 4.2 (w) - (z), and 4.2 (aa) - (ab).
AQUATIC RESOURCES					
Kirkwood Creek Short-term and Long-term Sedimentation Impacts					
4.03.a(a)	Implement Mitigation Measures 4.2 (a) through 4.2 (d), 4.2 (w), 4.2 (x), 4.2 (z), and 4.2 (aa), as described in the Water Resources section.	N/A			See comments for mitigation measures 4.2 (a) through 4.2 (d), 4.2 (w), 4.2 (x), 4.2 (z), and 4.2 (aa).
4.03.1(b)	Allow no heavy construction equipment to operate within the Kirkwood Creek floodplain or within 100 feet of the Kirkwood Creek stream channel during periods when soils are saturated from rain or snowmelt.	Project Proponent	TC-TAC	Compliant	Specified on plan sheets and monitored in field prior to construction.
4.03.1(c)	Implement Mitigation Measures 4.2 (k) and 4.2 (z). Sediment control structures will remain in place until vegetation has been established in disturbed areas.	Project Proponent	TC-TAC, County Planning	Compliant	Field review indicates that this measure is being implemented.
4.03.1(d)	Implement Mitigation Measure 4.1(a), 4.1(l), 4.1(m), 4.1(mm), and 4.1(o) to prevent erosion and subsequent sedimentation into Kirkwood Creek.	N/A			See comments for mitigation measures 4.1(a), 4.1(l),4.1(m), 4.1(mm), and 4.1(o)
4.03.1(e)	Minimize salting and/or sanding of parking lots or other impervious surfaces within 100 feet of the floodplain.	KMR Project Proponent	TC-TAC	Compliant	KMR uses sand primarily on sloped areas and steep portions of road, and it is not typically used in flatter flood plain areas. KMR instructs snow removal operators to be judicious in use of sanding within 100 feet of Kirkwood floodplain.
4.03.1(f)	Implement the following site-specific recommendations from the Kirkwood Creek Floodplain Study (EBCE 1996) prior to the initiation of any proposed construction: 1) Build a diversion structure to operate with the existing drain and inlet for diversion of surface water between Lifts 10 and 11; 2) prevent flooding in the area near Base Camp One condominiums by either clearing snow out of the sharp bend in Kirkwood Creek, or constructing a low floodwall; 3) replace the two existing footbridges upstream of Kirkwood Meadows Drive, which currently restrict the flow of Kirkwood Creek; 4) prevent the infrequent overtopping of Kirkwood Meadows Drive by enlarging the bridge opening or constructing a floodwall eastward along the east creek bank; some boulders could be removed from the creek in this area as well; 5) any proposed structures in this area should be built a few feet above the floodplain elevation; 6) channel work such as bank protection (subject to permit requirements).	KMR ² Project Proponent	TC-TAC	Partial compliance	Item 1) A diversion structure to operate the existing drain was completed in 1997 when Mountain Club was built. Item 2) A low flood wall /bank stabilization improvement was constructed around 2001; Item 3) Not yet complete, but will be constructed as part of East Village development and has been included in approved improvement plans. Item 4) boulders were removed and floodwall was constructed. Bridge opening was not enlarged, but due to other measures, does not appear to be necessary as Kirkwood Meadows Drive does not flood. If flooding becomes a problem, KMD will consider enlarging bridge opening. 5) Nothing has been constructed or planned to be constructed within Kirkwood floodplain. Proposed new building pads will be constructed above floodplain elevation as required by County Code.
4.03.1(ff)	Implement the grazing management plan (Appendix B).	KMR			See comments for Mitigation Measure 4.02(dd)
4.03.1(g)	Implement Mitigation Measures 4.2(a), 4.2(b), 4.2(e), and 4.2 (k) to reduce impacts associated with storm water runoff from parking lots and other impervious surfaces.	N/A			See comments for Mitigation Measures 4.2(a), 4.2(b), 4.2(e), and 4.2 (k)
Impacts to Kirkwood Lake Fisheries					
4.03.1(h)	KMR will assist in educating Kirkwood residents and visitors about fishing regulations at Kirkwood Lake and, with the permission of the Forest Service, post such regulations at angler access points to the lake.	KMR	TC-TAC, Forest Service	Compliant	KMR annually posts fishing regulations at the Kirkwood Inn, The Lodge, Kirkwood General Store, Kirkwood Lake and Caples Lake. Reference photos in Attachment C.
4.03.1(i)	KMR will not create additional parking for the purpose of facilitating access to Kirkwood Lake.	KMR	TC-TAC, Forest Service	Compliant	No additional parking proposed for access to Kirkwood Lake.
Increased Human Presence					
4.03.2(a)	All dogs will be kept indoors or controlled on a leash.	Project Proponent HOA	TC-TAC	Compliant	KMR, under Vail ownership, has tried to implement a more institutionalized approach to enforcing the leash laws, including placement of new signs in and around public areas. All new developments include this measure in CC&Rs.
4.03.2(b)	Expand CC&Rs to include regulations to govern cat ownership, requiring owners to keep all cats indoors unless these pets are also controlled on a leash.	Project Proponent HOA	TC-TAC	Compliant	All new approved CC&Rs include regulations that require cats to be leashed.
4.03.2(c)	Require household garbage to be stored in wildlife-proof containers prior to pick up.	Project Proponent HOA	County Planning, KCA	Compliant	There is no centralized household garbage collection. Residents either deposit trash in wildlife-proof containers located at KMPUD offices, Red Cliff offices, dumpsters in The Village, or at Timber Creek. Large condo complexes have indoor receptacles.
4.03.2(d)	All pets will be fed inside, and pet food will not be stored or provided to pets where wild animals could gain access.	Project Proponent HOA	County Planning, KCA	Compliant	All new CC&Rs include regulations that require pets to be fed indoors.
4.03.2(e)	Implement restrictions to prohibit the feeding of wildlife, except seed feeders for birds and nectar feeders for hummingbirds.	Project Proponent HOA	County Planning, KCA	Compliant	All new CC&Rs include regulations that prohibit the feeding of wildlife.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.03.2(f)	Implement mitigation measures 4.3.3 (a) through 4.3.3 (k), as described in the Wetlands Resources section (4.3.3) of this document to avoid or minimize impacts to wetlands and streams. All projects with the potential to impact waters of the U.S., including wetlands, will be reviewed by the COE and the appropriate county and will be designed to avoid impacts and/or minimize impacts to the maximum extent possible.	Project Proponent	County Planning, COE	Partial Compliance	A 404 Individual Permit has been submitted to the COE for authorization of all potential impacts to waters of the U.S. resulting from build-out of the Specific Plan, with exception of the Thunder Mountain Lodge Development (Lot 7 Timber Creek). The previous landowner took on the responsibility of permitting and failed to get the COE permits for relocation of the stream channel through the lot. The violation was detected by the CA Department of Fish and game and received a notice of violation from the CVRWQCB and COE. Approval of the 404 Individual Permit by the COE requires adequate demonstration of avoidance.
BIOLOGICAL RESOURCES					
Impacts to Wildlife at Kirkwood and Caples Lakes					
4.03.2(g)	KMR will retain a qualified wildlife biologist to survey the basin immediately surrounding Kirkwood and Caples Lakes in early summer to determine the presence of special-status species identified in this analysis (see Table 4.13) and establish baseline conditions. After the initial survey to establish baseline conditions, surveys will be performed every 3 years for a 6-year period (i.e., two additional surveys or as determined to be needed by the Forest Service). The summary results will be submitted within 60 days of the survey completion to the Amador Ranger District. If the wildlife populations or resources appear to be negatively affected, the Forest Service will develop management plans designed to mitigate the effects documented by the surveys. These plans will include specific measures such as trail re-routing, interpretive signing, protective fencing, area closures, and limits on user numbers or seasons of use. They may also call for KMR involvement in the development and implementation of an education program for Kirkwood visitors. The objective of the management plans will be to insure that the pertinent statutory protections extended to special-status species (see Table 4.11) are met.	KMR ²	TC-TAC, Forest Service.	Compliant	Baseline surveys completed in July 2004/2005 with follow up surveys in July 2007 and 2010. Reference list of wildlife studies completed in Attachment B.
Impacts to Threatened, Endangered, or Sensitive Species					
4.03.2(h)	The project proponent will employ a qualified biologist to conduct surveys for threatened, endangered, and sensitive wildlife species at Kirkwood prior to individual project construction. Surveys will be conducted within two breeding seasons prior to commencement of individual project construction. These surveys will be completed during the appropriate season addressing species for which suitable habitat exists in the project area. The geographic scope of the surveys should be limited to the area in which direct or indirect impacts could occur. A report outlining results of the surveys will be submitted to the CDFG and to the respective county where construction is to take place within one month of completion of the survey and prior to construction activities. If state listed species are found, a 2081 Permit will be obtained from the CDFG. If federally listed threatened or endangered Species are found, KMR will enter into consultation with the USFWS to determine the appropriate course of action, including obtaining an Incidental Take Permit if necessary.	Project Proponent	TC-TAC, County Planning	Compliant	Surveys for sensitive wildlife have been completed prior to individual project construction. Sensitive wildlife surveys have recently been completed for the Martin Point, Timber Creek, East Village, North of Highway 88, and the Northwest Parcel project areas. No state or federally listed species have been identified. Reference list of wildlife studies completed in Attachment B.
4.03.2(i)	The project proponent will implement mitigation measures 4.3.3 (a) through 4.3.3 (k), and 4.3.4 (d) to minimize impacts to wetlands and riparian areas.	N/A		Compliant	Refer to discussions on mitigation measures 4.3.3 (a) through 4.3.3 (k), and 4.3.4 (d).
4.03.2(j)	Implement aquatic resource mitigation measures 4.3.1 (a) through 4.3.1 (e) to reduce short-term and long-term impacts to Kirkwood Creek and associated aquatic wildlife habitat.	N/A		Compliant	Refer to discussions on mitigation measures 4.3.1 (a) through 4.3.1 (e).
Potential direct impact to water of the U.S., including wetlands					
4.03.3(a)	The project proponent will negotiate and abide by an acceptable Streambed Alteration Agreement (Fish and Game Code Section 1603) with CDFG prior to construction of any improvements affecting streambeds.	Project Proponent	TC-TAC, Department of Fish and Wildlife.	Compliant	All projects with approved plans having potential impacts to stream beds have obtained required LSA (Palisades 5 & 6; Sentinel Way, Timber Creek Phase 1) with the exception of Thunder Mountain Lodge. The CA Department of Fish and Wildlife issued a Notice of Violation for not acquiring a Streambed Alteration Agreement for a stream relocation during grading for Thunder Mountain Lodge. These violations have been rectified with the agency and brought into compliance.
4.03.3(b)	The project proponent will obtain appropriate permits from the COE prior to any placement of fill in wetlands. The applicant will also comply with the terms and conditions specified in any permits obtained from the COE.	Project Proponent	TC-TAC, Corps of Engineers.	Compliant	A 404 Individual Permit has been prepared and submitted to the US Army Corps of Engineers for all potential impacts to waters of the U.S., including wetlands, for build-out of the Specific Plan with exception of Thunder Mountain Lodge. In 2008, Paragon Development was cited for a violation for a stream relocation without the appropriate COE permit. This violation has been rectified and brought into compliance.
4.03.3(c)	During construction of any utility infrastructure within wetlands, the construction contractor will place side cast materials in upland areas to minimize impacts as a result of temporary storage. These materials will be used to backfill the trench as soon as possible.	Project Proponent	TC-TAC, Corps of Engineers.	Not applicable	Not applicable at this time, but considered a standard condition of all COE permits.
4.03.3(d)	Implement Mitigation Measure 4.1 (c).	N/A		Compliant	Refer to discussion on mitigation measures 4.1 (c).
4.03.3(e)	In the vicinity of wetlands, the construction contractor will restrict construction equipment, vehicles, and the placement of soil stockpiles to upland sites except for implementation of COE-authorized crossings.	Project Proponent	TC-TAC, Corps of Engineers.	Not applicable	Not applicable at this time, but considered a standard condition of all COE permits.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.03.3(f)	The project proponent will review proposed development plans with the county of jurisdiction or the Forest Service, if in the SUP area, and the COE to ensure that specific projects have been designed to avoid any impacts to wetlands or other waters of the U.S. to the maximum extent practicable. In cases where avoidance is not feasible, such as a road crossing of a linear wetland feature, then the impact should be minimized by making the crossing as narrow as possible and crossing at a narrow point in the wetland.	Project Proponent	TC-TAC, Forest Service, Corps of Engineers.	Compliant	All project plans are reviewed by the County for approval. As part of the 404 Permit from the COE and the 401 permit from the Central Valley Regional Water Quality Control Board, the project proponent must first demonstrate that waters of the U.S. are avoided to the extent practicable and that impacts are minimized before either agency will issue a permit authorizing an impact to a wetland or other waters of the U.S. Permit authorization indicates compliance with mitigation measure.
4.03.3(g)	The project proponent will review proposed stream crossings with the respective counties or the Forest Service, if in the SUP area, and the COE and determine, based on the quality of the stream system and adjacent riparian habitat, which site would be appropriate for bridging.	Project Proponent	TC-TAC, Forest Service, Corps of Engineers, CVRWQCB	Compliant	A detailed analysis of all stream crossings with proposed impacts has been submitted to the COE and CVRWQCB as part of the 404 and 401 permit applications.
4.03.3(h)	The project proponent will develop and implement a mitigation plan to replace any wetland losses due to the proposed development. The mitigation plans will be reviewed and approved by the COE and the appropriate counties prior to implementation.	Project Proponent	TC-TAC, Corps of Engineers.	Compliant	A mitigation plan has been prepared and submitted as part of the COE and CVRWQCB as part of the 404 and 401 permit applications.
	Potential indirect impact to waters of the U.S., particularly streams				
4.03.3(i)	Implement Mitigation Measure 4.1 (a).	N/A		Compliant	Refer to comments for mitigation measure 4.1 (a).
4.03.3(j)	If on private land, the county with jurisdiction will require a minimum 35-foot buffer of undisturbed vegetation between wetlands, and perennial or intermittent streams with riparian vegetation, and disturbed areas, (construction sites), or parking lots, or other impervious areas that produce runoff. If in the SUP area, minimum setback requirements outlined for riparian conservation areas in the <i>Sierra Nevada Forest Plan Amendment</i> will be required. These include setback requirements of 300 feet for perennial streams and meadows, and 150 feet for seasonally flowing streams.	Project Proponent	TC-TAC, Forest Service.	Compliant	Setback incorporated into design, which is reviewed and approved by county planning departments. Inspection during construction insures implementation of project as designed and approved.
4.03.3(k)	KMR's landscape and revegetation guidelines (KMR 1998) will be followed, and revised if necessary, to limit the use of traditional manicured lawns in landscaping; to limit fertilizer use to direct application to plants installed during revegetation efforts; and to limit the use of herbicides, pesticides, and fungicides by individual property owners to direct applications to control exotic species.	KMR	TC-TAC.	Compliant	Use of KMR's Landscape and Revegetation Guidelines is specified in all CC&R's and incorporated into project design. Plan sheets reviewed and approved by County.
	Vegetation Communities				
4.03.4(a)	KMR will follow the landscape and revegetation guidelines (KMR 1998), unless an item is specifically updated by requirements of the noxious weed control plan (Appendix B).	Project Proponent	TC-TAC	Compliant	Use of KMR's Landscape and Revegetation Guidelines is specified in all CC&R's and incorporated into project design. Plan sheets reviewed and approved by County.
4.03.4(b)	KMR will implement the noxious weed control plan (Appendix B) prior to construction of any elements approved in this EIR. The plan addresses weed issues of concern through measures such as requiring the use of approved, native seed, weed-free hay, and construction practices such as the cleaning of residual soil from off of construction equipment transported from other areas prior to use at Kirkwood. As under Mitigation Measure 4.3.4 (a), KMR will utilize current and approved seed mixes and revegetation techniques, outlined in the landscape and revegetation guidelines, except for specifically updated guidelines, as follows: a. Strongly recommended use of native grasses only. This would change the seed mix #1 in the landscape and revegetation guidelines by excluding the use of <i>Dactylis glomerata</i> (Orchard grass.) b. As outlined under the Eldorado National Forest Seed, Mulch, and Fertilizer Prescriptions (Forest Service 2000), rice straw, (local) native grass straw, or pine needle mulch (if certified to be from a non-infected area) may be used in place of certified weed-free hay, pending development of the California certification program. c. Use of quick-release, inorganic fertilizers should be avoided, as their use tends to favor establishment of exotic weeds and grasses (Forest Service 2000).	KMR	TC-TAC	Non-compliance	There has been no formal implementation of the Noxious Weed Control Plan found in Appendix B. It is recommended that this plan be updated based current conditions at Kirkwood. The new plan should clearly delineate responsibility of implementation. See report text for further discussion.
4.03.4(c)	KMR will retain the services of a California Registered Professional Forester to assess forest conditions and meet the requirements for submitting timber harvesting plans.	Project Proponent	TC-TAC, Department of Forestry and Fire Protection.	Compliant	All Timber Harvest Plans have been prepared in coordination with a CA Registered Professional Forester.
	Threatened, endangered, and special-status plants				
4.03.4(d)	KMR will obtain the services of a qualified botanist to conduct preconstruction surveys for special-status plant species if individuals are known to potentially occur in the area of proposed disturbance. A report outlining results of the surveys will be submitted to the respective county where construction is to take place within one month of completion of the survey and prior to construction activities. If sensitive species are found, construction envelopes should be redesigned (if feasible) to avoid the populations of sensitive plants. If federally listed threatened or endangered species are found on federal land, the project proponent will enter into consultation with the USFWS.	Project Proponent	TC-TAC, Forest Service, County Planning, Department of Fish and Game, Fish and Wildlife Service.	Compliant	Preconstruction botanical surveys were completed for Palisades Unit 6 in 2005; East Village in 2007, Community Park Parcel in 2007; updated surveys were completed in 2014 for Martin Point, East Village, Timber Creek, Northwest Parcel, Community Park Parcel, and North of Hwy 88 developments.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.03.4(e)	Implement recommendations to minimize or eliminate impacts to special-status species, as cited in the botanical survey report (Jones and Stokes 2000), which include: using a helicopter lift to transport equipment and supplies, using stakes and flagging to carefully delineate and restrict the construction area, and notifying construction crews of the presence of the sensitive biological resource.	Project Proponent	TC-TAC, Forest Service.	Compliant	No sensitive special-status species have been identified within Specific Plan project areas since adoption of mitigation measure.
AIR QUALITY					
Increase in particulate matter emissions.					
4.04(a)	The counties will develop and enact an ordinance to reduce particulate emissions from wood burning within Kirkwood. The ordinance shall include the following elements: a. Incentives to eliminate or replace existing wood burning devices which do not comply with EPA Phase II Certification requirement. b. A requirement that all new residences previously approved for the installation of new wood burning devices incorporate EPA Phase II Certified requirements. c. A requirement that, upon installation of a new EPA Phase II Certified wood burning device, at least one noncompliant wood burning device be eliminated within the Kirkwood area. d. A prohibition on installation of new wood burning devices, including open hearth-style fireplaces, which do not comply with EPA Phase II Certification requirements, except that one noncompliant open hearth style fireplace will be allowed in the following locations: - a common lobby area located in a building containing more than four multi-family units, - a common lobby area located within lodges, hotels, motels, bed and breakfast accommodations, or a public recreation/meeting facility, - a bar/saloon or restaurant, - outdoors in the Village plaza area.	Agency - County	TC-TAC.	Not Applicable	TC-TAC determined that based on new state and federal building codes which require the use of EPA Phase II Certified wood burning stoves for all new development that a new ordinance was redundant and unnecessary.
4.04(aa)	Prior to the addition of a second diesel generator at the wastewater treatment plant, particulate matter source testing will be conducted on the first generator to determine its emissions with the catalytic soot filter in place. The results will be combined with estimates of emissions from the second generator and also with emissions produced by generators associated with the MU power plant expansion, to assess the potential cancer risk. Particulate matter source-testing will be conducted on the second generator once it is installed. Additional environmental controls, such as a catalytic soot scrubber on the second generator, will be installed as necessary to meet all current, applicable air quality standards. Any additional generators will need to meet the GBUAPCD performance standard of (currently) a cancer risk less than or equal to ten in one million.	KMPUD	TC-TAC, Great Basin Unified Air Pollution District.	Not Applicable	With completion of the new KMPUD power house in 2012 and interconnection to the regional electric grid in 2014, the wastewater treatment plant is no longer powered by stand-alone diesel generators, and therefore, emissions testing is not applicable. Emissions generated from the new power house are regularly tested and in compliance with GBUAPCD standards.
Increase in SO_x and NO_x.					
4.04(b)	MU will continue to operate the power generation plant with the SCR (Selective Catalytic Reduction) system in place as required by the GBUAPCD.	KMPUD	TC-TAC, Great Basin Unified Air Pollution Control District.	Not Applicable	Mountain Utilities was sold to KMPUD in April 2010, and KMPUD completed construction of a new power house in 2012. Current technologies in use meet all emission standards as required by the GBUAPCD.
Regional Haze					
4.04(c)	To mitigate regional haze during the winter, EPA-compliant wood burning fireplaces and stoves will be required in all new housing units as described in Mitigation Measure 4.4 (a).	N/A	TC-TAC, County Planning	Compliant	New state and federal building codes require EPA Phase II compliant wood burning stoves in all new development. Refer to comments for mitigation measure 4.04(a).
4.04(d)	During summer months, the application of dust suppressants will be required in areas where earth-moving activities are being conducted.	Project Proponent	County Engineer.	Compliant	This measure is a standard construction practice required within each project SWPPP and is monitored weekly during construction for compliance. There are periodic inspections by County during construction.
4.04(e)	Streets will be swept by a vacuum sweeper during periods when road conditions are dry enough to allow the removal of anti-skid materials (i.e., sand). The streets must be swept from curb to curb, which includes the driving lanes, to maximize the control effectiveness.	KMR HOA	TC-TAC, County Planning	Compliant	Street sweeping during construction is required as part of general SWPPP conditions; KMR is required to sweep streets twice per year, and KCA coordinates street sweeping for HOA upon request.
CULTURAL RESOURCES					
Prehistoric Resources					
4.05(a)	Any area ultimately identified for project development should be surveyed for prehistoric cultural resources by a qualified archaeologist prior to ground-disturbing activity.	Project Proponent	TC-TAC, State Historic Preservation Officer.	Compliant	Historic resource surveys have been completed many times throughout Kirkwood since 1973. Most recently, in 2009, a Heritage Resource Inventory was completed for the Specific Plan Development and Mitigation project that covered all proposed development projects authorized by the Specific Plan.
4.05(b)	If cultural resources are found, and if the resource is determined to be significant under CEQA/CRHR criteria, or is a unique archaeological resource, mitigation through data recovery or other appropriate	Project Proponent	TC-TAC, State Historic	Compliant	There are no significant prehistoric cultural resources proposed to be impacted through development of the Specific Plan.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
	measures should be devised and carried out by a qualified archaeologist, in consultation with all concerned parties.		Preservation Officer.		
4.05(c)	If Native American burial sites are found, specific mitigation measures would be determined in consultation with Native American most likely descendants, as identified by the NAHC. Options could include leaving a burial in place if further disturbance can be avoided, or removal and reburial with or without previous archaeological treatment. All such procedures should be conducted within the context of CEQA, Section 15064.5 Guidelines and the California Public Resources Code 5097.94, 5097.98 and 5097.99.	Project Proponent	TC-TAC, Native American Heritage Commission, applicable tribal authority.	Compliant	No Native American burial sites have been found within the Specific Plan project area.
4.05(d)	In the event that construction personnel observe previously undiscovered subsurface prehistoric archaeological deposits (e.g., concentrations of bone, ash, charcoal, and/or artifacts) or human bones are encountered in an area subject to development activity, work in the immediate vicinity of the find should be halted and a professional archaeologist consulted, or, in the case of human burials, the County Coroner and the appropriate Native American most likely descendants (identified by the NAHC). If the resource is determined to be historically significant under CEQA/CRHR criteria, mitigative data recovery or other measures should be devised, and carried out by a qualified archaeologist in consultation with all concerned parties.	Project Proponent	TC-TAC, State Historic Preservation Officer.	Compliant	This measure is incorporated into all plans and specification.
	Historic Resources				
4.05(e)	Any area ultimately identified for potential project development should be surveyed for historic cultural resources by a qualified archaeologist prior to ground-disturbing activity.	Project Proponent	TC-TAC, State Historic Preservation Officer.	Compliant	Historic resource surveys have been completed many times throughout Kirkwood since 1973. Most recently, in 2009, a Heritage Resource Inventory was completed for the Specific Plan Development and Mitigation project that covered all proposed development projects authorized by the Specific Plan.
4.05(f)	If historic cultural resources are found, and if the resource is determined to be a historic resource or unique archaeological resource under CEQA/CRHR criteria, mitigation through data recovery or other appropriate measures should be devised and carried out by a qualified archaeologist, in consultation with all concerned parties. All such procedures should be conducted within the context of CEQA Section 15064.5 Guidelines.	Project Proponent	County Planning, TC-TAC, State Historic Preservation Officer.	Compliant	There are no significant cultural resources proposed to be impacted through development of the Specific Plan.
4.05(g)	In the event that construction personnel observe previously undiscovered subsurface historic archaeological deposits (e.g., concentrations of historic materials such as ceramics, glass, or other historic materials) in an area subject to development activity, work in the immediate vicinity of the find should be halted and a professional archaeologist consulted. All such procedures should be conducted within the context of CEQA Guidelines Section 15064.5.	Project Proponent	TC-TAC, State Historic Preservation Officer.	Compliant	This measure is incorporated into all plans and specification.
4.05(h)	Implementation of any element of the Draft Plan that could affect the integrity of the Kirkwood Inn setting should be subject to review by Alpine and El Dorado counties. Any future additions should follow the same architectural style. Any future additions must also consider the view to and from the building, especially from the front or highway side. For structural reasons, any new development and related heavy equipment should be distanced from the Kirkwood Inn so as to not place additional stresses on the existing foundation. Review should include development of measures to mitigate indirect impacts to the Kirkwood Inn to a less-than-significant level. Specific mitigation measures to be implemented by KMR will include some or all of the following: a. Include use of architecturally compatible materials and design developed with the input of a qualified historical architect, if the new construction affects the visual setting of the Kirkwood Inn and it is determined that its setting contributes to its significance. b. Use of vegetative screening. c. Use of architecturally harmonious materials and sensitive placement of new structures. d. Placement of an appropriate interpretive sign near the Kirkwood Inn explaining the significance of the structure and its place in local and regional history.	Project Proponent	TC-TAC, State Historic Preservation Officer.	Not Applicable	No new development is proposed that could affect integrity of Kirkwood Inn.
4.05(i)	If the Mace Camp in Kirkwood North cannot be removed from proposed development plans or from sale to private developers, then the following protective measures will be undertaken by KMR or the project proponent: a. The archaeological site and a 100- foot buffer area around the site will be excluded from sale to a private individual. b. No structures, other than those necessary to protect the integrity of the site, will be established within the 100-foot protected buffer area. c. With the cooperation of a qualified archaeologist and Eldorado National Forest to determine appropriate design and content, KMR will install a low visibility interpretive sign at the site as an educational and protective measure.	KMR ¹	TC-TAC, State Historic Preservation Officer.	Not Applicable	Mace Camp was previously located within Kirkwood North Development Plans, but the Specific Plan was modified to avoid impacts to the archeological site.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
	d. KMR will monitor the site annually to assure the site is not degraded by vandalism or over use. If degradation occurs, KMR will work with the El Dorado County Cultural Resources Commission and the Eldorado National Forest to establish additional appropriate protective measures for the site.				
	Indirect Impacts to Sites on the Emigrant Trail				
4.05(j)	Educational literature will be developed by KMR to educate guests about the fragile and irreplaceable nature of cultural resources and the penalties for violation of state and federal laws related to cultural resources. This informational literature could be in the form of a pamphlet or other handout that could be distributed at the same venues where other Kirkwood materials are distributed.	KMR	TC-TAC	Compliant	KMR has prepared a brochure titled, "The Cultural History of Kirkwood California" that is available to the public throughout Kirkwood Mountain Resort.
LAND USE					
4.06	No Mitigation Required	N/A			
TRAFFIC					
	Effects of increased traffic volumes on state and local roads				
4.07(a)	A northbound to westbound left-turn acceleration lane on SR88 should be created to accommodate left-turn movements. Kirkwood Meadows Drive should be restriped and/or widened to accommodate three 10-foot-wide lanes (minimum), which would include one southbound lane and two northbound lanes (one left-turn, one right-turn). Either restriping additional turn lanes or temporarily placing traffic cones during peak periods to form turn lanes would allow left-turn vehicle storage while allowing right turning vehicles to flow.	KMR ²	TC-TAC, Caltrans.	Compliant	Kirkwood Meadow Drive is currently wide enough to accommodate three 10-foot wide lanes at the intersection with SR 88. During peak use periods, traffic is controlled through temporary placement of traffic cones to form designated turn lanes. As traffic increases, restriping to allow permanent turn lanes may be warranted.
4.07(b)	Traffic control during peak periods, either through signalization or manual control, at the SR 88/Kirkwood Meadows Drive intersection would improve the LOS rating to B at build-out (modeling results in Appendix A). KMR will conduct traffic counts and LOS modeling during periods of peak visitation, which could include summer special events, every 3 years and provide the results to TC-TAC. The frequency of this requirement may be modified by TC-TAC based on the rate of growth in traffic experienced since the last evaluation and that expected in the near future. Signalization or manual control of the intersection will occur if traffic flows meet Caltrans minimum requirements for signalization. Alternatively, KMR may pursue other traffic control measures acceptable to Caltrans and all three counties that would improve the LOS rating of the SR88/Kirkwood Meadows Drive intersection to LOS B.	KMR ²	TC-TAC, Caltrans.	Compliant	During peak periods, KMR contracts with uniform CA Highway Patrol to conduct manual control of egress and ingress at the intersection of SR 88 and Kirkwood Meadows Drive. The most recent traffic study was completed in 2010 (Fehr & Peers). The 2013 review allowed for analysis to be deferred to 2014 (or as appropriate) due to lack of new development within Kirkwood Valley since the 2010 traffic study. No new on-mountain facilities or private land developments have occurred in 2014 that would contribute to an increase in peak traffic. KMR will discuss the need and timing of an updated report with Tri-TAC.
4.07(c)	Alpine County will implement a traffic impact mitigation fee for future development within Kirkwood. The fee would be used to mitigate traffic impacts on SR 88 both the east and west of Kirkwood (in Amador County) that are partially attributable to Alpine County development. The fee system would be based on a similar mitigation fee program already in place within Amador County, which is applicable to development at Kirkwood within Amador County.	Agency - County	TC-TAC.	Compliant	Alpine County established the Kirkwood Area Traffic Impact Mitigation Fee under Ordinance No. 670-06 adopted April 18, 2006.
	Adequacy of parking.				
4.07(d)	KMR will prepare an annual report that includes a detailed analysis of day-visitor parking during peak periods such as the Christmas holiday, Presidents Day weekend and other weekends during the ski season, peak periods during the summer, and special events, when more than 4,000 day-use visitors are at the resort. The study will compare day-visitor parking demand during these periods to day-visitor parking capacity at the resort. The results will be reported to TC-TAC in June of each year. If the study shows that the number of day-visitor related vehicles parked within the resort exceeds the amount of parking spaces available for day visitors (approximately 2,500 spaces), TC-TAC will require KMR to implement a mitigation plan which will include one or more of the following actions: a. Provide additional parking spaces in surface lots or parking structures. b. Implement methods to provide greater efficiency in the use of existing parking lots. c. Reduce parking demand through greater utilization of mass transit, increased vehicle occupancy, car/van pools or other programs that will result in reduced parking demand during peak periods. d. Restrict day-visitor use to a level that allows parking demand to be accommodated in existing day-visitor parking areas Implementation of the actions under this mitigation measure shall result in adequate day-visitor parking capacity for the expected day-visitor demand at the resort in a manner that does not result in potentially significant adverse environmental effects that have not been identified and evaluated in this EIR.	KMR	TC-TAC.	Compliant	The 2012/2013 parking report identified a total of 3,097 parking spaces that are available for visitors. No shortage of parking spaces was reported during past year. KMR continues to work on reducing parking demand by providing a shuttle bus for employees living in South Lake Tahoe and has instituted a car-pool incentive program. KMR also provides financial incentives to groups that provide bussed transportation to the resort. KMR implements a Parking Management plan which provides an efficient and formalized parking plan that corresponds to the resorts ability to remove snow from parking areas. KMR intends to conduct a more detailed analysis of the factors impacting utilization of parking so that it can identify options to meet current and future demand, including improving the efficiency in which existing spaces are cleared, improving accessibility to visitors after heavy snow storms, and adding additional spaces along Kirkwood Meadow Drive. KMR gives financial incentives for groups that come in busses.
	Effects of Kirkwood North development on traffic.				
4.07(e)	Caltrans design requirements should be used to develop the final intersection layout.	Project Proponent	TC-TAC, Caltrans.	Not applicable	Final design plans for Kirkwood North have not yet been developed. Prior to construction of intersection, a permit from Caltrans would be required that would incorporate Caltrans' design requirements.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
VISUAL AND AESTHETIC RESOURCES					
	Project Visibility				
4.08(a)	At high-visibility locations, such as upper elevations of Ski-In/Ski-Out South, new trees will be grouped and planted strategically to help break up or screen out the visibility of the proposed development. Additional refinements to location will be defined through design review and analysis of specific proposals.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction to ensure development is constructed as approved.
4.08(b)	Proposed development in forested areas will be established with curvilinear, undulating boundaries wherever possible.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction to insure development is constructed as approved.
4.08(c)	During construction, clearing of land for facilities or activities will emphasize curvilinear boundaries instead of straight lines in natural appearing landscapes.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction to insure development is constructed as approved.
4.08(d)	Grading will be done in a manner which minimizes erosion, conforms to the natural topography, and minimizes cuts and fills.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Grading plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(e)	Clearing trees and vegetation for the project will be limited to the minimum area required.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(f)	Soil excavated during construction and not used will be backfilled evenly into the cleared area, and will be graded to conform with the terrain and the adjacent landscape.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Grading plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(g)	Site-specific efforts will be made, such as removing stumps or smoothing soil, to ensure a temporary impact where clearing is required in sensitive or scenic areas.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Grading plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(h)	Permanent vegetative cover will be established on disturbed areas. Replanting poor or difficult sites will be done if initial efforts fail to ensure the establishment and continued growth of plant material to prevent erosion and sedimentation. Qualified personnel will perform all reseeding and revegetation efforts.	Project Proponent	TC-TAC, County Planning, KCA	Partial Compliant	Landscape plans are submitted to Tri-TAC, the applicable County planning department, and KCA Design Review Board for review and consistency with Kirkwood Landscape and Revegetation Ordinance. County Planning and KCA require a security bond to ensure revegetation success. Return of the bond amount to the developer signifies success vegetation restoration. Currently, the Sentinels West development is not in compliance and a request to replant portions of the site has been made by the County.
4.08(i)	Native or indigenous plant materials will be selected on the basis of site-specific climatic conditions, soil characteristics, soil moisture regime, and topography, and further selected based on their ability to blend with existing vegetation.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are submitted to Tri-TAC, the applicable County planning department, and KCA for review and consistency with Kirkwood Landscape and Revegetation Ordinance and KCA Design Guidelines. The Ordinance specifies appropriate seed mixes by habitat and allowable tree species. Approval of plans indicates compliance with mitigation measure.
4.08(j)	The seedbed will be modified to provide an optimum environment for seed germination, seedling growth, and survival, as specified in the Kirkwood erosion control ordinance (see Mitigation Measure 4.1 (b)-(h)) and KRMOA Design Guidelines.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(k)	Landscape design which repeats or blends with the surrounding existing landscape character will be applied in highly visible or sensitive areas to enhance the appearance of project building installation.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are submitted to Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for review and approval. Final approval of plans indicates sufficient incorporation of measure into design. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(l)	Feathering the edges of the highway ROW in certain areas will be utilized to repeat vegetation patterns of existing open space edges.	KMR	Forest Service, TC-TAC, County Planning, KCA	Not applicable	No development has occurred along highway ROW
4.08(m)	Natural woody vegetation within 100 to 200 feet of SR 88 in Kirkwood North will be evaluated carefully before removal in order to preserve a visual buffer for this area. Selective removal or pruning of trees in areas with sensitive scenic values (e.g., SR 88 recreation areas and residences) will be done in consultation with the Caltrans landscape architect or county-approved visual resource specialist prior to any tree removal in these areas.	Project Proponent	Forest Service, TC-TAC, County Planning, KCA	Not applicable	No development has occurred north of SR 88.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.08(n)	Trees and other plants for landscaping will be selected based on their ability to blend with existing vegetation. Rip-Rap stabilization material will be a non-contrasting color.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(o)	Mulch or scatter tree slash debris on cut and fill areas to mask bare soil and maintain a more appropriate texture to areas back from travelways.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(p)	Control planting times to maximize successful revegetation.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(q)	Use natural-looking planting patterns on cut/fill slopes.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by Tri-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(r)	Implement Mitigation Measure 4.1 (c).	N/A			Reference comments on Mitigation Measure 4.1 (c).
4.08(s)	Implement Mitigation Measures 4.1 (m) and 4.1 (n).	N/A			Reference comments on Mitigation Measures 4.1 (m) and 4.1 (n).
4.08(t)	Design to take advantage of natural screens (i.e., vegetation, landforms).	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by TC-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(u)	Seed cuts and fills with native grass species that will not have substantial winter or other seasonal color contrasts.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by TC-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(v)	Visual prominence of development within visually sensitive areas, as viewed from SR 88, will continue to comply with requirements for building colors, construction materials, and architectural design as administered by the Forest Service and the TC-TAC, and outlined in KRMOA CC &Rs and Design Guidelines. Particular attention should be given to any new Kirkwood North development, especially regarding the architectural style and color scheme.	Project Proponent	Forest Service, TC-TAC, County Planning, KCA	Compliant	TC-TAC and USFS have jurisdiction of the scenic Highway Corridor on SR 88. Final plans for Kirkwood North have not yet been developed or submitted for review. All development plans within visually sensitive areas as viewed from SR 88 will be reviewed by the Forest Service and TC-TAC for compliance with building colors, construction materials, and architectural design as outlined in KCA CC&Rs and Design Guidelines.
4.08(w)	Structures will be constructed of materials that blend with the landscape character. Lift components will meet FSM 2380 (Forest Service Manual) policy for color and reflectivity, which is 4.5 on the Munsell neutral value color scale. Building designs (on NFS lands), including color and material, will be submitted to the Forest Service for approval prior to construction.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by TC-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(x)	The appearance of human-made openings will simulate existing natural openings in the forest such as those that occur in the project area.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Landscape plans are reviewed by TC-TAC, the applicable County Planning Department, and KCA Design Review Board for consistency with mitigation measure. Final approval of plans indicates compliance with mitigation measure. KCA and the County provide periodic monitoring during construction insure development is constructed as approved.
4.08(y)	In accordance with FSM 2380, appropriate siting of buildings will be incorporated, as will the use of low-impact materials and colors, on NFS lands.	KMR	TC-TAC, County Planning, Forest Service	Compliant	For buildings located on National Forest Lands, the color of buildings is submitted to ENF landscape architect for approval.
	Light and Glare				
4.08(z)	For working and public gathering areas, lighting levels will be 3.5 foot-candles average horizontal, with a minimum illumination of 1/3 average, a maximum of three times the average.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	As required in 4.08 (ab), lighting plans are required for all new development and are designed to meet KCA Design Guidelines. Review and approval of plans by the applicable County and KCA indicates compliance with mitigation measures.
4.08(aa)	Fixtures will be required to minimize fugitive light into existing residential areas, including East Meadow, KMA subdivision, and other residential locations susceptible to light and glare, by using asymmetrical distribution, light shields and vegetation.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	As required in 4.08 (ab), lighting plans are required for all new development and are designed to meet KCA Design Guidelines. Review and approval of plans by the applicable County and KCA indicates compliance with mitigation measures.
4.08(ab)	A lighting plan for all new development will be required, as outlined in KRMOA Design Guidelines, that will be reviewed by the counties when specific project level plans are submitted for review.	Project Proponent	TC-TAC, County Planning, KCA	Compliant	Lighting plans are included in design and reviewed by applicable County and KCA. Approval of plans by County and KCA indicates compliance with mitigation measures.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
NOISE					
	Construction and operational noise				
4.09(a)	Construction activities which generate or produce noise that can be heard beyond the boundaries of a project site will be limited to the hours of 7 a.m. to 7 p.m. Exceptions are allowed for emergency repairs.	Project Proponent	TC-TAC	Compliant	Construction activities are limited to the hours of 7 a.m. to 7 p.m. Monday through Saturday within Kirkwood. No documentation of non-compliance.
4.09(aa)	Loudspeaker use will continue to be allowed at special events related to ski area operation. Their operation will be limited to between the hours of 7 a.m. and 7 p.m.	Project Proponent	TC-TAC	Compliant	No documentation of non-compliance.
	Snowmaking activities				
4.09(b)	KMR will implement the Snowmaking Noise Management Program, which was adopted when the snowmaking project was approved. This incorporates several features including restrictions on the type of nozzle, shielding of nozzles, and acceptable time of operation.	KMR	TC-TAC, County Planning	Compliant	KMR currently implements a Snowmaking Noise Management Program, which was adopted when the snowmaking project was approved (1996).
SOCIO-ECONOMICS					
	Housing				
4.10(a)	Counties will develop and enact an ordinance requiring employee housing to be provided at Kirkwood. The ordinance will, at a minimum, include the following elements: a. A requirement that at least 30 percent of the number of average peak-season employees be provided with employee housing concurrent with future development of the resort. b. A method of ensuring that the amount of required employee housing will continue to be provided in the future. c. Consideration of possible allowance for a fee to be paid in lieu of constructing employee housing. d. Consideration of possible credit toward the employee housing requirement in exchange for KMR providing transportation for employees residing outside of the Kirkwood area. e. Consideration of possible credit toward the employee housing requirement for housing units located outside of the Kirkwood area which are reserved by KMR for use by employees within the Kirkwood area.	County agencies	TC-TAC.	Compliant	A housing ordinance was established in 2003 as part of the Specific Plan. Annual Workforce Housing Audits have been submitted annually for review and have been approved by TC-TAC. Although the mitigation measures pertaining to the Ordinance are being met, the various parties involved generally agree that the Ordinance could be updated to include additional options for compliance, such as additional funding mechanisms, introduction of a fee in-lieu option or introduction of credits for employee transportation from off-site locations. Discussed further in text of report.
HAZARDOUS MATERIALS					
	Fuel Storage and Use				
4.11(a)	Underground storage tanks or other hazardous material storage will not be sited within the Caltrans right-of-way.	KMR Agency	TC-TAC.	Compliant	No underground storage tanks or hazardous material storage has been located within the Caltrans right-of-way.
4.11(b)	The Kirkwood Maintenance Shop and MU will maintain spill prevention plans for all hazardous materials. These plans will be reviewed and updated annually, as appropriate, and filed with the appropriate county.	KMR Agency ³	TC-TAC.	Compliant	KMPUD and KMR are required by the CA Health and Safety Code to maintain Hazardous Materials Business Plans (HMBP) for all hazardous materials utilized at the maintenance shop, power house, and other facilities throughout Kirkwood. The HMBP includes a spill prevention plan. The HMBPs are reviewed and updated on an annual basis and submitted to the county for approval.
4.11(c)	All existing and proposed fuel tanks will be maintained, operated and tested in accordance with local, state and federal regulations.	KMR Agency	TC-TAC, County	Compliant	Procedures for operating and testing fuel tanks are outlined in the SPCC Plans. The counties set the schedule for testing of fuel system components and issues operating approval.
4.11(d)	Hazardous materials cleanup and containment supplies will be carried in any vehicle that transports fuel for refueling construction equipment.	Project Proponent	TC-TAC.	Compliant	KMR confirmed that all vehicles that transport fuel for refueling construction equipment contain cleanup and containment supplies. This measure is required as part for the SPCC Plan.
4.11(e)	Hazardous materials cleanup and containment supplies will be present at any permanent location where refueling is done.	KMR Agency	TC-TAC.	Compliant	This measure is required as part of the KMR's and KMPUD's SPCC Plan.
4.11(f)	KMR, MU, and KMPUD will train all vehicle operators who will be participating in refueling activities in spill prevention and in the use of cleanup materials.	KMR Agency	TC-TAC.	Compliant	Both KMPUD and KMR have training programs for year-round and seasonal employees as outlined in the SPCC Plan.
4.11(g)	No motor fuel refueling will be conducted within 100 feet of Kirkwood Creek or any of its perennial tributaries, or within 50 feet of any occupied housing unit.	KMR Agency Project Proponent	TC-TAC.	Compliant	There are no fueling stations within 100 feet of Kirkwood Creek or any of its perennial tributaries or 50 feet of any occupied housing unit.
4.11(h)	In the event that a hazardous material spill of a reportable quality occurs, the responsible party will immediately notify the Department of Environmental Health of the affected county or counties, the CDFG and any other agencies as required under regulations applicable at the time of the spill. If the spill occurs on NFS land, Kirkwood will also notify the Amador Ranger District.	KMR Agency Project Proponent	TC-TAC, Forest Service	Compliant	In the event of a Spill KMR notifies the Department of Environmental Health of the affected county and in accordance with the Hazardous Materials Business Plan and the Office of Emergency Services Guidance (2014).
4.11(i)	KMR and its agents and subcontractors will adhere to the reporting standards outlined in California Hazardous Materials Spill/Release Notification Guidance (Lercari 1999) established by the Governor's Office of Emergency Services.	KMR	TC-TAC.	Compliant	KMR and its subcontractors adhere to the reporting standards outlined in the most updated California Hazardous Materials Spill/Release Notification Guidance.
4.11(j)	KMR, MU, and KMPUD shall comply with Title 22 for submission of business plans, inventory statements, explosive storage, and spill prevention control countermeasure plans, as may be required.	KMR Agency	TC-TAC.	Compliant	KMR and KMPUD comply with Title 22 and have prepared Hazardous Material Business Plans, inventory statements, of hazardous materials stored on-site, and SPCC Plans. These plans are annually updated and submitted for review and approval to California OSHS.

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
4.11(k)	Future development in portions of Alpine or Amador County where soil or groundwater contamination by petroleum products has been identified will at a minimum require approval from the applicable County Health Department and the CVRWQCB.	Project Proponent	TC-TAC.	Not applicable	No development has occurred on contaminated sites in Alpine or Amador counties. Any future development on contaminated sites will require compliance with this mitigation measure.
RECREATION					
	Effects of increased population on use of surrounding public lands.				
4.12(a)	Implement Mitigation Measures 4.3.1 (i) and 4.3.1 (j) as described in the Aquatic Resources section.	N/A			See comments for Mitigation Measures 4.3.1 (i) and 4.3.1 (j)
4.12(b)	KMR will conduct surveys to identify on/off-site recreation use patterns of residents and guests and report results to TC-TAC and the Forest Service. Such surveys will be conducted every 4 years or as deemed necessary by TC-TAC and the Forest Service. Results will be reported to these agencies within 60 days. This information will increase TC-TAC and Forest Service knowledge of recreational use patterns in the Kirkwood area and contribute to development of responsive management plans for heavily impacted recreational sites and facilities.	KMR	TC-TAC, Forest Service.	Partial Compliance	A recreation survey was completed in June 2006. KMR will coordinate with TC-TAC and USFS on need and timing for future surveys.
	Effects on Kirkwood Lake, including fishing.				
4.12(c)	Implement mitigation measures 4.3.1 (h) through 4.3.1 (i), as described in the Aquatic Resources section. In addition, KMR will work with the Forest Service to develop and implement an instructional/interpretive program to inform Kirkwood visitors about sensitive resource issues at Kirkwood Lake.	KMR	TC-TAC, Forest Service.	Compliant	KMR has created a poster describing sensitive resources at Kirkwood Lake at the Kirkwood Inn, The Lodge, General Store, Kirkwood Lake and Caples Lake.
PUBLIC SERVICES					
	Police/Sheriff Protection				
4.13(a)	KMR will monitor the level of police protection services required as development proceeds and the resident population increases. Alpine and Amador counties will add deputies as dictated by community needs.	KMR	TC-TAC.	Compliant	KMR maintains a cooperative relationship with Sheriff's Department in Alpine and Amador counties.
	Fire Protection				
4.13(b)	Construct all facilities to adhere to the UBC.	Project Proponent	TC-TAC.	Compliant	All new construction complies with the Uniform Building Code (UBC). Plans are reviewed by the applicable County Building Office and KMPUD.
4.13(c)	KMR should continue to implement, maintain, and revise as needed, the Kirkwood Village Fire and Safety Plan and demonstrate that the development complies with the plan.	KMR Project Proponent	TC-TAC.		Document has been replaced with the Crisis Management Plan (2008).
4.13(d)	KMR will increase infrastructure and physical accommodations in the service district to support the level of fire protection required for the proposed development.	Project Proponent	TC-TAC.	Compliant	The criteria for assessing the need for paid firefighters is outline in the Fire Service Master Plan (1997). The Plan outlines the staffing, equipment, and infrastructure needs to provide an adequate level of service through build out of the Specific Plan. KMPUD has undertaken improvements outlined in the Plan such as construction of the new Community Services Building and Fire House.
4.13(e)	KMR will monitor the level of firefighting services required as development proceeds and the resident population increases. KMPUD will add fire fighters as dictated by community needs.	KMR KMPUD	TC-TAC.	Compliant	See response above. The level of firefighting services as development proceeds is described in the Fire Service Master Plan.
	Medical Services				
4.13(f)	KMR will continue to maintain medical facilities during the ski season consistent with the requirements of the U.S. Forest Service special use permit issued for the ski area.	KMR	TC-TAC, Forest Service.	Compliant	Vail subcontracts to Barton Medical to provide temporary medical facilities during the ski season.
4.13(g)	KMR will monitor the level of medical services required as development proceeds and the resident population increases. If the increase in year-round population warrants, KMR will add medical services to meet community needs.	KMR	TC-TAC.	Compliant	Based on the current year-round resident population at Kirkwood, no new medical services are warranted at this time.
	School and Child Care				
4.13(h)	KMR will continue providing funding support of educational facilities for elementary school children (Grades K-6) at Kirkwood (e.g., continue financial support for rented facilities). This requirement will be reviewed every 5 years and a determination made by Alpine County as to whether the requirement should be continued, modified or eliminated.	KMR	TC-TAC, Alpine County Unified School District.	Not Applicable	In a formal agreement between the Alpine County Unified School District and KMR (August 18, 2008), the school district states that it is unlikely that a school will be constructed on the site and agrees to transfer the property to Kirkwood Mountain Resort.
UTILITIES AND INFRASTRUCTURE					
	Energy				
4.14(a)	MU ³ will expand the existing electrical facility or construct a new facility to meet projected electrical demands as identified in section 4.14.4.1. As electrical requirements increase and the existing facility reaches capacity, expanded or new facilities must be developed. At the time a tentative development map is submitted, MU must provide the respective county with the current capacity of the electrical generation facility, the current electrical demand of the Kirkwood area, and the projected electrical	KMPUD, Project Proponent	TC-TAC.	Not Applicable	Mountain Utilities was sold to KMPUD in April 2010. In 2014, KMPUD completed a power line that connects the Kirkwood community to the regional electric grid. The new power line was designed and constructed to meet the estimated electrical demands of the Kirkwood community and resort at build-out of the Specific Plan. The existing 5 MW powerhouse will be used as a back-up facility and no future expansion is anticipated. KMPUD will be able to meet all electrical demands of future

Mitigation Measure	Impact and Mitigation Measure	Responsible for Implementation	Review Authority	Compliance Status	Comments / Recommendations
	requirements of the development. If the projected electrical need will not be met by the existing facility, improvements will also be provided and the schedule for completion will be identified. Expanded or new facilities must be in operation prior to electrical demands of the new development.				development of the Kirkwood area as approved under the Specific Plan.
	Water Supply				
4.14(b)	KMPUD will connect a new well to the water supply system if the maximum daily demand exceeds the available supplies with the largest well out of service, such that emergency storage reserves would be depleted in 7 days if demands continued at the maximum rate.	Agency - KMPUD	TC-TAC.	Compliant	KMPUD's current water supply system can meet the current maximum daily demand along with reserve requirement.
4.14(c)	KMPUD will monitor water supply output and install additional wells prior to increased water supply demands of new development parcels. At the time a tentative development map is submitted, KMPUD will provide the respective county with the current water supply, the current water consumption of the Kirkwood area, and the projected water requirements of the development. If the projected water requirements will not be met by the existing supply, as defined in Mitigation Measure 4.14 (b), KMPUD will identify the number and location of proposed wells to be installed and the schedule for completion. Additional wells must be in operation prior to water demands of the new development.	Project Proponent	TC-TAC.	Compliant	KMPUD reviews tentative maps and determines if they have the capacity to accommodate the needs of the development, and if so, KMPUD provides a "will serve" letter to the project proponent. KMPUD provides a report to the applicable county documenting supply and demonstrating that they have the capacity to service the proposed development. In 2013, KMPUD completed a Services Capacity Analysis that included assessment of water supply. The Report indicates that existing supply wells will not meet maximum day demand at build-out and recommends that KMPUD pursue obtainment of surface water rights and construct a treatment facility to meet estimated demand rather than installation of additional wells.
4.14(d)	Plan and implement new development to ensure the use of best available technologies for water conservation, including, but not limited to, water conserving toilets, showerheads, faucets, and irrigation systems.	Project Proponent	TC-TAC.	Compliant	KMD uses the best available technology in its own projects to the extent practicable, and a list is provided to architects, owners, contractors, and county building departments to incorporate this technology into their plans.
	Wastewater Treatment				
4.14(e)	Monitor wastewater treatment operations and upgrade as appropriate. Expanded or new facilities must be in operation prior to wastewater demands of the new development.	Agency - KMPUD	TC-TAC, CVRWQCB.	Compliant	The 2013 All Services Capacity Analysis evaluated the capacity of the existing wastewater treatment and disposal facilities and determined that they were sufficient to meet ultimate build-out wastewater flows and loads. No expanded or new facilities are required.
4.14 (f)	At the time a tentative development map is submitted, KMPUD will provide the respective county with the current capacity of the wastewater treatment facility and the current wastewater output of the Kirkwood area. KMPUD will also provide the projected wastewater requirements of the development.	Project Proponent	TC-TAC, CVRWQCB	Compliant	KMPUD reviews each tentative maps and estimates projected wastewater requirements and provides the respective county with a status report documenting current capacity of the wastewater treatment facility and the current wastewater output of the Kirkwood area.
4.14(h)	Implement Mitigation Measure 4.14 (d).	N/A			See comments under Mitigation Measure 4.14
Amador COA #154	Offsite employee housing within the Tahoe Basin must be new construction of which Kirkwood Mountain Resort is either the primary developer or substantial development partner that results in additional housing stock within the Tahoe Basin. Within the Tahoe Basin, leasing, remodeling, retrofitting, or otherwise using existing housing stock will not result in credit toward employee housing pursuant to this ordinance.	KMR	Amador County	Not Applicable	There is no existing or planned offsite employee housing within the Tahoe Basin.
Amador COA #156	The biennial fiscal review shall be conducted by a consultant hired by the County and paid for by...	Agency - County	Amador County	Compliant	Fiscal reviews were completed in 2006 and 2013. The 2013 review 1) increased the interval of review to five -years, and 2) documented that there had been no new development within the Kirkwood Valley since the last study and no new review was warranted.
Amador COA #157	The Amador County Board of Supervisors will adopt an AB1600 fire mitigation fee ordinance based on KMPUD's fire protection capital improvement plan to mitigate new development's impact on fire protection.	Agency - County	Amador County	Not Applicable	KMPUD has a fire impact fee that is assessed and imposed on all new development within Amador County.

^{1/} KMD is now responsible for compliance with mitigation measure.

^{2/} KMD is responsible for requirements 1), 2), 3), 4), and 6). KMD shall be responsible for compliance with requirement 5) for KMD's projects and KMR shall be responsible for requirement 5) for KMR's projects.

^{3/} KMPUD now replaces MU (Mountain Utilities) and is responsible for compliance with mitigation measure.

^{4/} For year 2012, Developer. For Years following 2012, costs shared 50/50 by Operator and Developer

ATTACHMENT B

Reference Materials

Attachment B Reference Material Reviewed

General

Amador County Resolution No. 03-319 and Ordinance No. 1569. 2003 Kirkwood Specific Plan.

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- Appendix 1 Erosion Control Plan
- Appendix 2 Tree Ordinance
- Appendix 3 Landscaping and Revegetation Ordinance
- Appendix 4 Design Ordinance
- Appendix 5 Housing Ordinance

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Wood, Zach. Planner II. Alpine County Community Development. August 1, 2014

ATTACHMENT C

Site Photographs

Attachment C – Site Photographs



Photo 1. Examples of erosion control material in place during construction of Timber Creek Phase 1.



Photo 2. Examples of erosion control material in place during construction of Timber Creek Phase 1.



Photo 3. Avalanche warning signs located along ski runs within high hazard area.



Photo 4. Avalanche warning signs located along ski runs within high hazard area.



Photo 5. Educational material located at Kirkwood Lake Campground informing visitors of sensitive resources and fishing regulations.



Photo 6. Segment of Kirkwood Creek located within grazing management area.



Photo 7. Overview of Kirkwood Meadow within grazing management area.



Photo 8. Temporary slope stabilization within Palisades 5. Success of temporary revegetation is variable, but over slope stability maintained by erosion control fabrics and rock as evidenced by lack of dirt and debris on road.



Photo 9. Temporary slope stabilization within Palisades 5. Success of temporary revegetation is variable, but over slope stability maintained by erosion control fabrics and rock as evidenced by lack of dirt and debris on road.



Photo 10. Phase 2 of Kirkwood Recreation Center.



Photo 11. View of failed revegetation along Sentinels Way.

ATTACHMENT D

Revised Grazing Management Plan

Five-Year Adaptive Management Plan for the Kirkwood Meadows Horse Pastures

1.0 Purpose

There are two primary purposes for the Kirkwood Horse Pastures Adaptive Management Grazing Plan:

- Define the appropriate conditions and criteria for annual use of the Kirkwood Meadows as horse pasture that can be easily understood and implemented by current and future horse owners and stable operators.
- Establish a method for early detection and response to natural resource problems that could occur as a result of horse grazing in the meadows.

2.0 Background

Description of the Area. Kirkwood Meadow is a montane meadow approximately 120 acres in size at an elevation of 7,700 feet ASL. The vegetation within the meadow is variable and correlated to soil moisture conditions. Areas that stay wet longer into the summer are dominated by sedges (*Carex aquatilis*, *Carex* spp.), wiregrass (*Juncus balticus*), and hairgrass (*Deschampsia cespitosa*). Drier parts of the meadow are characterized by Kentucky bluegrass (*Poa pratensis*), other grasses and forbs. Small areas of lodgepole pine (*Pinus contorta*) and sagebrush (*Artemisia tridentata* and *A. arbuscula*) are fenced within the pastures on upland sites.

Portions of Kirkwood Creek flow south to north through both pastures. Kirkwood Creek traverses and bisects the south pasture and flows along the east boundary of the north pasture. Riparian vegetation along Kirkwood Creek includes Lemmon's willow (*Salix lemmonii*) and eastwood willow (*Salix eastwoodii*).

Livestock Use. Kirkwood Meadow has a long history of livestock grazing dating back to the 1800's. Currently, and in more recent time since 1979, approximately 50 acres on the north end of the meadow have been fenced and used for grazing horses. An east-west fenced alley divides the grazing area into north and south pastures, each of which are approximately 25 acres in size.

The north pasture is used by the horseback-riding concessionaire based at the Kirkwood Corrals. Kirkwood Corrals pastures between 15 to 25 horses. These horses are moved out of the pasture everyday and used in the stable operation. During the day they are given 5 to 10 pounds of feed by the stable manager. This would be equivalent to approximately 20 to 30 percent of their daily food requirement. The remaining 80 percent of their daily diet is provided by pasture grazing.

The south pasture is used by the Kirkwood Horsemen's Association, which is made up of Kirkwood residents and employees. Currently, the Kirkwood Horseman's Association limits the number of animals in the south pasture to a maximum of 12 horses. In drought years, horses from the north pasture may be relocated to the southern pasture to reduce grazing pressures in the north pasture, which typically supports greater numbers of horses.

Grazing Season. The grazing season is somewhat variable and is adjusted annually based upon weather conditions and the growing conditions in the meadow. Horses are put in the meadow once the ground is dry enough to support livestock without harm to the vegetation. The typical grazing season on the meadow extends from June 15 to October 31, but could begin as early as June 1 in a dry year.

Carrying Capacity.

Annual forage production on Kirkwood Meadow has been estimated between 3,000 and 6,000 pounds of forage per acre depending on annual growing conditions (Personal communication with John Stewart, Eldorado National Forest). This production rate yields approximately 75,000 – 150,000 pounds of forage each year in each pasture. As a rough rule-of-thumb, approximately one-half of the production can be used for grazing, and one-half should be left for plant physiological requirements and other ecological functions. At a consumption rate of approximately 800 pounds of air-dry forage per horse per month, each pasture would support approximately 47 to 93 Animal Unit Months (AUMs) or approximately 12 to 23 horses per pasture for the entire 4-month grazing season. During drought years, horses may be given feed to supplement pasture grazing. All feed will be certified weed free.

The water supply for both the north and south pastures is Kirkwood Creek. This has been the source of water since the pasture was created in 1979.

Typical stocking rates within the north pasture range from 15-25 horses per day. Within the south pasture, the Kirkwood Horseman's Association limits the number to a maximum of 12 horses per day, although actual use is much less. Horses within the north pasture may be relocated to the south pasture if persistent drought necessitates a more even grazing distribution.

3.0 Objectives

The objective of this grazing plan is to protect the Kirkwood Creek riparian corridor and to ensure that the meadow is grazed at a sustainable, appropriate level. Specific goals of the plan are to:

- Document the current vegetation condition within the meadow in terms of species composition and ground cover. (Establish the baseline condition.)
- Define the appropriate conditions for turnout into the pasture in terms that can be implemented consistently between years and by different people.
- Evaluate the current stocking rate and season of use and develop adaptive management recommendations for adjustments. Define the conditions that would be used to determine if changes are necessary.

4.0 Responsibilities

The Kirkwood Mountain Resort Director of Planning and Environmental Affairs will be the primary person responsible for implementing and reporting the results of annual monitoring, and for consulting with a Certified Range Management Consultant to interpret the monitoring data and make adaptive management decisions.

5.0 Management Goals

Initial Stocking Rate. Horses will continue to be stocked in the pasture as they have been in the past. Any future recommendations for stocking rate or season of use will be developed through the adaptive management process.

Utilization Levels. Achieve moderate and uniform utilization throughout the pastures.

Streambank Stability. Avoid excessive use along the streambanks of Kirkwood Creek that would result in accelerated erosion or affect proper functioning condition of the stream. Maintain an overall residual stubble height at the end of the growing season along Kirkwood Creek that is adequate to provide stabilization, filtration of sediments, and withstand high flows during spring runoff.

Meadow Condition. Maintain existing ground cover and species composition throughout both pastures. Prevent establishment of invasive and noxious species.

6.0 Monitoring Methods

Meadow Condition. Sample the existing vegetation using frequency point intercept transects in sufficient quantity to estimate the mean vegetation cover with 90 percent probability and 90 percent accuracy. Calculate relative and absolute species composition based upon cover data.

Utilization Mapping – Map the limits of light, moderate and heavy use zones within the entire pasture system and streambanks at the end of the growing season. Record utilization patterns on aerial photographs at a scale of 1"=100' (or better). Document with GPS points as necessary to locate specific features.

Install utilization cages in dry and wet zones in each pasture to provide an annual calibration of total, ungrazed plant growth.

Photo Points. Establish permanent photo point locations and document with GPS coordinates and/or steel fence posts to assure repeatability. Print a copy of each permanent photo and create a field guide to ensure that photographs repeated in the future are comparable.

Annual Precipitation. Document monthly precipitation totals between March 1 and October 1 utilizing existing rain gages located at Kirkwood Village.

Actual Use. Provide the stable concessionaire and homeowners with actual use record keeping forms. Collect and summarize actual use data at the end of each month throughout the entire grazing season. Include dates and number of horses in each pasture.

7.0 Adaptive Management Strategy

The adaptive management strategy will be developed upon review of the baseline data and the first year monitoring results. The preliminary adaptive management strategy matrix will be tested in 2010 and finalized in 2012. The matrix will identify alternative management recommendations for specific results identified during annual and 5-year monitoring intervals.

The management plan and adaptive management strategy will be evaluated and updated every five years.

8.0 Schedule

2009

- Set out utilization cages in wet and dry parts of each pasture prior to turn-out.
- Document baseline meadow conditions.
- Establish permanent photo points at the beginning of the grazing season and develop a photo point field guide. Retake permanent photos at the end of the grazing season.
- Map utilization patterns on aerial photographs at a scale of 1"=100 feet (or better) at the end of the growing/grazing season. Reset utilization cages.
- Document monthly precipitation and/or soil moisture conditions throughout the growing season.
- Document actual horse use in each pasture – number of horses, dates, and time.

2010

- Preliminary design of the adaptive management strategy and decision matrix.
- Photograph Photo points at the beginning and end of the grazing season.
- Map utilization patterns on aerial photographs at a scale of 1"=100' (or better) at the end of the growing/grazing season. Reset utilization cages.
- Document monthly precipitation and/or soil moisture conditions throughout the growing season
- Document actual horse use in each pasture – number of horses, dates, and time.

2011

- Evaluate the need for modifying grazing practices based upon the adaptive management criteria. Update the adaptive management matrix if needed.
- Photograph Photo points at the beginning and end of the grazing season.
- Map utilization patterns on aerial photographs at a scale of 1"=100' (or better) at the end of the growing/grazing season. Reset utilization cages.
- Document monthly precipitation and/or soil moisture conditions throughout the growing season
- Document actual horse use in each pasture – number of horses, dates, and time.

2012

- Evaluate the need for modifying grazing practices based upon the adaptive management criteria. Update the adaptive management matrix if needed.
- Photograph Photo points at the beginning and end of the grazing season.
- Map utilization patterns on aerial photographs at a scale of 1"=100' (or better) at the end of the growing/grazing season. Reset utilization cages.

- Document monthly precipitation and/or soil moisture conditions throughout the growing season
- Document actual horse use in each pasture – number of horses, dates, and time.

2013

- Reevaluate baseline meadow conditions.
- Photograph photo points at the beginning and end of the grazing season.
- Map utilization patterns on aerial photographs at a scale of 1"=100' (or better) at the end of the growing/grazing season. Reset utilization cages.
- Document monthly precipitation and/or soil moisture conditions throughout the growing season.
- Document actual horse use in each pasture – number of horses, dates, and time.
- Finalize adaptive management strategy. Implement adaptive management recommendations if needed.