Edgewood Lodge and Golf Course Improvement Project

Draft EIS

PREPARED FOR:
Tahoe Regional Planning Agency

April 19, 2012

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ACRONYMS AND ABBREVIATIONS

µ	micro
µg/m^3	micrograms per cubic meter
°F	degrees Fahrenheit
AAQS	ambient air quality standards
AASHTO	American Association of State Highway and Transportation Officials'
ACM	asbestos-containing material
ADA	American Disabilities Act
ADT	Average Daily Traffic
AIS	Aquatic Invasive Species
AMWG	adaptive management working group
ANSI	American National Standards Institute
APN	Assessor's Parcel Numbers
ATR	automatic traffic recorder
B. P.	before present
BA	biological assessment
BACT	Best Available Control Technology
BAPC	Bureau of Air Pollution Control
BAQP	Bureau of Air Quality Planning
Be	Beaches
BFEs	base flood elevations
bgs	below ground surface
BLM	Bureau of Land Management
BMPs	best management practices
BO	biological opinion
Board	County Board of Commissioners
Board	County Board of Supervisors
BWQP	Bureau of Water Quality Planning
CAA	federal Clean Air Act
CAAA	federal Clean Air Act Amendments of 1990
CaD	Cagwin-Rock outcrop complex, 5-15 percent slopes
CAFE	Corporate Average Fuel Economy
Cal/EPA	California EPA

Caltrans	California Department of Transportation
CAPP	Chemical Accident Prevention Program
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CESQG	Conditionally Exempt Small Quantity Generators
CFA	commercial floor area
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHABA	Committee of Hearing, Bio Acoustics, and Bio Mechanics
CLOMR	Conditional Letter of Map Revision
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Code	Code of Ordinances
Commissioners	County Board of Commissioners
Compact	Tahoe Regional Planning Compact
CP	Community Plan
CWA	Clean Water Act
CWA	federal Clean Water Act
CWPPs	Community Wildfire Prevention Plans
CY	cubic yards
dam	Friday's Station Dam
dB	decibels
dBA	A-weighted sound levels
dbh	diameter at breast height
DCMP	Douglas County Master Plan
DCP	Design Capacity for People
DCSD	Douglas County Sheriff's Department
DCSID	Douglas County Sewer Improvement District
DIN	dissolved inorganic nitrogen
District	Douglas County School District

DO	dissolved oxygen
DOT	U.S. Department of Transportation
DVTE	Daily vehicle-trip ends
EbC	Elmira gravelly loamy coarse sands, 0-9 percent slopes
ECIWAT	Edgewood Creek Integrated Watershed Assessment Team
EfB	Elmira-Gefo loamy coarse sands, 0-5 percent slopes
EIP	Environmental Improvement Program
EIS	environmental impact statement
EISA	Energy Independence and Security Act
EPA	U.S. Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
EPCRA	Federal Emergency Planning and Community Right to Know Act
ERU	existing residential units of use
ESA	federal Endangered Species Act
ETCCs	environmental threshold carrying capacities
Ev	Elmira loamy coarse sand, wet variant
EWC	Edgewood Water Company
Fed-OSHA	federal Occupational Safety and Health Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
Fire District	Tahoe Douglas Fire Protection District
FIRMs	Flood Insurance Rate Maps
FMP	Fertilizer Management Plan
FMP	Fertilizer Management Program
FPMP	Fertilizer and Pond Management Plan
FRWPS	Fuel Reduction and Wildfire Prevention Strategy
FSP	fine sediment particles less than 16 microns
FTA	Federal Transit Administration's
GHG	Greenhouse gas
GID	General Improvement District
GIS	geographic information system
gpm	gallons per minute
GWP	global warming potential

HACCP	Hazard Analysis and Critical Control Point
HAP	hazardous air pollutant
HFCs	hydrofluorocarbons
HRT	hydraulic residence time
HVAC	heating, ventilation, and air conditioning
I-80	Interstate 80
IBC	International Building Code
ICC	International Code Council
IEC	TRPA Initial Environmental Checklist
IMACS	Intermountain Antiquities Computer System
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
IPES	individual parcel evaluation system
IRC	International Residential Code
JaC	Jabu coarse sandy loam, 0-9 percent slopes
JbD	Jabu coarse sandy loam, seeped, 2-15 percent slopes
KGID	Kingsbury General Improvement District
LBP	Lead-based paint
lbs	pounds
LCD	land capability district
LCT	Lahontan cutthroat trout
L_{dn}	Day-Night Noise Level
LEED®	Leadership in Energy and Environmental Design
L_{eq}	Equivalent Noise Level
LID	Low Impact Development
L_{max}	Maximum Noise Level
L_{min}	Minimum Noise Level
Lo	Loamy alluvial land
LOS	Level of Service
LQG	Large Quantity Generators
LSC	LSC Transportation Consultants

LTAB	Lake Tahoe Air Basin
LTBMU	Lake Tahoe Basin Management Unit
LTGRP	Lake Tahoe Geographic Response Plan
m	meters
MACT	maximum available control technology for toxics
MAD	Mosquito Abatement District
MBTA	Migratory Bird Treaty Act
MIOP	Monitoring, Inspection, and Operations Plan
mm	millimeters
MMT	million MT
mph	miles per hour
mph	miles per hour
msl	mean sea level
MT	metric tons
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NCCAC	Nevada Climate Change Advisory Committee
NDEP	Nevada Department of Environmental Protection
NDEP	Nevada Division of Environmental Protection
NDF	Nevada Division of Forestry
NDMV	Nevada Department of Motor Vehicles
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NEHRP	National Earthquake Hazards Reduction Program
NESHAP	national emissions standards for HAPs
Nevada OSHA	Nevada Occupational Safety and Health Administration
Nev-OSHA	Nevada Occupational Safety and Health Act
NFIP	National Flood Insurance Program
NFS	National Forest System
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NNHP	Nevada Natural Heritage Program
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration

NOP	Notice of Preparation
NO_X	oxides of nitrogen
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statute
NSAAQS	Nevada State ambient air quality standards
NVCRIS	Nevada Cultural Resource Information System
NWP	nationwide permit
ONRW	Outstanding National Resource Water
OSTP	Office of Science and Technology Policy
PAOT	people at one time
PAOT	persons-at-one-time
PAS	Plan Area Statements
pCi/L	picocuries per liter of air
PFCs	perfluorocarbons
PHVTE	peak hour vehicle-trip ends
PLRM	Pollutant Load Reduction Model
PM_{10}	Respirable particulate matter
$PM_{2.5}$	Fine particulate matter
ppm	parts per million
PPV	peak particle velocity
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
Qb	beach deposits
Qfp	floodplain deposits
Qlt	lacustrine terrace deposits
RCRA	Resource Conservation and Recovery Act
Regional Plan	Regional Plan for the Lake Tahoe Basin
RMS	root-mean-square
ROG	reactive organic gases
RPA	reasonable and prudent alternative
RTP	Regional Transportation Plan
RTP-AQP	*Regional Transportation Plan—Air Quality Plan*

SARA	Superfund Amendments and Reauthorization Act of 1986
SERC	Nevada State Emergency Response Commission
SEZ	stream environmental zone
sf	Square feet
SF_6	sulfur hexafluoride
SGC	Southwest Gas Corporation
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SNW&LCo	Sierra Nevada Wood and Lumber Company
SO_2	sulfur dioxide
SQG	Small Quantity Generators
SQIP	Scenic Quality Improvement Program
SR	State Route
SR 207	Kingsbury Grade
SR 207	State Route 207
SRP	soluble reactive phosphorous
SSWA	Stateline Stormwater Association
STPUD	South Tahoe Public Utilities District
STR	South Tahoe Refuse
SWPPP	Storm Water Pollution Prevention Plan
TACs	toxic air contaminants
TAG	technical advisory group
Tahoe	Lake Bigler
TAU	tourist accommodation units
TAZ	traffic analysis zone
TCLP	Toxicity Characteristic Leaching Procedure
TCP	Traffic Control Plan
TDFPD	Tahoe Douglas Fire Protection District
TDM	transportation demand management
TERC	Tahoe Environmental Research Center
THPO	Tribal Historic Preservation Officer
thresholds	environmental threshold carrying capacities
TMPO	Tahoe Metropolitan Planning Organization
TN	total nitrogen
TP	total phosphorous

TPY	tons per year
TRPA	Tahoe Regional Planning Agency
TSM	Transportation System Management
TSS	total suspended solids
TWSA	Tahoe Water Suppliers Association
TYC	Tahoe yellow cress
TYC-AMWG	Tahoe Yellow Cress Adaptive Management Working Group
U.S. 50	U.S. Highway 50
UBC	Uniform Building Code
UCMP	U.C. Berkeley Museum of Paleontology
URBEMIS	Urban Emissions Model
USACE	U.S. Army Corps of Engineers
USBPR	U.S. Bureau of Public Roads
USFS	U.S. Forest Service
USFS-LTBMU	U.S. Forest Service, Lake Tahoe Basin Management Unit
USFWS	U.S. Fish and Wildlife Service
USGBC	U.S. Green Building Council
USGS	U.S. Geologic Survey
VdB	vibration decibels
VMT	vehicle miles traveled
WWTP	wastewater treatment plant

1 SUMMARY

1.1 PROJECT LOCATION AND SETTING

The proposed Edgewood Lodge and Golf Course Improvement Project (Alternative 1, Proposed Project) includes improvements to the existing Edgewood Tahoe Golf Course, at 180 Lake Parkway, Stateline, Douglas County, Nevada 89449. Access to the site is provided by Lake Parkway from U.S. Highway 50 (U.S. 50). Edgewood Companies (project applicant), a major land owner in the Stateline area and Carson Valley, is the project applicant.

The Edgewood Tahoe Golf Course property is comprised of four contiguous parcels located adjacent to Lake Tahoe (Assessor's Parcel Numbers [APN] 1318-27-001-001, -002, -003 and -004). The entire golf course encompasses approximately 234 acres of land located in California and Nevada; however, the proposed project would affect only the portion of the Edgewood Tahoe Golf Course within Douglas County, Nevada, which accounts for 225 acres. The proposed project also includes improvements on a contiguous 4 acre area east of U.S. 50 from the Edgewood Tahoe Golf Course (APNs 1318-27-001-005 and -006) in Nevada. Finally, an approximately 0.8-acre area across Lake Parkway on the Horizon property (currently developed with a parking lot) would be used for off-site employee parking (APN 1318-27-001-012). All portions of the project site are owned by Edgewood Companies.

The 225-acre portion of the project area is occupied by the existing Edgewood Tahoe Golf Course, which includes the Edgewood Tahoe Clubhouse. Housed in the existing clubhouse are two banquet event rooms (North and South), a golf retail pro-shop, a formal dining restaurant, and Brooks Sports Bar & Grill. The clubhouse also contains back of house (staff area, where cooks and other support staff work), administrative, storage, locker rooms, and restroom facilities. Golf course support facilities located on the site include maintenance and utility facilities, pathways, surface parking, pump houses, a gate house, a snack bar, and restrooms. The existing Edgewood Tahoe Golf Course property also contains two single-family lakefront residences, one of which has an elevated fixed pier.

Land uses in the project area include state and federal land, primary and secondary roads, residential neighborhoods, commercial areas, the Stateline casino corridor, and the Nevada 4-H Camp.

The project site extends across two Tahoe Regional Planning Agency (TRPA) Plan Area Statements (PASs). The portion of the project site west of U.S. 50 is located entirely within the Edgewood PAS 070A, which includes the Edgewood Tahoe Golf Course, the 4-H Camp to the north, and miscellaneous private uses. The land use classification for PAS 070A is recreation and the planning statement calls for providing a range of visitor and local serving outdoor oriented recreation opportunities, integrated with the existing and planned improvements within the casino corridor. The portion of the project site east of U.S. 50 is located within Special Area #2 in the Kingsbury Drainage PAS 080, which includes large acre residential uses, the former Douglas County landfill and maintenance yard, and other miscellaneous uses. The land use classification for PAS 080 is conservation.

PASs 070A and 080 are adjacent to and within the influence of the Stateline Community Plan; therefore, the proposed project would be subject to certain policies and standards of the Stateline Community Plan. The proposed off-site employee parking area on the Horizon property is located within the Stateline Community Plan.

1.2 PROCESS

This document is an environmental impact statement (EIS) prepared on behalf of TRPA pursuant to Article VII of the Tahoe Regional Planning Compact and Chapter 3 of the TRPA Code of Ordinances (Code). TRPA is the lead environmental review agency for the project, pursuant to Article VII of the Tahoe Regional Planning Compact. As part of its environmental review process, TRPA prepared and circulated a Notice of Preparation (NOP) informing responsible agencies and the public that the project could have a significant effect on the environment, and soliciting their comments. The NOP was circulated on June 3, 2009; two public scoping meetings were held in Stateline, Nevada on June 25, 2009 and July 7, 2009; and the public scoping period ended on July 15, 2009. Comments received during the public scoping period were considered during the preparation of this Draft EIS and are addressed herein. A copy of the NOP, Initial Environmental Checklist, summary of environmental issues raised during the scoping period, and the original comment letters are included in Appendix A.

Pursuant to Subsection 3.7.1(D) of the TRPA Code, this Draft EIS is being circulated for public comment for at least 60 days. During this time, TRPA will hold at least two public hearings to present the conclusions of the Draft EIS and receive oral comments from the public and responsible agencies; dates, times, and locations of the public hearings are provided in the notice of availability accompanying this Draft EIS. After the 60-day comment period, a Final EIS will be prepared that includes comments received on the Draft EIS; written responses to comments; a list of all persons, organizations, and agencies commenting on the Draft EIS; and, a copy of the Draft EIS, including any necessary revisions.

Subsection 3.7.4 of the TRPA Code allows the Governing Board to approve certain projects that could result in significant unavoidable impacts when specific considerations (e.g., economic, social, or technical) make mitigation or alternatives discussed in the EIS infeasible. In these circumstances, all findings must be in writing with substantial evidence in the record of review before a decision on the project can be made.

In its review of the proposed Edgewood Lodge and Golf Course Improvement Project and determination for action, the TRPA Governing Board will consider the entire environmental analysis contained in the Final EIS. The Governing Board will then decide whether to certify the document and, in a separate action, whether to approve, deny, or conditionally approve the project.

1.3 SUMMARY OF ALTERNATIVES CONSIDERED

1.3.1 ALTERNATIVE 1: 194 UNITS (PROPOSED PROJECT)

Alternative 1 (Proposed Project) includes construction of a new 194-unit lodge complex with a full-service spa and wellness center, restaurant and bar, and banquet and meeting space, as well as other accessory uses at the Edgewood Tahoe Golf Course. Additionally, Alternative 1 includes a series of environmental improvements. The following components are proposed as part of Alternative 1:

- **Lodge Complex**: A three-story lodge complex would be constructed with 194 tourist accommodation units (TAUs) and other improvements as follows:
  - A three-story hotel/lodge building that includes:
    - A pool terrace on its lakeside;
    - An approximately 1,810-square-foot porte-cochere (hotel entryway);
    - A mix of 1st floor uses that include: a 3,000-square-foot restaurant; an 800-square-foot bar area; approximately 8,750 square feet of banquet and meeting space (with a capacity of 250 seats); 550

square feet of retail space; lobby and living area; storage and mechanical equipment areas; an administrative area; employee facilities; and 28 hotel units;

- A mix of 2nd floor uses that include: an approximately 12,900-square-foot spa and wellness center; locker rooms; a library; storage areas; administrative areas; employee facilities; and 48 hotel units; and
- A 3rd floor that includes 78 hotel units.
- Amendment to TRPA Code Chapter 37, "Height" allowing additional height for tourist accommodation buildings containing 50 or more units within Special Area 1 of Plan Area Statement 070A (Edgewood).

- Ten casitas buildings with four multi-bedroom units in each (for a total of 40 units). The secondary vacation home market at the time of project delivery would dictate whether these units will be interval ownership units, nightly rental units, or some combination thereof.
- The lodge complex would include guest and employee parking, including a separate remote two-level parking structure (115 spaces on each level for a total of 230 spaces) near the golf course entrance; two levels of structured parking within the main lodge building (104 tandem and 81 single-car spaces, for a total of 185 spaces); a 24-space surface parking lot; and a 60-space off-site employee parking area on the Horizon Casino property across Lake Parkway.
- The lodge complex would also include: remodeling the existing Edgewood Water Company pump house; removal of the existing golf course snack bar and restroom building; and realigning the entrance to the property off of Lake Parkway and construction of a small gatehouse (approximately 180 square feet).

- **Expansion of the South Room at the Edgewood Clubhouse**: The Edgewood Clubhouse's existing South Room would be expanded by approximately 9,270 square feet. First (main) floor new amenities would include a 2,500 square-foot banquet room with seating capacity for 200 people, terrace, fire pit area, and an event lawn with seating capacity of up to 1,000 people. Basement expansion would include an additional 4,270 square feet to accommodate a relocated loading and receiving area directed away from the lake, additional storage, locker rooms, restrooms, and mechanical facilities. Existing overhead utility lines that run along the existing golf course driving range would be undergrounded as part of this project component.

- **Relocation of Existing Lakefront Residential Lots**: Two existing single-family residences would be removed and the allowed residential use would be relocated to higher capability land on the Edgewood Tahoe Golf Course property near the existing maintenance facility and east of golf hole 18 and the driving range. The relocated single-family residential lots would be approximately 1.5 acres each.

- **Public Beach, Lakefront Facilities, and Pedestrian Path**: The project would include public access to a variety of lakefront recreation opportunities that include a public swimming beach, food and beverage service, viewing decks, a shared-use access pathway, concessions (e.g., kayak and bicycle rentals), natural areas, restrooms, and open space. A new public access beach would extend south from the proposed relocated pier (see below) to the northern edge of the golf hazard zone near realigned golf hole 9. The total public beach area from the high water line to the backshore would be approximately 15,507 square feet (approximately 556 feet long by an average of 27 feet wide). The public beach area would be accessible via a paved pedestrian/bicycle path that parallels the north side of the main entry road to the Edgewood Tahoe Golf Course.

- **Pier Removal, Relocation, and Reconstruction**: The existing Pruett Pier would be removed, relocated, and reconstructed at a location approximately 1,200 feet north of its current location. The proposed multiple-use pier would be for private use, and would be accessible by Edgewood Lodge guests.

- **Golf Course and Cart Path Modifications**: The following modifications are required to ensure adequate golf safety zones exist in and around the lodge and on the proposed public beach, and to implement proposed water quality improvements:
  - Realignment of golf holes and fairways 7, 8, and 9.
  - Reshaping of golf holes and fairways 3, 13, and 14 associated with the pond 1 enhancements.
  - Reshaping of golf hole and fairway 6 associated with the pond 6 enhancements.
  - Realignment and reshaping of tees for golf holes 1 and 10 in association with wetland and creek improvements.
  - Realignment and reshaping of the putting greens.
  - Realignment and shaping of golf hole 18 cart path in association with pond 18 and related SEZ enhancements.
- **Threshold Improvement Projects**: Five improvement efforts, referred to as "Threshold Improvement Projects," would be carried out to enhance natural resources and contribute to attainment of TRPA environmental threshold carrying capacities. These projects would focus on improvements to water quality, vegetation, wildlife habitat, and SEZs (including riparian vegetation, soils, fisheries, and hydrology). The five Threshold Improvement Projects (A–E) include:
  - A: Edgewood Lodge Stormwater Approach – enhanced best management practices for the lodge complex
  - B: Water Quality Improvements to the Stateline Stormwater Association Pond System
  - C: Edgewood Creek Improvements
  - D: Friday's Station Dam Rehabilitation
  - E: Edgewood Tahoe Golf Course Fertilizer and Pond Management Plan

  A Monitoring, Inspection, and Operations Plan (MIOP) has also been prepared to ensure the benefits of the threshold improvement projects are maintained in perpetuity.

Other related improvements are proposed and include energy-efficient design elements, tree removal, circulation and parking improvements, and new utility infrastructure. These improvements are described in Chapter 3, "Project Description."

The proposed lodge building includes a building height that exceeds the existing height limits set forth in Chapter 37, "Height," of the TRPA Code to provide variability in the roof line and increased ceiling heights in some locations. The proposed lodge building design that requires an amendment to Chapter 37 of the TRPA Code is referred to as Alternative 1A herein. Alternative 1B includes the same development program as Alternative 1A, meaning the number and size of proposed units and accessory spaces would not change, but includes a proposed lodge design that complies with Chapter 37 of the TRPA Code. The extra "space" resulting from the Alternative 1A lodge design would create additional air space and/or accommodate mechanical equipment and possibly limited storage. When referring to Alternative 1 herein, unless otherwise specified, the reference applies to Alternatives 1A and 1B.

The proposed project is being designed to achieve at a minimum, a Leadership in Energy and Environmental Design (LEED®) Silver rating from the U.S. Green Building Council (USGBC). Edgewood Companies estimates the project would create 183 new full time or full-time equivalent (e.g., two half-time positions equal one full-time position) positions.

Construction of Alternative 1 would commence as soon as possible after project approval and acquisition of initial permits. Construction would be completed over the course of a minimum of 5 years, with initial construction anticipated to begin in 2013 and final project completion anticipated in fall 2017. Construction

activities would be continuous, except during winter months when activities may cease for a period of time. Construction staging would be established on the project area, on previously disturbed areas, and would be secured to prevent unauthorized access.

Alternative 1 is discussed in detail in Chapter 3, "Project Description," of this Draft EIS.

1.3.2 OTHER ALTERNATIVES CONSIDERED

In addition to Alternative 1, described above, this EIS addresses three alternatives: two alternative development proposals with varying development intensities for the proposed lodge and a "no project" alternative.

Alternative 2, like the proposed project, includes the construction of a lodge complex featuring all of the accessory uses and amenities described under Alternative 1. However, Alternative 2 would increase the number of proposed TAUs by 36 units, for a total of 230 units (123 hotel-type units and 107 interval ownership units). These units would be accommodated by six buildings: the main lodge, an annex, a small lodge, and three casitas buildings with four interval ownership units per building. Like the proposed project, the lodge complex would include a spa and wellness center, restaurant and bar, banquet and meeting space, and a parking structure, and a relocated, reconstructed, and expanded pier.

Alternative 3, the maximum buildout alternative, would be based on the maximum number of TAUs allowed by Special Area #1 in PAS 070A, which is 250 units. Of these, 127 would be hotel-type units and 123 would be interval ownership units. Like Alternatives 1 and 2, Alternative 3 would result in the construction of a lodge complex featuring all of the accessory uses and amenities described under Alternative 1. Similar to Alternative 2, the lodge complex under Alternative 3 would be composed of six buildings: the main lodge, an annex, a small lodge, and three casitas buildings. The complex also includes a spa and wellness center, restaurant and bar, banquet and meeting space, and a parking structure.

Alternatives 2 and 3 would result in exactly the same expansion of the Edgewood clubhouse, residential lot relocations, plans for achievement of silver LEED rating, lakefront recreation opportunities and lake access, golf course modifications, and threshold improvement projects as Alternative 1. Alternatives 2 and 3 also include the removal, relocation and reconstruction of the existing pier; however, under Alternative 2, the pier would be reconstructed in approximately the same location as the existing pier near the southern boundary of the site, and under Alternative 3, the pier would be reconstructed approximately 235 feet north of the location of the existing pier.

Under Alternative 4 (No Project Alternative), the project site would remain in its existing condition. No lodge development or golf course modifications would occur; the lakefront residential estates and surface parking lot would not be removed; no improvements to the Stateline Stormwater system or other water quality improvements would occur; and the project site would retain existing conditions with ongoing operations and maintenance of the existing Edgewood Tahoe Golf Course, restaurant, and clubhouse.

Alternatives 2, 3, and 4 are discussed in detail in Chapter 4, "Alternatives," of this Draft EIS.

1.4 KEY ENVIRONMENTAL ISSUES

This Draft EIS identifies and addresses the following key environmental issues that are known to the lead agency or were raised by agencies or interested parties during the public scoping period:

- TAU sourcing and development in a recreation PAS;
- Expansion of the Tahoe Basin's urbanized areas beyond their existing boundaries;

- Timing relative to TRPA's Regional Plan update;
- Site drainage and stormwater quality concerns, particularly given the site's proximity to Lake Tahoe;
- Source water quality concerns (water intake lines and wells);
- Concerns about adequate water supply and potential impacts on existing infrastructure;
- Changes in traffic patterns and concerns about adequate parking (both for guests on-site and public beach goers) and increases in region-wide vehicle miles traveled (VMT);
- Air quality associated with traffic;
- Potential noise impacts during project construction and operation;
- Potential impacts to Tahoe yellow cress and waterfowl;
- Fishing, recreation, and shorezone issues;
- Availability of low- and moderate-income housing for site employees;
- Concerns about opportunities for public recreation/access;
- Potential impacts to cultural resources, such as Washoe artifacts;
- Potential scenic impacts;
- Code amendment for additional height for the optional lodge design;
- Tree removal; and
- Consideration of the U.S. 50/South Shore Community Revitalization Project.

A summary of environmental issues raised during the scoping period, as well as the original comment letters, are included in Appendix A.

1.5 ISSUES SUBJECT TO PUBLIC CONTROVERSY

A variety of issues were raised during the public scoping process in summer 2009. Key issues that were raised by multiple commenters and may be issues subject to public controversy are listed above in Section 1.4, "Key Environmental Issues." The environmental effects related to these issues are addressed in Chapter 5, "Affected Environment and Environmental Consequences," of this Draft EIS.

1.6 SUMMARY OF IMPACTS AND MITIGATION

Chapter 5, "Affected Environment and Environmental Consequences," of this Draft EIS describes in detail the environmental impacts that would result from implementation of Alternatives 1 through 4. Impacts are classified as: (1) no impact (actions that result in no adverse effects); (2) beneficial (effects that show an improvement or favorable change in the environment); (3) less than significant (adverse effects that are not substantial); (4) significant (substantial or potentially substantial adverse changes in the environment, for which mitigation measures must be recommended, if feasible); and (5) significant and unavoidable (substantial or potentially substantial adverse changes in the environment that cannot be feasibly reduced with mitigation measures to a less-than-significant level).

Table 1-1 summarizes the potential environmental impacts that would result from implementation of Alternatives 1 through 4, and mitigation measures to avoid, eliminate, minimize, or reduce significant and potentially significant environmental impacts to less-than-significant levels, where feasible. In addition, Table 1-2 presents a comparison of the potential environmental impacts of the four project alternatives after mitigation.

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
5.2 Land Use			
Impact 5.2.1-1 Consistency with Regional Plan Land Use Goals and Policies, PAS 070A, PAS 080 and the Stateline Community Plan. Alternative 1 would result in a new lodge complex including 194 new TAUs, associated accessory facilities, a new lakefront recreation area, a relocated pier, expansion of the existing clubhouse, golf course enhancements, relocation of two lakefront residential lots, and threshold improvement projects. Alternative 1 is consistent with the relevant goals and policies of the Regional Plan and the Stateline Community Plan and with the policies of Plan Area Statements 070A and 080. For these reasons, this is a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.2.1-2 Consistency with Adjacent Land Uses or Expansion/Intensification of Existing Non-Conforming Uses. Alternative 1 would result in a project that includes uses that are described as permissible and desired in both PAS 070A where it is to be located and in the Stateline Community Plan. In addition, implementation of Alternative 1 supports attainment of the goals and objectives of the Stateline Community Plan. None of the existing uses on-site at the Edgewood Tahoe Golf Course, or in the area of Friday's Station pond are non-conforming. The proposed Alternative 1 uses are compatible with the surrounding uses and are consistent with the scale, density, intensity, and type of uses envisioned in PAS 070A and the Stateline CP. Therefore, this impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.2.2-1 Consistency with Regional Plan Goals and Policies, PAS 070A, PAS 080 and the Stateline Community Plan. Because the Alternative 2 land uses are consistent with the Alternative 1 land uses, this impact is the same as Alternative 1. Alternative 2 would result in a new lodge complex including 230 new tourist accommodation units, associated accessory facilities, a new public lakefront recreation area, a relocated pier, expansion of the existing clubhouse, golf course enhancements, relocation of two lakefront residential lots, and threshold improvement projects. Alternative 2 is consistent with the relevant goals and policies of the Regional Plan and the Stateline Community Plan and with the policies of Plan Area Statements 070A and 080. For these reasons, this is a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.2.2-2 Consistency with Adjacent Land Uses or Expansion/Intensification of Existing Non-Conforming Uses. This impact is the same as Alternative 1. Like Alternative 1, Alternative 2 proposes a project that includes uses that are described in both PAS 070A where it is to be located and in the Stateline Community Plan. In addition, implementation of Alternative 2 supports attainment of the goals and objectives of the Stateline Community Plan. None of the existing uses on-site at the Edgewood Golf Course, or in the area of Friday's Station pond are non-conforming. The Alternative 2 ration of primary to accessory uses is scaled commensurate with the additional number of units relative to Alternative 1, and as such would be similar to Alternative 1. The proposed Alternative 2 uses are compatible with the surrounding uses and are consistent with the scale, density, intensity, and type of uses envisioned in PAS 070A and the Stateline CP. Therefore this impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.2.3-1 Consistency with Regional Plan Goals and Policies, PAS 070A, PAS 080 and the Stateline Community Plan. Because the Alternative 3 land uses are consistent with the Alternative 1 land uses, this impact is the same as Alternative 1. Alternative 3 would result in a new lodge complex including 250 new tourist accommodation units, associated accessory facilities, a new lakefront recreation area, a relocated pier, expansion of the existing clubhouse, golf course enhancements, relocation of two lakefront residential lots, and threshold improvement projects. Alternative 3 is consistent with the relevant goals and policies of the Regional Plan and the Stateline Community Plan and with the policies of Plan Area Statements 070A and 080. For these reasons, this is a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.2.3-2 Consistency with Adjacent Land Uses or Expansion/Intensification of Existing Non-Conforming Uses. This impact is the same as Alternative 1. Like Alternative 1, Alternative 3 proposes a project that includes uses that are described in both PAS 070A where it is to be located and in the Stateline Community Plan. In addition, implementation of Alternative 3 supports attainment of the goals and objectives of the Stateline Community Plan. None of the existing uses on-site at the Edgewood Golf Course, or in the area of Friday's Station pond are non-conforming. The Alternative 3 ration of primary to accessory uses is scaled commensurate with the additional number of units relative to Alternative 1, and as such would be	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
similar to Alternative 1. The proposed Alternative 3 uses are compatible with the surrounding uses and are consistent with the scale, density, intensity, and type of uses envisioned in PAS 070A and the Stateline CP. Therefore, this impact is considered **less than significant**.			
5.3 Scenic Resources			
Impact 5.3.1-1 Effects on SR-1, Travel Route Ratings. Structures proposed under Alternative 1 (both Alternatives 1A and 1B), including the clubhouse expansion, main lodge, and related buildings, would not be visible from Roadway Travel Unit 32 – Casino Area and no visual impacts would occur to this unit. The proposed structures would, however, be visible to varying degrees from Lake Tahoe within Shoreline Travel Unit 30 – Edgewood. The majority of the proposed new development would be located within an existing grove of conifer trees that would partially screen the structures. Additional screening vegetation would be planted and the building exteriors would feature wood and stone materials and would be finished with dark colors. The visual impact on SR-1, Travel Route Ratings would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.3.1-2 Effects on SR-2, Scenic Quality Ratings. The proposed development associated with Alternative 1 (both Alternatives 1A and 1B) would be seen within the same visual context as a single identified and mapped TRPA Scenic Resource (SR 30.5), which is visible from Shoreline Travel Unit 30 – Edgewood. It appears in the photo simulations that the project would result in a decrease in existing manmade features within the project area in view from the lake even though there would be an increase in manmade structures in the shoreland. As a result, the scenic quality rating of SR 30.5 would be maintained. Therefore, the visual effect of the project on this TRPA-regulated scenic resource would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.3.1-3 Effects on SR-3, Public Recreation Areas and Bike Trails. Elements of Alternative 1 (the same for Alternatives 1A and 1B) would be partially visible within the context of identified TRPA Scenic Resources as viewed from TRPA Public Recreation Area No. 1 – Nevada Beach. The visual presence of elements of the project would be distant from Nevada Beach and within the context of the existing clubhouse and, as such, would not degrade views from Nevada Beach. For these reasons, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.3.1-4a Effects on SR-4, Community Design. The proposed lodge building in Alternative 1A would exceed the maximum allowable height in Chapter 37 of the TRPA Code. However, the project would comply with all other relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program. In addition, the applicant proposes a TRPA Code amendment that would allow the proposed maximum height. The extra height is considered necessary to create an articulated roofline that would improve the aesthetics of the lodge building. The maximum height allowable under the proposed amendment would apply to no more than 5 percent of the total roof area. The highest point of the roofline would be 60 feet or three-quarters of the height of the tallest nearby trees, whichever is less. The highest point of the roof would not extend above the forest canopy and the majority of the roof surface would be screened by existing trees when viewed from Lake Tahoe. Although building height has been a noted concern for Shoreline Travel Unit – 30 Edgewood, Alternative 1A would have a **less-than-significant** impact on the TRPA Community Design Threshold because the buildings would be mostly screened from the lake while the extra height would give variety and distinctiveness to the design. Alternative 1A would help achieve the Community Design Threshold through the use of natural wood and stone materials, TRPA-approved colors, and rustic alpine styling for the lodge complex buildings.	Less than significant	No mitigation is required.	Less than significant
Impact 5.3.1-4b Effects on SR-4, Community Design. Alternative 1B would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program, including maximum allowable building height. Therefore, Alternative 1B would have **no impact** on the TRPA Community Design Threshold. Instead,	No impact	No mitigation is required.	No impact

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Alternative 1B would help achieve this threshold through the use of natural wood and stone materials, TRPA-approved colors, and rustic alpine styling for the lodge complex buildings.			
Impact 5.3.2-1 Effects on SR-1, Travel Route Ratings. Alternative 2 would be located in the same area of the project site as Alternative 1; however, Alternative 2 proposes a 230-unit lodge complex rather than the 194-unit lodge. Alternative 2, including the lodge building, the annex building, and related buildings would not be visible from Roadway Travel Unit 32 – Casino Area. The pier would be located further south on the property (in the location of the existing pier), but this element alone would not alter the contrast rating analysis or visual effect of Alternative 2 relative to Alternative 1. The buildings in Alternative 2 would be visible to varying degrees from Lake Tahoe within Shoreline Travel Unit 30 – Edgewood. The majority of the proposed new development would be located among an existing grove of conifer trees and would, therefore, be partially screened. The visual impact on SR-1 TRPA Travel Route Threshold Ratings would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.3.2-2 Effects on SR-2, Scenic Quality Ratings. As with Alternative 1, Alternative 2 would be seen within the same visual context as a single identified and mapped TRPA Scenic Resource (SR 30.5), which is visible from Shoreline Travel Unit 30 – Edgewood. Alternative 2 would result in a decrease in existing manmade features within the project area in view from the lake even though there would be an increase in manmade structures in the shoreland. As a result, the scenic quality rating of SR 30.5 would be maintained. Therefore, the visual effect of the project on this TRPA-regulated scenic resource would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.3.2-3 Effects on SR-3, Public Recreation Areas and Bike Trails. Elements of Alternative 2 would be partially visible within the context of identified TRPA Scenic Resources as viewed from TRPA Public Recreation Area No. 1 – Nevada Beach. As with Alternative 1, the visual presence of elements of Alternative 2 would be distant from Nevada Beach and within the context of the existing clubhouse and, as such, would not degrade views from Nevada Beach. For these reasons, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.3.2-4 Effects on SR-4, Community Design. Alternative 2 would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program. Therefore, Alternative 2 would have **no impact** on TRPA Community Design Threshold. Instead, Alternative 2 would help achieve this threshold through the use of natural wood and stone materials, TRPA-approved colors, and use of rustic alpine styling for the lodge complex buildings.	No impact	No mitigation is required.	No impact
Impact 5.3.3-1 Effects on SR-1, Travel Route Ratings. Alternative 3 would be located in the same area of the project site as Alternative 1; however, Alternative 3 proposes a 250-unit lodge complex rather than the 194-unit lodge. Alternative 3, including the lodge building, the annex building, and related buildings would not be visible from Roadway Travel Unit 32 – Casino Area. The pier would be located further south on the property (midway between the southern end of the clubhouse and the southern property boundary) than with Alternative 1, but this element alone would not alter the contrast rating analysis or visual effect of Alternative 3 relative to Alternative 1. The buildings in Alternative 3 would be visible to varying degrees from Lake Tahoe within Shoreline Travel Unit 30 – Edgewood. The majority of the proposed new development would be located among an existing grove of conifer trees and would be partially screened. The visual impact on SR-1, Travel Route Ratings would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.3.3-2 Effects on SR-2, Scenic Quality Ratings. As with Alternative 1, Alternative 3 would be seen within the same visual context as a single identified and mapped TRPA Scenic Resource (SR 30.5), which is visible from Shoreline Travel Unit 30 – Edgewood. Alternative 3 would result in a decrease in existing manmade features within the project area in view from the lake even though there would be an increase in manmade	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
structures in the shoreland. As a result, the scenic quality rating of SR 30.5 would be maintained. Therefore, the visual effect of the project on this TRPA-regulated scenic resource would be a **less-than-significant** impact.			
Impact 5.3.3-3 Effects on SR-3, Public Recreation Areas and Bike Trails. Elements of Alternative 3 would be partially visible within the context of identified TRPA Scenic Resources as viewed from TRPA Public Recreation Area No. 1 – Nevada Beach. As with Alternative 1, the visual presence of elements of Alternative 3 would be distant from Nevada Beach and within the context of the existing clubhouse and, as such, would not degrade views from Nevada Beach. For these reasons, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.3.3-4 Effects on SR-4, Community Design. Alternative 3 would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program. Therefore, Alternative 3 would have **no impact** on TRPA Community Design Threshold. Instead, Alternative 3 would help achieve this threshold through the use of natural wood and stone materials, TRPA-approved colors, and use of rustic alpine styling for the lodge complex buildings.	No impact	No mitigation is required.	No impact
5.4 Recreation and Public Access			
Impact 5.4.1-1 Create the Need for New or Expanded Recreation Facilities. Implementation of Alternative 1 would relocate 194 TAUs to the project site from other south shore locations. Alternative 1 also includes new on-site lakefront recreational amenities as part of the lodge complex, including a spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayak and bicycle rentals), restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach. The additional TAUs would increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, Alternative 1 would not create demand for additional recreation facilities because the increase in visitors would be modest, there are existing recreation facilities available in close proximity, and the proposed project itself offers substantial new recreation capacity and lakefront recreation opportunities.	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Alternative 1 would increase the outdoor recreational capacity in the Stateline area available to the general public, and would therefore result in a **beneficial** recreation impact.			
Impact 5.4.1-2 Conflicts with Existing or Proposed Recreation Uses. Implementation of Alternative 1 would not result in substantial conflicts with any existing recreation uses in the area and is consistent with and actually implements those goals pertaining to improving public access to the lake in the Stateline area as described in the Stateline Community Plan. The proposed public beach area and the shared pedestrian/bicycle path to the beach, as well as other proposed lakefront recreation opportunities, are outside of golf hazard areas. Therefore golf play is not expected to pose a danger to people using the pathway or people on the beach. Construction of the relocated and extended pier would result in temporary, localized substrate and water column disturbance, but would not impair or reduce fish habitat or otherwise impair recreational fishing activities. Because no new mooring buoys or boating facilities are proposed as part of the project, no increase in boat activity levels is expected, and little change, if any, in the opportunities and/or quality of fishing in the project area would occur. A designated swim area would be roped off at the public beach to protect swimmers from boating activities associated with the relocated pier. For these reasons, this would be **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.4.2-1 Create the Need for New or Expanded Recreational Facilities. Implementation of Alternative 2 would relocate 230 TAUs to the project site from other locations in the south shore area. Similar to Alternative 1, Alternative 2 also includes new on-site lakefront recreational amenities as part of the lodge complex, including a spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayak and bicycle rentals), natural areas, restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach. The additional TAUs would increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, Alternative 2 would not create demand for additional recreation facilities because the increase in visitors would be modest; there are existing recreation facilities available in	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
close proximity; and the proposed project itself offers substantial new recreation capacity and opportunities. Alternative 2 would increase the outdoor recreational capacity in the Stateline area available to the general public, and would therefore result in a **beneficial** recreation impact.			
Impact 5.4.2-2 Conflicts with Existing or Proposed Recreation Uses. This impact would be the same as that described for Alternative 1. Implementation of Alternative 2 would not result in substantial conflicts with any existing recreation uses in the area and is consistent with and actually implements those goals pertaining to improving public access to the lake in the Stateline area as described in the Stateline Community Plan. The proposed public beach area and the shared pedestrian/bicycle path to the beach, as well as other proposed lakefront recreation opportunities, are outside of golf hazard areas. Therefore golf play should not pose a danger to people using the pathway or people on the beach. Construction of the relocated and extended pier would result in temporary, localized substrate and water column disturbance, but would not impair or reduce fish habitat or otherwise impair recreational fishing activities. Alternative 2 is not expected to cause an increase in boat activity levels. No new mooring buoys or boating facilities would be provided. Because boat activity levels are not expected to noticeably increase, there would be little change to the opportunities and/or quality of fishing in the project area. A designated swim area would be roped off at the public beach to protect swimmers from boating activities associated with the relocated pier. For these reasons, this would be **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.4.3-1 Create the Need for New or Expanded Recreational Facilities. Implementation of Alternative 3 would relocate 250 TAUs to the project site from other locations in the south shore area. Similar to Alternative 1, Alternative 3 also includes new on-site lakefront recreational amenities as part of the lodge complex, including a spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayak and bicycle rentals), natural areas, restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach. The additional TAUs would increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, Alternative 3 would not create demand for additional recreation facilities because the increase in visitors would be modest; there are existing recreation facilities available in close proximity; and the proposed project itself offers substantial new recreation capacity and opportunities. Alternative 3 would increase the outdoor recreational capacity in the Stateline area available to the general public, and would therefore result in a **beneficial** recreation impact.	Beneficial	No mitigation is required.	Beneficial
Impact 5.4.3-2 Conflict with Existing or Proposed Recreation Uses. This impact would be the same as that described for Alternative 1. Implementation of Alternative 3 would not result in substantial conflicts with any existing recreation uses in the area and is consistent with and actually implements those goals pertaining to improving public access to the lake in the Stateline area as described in the Stateline Community Plan. The proposed public beach area and the shared pedestrian/bicycle path to the beach, as well as other proposed lakefront recreation opportunities, are outside of golf hazard areas. Therefore golf play should not pose a danger to people using the pathway or people on the beach. Construction of the relocated and extended pier would result in temporary, localized substrate and water column disturbance, but would not impair or reduce fish habitat or otherwise impair recreational fishing activities. Alternative 3 is not expected to cause an increase in boat activity levels. No new mooring buoys or boating facilities would be provided. Because boat activity levels are not expected to noticeably increase, there would be little change to the opportunities and/or quality of fishing in the project area. A designated swim area would be roped off at the public beach to protect swimmers	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
from boating activities associated with the relocated pier. For these reasons, this would be **less-than-significant** impact.			
5.5 Geology, Soils, and Land Capability and Coverage			
Impact 5.5.1-1 Land Coverage. Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking areas, relocated residences, public path, and the expanded clubhouse associated with Alternative 1. No coverage transfer would be required. Alternative 1 would require relocation of a substantial amount of existing coverage within the project area. Because coverage would be relocated in accordance with Subsection 30.4.5 of the Code, any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement in accordance with Section 30.6 of the Code, and Alternative 1 would not require coverage in excess of that allowed by the TRPA land classification system and coverage requirements, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.5.1-2 Site Topography, Grading, and Soil Erosion. Implementation of Alternative 1 would change the site topography, could expose soils and SEZ areas to adverse effects from erosion during construction activities, and would result in grading in excess of 5 feet below ground surface (bgs) and in locations of potential shallow groundwater, requiring findings pursuant to Code Subsection 33.3.6. This impact would be **potentially significant**.	Potentially significant	**Mitigation Measure 5.5.1-2a: Submit Geotechnical Engineering Report and Comply with all TRPA Codes and Douglas County Regulations.** As part of the latter phases of project design, the project applicant shall submit to TRPA and Douglas County for review and approval, a final geotechnical engineering report produced by a Registered Civil Engineer or Geotechnical Engineer. The report shall address and make final recommendations on the following: (1) road, pavement, and parking area design; (2) structural foundations, including retaining wall design (if applicable); (3) stormwater treatment system, water quality improvements, and BMP designs (regarding infiltrating areas); (4) grading practices; (5) erosion/winterization; (6) special problems discovered on-site (i.e., groundwater, expansive/unstable soils); and (7) slope stability. Furthermore, the report shall demonstrate a minimum of 2 feet of separation from the bottom of building footings and a minimum of 1 foot of separation from the bottom of any infiltrating areas to seasonal high groundwater. All feasible recommendations made by the engineer shall be implemented by the project applicant. It is the responsibility of	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		the project applicant to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report. The applicant shall obtain all necessary TRPA permits and approvals and shall follow all required TRPA Code provisions and procedures with respect to grading and excavation, including but not limited to the following: 〉 The applicant shall comply with the requirements of Chapter 33 of the TRPA Code, including grading requirements, and the requirement that proper erosion control measures shall be applied where soil stockpiling or borrow areas are to remain for more than one construction season; 〉 the applicant shall comply with the pre-construction requirements of Chapter 33 of the TRPA Code; 〉 the applicant shall comply with the revegetation requirements of Chapters 30 and 61 of the TRPA Code; and 〉 the applicant shall submit a winterization plan to TRPA that shall comply with the requirements of Chapters 33, and 60 of the TRPA Code. The applicant shall obtain all necessary Douglas County permits and approvals (including a Site Improvement Permit) and shall follow all required County laws, regulations, and procedures with respect to the proposed project, in preparation of the Improvement Plans, which shall: 〉 list specific conditions for the project; 〉 demonstrate that the work shall conform to provisions of the County Grading Ordinance in effect at the time of submittal; 〉 provide erosion control measures where roadside drainage is off the pavement; and	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		〉 specify monitoring by a geotechnical engineer during all excavation activities, placement of fill, and disposal of materials removed from and deposited on the project site. **Mitigation Measure 5.5.1-2b: Implement Temporary Best Management Practices as Part of Mitigation Measure 5.6.1-1.** The Storm Water Pollution Prevention Plan (SWPPP) developed and implemented as part of Mitigation Measure 5.6.1-1 (Section 5.6, "Hydrology and Water Quality") shall include water quality controls consistent with TRPA and NDEP requirements, shall ensure that runoff quality meets TRPA water quality requirements specified in the TRPA Code, and shall ensure that beneficial uses of Lake Tahoe, as defined by the Nevada Administrative Code NAC 445A.191, are maintained. **Mitigation Measure 5.5.1-2c: Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.6.1-5.** See Mitigation Measure 5.6.1-5 (Section 5.6, "Hydrology and Water Quality") described for Alternative 1. The same mitigation measure would apply.	
Impact 5.5.1-3 Seismic Hazards. There are active faults in the Lake Tahoe Basin, which could be sources of ground shaking at the project site during a seismic event. Seismic events could also result in tsunami or seiche within Lake Tahoe, potentially effecting low-lying lakeside areas, including the project area. Structures proposed as part of Alternative 1 would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3. Therefore, there would be no substantial increased risk of loss, injury, or death or property damage from strong ground shaking alone. Given the proximity of the development proposed as part of Alternative 1 to the shores of Lake Tahoe, there is a risk of inundation from a tsunami or seiche triggered by a seismic event, particularly for visitors recreating outdoors and unaware of the risk. Therefore, this is considered a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.5.1-3: Prepare Emergency Response and Evacuation Plan.** Prior to TRPA permit acknowledgement, the project applicant shall prepare and submit an emergency response and evacuation plan to TRPA, the Douglas County Emergency Response Council, and the Tahoe Douglas Fire Protection District that for review and approval. The plan shall include detailed descriptions of how emergency response and evacuation will occur in the case of a large earthquake and tsunami or seiche event. Emergency response and evacuation measures shall identify steps that help avoid, reduce, alleviate, and mitigate disaster damage and potential loss of life.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.5.1-4 Other Geologic Hazards. The project site is relatively level and is not subject to landslides or mudslides. However the Preliminary Soils/Hydrologic Evaluation conducted for the project found loose to dense, moist to wet, granular soils in the upper 8 feet of the project site within which, if structural footings were to be founded, could cause excessive settlement. This is a **potentially significant** impact.	Potentially significant	**Mitigation 5.5.1-4: Implement Geotechnical Engineering Recommendations Required as Part of Mitigation Measure 5.5.1-2a.** The geotechnical report developed as part of Mitigation Measure 5.5.1-2a shall address and identify any required measures with regard to the following: (1) road, pavement, and parking area design; (2) structural foundations, including retaining wall design (if applicable); (3) stormwater treatment system, water quality improvements, and BMP designs (regarding infiltrating areas); (4) grading practices; (5) erosion/winterization; (6) special problems discovered on-site (i.e., groundwater, expansive/unstable soils); and (7) slope stability. All requirements identified by the engineer shall be incorporated into the latter phases of project design and implemented by the project applicant.	Less than significant
Impact 5.5.2-1 Land Coverage. Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking, relocated residences, and the expanded clubhouse associated with Alternative 2. No coverage transfer would be required. Alternative 2 would require relocation of a substantial amount of existing coverage within the project area. Because coverage would be relocated in accordance with Subsection 30.4.5 of the Code, any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgment in accordance with Section 30.6 of the Code, and Alternative 2 would not require coverage in excess of that allowed by the TRPA land classification system and coverage requirements, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.5.2-2 Site Topography, Grading, and Soil Erosion. As with Alternative 1, implementation of Alternative 2 would change the site topography, could expose soils and SEZ areas to adverse effects from erosion during construction activities, and would result in grading in excess of 5 feet below ground surface (bgs) and in locations of potential shallow groundwater, requiring findings pursuant to Code Subsection 33.3.6. This impact would be **potentially significant.**	Potentially significant	**Mitigation Measure 5.5.2-2a: Submit Geotechnical Engineering Report and Comply with all TRPA Codes and Douglas County Regulations.** See Mitigation Measure 5.5.1-2a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.5.2-2b: Implement Best Management Practices as Part of Mitigation Measure 5.6.2-1.** See Mitigation Measure 5.5.1-2b described above for Alternative 1.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		The same mitigation measure would apply. **Mitigation Measure 5.5.2-2c: Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.6.2-5.** See Mitigation Measure 5.5.1-2c described above for Alternative 1. The same mitigation measure would apply.	
Impact 5.5.2-3 Seismic Hazards. Because Alternative 2 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-3 described above. There are active faults in the Lake Tahoe Basin, which could be sources of ground shaking at the project site during a seismic event. Seismic events could also result in tsunami or seiche within Lake Tahoe, potentially effecting low-lying lakeside areas, including the project area. Structures proposed as part of Alternative 2 would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3. Therefore, there would be no substantial increased risk of loss, injury, or death or property damage from strong ground shaking alone. Given the proximity of the development proposed as part of Alternative 2 to the shores of Lake Tahoe, there is a risk of inundation from a tsunami or seiche triggered by a seismic event, particularly for visitors recreating outdoors and unaware of the risk. Therefore, this is considered a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.5.2-3: Prepare Emergency Response and Evacuation Plan.** See Mitigation Measure 5.5.1-3 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.5.2-4 Other Geologic Hazards. Because Alternative 2 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-4 described above. The project site is relatively level and is not subject to landslides or mudslides. However the Preliminary Soils/Hydrologic Evaluation conducted for the project found loose to dense, moist to wet, granular soils in the upper 8 feet of the project site within which, if structural footings were to be founded, could cause excessive settlement. This is a **potentially significant** impact.	Potentially significant	**Mitigation 5.5.2-4: Implement Geotechnical Engineering Recommendations Required as Part of Mitigation Measure 5.5.2-2a.** See Mitigation Measure 5.5.1-4 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.5.3-1 Land Coverage. Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking, relocated residences, and the expanded clubhouse associated with Alternative 3. No coverage transfer would be required. Alternative 3 would require relocation of a substantial amount of existing coverage within the project area. Because coverage would be relocated in accordance with Subsection 30.4.5 of the Code, any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement in accordance with Section 30.6 of the Code, and Alternative 3 would not require coverage in excess of that allowed by the TRPA land classification system and coverage requirements, this would be a **less-than-significant** impact**.**	Less than significant	No mitigation is required.	Less than significant
Impact 5.5.3-2 Site Topography, Grading, and Soil Erosion. As with Alternative 1, implementation of Alternative 3 would change the site topography, could expose soils and SEZ areas to adverse effects from erosion during construction activities, and would result in grading in excess of 5 feet below ground surface (bgs) and in locations of potential shallow groundwater, requiring findings pursuant to Code Subsection 33.3.6. This impact would be **potentially significant**.	Potentially significant	**Mitigation Measure 5.5.3-2a: Submit Geotechnical Engineering Report and Comply with all TRPA Codes and Douglas County Regulations.** See Mitigation Measure 5.5.1-2a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.5.3-2b: Implement Best Management Practices as Part of Mitigation Measure 5.6.3-1.** See Mitigation Measure 5.5.1-2b described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.5.3-2c: Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.6.3-5.** See Mitigation Measure 5.5.1-2c described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.5.3-3 Seismic Hazards. Because Alternative 3 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-3 described above. There are active faults in the Lake Tahoe Basin, which could be sources of ground shaking at the project site during a seismic event. Seismic events could also result in tsunami or seiche within Lake Tahoe, potentially effecting low-lying lakeside areas, including the project area. Structures proposed as part of Alternative 3 would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3. Therefore, there would be no substantial increased risk of	Potentially significant	**Mitigation Measure 5.5.3-3: Prepare Emergency Response and Evacuation Plan.** See Mitigation Measure 5.5.1-3 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
loss, injury, or death or property damage from strong ground shaking alone. Given the proximity of the development proposed as part of Alternative 3 to the shores of Lake Tahoe, there is a risk of inundation from a tsunami or seiche triggered by a seismic event, particularly for visitors recreating outdoors and unaware of the risk. Therefore, this is considered a **potentially significant** impact.			
Impact 5.5.3-4 Other Geologic Hazards. Because Alternative 3 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-4 described above. The project site is relatively level and is not subject to landslides or mudslides. However the Preliminary Soils/Hydrologic Evaluation conducted for the project found loose to dense, moist to wet, granular soils in the upper 8 feet of the project site within which, if structural footings were to be founded, could cause excessive settlement. This is a **potentially significant** impact.	Potentially significant	**Mitigation 5.5.3-4: Implement Geotechnical Engineering Recommendations Required as Part of Mitigation Measure 5.5.3-2a**. See Mitigation Measure 5.5.1-4 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
5.6 Hydrology and Water Quality			
Impact 5.6.1-1 Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction. Soil disturbance associated with construction of Alternative 1 could cause accelerated soil erosion and sedimentation and the release of other pollutants associated with construction activities to adjacent waterways and wetlands. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.1-1: Prepare and Implement a Storm Water Pollution Prevention Plan.** The project applicant shall prepare a Stormwater Pollution Prevention Plan (SWPPP) with water quality controls consistent with TRPA and NDEP requirements, and shall ensure that runoff quality meets TRPA water quality requirements under the TRPA Code, and maintains beneficial uses of Lake Tahoe, as defined by the Nevada Administrative Code (NAC) 445A.191. The following shall be included in the SWPPP: 〉 Temporary BMPs to prevent the transport of earthen materials and other construction waste materials from disturbed land areas, stockpiles, and staging areas during periods of precipitation or runoff, including: filter fence, fiber roll, erosion control blankets, mulch (pine needles, wood chips, etc.); temporary drainage swales and settling basins; pre-grade inspection of temporary BMPs by TRPA staff a minimum of 48 hours prior to commencing construction activities to identify inadequacies in the	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		installation of temporary BMPs; and shutdown of grading operations during inclement weather and between October 15 and May 1 (unless TRPA issues an exemption to the grading prohibition). 〉 Temporary BMPs to prevent the tracking of earthen materials and other waste materials from the project site to offsite locations, including stabilized points of entry/exit for construction vehicles/equipment and designated vehicle/equipment rinse stations. 〉 Temporary BMPs to prevent wind erosion of earthen materials and other waste materials from the project site, including routine application of water to disturbed land areas and covering of stockpiles with plastic or fabric sheeting. 〉 Temporary BMPs to prevent the migration of earthen materials and other waste materials from disturbed land areas to existing storm drain facilities, including: fiber roll and/or gravel filled bags placed around grated inlets (drop inlet protection), gravel filled bags or fiber rolls placed at regular intervals along existing curb and gutter, and broom sweeping (hand or mechanical) of earthen materials tracked onto paved areas that drain to existing storm drain facilities. 〉 Temporary BMPs to capture and contain pollutants from fueling operations, fuel storage areas, and other areas used for the storage of hydrocarbon based materials. This shall include materials on site such as oil absorbent booms and sheets for the cleanup of accidental spills, drip pans beneath construction equipment, training of site workers in spill response measures, immediate cleanup of spilled materials in accordance with directives from the TRPA and the NDEP, and proper disposal of waste materials at an approved offsite location that is licensed to receive such wastes.	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		〉 Temporary BMPs to capture and contain pollutants generated by concrete construction including lined containment to collect runoff from washing of concrete delivery trucks and equipment. 〉 Temporary BMPs to prevent damage to trees and other vegetation that are to remain after construction, including tree protection fencing and individual tree protection such as wood slats strapped along the circumference of trees. 〉 Temporary BMPs for the isolation and diversion of surface waters within the project area (e.g., Edgewood Creek) through and around construction zones including temporary lined diversion channels and piping. 〉 Temporary BMPs for the containment of disturbed sediment associated with new pier construction including turbidity barriers. 〉 Temporary BMPs for the containment of waste associated with pier demolition including netting/fabric installed below the pier deck to prevent waste materials from falling into Lake Tahoe. 〉 Regular inspection and maintenance of temporary BMPs. 〉 Construction boundary fencing to limit disturbance and prevent access to areas not under active construction. 〉 Construction schedule, winterization plan, and dewatering plan. In addition to that noted above: 〉 The applicant shall obtain all necessary Douglas County permits and approvals, and shall follow all required County laws and procedures with respect to temporary BMPs and the maintenance thereof, grading and	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		excavation for the proposed project, and all construction related water quality issues. 〉 Edgewood Creek is potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the CWA. The applicant shall develop a preliminary wetland delineation for the project site to be verified by the USACE. If deemed necessary, the applicant shall obtain a Section 404 permit from the USACE and shall comply with all applicable provisions of the 404 permit.	
Impact 5.6.1-2 Changes in Surface Runoff Patterns. In the baseline condition, surface runoff from the parking lots is pumped and treated in the wetland system between ponds 6 and 10 and remains as surface runoff. The proposed water quality facilities described in the stormwater management approach for Alternative 1 would emphasize stormwater detention and infiltration to a greater degree than BMPs used in the baseline condition, which would result in a reduction of total surface runoff volumes discharged to the local drainage system and Edgewood Creek. Furthermore, the proposed project would comply with all applicable Douglas County Design Criteria and Improvement Standards for drainage design and peak flow conveyance. Because the proposed project would reduce annual runoff volumes and comply with applicable drainage design standards, the proposed project would have a **less-than-significant** impact on existing surface water drainage patterns and existing or planned stormwater drainage systems.	Less than significant	No mitigation is required.	Less than significant
Impact 5.6.1-3 Geomorphic Effects of Creek Modifications. Alternative 1 would reconstruct a portion of the Edgewood Creek channel, construct a new Lake Tahoe outlet, and modify/eliminate constructed ponds that are currently on the channel. The project applicant is proposing creek modifications as a voluntary water resource improvement that is in addition to measures required to mitigate the impacts of the project. The proposed creek modifications would likely result in a benefit by: 1) improving aquatic and riparian habitat by improving fish passage and providing spawning areas; 2) improving water quality by increasing vegetated floodplain and increasing fine sediment capture; and 3) improving channel stability by re-	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
creating a more functional channel/floodplain system. Potential adverse geomorphic effects of the proposed creek modifications under Alternative 1 could include the potential to create channel instability and erosion during flood events. Because the proposed creek modifications would re-create a more functional channel/floodplain system relative to the baseline condition, and because a detailed design review process is proposed by the project applicant and would be required by applicable permitting agencies (e.g., TRPA, Douglas County, and USACE) to ensure that potentially adverse geomorphic effects of channel instability and erosion during flood events associated with the proposed modifications are avoided, this impact is considered to be **beneficial**.			
Impact 5.6.1-4 Pollutant Loading in Surface Runoff. Alternative 1 would implement water quality mitigation measures that are designed above and beyond TRPA requirements for BMPs associated with the lodge complex component of the project. Additionally, Alternative 1 would include a number of voluntary water quality improvements that are in addition to measures required to mitigate the impacts of the project, which include: (1) increasing the effectiveness of pollutant load reductions achieved by the wet pond treatment system (ponds 6 and 10) associated with the SSWA treatment system; (2) increasing the effectiveness of pollutant load reductions achieved by the Edgewood Creek pond system; and (3) committing to maintain the pond systems as water quality treatment BMPs in perpetuity as defined in the proposed Monitoring, Inspection, and Operations Plan. In total, the required water quality mitigation measures and the additional water quality improvements proposed by the project applicant would decrease pollutant loading in surface runoff from the project site and the Edgewood Creek Watershed. This impact is considered **beneficial**.	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.6.1-5 Interception of Groundwater Table During Construction. Based on data generated during the soils/hydrologic subsurface investigations, the majority of proposed construction excavation for Alternative 1 would not encounter groundwater. However, in a few locations excavation activities may intercept the groundwater table or exceed 5 feet in depth below ground surface, creating the potential for introduction of contaminants to groundwater. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.1-5: Develop and Implement a Dewatering Plan.** A Dewatering Plan shall be developed and implemented to protect groundwater during excavations from potential sediment and contaminant releases, including methods to clean up releases if they do occur. The plan shall also include methods for controlling potentially sediment-laden water from dewatering activities. Measures to prevent or minimize sediment and contaminant releases into groundwater during excavations, and methods to clean up releases if they occur may include: using temporary berms or dikes to isolate construction activities; using vacuum trucks to capture contaminant releases; and maintaining absorbent pads, and other containment and cleanup materials on-site to allow an immediate response to contaminant releases if they occur. Measures for controlling potentially sediment-laden water from dewatering activities may include routing pumped groundwater to an infiltration basin or to a treatment system. Under the conditions of the TRPA approval of excavation depth for the proposed project (TRPA File # LCAP2008-0184), if subsurface conditions are found to be significantly different than those determined by the soils and hydrologic studies, TRPA shall be notified immediately.	Less than significant
Impact 5.6.1-6 Interference with Littoral Processes from the Relocated, Reconstructed, and Expanded Pier and Relocated Mouth of Edgewood Creek. Alternative 1 would relocate the mouth of Edgewood Creek south of its current location. Because Edgewood Creek is not a significant source of beach sand to the littoral zone of Lake Tahoe; the beaches along the Edgewood property are influenced mostly by backshore erosion (as in most places on the Lake); the littoral cell of the shore at Edgewood does not have the same wave energy as other locations on Lake Tahoe where the Lake's shelf structure is deep (e.g., Third and Incline Creeks); and the proposed relocated mouth would be constructed such that no part of the improvements would be above grade that could alter, redirect, or otherwise interfere with shoreline currents; the relocated mouth of the creek is not anticipated to have an adverse effect on littoral processes. For these	Less than significant	No mitigation is required.	Less than significant
	Significant	**Mitigation Measure 5.6.1-6: Reduce Floating Section of the Pier to 30 Feet.** The floating section shall be reduced to no more than 30 feet in length. The fixed section could be lengthened to 93 feet to maintain the overall length of the pier if desired. At 30 feet, the floating section would be short enough that it would not substantially affect littoral transport. As an alternative, the entire pier could be constructed so it is supported by open piling, with no floating segment.	Less than significant
	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
reasons, this impact is **less than significant**. The proposed relocation, reconstruction and expansion of the existing pier associated with Alternative 1 would be designed and constructed consistent with the provisions of TRPA Code Subsection 84.5.2, "Design and Construction Standards," relevant to littoral processes. These standards were adopted to reflect the results of studies that establish criteria to avoid significant littoral drift impacts. However, Subsection 84.9.4 allows deviation from the standards for multiple-use facilities. The proposed pier is a multiple-use facility and deviates from the design standards specified in Subsection 84.5.2. The floating section of the proposed pier is large enough to disrupt wave actions when lake elevations range from 6225 to 6226 feet (average lake level is 6225 feet and ranges from below the low water rim of 6223 feet to high water conditions above 6229 feet). As a result, the proposed floating section of the pier has the potential to interfere with littoral processes and this would be a **significant** impact. Further, the pilings for the Alternative 1 pier (fixed and floating segments) provide less potential for littoral interference (slightly lesser mass of pilings) than the existing pier that would be removed. Because the Design and Construction Standards were established to avoid substantial littoral drift, and because the proposed project's mass of pilings would be less than the existing pier, the littoral processes associated with the fixed portion of the pier are expected to be slightly less than under existing conditions. Therefore, this impact is **less than significant**.			
Impact 5.6.1-7 Degradation of Water Quality During Pier Relocation and Extension. Alternative 1 includes removal of the existing pier, and relocation and construction of a new pier. A total of 14 pilings are proposed for pier construction with parallel pilings on fixed pier sections (four per section) and a single piling for each floating section. Pier installation would result in minor disturbance of the lake bottom and minimal resuspension of sediments, nutrients, and other pollutants. The minimal disturbance to the lake bottom associated with Alternative 1 would not adversely affect Lake Tahoe water quality or cause established water quality standards to be exceeded. Therefore, this impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.6.1-8 Degradation of Source Water Quality from Boating Activity and Increased Beach Recreation. Alternative 1 would include the relocation and extension of the existing pier and would provide new public beach access. The proposed project would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities associated with the relocated pier. The proposed public beach access is not intended to accommodate a large number of people, and Edgewood Companies proposes to adaptively manage public access by potentially setting a limit to the number of people that may use the beach during peak periods. Furthermore, the Edgewood Water Company primary water supply intake line extends over 2,000 feet from the beach, and its backup line is located over 700 feet from the beach. These distances from the shoreline, combined with the depths of the intakes is sufficient to protect source water quality. This impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.6.1-9 Flood Hazard Effects. Based on the most recent Douglas County Flood Insurance Rate Maps (January 2010), Alternative 1 would site structures outside the 100-year flood hazard boundary and would not result in placement within the 100-year flood hazard boundary any structures that would impede or redirect flood flows. However, the current flood hazard boundary in the vicinity of the proposed project was delineated using approximate methodologies and is classified as a Zone A boundary, which does not provide base flood elevations. In this situation, Douglas County Floodplain Management Code (Section 20.50) requires additional study by a licensed civil engineer to delineate the floodplain boundary using approved engineering methods to confirm that proposed structures do not encroach into a special flood hazard area. Because the floodplain boundary on the subject parcels has not been delineated to required Douglas County standards to make the necessary findings, this impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.1-9: Produce a Floodplain Delineation that Meets Douglas County Standards.** The project applicant shall confirm the proximity of proposed structures relative to the 100-year flood hazard boundary by developing a floodplain delineation using approved engineering methods that meet Douglas County standards. In the event that the floodplain delineation identifies proposed structures to be within the 100-year flood hazard boundary, the project applicant shall either relocate the structures, or comply with additional requirements of the Douglas County Floodplain Management Code and Section 35.4 of the TRPA Code.	Less than significant
Impact 5.6.1-10 Degradation of Groundwater Quality from Golf Course Modifications and the Proposed Event Lawn. Alternative 1 would include the reconfiguration and relocation of golf holes 7, 8, and 9 and a new event lawn that extends from the clubhouse expansion. The proposed reconfiguration would relocate golf play closer to Lake Tahoe for the green on golf hole 9 (albeit not closer than existing turf associated with golf hole	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
18) and the event lawn adjacent to the clubhouse expansion. Alternative 1 would also increase the area of buffer strips that separate fertilized turf areas from surface water features on the golf course by approximately 4 acres. Finally, Alternative 1 includes a commitment to maintain a reduction in golf course area that is fertilized by 23.5 acres relative to the baseline condition and to install two new groundwater monitoring wells near turf areas. In total, the proposed project would result in an overall reduction in the amount of fertilizer applied on the golf course, which would likely have a benefit to existing groundwater quality. Therefore, the cumulative modifications to the golf course and fertilized turf areas under Alternative 1 are considered to be a **less-than-significant** impact on groundwater quality.			
Impact 5.6.2-1 Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction. Because Alternative 2 would be constructed on the same site and would result in a similar level of construction disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-1 described above for Alternative 1. Soil disturbance associated with construction of Alternative 2 could cause accelerated soil erosion and sedimentation or the release of other pollutants associated with construction activities to adjacent waterways and wetlands. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.2-1: Prepare and Implement a Storm Water Pollution Prevention Plan.** See Mitigation Measure 5.6.1-1 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.6.2-2 Changes in Surface Runoff Patterns. Because Alternative 2 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would use the same BMPs and stormwater management approach as described for Alternative 1, this impact is similar to Impact 5.6.1-2 described above for Alternative 1. Alternative 2 would increase impervious coverage relative to Alternative 1 (an increase of 66,486 square feet or 1.5 acres), but would reduce annual surface runoff volumes compared to the baseline condition. In the baseline condition surface runoff from the parking lots is pumped and treated in the wetland system between ponds 6 and 10, and remains surface runoff. Water quality facilities for Alternative 2 would emphasize stormwater detention and infiltration to a greater degree than that current BMPs used in the baseline condition. Furthermore, Alternative 2 would comply with all applicable Douglas County Design Criteria and Improvement Standards for drainage design and peak flow conveyance. Because Alternative 2 would	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
reduce annual runoff volumes and comply with applicable drainage design standards, the proposed project would have a **less-than-significant** impact on existing surface water drainage patterns and existing or planned stormwater drainage systems.			
Impact 5.6.2-3 Geomorphic Effects of Creek Modifications. Because Alternative 2 would include the same creek modifications as Alternative 1, this impact is the same as Impact 5.6.1-3 described above for Alternative 1. The proposed creek modifications would likely result in a benefit by: 1) improving aquatic and riparian habitat by improving fish passage and providing spawning areas; 2) improving water quality by increasing vegetated floodplain and increasing fine sediment capture; and 3) improving channel stability by re-creating a more functional channel/floodplain system. Potential adverse geomorphic effects of the proposed creek modifications under Alternative 2 could include the potential to create channel instability and erosion during flood events. Because the proposed creek modifications would re-create a more functional channel/floodplain system relative to the baseline condition, and because a detailed design review process is proposed by the project applicant and would be required by applicable permitting agencies (e.g., TRPA, Douglas County, and USACE) to ensure that potentially adverse geomorphic effects of channel instability and erosion during flood events associated with the proposed modifications are avoided, this impact is considered to be **beneficial**.	Beneficial	No mitigation is required.	Beneficial
Impact 5.6.2-4 Pollutant Loading in Surface Runoff. Because Alternative 2 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would apply similar water quality mitigation measures and the same additional water quality improvements as described for Alternative 1, this impact is similar to Impact 5.6.1-4 described above for Alternative 1. In total, the required water quality mitigation measures and the additional water quality improvements proposed by the project applicant for Alternative 2 would decrease pollutant loading in surface runoff from the project site and the Edgewood Creek watershed. This impact is considered **beneficial**.	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.6.2-5 Interception of Groundwater Table During Construction. Because Alternative 2 would be constructed on the same site and would result in a similar level of construction related disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-5 described above for Alternative 1. Based on data generated during the soils/hydrologic subsurface investigations, the majority of proposed construction excavation for Alternative 2 would not encounter groundwater. However, in a few locations excavation activities may intercept the groundwater table or exceed 5 feet in depth below ground surface, creating the potential for introduction of contaminants to groundwater. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.2-5: Develop and Implement a Dewatering Plan.** See Mitigation Measure 5.6.1-5 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.6.2-6 Interference with Littoral Processes from the Reconstructed and Expanded Pier and Relocated Mouth of Edgewood Creek. The proposed relocated mouth of Edgewood Creek would be the same with Alternative 2, as with Alternative 1. The Alternative 2 pier would be constructed in the same location as the existing pier and within the same littoral cell as the Alternative 1 pier. The Alternative 2 pier design is also the same as Alternative 1. The lake depth at the Alternative 2 pier location is expected to be about the same as the Alternative 1 pier. For these reasons, this impact is the same as Impact 5.6.1-6 described above for Alternative 1. Because Edgewood Creek is not a significant source of beach sand to the	Less than significant	No mitigation is required.	Less than significant
	Significant	**Mitigation Measure 5.6.2-6: Reduce Floating Section of the Pier to 30 Feet.** See Mitigation Measure 5.6.1-6 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
littoral zone of Lake Tahoe; the beaches along the Edgewood property are influenced mostly by backshore erosion (as in most places on the Lake); the littoral cell of the shore at Edgewood does not have the same wave energy as other locations on Lake Tahoe where the Lake's shelf structure is deep (e.g., Third and Incline Creeks); and the proposed relocated mouth would be constructed such that no part of the improvements would be above grade that could alter, redirect, or otherwise interfere with shoreline currents; the relocated mouth of the creek is not anticipated to have an adverse effect on littoral processes. For these reasons, this impact is **less than significant**. The floating section of the Alternative 2 pier is large enough to disrupt wave actions when lake elevations range from 6225 to 6226 feet. As a result, the proposed floating section of the pier has the potential to interfere with littoral processes and this would be a **significant** impact. Further, the pilings for the Alternative 2 pier (fixed and floating segments) provide less potential for littoral interference (slightly lesser mass of pilings) than the existing pier that would be removed. Because the Design and Construction Standards were established to avoid substantial littoral drift, and because the Alternative 2 pier's mass of pilings would be less than the existing pier, the littoral processes associated with the fixed portion of the pier are expected to be slightly less than under existing conditions. Therefore, this impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.6.2-7 Degradation of Water Quality During Pier Relocation and Extension. Because Alternative 2 would result in a similar pier relocation and extension, and would use the same construction techniques as Alternative 1, this impact is similar to Impact 5.6.1-7 described above for Alternative 1. Alternative 2 includes relocation and extension of the existing pier. A total of 14 pilings are proposed for pier construction with parallel pilings on fixed pier sections (four per section) and a single piling for each floating section. Pier installation would result in minor disturbance of the lake bottom and minimal resuspension of sediments, nutrients, and other pollutants. The minimal disturbance to the lake bottom associated with Alternative 2 would not adversely affect Lake Tahoe water quality or cause established water quality standards to be exceeded. Therefore, this impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.6.2-8 Degradation of Source Water Quality from Boating Activity and Increased Beach Recreation. Because Alternative 2 would result in a similar pier relocation and extension, and the same new public beach access as Alternative 1, this impact is similar to Impact 5.6.1-8 described above for Alternative 1. Alternative 2 would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities associated with the relocated pier. The proposed public beach access is not intended to accommodate a large number of people, and Edgewood Companies proposes to adaptively manage public access by potentially setting a limit to the number of people that may use the beach during peak periods. Furthermore, the Edgewood Water Company primarily water supply intake line extends over 2,000 feet from the beach, and its backup line is located over 700 feet from the beach. These distances from the shoreline, combined with the depths of the intakes is sufficient to protect source water quality. This impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.6.2-9 Flood Hazard Effects. Because Alternative 2 would be constructed on the same site, and would result in a similar level of development in a similar location on the site relative to Alternative 1, this impact is similar to Impact 5.6.1-9 described above for Alternative 1. The current flood hazard boundary in the vicinity of the proposed project was delineated using approximate methodologies and is classified as a Zone A boundary, which does not provide base flood elevations. In this situation, Douglas County Floodplain Management Code (Section 20.50) requires additional study by a licensed civil engineer to delineate the floodplain boundary using approved engineering methods to confirm that proposed structures do not encroach into a special flood hazard area. Because the floodplain boundary on the subject parcels has not been delineated to required Douglas County standards to make the necessary findings, this impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.2-9: Produce a Floodplain Delineation that Meets Douglas County Standards.** See Mitigation Measure 5.6.1-9 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.6.2-10 Degradation of Groundwater Quality from Golf Course Modifications and the Proposed Event Lawn. Because Alternative 2 would result in the same reconfiguration and relocation of golf holes 7, 8, and 9 and a new event lawn that extends from the clubhouse expansion, as well as the same fertilizer management practices relative to Alternative 1, this impact is the same as Impact 5.6.1-10 described above for Alternative 1. In total, the proposed project would result in an overall reduction in the amount of fertilizer applied on the golf course, which would likely provide a benefit to existing groundwater quality. Therefore, the cumulative modifications to the golf course and fertilized turf areas under Alternative 2 are considered to be a **less-than-significant** impact on groundwater quality.	Less than significant	No mitigation is required.	Less than significant
Impact 5.6.3-1 Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction. Because Alternative 3 would be constructed on the same site and would result in a similar level of construction disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-1 described above for Alternative 1. Soil disturbance associated with construction of Alternative 3 could cause accelerated soil erosion and sedimentation or the release of other pollutants associated with construction activities to adjacent waterways and wetlands. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.3-1: Prepare and Implement a Storm Water Pollution Prevention Plan.** See Mitigation Measure 5.6.1-1 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.6.3-2 Changes in Surface Runoff Patterns. Because Alternative 3 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would use the same BMPs and stormwater management approach as described for Alternative 1, this impact is similar to Impact 5.6.1-2 described above for Alternative 1. Alternative 3 would increase impervious coverage relative to Alternative 1 (an increase of 67,689 square feet or 1.6 acres), but would reduce annual surface runoff volumes compared to the baseline condition. In the baseline condition surface runoff from the parking lots is pumped and treated in the wetland system between ponds 6 and 10, and remains surface runoff. Water quality facilities for Alternative 3 would emphasize stormwater detention and infiltration to a greater degree than that current BMPs used in the baseline condition. Furthermore, Alternative 3 would comply with all applicable Douglas County Design Criteria and Improvement Standards for	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
drainage design and peak flow conveyance. Because Alternative 3 would reduce annual runoff volumes and comply with applicable drainage design standards, the proposed project would have a **less-than-significant** impact on existing surface water drainage patterns and existing or planned stormwater drainage systems.			
Impact 5.6.3-3 Geomorphic Effects of Creek Modifications. Because Alternative 3 would include the same creek modifications as Alternative 1, this impact is the same as Impact 5.6.1-3 described above for Alternative 1. The proposed creek modifications would likely result in a benefit by: 1) improving aquatic and riparian habitat by improving fish passage and providing spawning areas; 2) improving water quality by increasing vegetated floodplain and increasing fine sediment capture; and 3) improving channel stability by re-creating a more functional channel/floodplain system. Potential adverse geomorphic effects of the proposed creek modifications under Alternative 3 could include the potential to create channel instability and erosion during flood events. Because the proposed creek modifications would re-create a more functional channel/floodplain system relative to the baseline condition, and because a detailed design review process is proposed by the project applicant and would be required by applicable permitting agencies (e.g., TRPA, Douglas County, and USACE) to ensure that potentially adverse geomorphic effects of channel instability and erosion during flood events associated with the proposed modifications are avoided, this impact is considered to be **beneficial**.	Beneficial	No mitigation is required.	Beneficial
Impact 5.6.3-4 Pollutant Loading in Surface Runoff. Because Alternative 3 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would apply similar water quality mitigation measures and the same additional water quality improvements as described for Alternative 1, this impact is similar to Impact 5.6.1-4 described above for Alternative 1. In total, the required water quality mitigation measures and the additional water quality improvements proposed by the project applicant for Alternative 3 would decrease pollutant loading in surface runoff from the project site and the Edgewood Creek watershed. This impact is considered **beneficial**.	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.6.3-5 Interception of Groundwater Table During Construction. Because Alternative 3 would be constructed on the same site and would result in a similar level of construction related disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-5 described above for Alternative 1. Based on data generated during the soils/hydrologic subsurface investigations, the majority of proposed construction excavation for Alternative 3 would not encounter groundwater. However, in a few locations excavation activities may intercept the groundwater table or exceed 5 feet in depth below ground surface, creating the potential for introduction of contaminants to groundwater. This impact is considered **potentially significant.**	Potentially significant	**Mitigation Measure 5.6.3-5: Develop and Implement a Dewatering Plan.** See Mitigation Measure 5.6.1-5 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.6.3-6 Interference with Littoral Processes from the Relocated, Reconstructed, and Expanded Pier and Relocated Mouth of Edgewood Creek. The proposed relocated mouth of Edgewood Creek would be the same with Alternative 3, as with Alternative 1. The Alternative 3 pier would be relocated and constructed at a location approximately 236 feet north of the location of the existing pier. The Alternative 3 pier would be constructed within the same littoral cell as the Alternative 1 pier, and would include the same pier design. The lake depth at the Alternative 3 pier location is expected to be about the same as the Alternative 1 pier. For these reasons, this impact is the same as Impact 5.6.1-6 described above for Alternative 1. Because Edgewood Creek is not a significant source of beach sand to the littoral zone of Lake Tahoe; the beaches along the Edgewood property are influenced mostly by backshore erosion (as in most places on the Lake); the littoral cell of the shore at Edgewood does not have the same wave energy as other locations on Lake Tahoe where the Lake's shelf structure is deep (e.g., Third and Incline Creeks); and the proposed relocated mouth would be constructed such that no part of the improvements would be above grade that could alter, redirect, or otherwise interfere with shoreline currents; the relocated mouth of the creek is not anticipated to have an adverse effect on littoral processes. For these reasons, this impact is **less than significant**. The floating section of the Alternative 3 pier is large enough to disrupt wave actions when lake elevations range from 6225 to 6226 feet. As a result, the proposed floating section of the pier has the potential to interfere with	Less than significant	No mitigation is required.	Less than significant
	Significant	**Mitigation Measure 5.6.3-6: Reduce Floating Section of the Pier to 30 Feet.** See Mitigation Measure 5.6.1-6 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
littoral processes and this would be a **significant** impact. Alternative 3 also includes permitting of existing buoys, but no change to the buoys. Further, the pilings for the Alternative 3 pier (fixed and floating segments) provide less potential for littoral interference (slightly lesser mass of pilings) than the existing pier that would be removed. Because the Design and Construction Standards were established to avoid substantial littoral drift, and because the Alternative 3 pier's mass of pilings would be less than the existing pier, the littoral processes associated with the fixed portion of the pier are expected to be slightly less than under existing conditions. Therefore, this impact is considered **less than significant**.			
Impact 5.6.3-7 Degradation of Water Quality During Pier Relocation and Extension. Because Alternative 3 would result in a similar pier relocation and extension, and would use the same construction techniques as Alternative 1, this impact is similar to Impact 5.6.1-7 described above for Alternative 1. Alternative 3 includes relocation and extension of the existing pier. A total of 14 pilings are proposed for pier construction with parallel pilings on fixed pier sections (four per section) and a single piling for each floating section. Pier installation would result in minor disturbance of the lake bottom and minimal resuspension of sediments, nutrients, and other pollutants. The minimal disturbance to the lake bottom associated with Alternative 3 would not adversely affect Lake Tahoe water quality or cause established water quality standards to be exceeded. Therefore, this impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.6.3-8 Degradation of Source Water Quality from Boating Activity and Increased Beach Recreation. Because Alternative 3 would result in a similar pier relocation and extension, and the same new public beach access as Alternative 1, this impact is similar to Impact 5.6.1-8 described above for Alternative 1. Alternative 3 would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities associated with the relocated pier. The proposed public beach access is not intended to accommodate a large number of people, and Edgewood Companies proposes to adaptively manage public access by potentially setting a limit to the number of people that may use the beach during peak periods. Furthermore, the Edgewood Water Company primarily water supply intake line extends over 2,000 feet from the beach, and its	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
backup line is located over 700 feet from the beach. These distances from the shoreline, combined with the depths of the intakes is sufficient to protect source water quality. This impact is considered **less than significant**.			
Impact 5.6.3-9 Flood Hazard Effects. Because Alternative 3 would be constructed on the same site, and would result in a similar level of development in a similar location on the site relative to Alternative 1, this impact is similar to Impact 5.6.1-9 described above for Alternative 1. The current flood hazard boundary in the vicinity of the proposed project was delineated using approximate methodologies and is classified as a Zone A boundary, which does not provide base flood elevations. In this situation, Douglas County Floodplain Management Code (Section 20.50) requires additional study by a licensed civil engineer to delineate the floodplain boundary using approved engineering methods to confirm that proposed structures do not encroach into a special flood hazard area. Because the floodplain boundary on the subject parcels has not been delineated to required Douglas County standards to make the necessary findings, this impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.6.3-9: Produce a Floodplain Delineation that Meets Douglas County Standards.** See Mitigation Measure 5.6.1-9 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.6.3-10 Degradation of Groundwater Quality from Golf Course Modifications and the Proposed Event Lawn. Because Alternative 3 would result in the same reconfiguration and relocation of golf holes 7, 8, and 9 and a new event lawn that extends from the clubhouse expansion, as well as the same fertilizer management practices relative to Alternative 1, this impact is the same as Impact 5.6.1-10 described above for Alternative 1. In total, the proposed project would result in an overall reduction in the amount of fertilizer applied on the golf course, which would likely provide a benefit to existing groundwater quality. Therefore, the cumulative modifications to the golf course and fertilized turf areas under Alternative 3 are considered to be a **less-than-significant** impact on groundwater quality.	Less than significant	No mitigation is required.	Less than significant
5.7 Biological Resources (Vegetation, Wildlife, and Fisheries)			
Impact 5.7-1 Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ). Implementation of Alternative 1 would result in the temporary disturbance of riparian vegetation, freshwater marsh habitat, and SEZ along existing sections of Edgewood Creek and along the existing complex of ponds	Significant	**Mitigation Measure 5.7.1-1a: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits.** Prior to the onset of construction activities in association with Alternative 1 and Threshold Improvement Projects B, C, and D, unless otherwise directed by USACE, a	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
throughout the Edgewood Tahoe Golf Course property, including Friday's Station pond. Under Alternative 1, Threshold Improvement Project C would involve realigning portions of Edgewood Creek and stabilizing the existing channel and bank in other areas, which would require the deposit of some fill into or disturbances to an active channel. Realignment of Edgewood Creek would also include the removal of pond 15, requiring fill of potential waters of the United States, including wetlands. Implementation of Threshold Improvement Projects B, C, and D would involve modifications to ponds 1, 6, 10, 12, and 18, and Friday's Station pond to remove accumulated sediment; restore capacity; and create, restore, and enhance wetlands -- including reconstructing a creek channel and expanded riparian buffer in place of pond 15 with habitat suitable for fish spawning. Construction of these project features would disturb habitats considered sensitive by USACE and TRPA, including riparian vegetation, SEZ, and potential jurisdictional wetlands. This temporary impact would be **significant**.		delineation of waters of the United States, including wetlands that would be affected by the project, shall be prepared by a qualified biologist through the formal Section 404 wetland delineation process. The delineation shall be submitted to and verified by USACE. If, based on the verified delineation, it is determined that fill of waters of the United States would result from implementation of the project, authorization for such fill shall be secured from USACE through the Section 404 permitting process. The acreage of riparian habitat (deciduous riparian vegetation) that would be removed or disturbed during project implementation shall be quantified and replaced or restored/enhanced in accordance with USACE regulations. Habitat restoration, enhancement, and/or replacement shall be at a location and by methods agreeable to USACE as determined during the permitting processes for CWA Section 404 and consistent with TRPA regulations. The enhancement and creation of sensitive habitats proposed as part of the project may be considered in determining the extent of replacement needed for permit issuance. **Mitigation Measure 5.7.1-1b: Implement Vegetation Protection Measures and Revegetate Disturbed Areas.** To minimize the loss of native wetland and riparian vegetation as a result of project construction, salvage actions shall be implemented for wet meadow and riparian vegetation. Riparian vegetation within the SEZ shall be avoided to greatest extent feasible, except vegetation identified for removal in association with the threshold improvement projects. A minimum number of channel access points shall be used to avoid and minimize adverse effects on any established bank or SEZ vegetation that does not need to be removed as part of stream/wetland construction. If avoidance is not possible, trees shall be shielded, and shrubs shall be pruned while protecting soil and root structures. In areas where existing streambank or wetland vegetation must be removed, plant materials shall be salvaged, stored, and reused as possible.	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.1-2 Long-Term Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ). One of the long-term goals of Alternative 1 is to reduce the amount of managed turf and coverage within SEZ, increase riparian habitat, and enhance and expand constructed wetlands within the project area. Implementation of Alternative 1 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat, resulting in an overall increase of sensitive habitats. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to be a **beneficial** effect.	Beneficial	No mitigation is required.	Beneficial
Impact 5.7.1-3 Loss or Disturbance of Tahoe Yellow Cress Populations. Implementation of Alternative 1 would relocate the mouth of Edgewood Creek; remove, relocate, and reconstruct the existing pier; and may result in incidental public use of portions of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of Tahoe yellow cress plants. The potential loss or disturbance of this TRPA special interest, Nevada critically endangered, and federal candidate species would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.1-3: Implement Measures to Protect Existing Tahoe Yellow Cress Plants.** Mitigation Measure 5.7.1-3a shall be implemented with Alternative 1. Mitigation Measures 5.7.1-3b and 5.7.1-3c below provide options to address changes in the fluvial geomorphic processes present at the existing creek mouth resulting from the proposed relocation of the mouth of Edgewood Creek that could result in the loss of TYC plants and adversely affect habitat suitability. Mitigation Measures 5.7.1-3b and 5.7.1-3c are mutually exclusive – implementation of either of these measures coupled with Mitigation Measure 5.7.1-3a would mitigate this impact. **Mitigation Measure 5.7.1-3a: Conduct Preconstruction Surveys, Avoid Potential Construction Impacts, and Avoid Potential Recreation Impacts to Existing Tahoe Yellow Cress Plants.** To avoid potential adverse effects on TYC plants resulting from construction activities and potential increased use of the beach area north of the proposed pier, the following actions shall be implemented: (A) A qualified biologist familiar with the vegetation of the Tahoe Basin and identification of TYC shall conduct a focused preconstruction survey for TYC in all beach habitat where construction-related disturbance could occur in the vicinity of TYC populations during that year. Surveys shall be conducted between June 15 and	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		September 30, when TYC is clearly identifiable, and shall follow Survey Protocols for Tahoe Yellow Cress Annual Surveys (Stanton and Pavlik 2009b). Surveys shall be completed for each year that construction activities could occur in beach habitat. If no TYC stems are found during the survey, the results of the survey shall be documented in a letter report to TRPA and the TYC AMWG that shall become part of the project environmental record, and no further actions shall be required. (B) If TYC stems are documented during the survey in areas potentially disturbed by construction activities, the stems shall be clearly identified in the field and protected from impacts associated with construction activities. Protective measures shall include installing high-visibility fencing around known stem locations during construction. No construction-related activities shall be allowed in areas fenced for avoidance, and construction personnel shall be briefed about the presence of the stems and the need to avoid effects on the stems. (C) To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of the new lodge complex, public beach, and clubhouse use, protective fencing and educational signage about the need to avoid these areas shall be installed around all TYC clusters on the Edgewood property. This measure shall be implemented consistent with recommendations provided in the Tahoe Yellow Cress Stewardship Plan for the Edgewood property. Long-term fencing and signage will be periodically monitored and maintained, as necessary, to ensure that they remain effective and in good working condition. Also, because locations and concentrations of TYC could shift over time, the locations and configurations of fencing relative to TYC distribution on the Edgewood property shall be evaluated periodically. If necessary, fencing shall be moved or added in response to changes in TYC distribution	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		to ensure that TYC plants are protected over time. The locations of TYC plants and shifts in their locations relative to fencing can be determined by annual surveys at Edgewood conducted as part of the ongoing AMWG TYC monitoring program. The installation and maintenance of long-term protective fencing and signage will be designed to not interfere with necessary golf course operations and maintenance activities. EIP Project No. 980, "Habitat Protection of Tahoe Yellow Cress: Mouth of Edgewood Creek Project," calls for protection of Tahoe yellow cress at the mouth of Edgewood Creek by constructing "a protective structure that eliminates the trampling of this Tahoe Yellow Cress Colony" and installing "education/interpretive displays." Implementing this mitigation measure, which would include fencing the TYC plants near the existing creek mouth and other TYC clusters, would complete EIP Project No. 980. **Mitigation Measure 5.7.1-3b: Implement Monitoring Surveys and Adaptive Management of Tahoe Yellow Cress Near the Existing Mouth of Edgewood Creek.** The specific short- and long-term effects of relocating the mouth of Edgewood Creek on TYC in that area are uncertain and difficult to quantify. Therefore, determining whether and to what extent relocating the mouth of Edgewood Creek adversely affects TYC and developing and implementing appropriate compensatory actions if adverse effects are confirmed, shall use a survey and adaptive management approach in coordination with the TYC AMWG. Although the specific objectives and methods of the survey and adaptive management program shall be developed together by Edgewood Companies, the TYC AMWG, and TRPA, the following provides a recommended framework. To assess the potential loss of Tahoe yellow cress that may result from moving the mouth of Edgewood Creek from its current location, a qualified biologist shall survey existing TYC	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		populations located within the project area near the existing creek mouth during each of 5 years after the project is completed and in full operation. Additionally, to facilitate comparison of abundance trends with the other TYC clusters on the Edgewood properties, it is recommended that surveys of those clusters also be conducted during the same 5-year period. Surveys shall be conducted using the Survey Protocol for Tahoe Yellow Cress Annual Surveys (Stanton and Pavlik 2009b) in conjunction with the TYC AMWG. Currently, the Edgewood property is included in the lake-wide AMWG TYC monitoring program. Surveys are conducted every year that the level of Lake Tahoe exceeds 6,226 ft Lake Tahoe Datum or every other year in lower lake stands. The project applicant shall conduct the surveys in years when the AMWG does not survey and shall supply all survey data to the AMWG for evaluation. TYC stem counts shall be compared between pre-project conditions and the 5 years following project implementation. Because annual natural variability in TYC population abundance is normal and expected, any post-project change in TYC abundance would not necessarily be considered a result of project implementation. Appropriate data analysis methods and quantitative thresholds or statistical indicators of significant project-related population change shall be determined in coordination with the TYC-AMWG and TRPA, depending on the type, amount, and quality of historic TYC monitoring data. If a decrease in TYC is detected during post-project monitoring and found to be outside the historic range of variation, specific investigations shall be conducted to determine whether the impact is the result of relocation of the mouth of Edgewood Creek, then adaptive management or compensatory actions would be required. If no significant decline in TYC is attributable to project implementation, then no further actions would be required. Adaptive management or compensatory actions for any	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		significant project-related loss of TYC (i.e., the amount of population decline that is significantly beyond the historic range of variation and attributed to project implementation) shall be identified, designed, and implemented in coordination with the TYC-AMWG and TRPA, and agreed to by Edgewood Companies. Potential compensatory actions could include or require seed collection, nursery propagation and outplanting of container-grown TYC, or translocation of naturally occurring TYC either on-site or at a suitable off site location. Management or compensatory actions shall be designed to not interfere with necessary golf course operations and maintenance activities. **Mitigation Measure 5.7.1-3c: Redesign Project to Retain the Mouth of Edgewood Creek at its Current Location.** Prior to TRPA permit acknowledgement, the site plan shall be revised in subsequent design phases to retain the mouth of Edgewood Creek at its current location. This measure would eliminate changes in the fluvial geomorphic processes present at the existing creek mouth that would result from its relocation.	
Impact 5.7.1-4 Tree Removal. Implementation of Alternative 1 would result in the removal of approximately 540 native trees 14 inches dbh or larger. This includes 152 trees with a dbh greater than or equal to 24 inches, which comprises 8.9 percent of all trees within this size class in the project area. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4) of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal would be a **less-than-significant** biological impact. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2)(a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.1-5 Introduction and Spread of Invasive Weeds and Aquatic Invasive Species. Implementation of Alternative 1 has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. Invasive weeds and other species could inadvertently be introduced or spread in the project area during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Soil, vegetation, and other materials transported to the project area from off-site sources for best management practices (BMPs), revegetation, or fill for project construction could contain invasive weed seeds or plant material that could become established in the project area. Additionally, terrestrial and aquatic invasive species currently present in or near the project area have the potential to be spread by construction disturbances. The introduction and spread of terrestrial or aquatic invasive species would degrade terrestrial plant, wildlife, and aquatic habitats, including habitats of special significance (riparian) within the project area and possibly Lake Tahoe. The potential introduction and spread of terrestrial or aquatic invasive species would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.1-5a: Implement Weed Management Practices during Project Construction.** In consultation with TRPA, the project applicant shall develop and implement a plan that includes appropriate weed management practices during project construction. Recommended practices include the following: 〉 A qualified biologist with experience in the Tahoe Basin shall conduct a preconstruction survey to determine whether any populations of invasive/noxious weeds are present within areas proposed for ground-disturbing activities (i.e., the study area). If noxious weed species are documented, they shall be removed or their spread otherwise prevented before the start of construction. Control measures may include herbicide application, hand removal, or other means of mechanical control. This would help eliminate the threat of spreading the species throughout the study area and adjacent areas. 〉 All equipment entering the study area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts before being allowed into the study area. 〉 To ensure that fill material and seeds imported to the study area are free of invasive/noxious weeds, the project shall use on-site sources of fill and seeds whenever available. However, if fill and seed materials need to be imported to the study are, they shall be certified weed-free. In addition, only certified weed-free imported materials (or rice straw in upland areas) shall be used for erosion control. After project construction, the project area shall be monitored on an annual basis for infestations of invasive weeds until the	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		restored vegetation has become fully established. If new populations of invasive weeds are documented during monitoring, they shall be treated and eradicated to prevent further spread as outlined in the Edgewood Lodge and Golf Course Monitoring, Inspection, and Operations Plan (NCE 2011). Emphasis in monitoring shall be given to those areas that serve as a buffer between the golf course holes and adjacent forest and riparian vegetation to ensure that these areas do not act as source points for infestations of weeds. **Mitigation Measure 5.7.1-5b: Implement Aquatic Invasive Species Management Practices during Project Construction.** In consultation with TRPA and consistent with USFSWS Hazard Analysis and Critical Control Point (HACCP) planning guidance, the project applicant shall develop and implement a plan that includes appropriate aquatic invasive species management practices during project construction. Recommended practices include the following: 〉 All equipment, including individual equipment such as waders, wading boots, etc., entering the study area that will be used in or around Edgewood Creek and its associated ponds and/or Golf Course Creek shall be decontaminated using recommended methods (USACE 2009) before being allowed into the study area. 〉 All equipment, including individual equipment such as waders, wading boots, etc., used in known infested areas within the project area (e.g., pond 15), shall be decontaminated using the above mentioned methods before entering any other areas of the project area not known to contain aquatic invasive species. 〉 Aquatic invasive plants shall be removed from ponds or otherwise controlled prior to the initiation of construction activities in the stream or ponds that could transport or flush invasive plants or propagules into Edgewood Creek or Lake Tahoe.	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		〉 Aquatic invasive fish shall be treated and eradicated from the project site prior to construction activities in the stream or ponds that could transport or flush invasive fish into Edgewood Creek or Lake Tahoe. 〉 Aquatic invasive species encountered during fish removal and relocation efforts will be euthanized and/or removed from the watershed.	
Impact 5.7.1-6 Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats. Under Alternative 1, construction of the new lodge complex, modifications to existing golf course features (including hole realignments and relocations), realignment and restoration of Edgewood and Golf Course Creeks, as well as modifications to the existing pond network including Friday's Station pond could result in disturbances to four special-status species (bald eagle, osprey, waterfowl, and mule deer). Disturbances resulting in loss of individuals or nests, or disruptions to nesting attempts by special-status species (waterfowl) would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.1-6: Conduct Preconstruction Surveys for Nesting Special-Status Birds (Waterfowl) and Implement a Limited Operating Period If Necessary.** For construction activities that would occur in suitable habitat during the nesting season (generally April 1–August 31, depending on snowpack and other seasonal conditions), a qualified wildlife biologist shall conduct focused surveys for waterfowl nests no more than 14 days before construction activities are initiated each construction season. If an active nest is located during the preconstruction surveys, the biologist shall notify TRPA. If necessary, modifications to the project design to avoid removal of occupied habitat while still achieving project objectives shall be evaluated, and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, a limited operating period shall apply to avoid disturbances during the sensitive nesting season. Construction shall be prohibited within a minimum of 500 feet (or at a distance directed by the appropriate regulatory agency) of the nest to avoid disturbance until the nest is no longer active. These recommended buffer areas may be reduced through consultation with TRPA.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.1-7 Long-Term Effects on Special-Status and Common Wildlife Species and Habitats. In the long term, natural ecosystem response to improvements to Edgewood Creek, Golf Course Creek, and the pond system under Alternative 1 is expected to improve habitat quality and functions for riparian and aquatic wildlife, including special-status species such as waterfowl. These improvements would also increase the size and enhance the functions of TRPA-designated wildlife habitats of special significance (i.e., wetlands, meadows, and riparian areas), and enhance the quality of the TRPA-designated waterfowl threshold area on the Edgewood property. These effects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance would be **beneficial**. Developing the new lodge complex would remove tree cover and disturbed upland habitat in the southwest portion of the project area. However, this area is characterized primarily by a large parking lot and other developed facilities, and development and operation of the lodge complex is not expected to substantially affect breeding productivity or population viability of any common or special-status wildlife, or cause a change in species diversity locally or regionally. Therefore, the impact of developing the lodge complex and associated facilities on common and special-status wildlife would be **less than significant**. Overall, the project would result in either **beneficial or less-than-significant** impacts on common wildlife and special-status wildlife species and habitats.	Beneficial or Less than significant	No mitigation is required.	Beneficial or Less than significant
Impact 5.7.1-8 Short-Term Degradation of Fish and Aquatic Habitat Resulting from Construction and Initial Response. Construction during implementation of Alternative 1 could result in temporary adverse effects on water quality, aquatic habitats, and the aquatic biological community within Edgewood Creek, the in-line ponds connected to Edgewood Creek, and Lake Tahoe. Effects could also occur during the initial channel-response period within the study area and Lake Tahoe. This impact would be **significant**.	Significant	**Mitigation Measure 5.7.1-8a: Conduct Preconstruction Surveys and Develop and Implement Native-Fish Capture and Translocation Plan for Fish Species in Edgewood Creek and Associated Ponds (1, 6, 10, 12, 15, and 18).** The project applicant or its representative shall develop and implement a measure to prevent the construction-related loss of native fish occupying habitat within the project area. Before any construction activities that require dewatering commence, a qualified biologist shall conduct preconstruction surveys and implement native-fish relocation activities within the construction dewatering area. All captured native fish species shall be immediately released to a suitable habitat near the	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		project area. The qualified biologist shall place nets with 1/8-inch mesh at the upstream and downstream extents of the area to be dewatered to keep fish out of the area during fish removal activities. After completion of removal activities, the work area shall be approved for dewatering. Fish rescue and relocation efforts shall continue until the area is completely dewatered or until it is determined that no fish remain in the dewatering area. This fish translocation plan shall apply only to native fish species. Nonnative species captured during the pre-dewatering effort shall be humanely killed and disposed of. These activities shall take place in consultation with TRPA and the Nevada Department of Wildlife (NDOW). **Mitigation Measure 5.7.1-8b: Prepare and Implement a Storm Water Pollution Prevention Plan.** See Mitigation Measure 5.6.1-1 in Section 5.6, "Hydrology and Water Quality." The same mitigation would apply.	
Impact 5.7.1-9 Long-Term Effects on Fish and Aquatic Habitat. Under Alternative 1, stream, pond, and wetland habitat restoration associated with the threshold improvement projects could result in long-term beneficial effects on aquatic habitats and the fish community in Edgewood Creek. Beneficial effects would likely result from removal of barriers to fish passage in Edgewood Creek from Lake Tahoe to pond 1; improved habitat connectivity along Edgewood Creek; increased aquatic habitat structure and complexity; removal of nonnative invasive species; and reduced sediment inputs from upstream sources (e.g., Friday's Station dam). The long-term certainty or magnitude of some of the potential benefits are difficult to predict under the current level of design. However, an overall net benefit to aquatic habitat is anticipated, given the highly degraded condition of the existing stream and pond system, and because adaptive management measures to control and limit the spread of aquatic invasive species over the long term would be developed and implemented. The long-term effect on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe is **potentially beneficial**.	Potentially beneficial	No mitigation is required.	Potentially beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.1-10 Effects on Lahontan Cutthroat Trout. Implementation of Alternative 1 would include removing the existing pier and constructing a new, expanded pier north of its current location on the beach at Edgewood. Pier removal and construction would require construction disturbances within Lake Tahoe. Although Lahontan cutthroat trout were stocked in Lake Tahoe in 2011, this species is not expected to occur in Lake Tahoe or Edgewood Creek in the project area due to unsuitable habitat conditions. Construction activities in Lake Tahoe and Edgewood Creek are not expected to adversely affect Lahontan cutthroat trout or its occupied habitat, or result in take of the species. Implementation of Alternative 1 is expected to result in **no impact** to Lahontan cutthroat trout.	No impact	No mitigation is required.	No impact
Impact 5.7.2-1 Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ). Because Alternative 2 would be located on the same site and include implementation of the same threshold improvement projects as Alternative 1, this impact is the same as Impact 5.7.1-1 for Alternative 1. Construction of the project and the threshold improvement project features would disturb habitats considered sensitive by USACE and TRPA, including riparian vegetation, SEZ, and potential jurisdictional waters of the United States, including wetlands. This temporary impact would be **significant**.	Significant	**Mitigation Measure 5.7.2-1a: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits.** See Mitigation Measure 5.7.1-1a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.2-1b: Implement Vegetation Protection Measures and Revegetate Disturbed Areas.** See Mitigation Measure 5.7.1-1b described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.7.2-2 Long-Term Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ). This impact is the same as Impact 5.7.1-2 for Alternative 1. One of the long-term goals of Alternative 2, as with Alternative 1, is to reduce the amount of managed turf and coverage within SEZ, increase riparian habitat, and enhance and expand constructed wetlands within the project area. Implementation of Alternative 2 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat, resulting in an overall increase of sensitive habitats. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to be a **beneficial** effect.	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.2-3 Loss or Disturbance of Tahoe Yellow Cress Populations. This impact would be similar to Impact 5.7.1-3 for Alternative 1; however, reconstruction of a new pier would occur at the location of the existing pier under Alternative 2. Implementation of Alternative 2 would relocate the mouth of Edgewood Creek and may result in incidental public use of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of Tahoe yellow cress plants. The loss or disturbance of this TRPA special interest, Nevada critically endangered, and federal candidate species would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.2-3: Implement Measures to Protect Existing Tahoe Yellow Cress Plants.** Mitigation Measure 5.7.2-3a shall be implemented with Alternative 2. Mitigation Measures 5.7.2-3b and 5.7.2-3c below provide options to address changes in the fluvial geomorphic processes present at the existing creek mouth resulting from the proposed relocation of the mouth of Edgewood Creek that could result in the loss of TYC plants and adversely affect habitat suitability. Mitigation Measures 5.7.2-3b and 5.7.2-3c are mutually exclusive – implementation of either of these measures coupled with Mitigation Measure 5.7.2-3a would mitigate this impact. **Mitigation Measure 5.7.2-3a: Conduct Preconstruction Surveys, Avoid Potential Construction Impacts, and Avoid Potential Recreation Impacts to Existing Tahoe Yellow Cress Plants.** See Mitigation Measure 5.7.1-3a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.2-3b: Implement Monitoring Surveys and Adaptive Management of Tahoe Yellow Cress Near the Existing Mouth of Edgewood Creek.** See Mitigation Measure 5.7.1-3b described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.2-3c: Redesign Project to Retain the Mouth of Edgewood Creek at its Current Location.** See Mitigation Measure 5.7.1-3c described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.7.2-4 Tree Removal. This impact is similar to Impact 5.7.1-4 for Alternative 1. However, implementation of Alternative 2 would result in the removal of more native trees 14 inches dbh or larger than under Alternative 1, including 171 trees with a dbh greater than or equal to 24 inches, which comprises 10 percent of all trees within this size class in the project area. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4)of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal would be a **less-than-significant** biological impact. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2) (a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area, which would be implemented as part of Alternative 2.			
Impact 5.7.2-5 Introduction and Spread of Noxious Weeds and Aquatic Invasive Species. This impact is the same as Impact 5.7.1-5 for Alternative 1. Implementation of Alternative 2 has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. The potential introduction and spread of terrestrial or aquatic invasive species would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.2-5a: Implement Weed Management Practices during Project Construction.** See Mitigation Measure 5.7.1-5a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.2-5b: Implement Aquatic Invasive Species Management Practices during Project Construction.** See Mitigation Measure 5.7.1-5b described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.7.2-6 Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats. This impact is the same as impact 5.7.1-6 for Alternative 1. Under Alternative 2, construction of the new lodge complex, modifications to existing golf course features (including hole realignments and relocations), realignment and restoration of Edgewood and Golf Course Creeks, as well as modifications to the existing pond network including Friday's Station pond could result in disturbances to four special-status species (bald eagle, osprey, waterfowl, and mule deer). Disturbances resulting in loss of individuals, nests or disruptions to nesting attempts by special-status species (waterfowl) would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.2-6: Conduct Preconstruction Surveys for Nesting Special-Status Birds (Waterfowl) and Implement a Limited Operating Period If Necessary.** See Mitigation Measure 5.7.1-6 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.7.2-7 Long-Term Effects on Special-Status and Common Wildlife Species and Habitats. This impact is the same as Impact 5.7.1-7 for Alternative 1. Under Alternative 2, long-term effects of the threshold improvement projects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance would be **beneficial**. The impact of developing the lodge complex and associated facilities on common and special-status wildlife would be **less than significant**.	Beneficial or Less than significant	No mitigation is required.	Beneficial or Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.2-8 Short-Term Degradation of Fish and Aquatic Habitat Resulting from Construction and Initial Response. This impact is similar to Impact 5.7.1-8 for Alternative 1; however, removal of the existing pier and construction of a new pier would occur in a different location under Alternative 2. Construction during implementation of Alternative 2 could result in temporary adverse effects on water quality, aquatic habitats, and the aquatic biological community within Edgewood Creek, the in-line ponds connected to Edgewood Creek, and Lake Tahoe. Effects could also occur during the initial channel-response period within the study area and Lake Tahoe. This impact would be **significant**.	Significant	**Mitigation Measure 5.7.2-8a: Conduct Preconstruction Surveys and Develop and Implement a Native-Fish Capture and Translocation Plan for Fish Species Along Edgewood Creek and Associated Ponds (1, 6, 10, 12, 15, and 18).** See Mitigation Measure 5.7.1-8a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.2-8b: Prepare and Implement a Storm Water Pollution Prevention Plan.** See Mitigation Measure 5.7.1-8b described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.7.2-9 Long-Term Effects on Fish and Aquatic Habitat. This impact is the same as Impact 5.7.1-9 for Alternative 1. Under Alternative 2, stream, pond, and wetland habitat restoration associated with the threshold improvement projects could result in long-term beneficial effects on aquatic habitats and the fish community in Edgewood Creek. The long-term effect on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe is **potentially beneficial**.	Potentially beneficial	No mitigation is required.	Potentially beneficial
Impact 5.7.2-10 Effects on Lahontan Cutthroat Trout. This impact is similar to Impact 5.7.1-10 for Alternative 1; however, removal of the existing pier and construction of a new pier in the location of the existing pier would occur under Alternative 2. Construction activities in Edgewood Creek and Lake Tahoe are not expected to adversely affect LCT or its occupied habitat, or result in take of the species. In the long term, improvements to fish passage and aquatic habitat quality in Edgewood Creek could create spawning habitat for salmonids; however, the improved creek system is not likely to support LCT. Implementation of Alternative 2 is expected to result in **no impact** to Lahontan cutthroat trout.	No impact	No mitigation is required.	No impact
Impact 5.7.3-1 Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ). Because Alternative 3 would be located on the same site and include implementation of the same threshold improvement projects as Alternative 1, this impact is the same as Impact 5.7.1-1 for Alternative 1. Construction of the project including threshold improvement project features would disturb habitats considered sensitive by USACE and TRPA, including riparian	Significant	**Mitigation Measure 5.7.3-1a: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits.** See Mitigation Measure 5.7.1-1a described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
vegetation, SEZ, and potential jurisdictional wetlands. This temporary impact would be **significant**.		**Mitigation Measure 5.7.3-1b: Implement Vegetation Protection Measures and Revegetate Disturbed Areas.** See Mitigation Measure 5.7.1-1b described above for Alternative 1. The same mitigation measure would apply.	
Impact 5.7.3-2 Long-Term Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ). This impact is the same as Impact 5.7.1-2 for Alternative 1. One of the long-term goals of Alternative 3, as with Alternative 1, is to reduce the amount of managed turf and coverage within SEZ, increase riparian habitat, and enhance and expand constructed wetlands within the project area. Implementation of Alternative 3 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat, resulting in an overall increase of sensitive habitats. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to be a **beneficial** effect.	Beneficial	No mitigation is required.	Beneficial
Impact 5.7.3-3 Loss or Disturbance of Tahoe Yellow Cress Populations. This impact would be similar to Impact 5.7.1-3 for Alternative 1; however, reconstruction of a new pier would occur at a location midway between the existing pier location and the clubhouse under Alternative 3. Implementation of Alternative 3 would relocate the mouth of Edgewood Creek; remove, relocate, and reconstruct the existing pier; and may result in incidental public use of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of TYC plants. The loss or disturbance of this TRPA special interest, Nevada critically endangered, and federal candidate species would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.3-3: Implement Measures to Protect Existing Tahoe Yellow Cress Plants.** Mitigation Measure 5.7.3-3a shall be implemented with Alternative 3. Mitigation Measures 5.7.3-3b and 5.7.3-3c below provide options to address changes in the fluvial geomorphic processes present at the existing creek mouth resulting from the proposed relocation of the mouth of Edgewood Creek that could result in the loss of TYC plants and adversely affect habitat suitability. Mitigation Measures 5.7.3-3b and 5.7.3-3c are mutually exclusive – implementation of either of these measures coupled with Mitigation Measure 5.7.3-3a would mitigate this impact. **Mitigation Measure 5.7.3-3a: Conduct Preconstruction Surveys, Avoid Potential Construction Impacts, and Avoid Potential Recreation Impacts to Existing Tahoe Yellow Cress Plants.** See Mitigation Measure 5.7.1-3a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.3-3b: Implement Monitoring Surveys and Adaptive Management of Tahoe Yellow Cress Near the**	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Existing Mouth of Edgewood Creek. See Mitigation Measure 5.7.1-3b described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.3-3c: Redesign Project to Retain the Mouth of Edgewood Creek at its Current Location.** See Mitigation Measure 5.7.1-3c described above for Alternative 1. The same mitigation measure would apply.	
Impact 5.7.3-4 Tree Removal. This impact is similar to Impact 5.7.1-4 for Alternative 1. Implementation of Alternative 3 would result in the removal of approximately 569 native trees 14 inches dbh or larger. This includes 172 trees greater than or equal to 24 inches dbh, which comprises 10 percent of all trees within this size class in the project area. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4)of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal would be a **less-than-significant** biological impact. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2) (a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area, which would be implemented as part of Alternative 3.	Less than significant	No mitigation is required.	Less than significant
Impact 5.7.3-5 Introduction and Spread of Noxious Weeds and Aquatic Invasive Species. This impact is the same as Impact 5.7.1-5 for Alternative 1. Implementation of Alternative 3 has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. The potential introduction and spread of terrestrial or aquatic invasive species would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.3-5a: Implement Weed Management Practices during Project Construction.** See Mitigation Measure 5.7.1-5a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.3-5b: Implement Aquatic Invasive Species Management Practices during Project Construction.** See Mitigation Measure 5.7.1-5b described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.3-6 Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats. This impact is the same as impacts under Alternative 1. Under Alternative 3, construction of the new lodge complex, modifications to existing golf course features (including hole realignments and relocations), realignment and restoration of Edgewood and Golf Course Creeks, as well as modifications to the existing pond network including Friday's Station pond could result in disturbances to four special-status species (bald eagle, osprey, waterfowl, and mule deer). Disturbances resulting in loss of individuals or nests, or disruptions to nesting attempts by special-status species (waterfowl) would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.7.3-6: Conduct Preconstruction Surveys for Nesting Special-Status Birds (Waterfowl) and Implement a Limited Operating Period If Necessary.** See Mitigation Measure 5.7.1-6 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.7.3-7 Long-Term Effects on Special-Status and Common Wildlife Species and Habitats. This impact is the same as Impact 5.7.1-7 for Alternative 1. Under Alternative 3, long-term effects of the threshold improvement projects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance would be beneficial. The impact of developing the lodge complex and associated facilities on common and special-status wildlife would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.7.3-8 Short-Term Degradation of Fish and Aquatic Habitat Resulting from Construction and Initial Response. This impact is the same as Impact 5.7.1-8 for Alternative 1; however, removal of the existing pier and construction of a new pier would occur in a different location under Alternative 3. Construction during implementation of Alternative 3 could result in temporary adverse effects on water quality, aquatic habitats, and the aquatic biological community within Edgewood Creek, the in-line ponds connected to Edgewood Creek, and Lake Tahoe. Effects could also occur during the initial channel-response period within the study area and into Lake Tahoe. This impact would be **significant.**	Significant	**Mitigation Measure 5.7.3-8a: Conduct Preconstruction Surveys and Develop and Implement a Native-Fish Capture and Translocation Plan for Fish Species Along Edgewood Creek and Associated Ponds (1, 6, 10, 12, 15, and 18).** See Mitigation Measure 5.7.1-8a described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measure 5.7.3-8b: Prepare and Implement a Storm Water Pollution Prevention Plan.** See Mitigation Measure 5.7.1-8b described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.7.3-9 Long-Term Effects on Fish and Aquatic Habitat. This impact is the same as Impact 5.7.1-9 for Alternative 1. Under Alternative 3, stream, pond, and wetland habitat restoration associated with the threshold improvement projects could result in long-term beneficial effects on aquatic habitats and the fish community in Edgewood Creek. The long-term effect on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe is **potentially beneficial.**	Potentially beneficial	No mitigation is required.	Potentially beneficial
Impact 5.7.3-10 Effects on Lahontan Cutthroat Trout. This impact is the same ass Impact 5.7.1-10 for Alternative 1; however, removal of the existing pier and construction of a new pier at a midpoint location between the existing pier and clubhouse would occur under Alternative 3. Construction activities in Edgewood Creek and Lake Tahoe are not expected to adversely affect LCT or its occupied habitat, or result in take of the species. In the long term, improvements to fish passage and aquatic habitat quality in Edgewood Creek could create spawning habitat for salmonids; however, the improved creek system is not likely to support LCT. Implementation of Alternative 3 is expected to result in **no impact** to LCT.	No impact	No mitigation is required.	No impact
5.8 Human Health and Risk of Upset			
Impact 5.8.1-1 Expose the Public or Environment to Hazardous Materials. Alternative 1 would involve the storage, use, and transport of hazardous materials at the project site during construction activities. However, use of hazardous materials at the site would be typical of most construction projects and would occur in compliance with local, state, and federal regulations. Hazardous materials (e.g., fuel, lubricants, fertilizers, and pesticides) for long-term use on site would continue to be stored and used in compliance with local, state and federal regulations. There are no nearby sources of hazardous materials or wastes that would pose a significant health risk for people within the project area. Therefore, impacts related to exposure of the public or environment to significant hazards would be **less than significant.**	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.8.1-2 Create a Safety Hazard to Construction Workers. Demolition, excavation, and construction activities associated with Alternative 1 could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.8.1-2: Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.** To avoid health risks to construction workers, the project applicant's contractor shall prepare a Site Health and Safety Plan. This plan shall outline measures that will be employed to protect construction workers and the public from exposure to hazardous materials during demolition and construction activities. These measures could include, but would not be limited to, posting notices, limiting access to the site, air monitoring, and watering. Construction contractors shall be required to comply with state health and safety standards for all demolition work. In addition, before demolition of any on-site structures, the applicant shall hire a qualified consultant to investigate whether any of the on-site structures to be demolished contain asbestos-containing materials and lead that could become friable or mobile during demolition activities. If found, the asbestos-containing materials and lead shall be removed in accordance with EPA and Nev-OSHA standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Fed-OSHA and Nev-OSHA asbestos and lead worker construction standards, as determined necessary. Any materials found to contain asbestos and/or lead shall be disposed of properly at an appropriate off-site disposal facility.	Less than significant
Impact 5.8.1-3 Disruption of Public Services. Demolition, excavation, and construction activities on the project site associated with Alternative 1 could result in the disruption of continuous public services in and around the project site, resulting in potentially adverse health and safety effects. This impact is considered **potentially significant.**	Potentially significant	**Mitigation Measure 5.8.1-3: Minimize Loss of Service.** The project applicant shall coordinate with all affected utility providers including Edgewood Water Company, Douglas County Sewer Improvement District, NV Energy, Southwest Gas Corporation, South Tahoe Refuse, and Charter Business (telecommunications) to minimize any potential loss of service. Measures that could be implemented include, but are not limited to scheduling necessary outages, limiting the hours of disruption, informing affected users in advance of the disruption, and avoiding outages during periods of high demand. Any measures would require review and approval by the affected utility provider.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.8.1-4 Expose Future Residents to Potential Health Hazard Related to Radon. The project site is located in a high radon potential zone, as designated by EPA's Map of Radon Zones for Douglas County. Development of Alternative 1 in this area could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered **potentially significant.**	Potentially significant	**Mitigation Measure 5.8.1-4: Conduct Investigation and Implement Radon Resistant Construction Techniques.** The project applicant shall conduct on-site testing for radon by a certified professional. If radon is found, mitigation plans shall be developed by a certified professional. This plan shall identify specific measures that would be implemented to reduce radon exposure levels. Specific radon resistant new construction techniques that could be implemented include installation of a gas permeable layer beneath foundation construction, a layer of plastic sheeting, sealing and caulking, vent pipe and venting fan. Any radon resistant new construction techniques shall be reviewed and approved by TRPA and the Douglas County Building Department, and shall reduce the radon exposure level below 4 pCi/L.	Less than significant
Impact 5.8.1-5 Increased Risk of Health Hazards From Vector-borne Diseases. Alternative 1 would increase the number of people visiting an area recognized as containing several mosquito breeding sites and, therefore, would increase the number of people potentially exposed to vector-borne diseases carried by mosquitoes. However, mosquitoes are not a current nuisance on the Edgewood Tahoe Golf Course property, and the proposed threshold improvement projects would improve hydrologic flow on the site, thereby decreasing the amount of standing water existing on the course. In addition, the Tahoe portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District (MAD). Over the past several years MAD employees have used TRPA-approved mosquito abatement measures in the project vicinity and would continue to do so. A substantial increase in risk of health hazards from vector-borne diseases is not anticipated as a result of the project. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.1-6 Increased Exposure to Wildland Fire Hazard. The project site is located in a moderate fire hazard area. Alternative 1 would incorporate fire resistant roofs and defensible space, and adequate fire protection services are available to the serve the project. These measures would reduce the project's potential to increase exposure of people or structures to wildland fires. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.8.1-7 Increased Exposure to Boating Hazards. While relocating, reconstructing, and extending the pier at the project site could potentially increase exposure of people to boating hazards, under Alternative 1, no new mooring buoys or boating facilities would be constructed. Further, the swimming area would be roped off at the public beach to protect swimmers from boating activities associated with the pier. Therefore, the project's potential to increase exposure to boating hazards would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.2-1 Expose the Public or Environment to Hazardous Materials. This impact is the same as Impact 5.8.1-1 described above. Alternative 2 would involve the storage, use and transport of hazardous materials at the project site during construction activities. However, use of hazardous materials at the site would be typical of most construction projects and would occur in compliance with local, state, and federal regulations. Hazardous materials (e.g., fuel, lubricants, fertilizers, and pesticides) stored for long-term use on site would continue to be stored and used in compliance with local, state and federal regulations. There are no nearby sources of hazardous materials or wastes that would pose a significant health risk for people within the project area. Therefore, impacts related to exposure of the public or environment to significant hazards would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.2-2 Create a Safety Hazard to Construction Workers. This impact is the same as Impact 5.8.1-2 described above for Alternative 1. Demolition, excavation, and construction activities on the project site associated with Alternative 2 could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.8.2-2: Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.** See Mitigation Measure 5.8.2-1 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.8.2-3 Disruption of Public Services. This impact is the same as Impact 5.8.1-3 described above for Alternative 1. Demolition, excavation, and construction activities on the project site associated with Alternative 2 could result in the disruption of continuous public services, resulting in potentially adverse health and safety effects. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.8.2-3: Minimize Loss of Service.** See Mitigation Measure 5.8.1-3 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.8.2-4 Expose Future Residents to Potential Health Hazard Related to Radon. This impact is the same as Impact 5.8.1-4 described above for Alternative 1. The project site is located in a high radon potential zone, as designated by EPA's Map of Radon Zones for Douglas County. Development of Alternative 2 in this area could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered **potentially significant.**	Potentially significant	**Mitigation Measure 5.8.2-4: Conduct Investigation and Implement Radon Resistant Construction Techniques.** See Mitigation Measure 5.8.1-4 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.8.2-5 Increased Risk of Health Hazards From Vector-borne Diseases. This impact is the same as Impact 5.8.1-5 described above for Alternative 1. The Douglas County Mosquito Abatement District services the Tahoe area of Douglas County and treats standing water identified as mosquito breeding areas in the project vicinity. Mosquitoes are not a current nuisance on the Edgewood Tahoe Golf Course property and the proposed threshold Improvement projects proposed would improve hydrologic flow, thereby decreasing the amount of standing water existing on the course. No substantial increase in risk of health hazards from vector-borne diseases would occur with implementation of Alternative 2. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.2-6 Increased Exposure to Wildland Fire Hazard. This impact is the same as Impact 5.8.1-6 described above for Alternative 1. The project site is located in a moderate fire hazard area. Alternative 2 would incorporate fire resistant roofs and defensible space, and adequate fire protection services are available to the serve the project. These measures would reduce Alternative 2's potential to increase exposure of people or structures to wildland fires. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.2-7 Increased Exposure to Boating Hazards. This impact is the same as Impact 5.8.1-7 described above for Alternative 1. While relocating, reconstructing, and extending the pier at the project site could potentially increase exposure of people to boating hazards, under Alternative 2, no new mooring buoys or boating facilities would be constructed. Further, the swimming area would be roped off at the public beach to protect swimmers from boating activities associated with the pier. Therefore, Alternative 2's potential to increase exposure to boating hazards would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.8.3-1 Expose the Public or Environment to Hazardous Materials. This impact is the same as Impact 5.8.1-1 as described above for Alternative 1. Alternative 3 would involve the storage, use and transport of hazardous materials at the project site during construction activities. However, use of hazardous materials at the site would be typical of most construction projects and would occur in compliance with local, state, and federal regulations. Hazardous materials (e.g., fuel, lubricants, fertilizers, and pesticides) stored for long-term use on site would continue to be stored and used in compliance with local, state and federal regulations. There are no nearby sources of hazardous materials or wastes that would pose a significant health risk for people within the project area. Therefore, impacts related to exposure of the public or environment to significant hazards would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.3-2 Create a Safety Hazard to Construction Workers. This impact is the same as Impact 5.8.1-2 described above for Alternative 1. Demolition, excavation, and construction activities associated with Alternative 3 could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.8.3-2: Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.** See Mitigation Measure 5.8.2-1 described above for Alternative 1. The same mitigation measure would apply. Implementation of Mitigation Measure 5.8.3-2 would reduce the exposure of construction workers to hazardous materials, including asbestos and lead-based paint, to a less-than-significant level, because adequate protection measures that comply with applicable regulations would be implemented to protect construction workers.	Less than significant
Impact 5.8.3-3 Disruption of Public Services. This impact is the same as Impact 5.8.1-3 described above for Alternative 1. Demolition, excavation, and construction activities on the project site associated with Alternative 3 could result in the disruption of continuous public services in and around the project site, resulting in potentially adverse health and safety effects. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.8.3-3: Minimize Loss of Service.** See Mitigation Measure 5.8.1-3 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.8.3-4 Expose Future Residents to Potential Health Hazard Related to Radon. This impact is the same as Impact 5.8.1-4 described above for Alternative 1. The project site is located in a high radon potential zone, as designated by EPA's Map of Radon Zones for Douglas County. Development of Alternative 3 in this area could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered **potentially significant**.	Potentially significant	**Mitigation Measure 5.8.3-4: Conduct Investigation and Implement Radon Resistant Construction Techniques.** See Mitigation Measure 5.8.1-4 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.8.3-5 Increased Risk of Health Hazards From Vector-borne Diseases. This impact is the same as Impact 5.8.1-5 described above for Alternative 1. The Douglas County Mosquito Abatement District services the Tahoe area of Douglas County and treats standing water identified as mosquito breeding areas in the project area vicinity. Mosquitoes are not a current nuisance on the Edgewood Tahoe Golf Course property, and the proposed threshold improvement projects would improve hydrologic flow, thereby decreasing the amount of standing water existing on the course. No substantial increase in risk of health hazards from vector-borne diseases would occur. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.3-6 Increased Exposure to Wildland Fire Hazard. This impact is the same as Impact 5.8.1-6 described above for Alternative 1. The project site is located in a moderate fire hazard area. Alternative 3 would incorporate fire resistant roofs and defensible space, and adequate fire protection services are available to the serve the project. These measures would reduce the project's potential to increase exposure of people or structures to wildland fires. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.8.3-7 Increased Exposure to Boating Hazards. This impact is the same as Impact 5.8.1-7 described above for Alternative 1. While relocating, reconstructing, and extending the pier at the project site could potentially increase exposure of people to boating hazards, under Alternative 3, no new mooring buoys or boating facilities would be constructed. Further, the swimming area would be roped off at the public beach to protect swimmers from boating activities associated with the pier. Therefore, Alternative 3's potential to increase exposure to boating hazards would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
5.9 Cultural Resources			
Impact 5.9.1-1 Effects on Known Archeological and Historical Resources. Over 20 prehistoric and historic-era cultural resources have been identified within the project vicinity (within 0.5 mile) and nine are known to be located within the project area boundaries. Three of these resources are either eligible or may be eligible for NRHP listing and as such are considered significant heritage resources per federal and TRPA regulations. Prehistoric site 26-Do-4 is reported to be in at least three locales throughout the project area. Surface remains of the site(s) have not been observed and are believed to have been destroyed, therefore, the site has been recommended as not-eligible to the NRHP based upon its surface component. However, subsurface and/or near surface intact archaeological deposits may exist and if encountered, this site may be eligible for NRHP listing and consequently considered significant historic resource per federal and TRPA regulations. Because construction associated with Alternative 1 has the potential to affect the integrity of this resource, this impact would be **significant**. Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The CA/NV boundary monument in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. If construction associated with Alternative 1 affected the integrity of these resources, the impact would be **significant**.	Significant	**Mitigation Measure 5.9.1-1: Archaeological Monitoring of Known Heritage Resources During Project Construction.** Prior to construction, the project applicant shall prepare an Archaeological Monitoring Plan in consultation with and subject to review by the Washoe Tribe, TRPA, and the Nevada SHPO. The archaeological monitoring of the project area shall include the area located between Friday's Station and U.S. 50 and areas contained within the golf course west of U.S. 50. Archaeological monitoring shall be conducted during all initial project ground disturbance activities (e.g., grading, utilities trenching, and landscaping). Because the project includes a multi-phase/multi-year construction program, the monitoring plan shall incorporate flexibility so that archaeological field decisions can be adjusted adaptively to reflect the presence or absence of archaeological remains. For example, if no subsurface deposits are encountered during the first phase of project construction, monitoring activities may be scaled-back. On the other hand, if buried artifacts/features are discovered, monitoring can be intensified. Any modifications to the Archaeological Monitoring Plan shall be developed in consultation with and subject to review by the Washoe Tribe, TRPA, and the Nevada SHPO. During the course of archaeological monitoring activities, periodic monitoring of buildings and standing structures associated with the Friday's Station complex shall be performed to ensure that no other ground disturbances or equipment or material storage inadvertently occur outside the project impact zone and in close proximity to this NRHP property. During dredging and/or construction activities at the dam and pond, temporary fencing (Type ESA) shall be furnished, installed, maintained, and later removed in conformance with the details shown on the Edgewood Lodge and Golf Course Improvement Project Conceptual Site Plan dated September 30, 2011. Barricade fencing shall also be installed around the 1946 CA/NV boundary monument to protect it from inadvertent impact. No	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		project work, staging activities, or parking shall be allowed within the barricade fencing. A qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology shall monitor ground-disturbing activities in order to confirm compliance. If appropriate, the archaeologist may delimit a buffer or exclusion zone, which is established adjacent to ground disturbance activities and marked by flagging or plastic barricade fencing if necessary. The archaeological monitor shall also have the authority to temporarily halt project activities in the event of a discovery of heritage finds.	
Impact 5.9.1-2 Effects on Previously Undiscovered Heritage Resources or Human Remains. Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features, artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. If previously undiscovered and significant (per NRHP/TRPA criteria) archaeological or historical resources or human remains are disturbed by construction associated with Alternative 1, this would be a **significant** impact.	Significant	**Mitigation Measure 5.9.1-2: Previously Undiscovered Heritage Resources and Human Remains.** If previously unknown archaeological or historical resources or human remains are discovered during any project-related ground-disturbing activities, the construction crew shall immediately cease ground-disturbing activities in the vicinity of the find. A qualified archaeologist (see Mitigation Measures 5.9.1-1) shall be consulted to evaluate the resource in accordance with federal, TRPA and County guidelines. If the discovered resource is determined to be significant per NHPA and TRPA criteria, mitigation measures consistent with Section 106 of the NHPA and the TRPA Code shall be devised and a mitigation plan submitted for approval by TRPA and/or the USACE representative (if appropriate). Any necessary archaeological excavation and monitoring activities shall be conducted in accordance with prevailing professional standards and the federal Secretary of the Interior's Standards and Guidelines for Identification of Cultural Resources and Professional Qualifications. Mitigation, in accordance with a plan approved by TRPA and the County and/or the USACE representative (if appropriate), shall be implemented before ground-disturbing work in the area of the resource find can continue. The State of Nevada Revised Statutes Section 383.170 requires a person to report to the Office of Historic Preservation	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		immediately upon discovery of a previously unreported Native American interment inadvertently disturbed by ground-disturbing activities such as construction, logging, or farming. The Office of Historic Preservation must consult immediately with the Nevada Indian Commission and notify the appropriate Indian tribe. The authorized tribe or their representative, with the permission of the landowner, must inspect the burial site and recommend an appropriate means for the treatment and disposition of the site and all associated artifacts and human remains. If the burial site is located on private land, Section 383.170 allows, at the owner's expense, the re-interment of all human remains and associated artifacts in a location not subject to further disturbance if the Indian tribe fails to make a recommendation within 48 hours after it receives notification of the find.	
Impact 5.9.1-3 Effects on Paleontological Resources. The project area is located within Holocene (10,000 years ago to present) and Pleistocene (1.8 million to 10,000 years ago) geologic formations. Because an object must be 10,000 years old to be considered a fossil, project activities in the Holocene formations would have no impact on paleontological resources. Marine deposits may occur in lacustrine terrace deposits and older beach deposits within the project area; however, these types of fossils are not considered to be a unique paleontological resource. Further, no fossils have been recorded in Pleistocene-era formations in Douglas County, Nevada. Therefore, project-related construction activities associated with Alternative 1 would have a **less-than-significant** impact on unique, scientifically-important paleontological resources.	Less than significant	No mitigation is required.	Less than significant
Impact 5.9.2-1 Effects on Known Archeological and Historical Resources. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 2 would be the same as Alternative 1. Prehistoric site 26-Do-4 is reported to be in at least three locales throughout the project area. Surface remains of the site(s) have not been observed and are believed to have been destroyed, therefore, the site has been recommended as not-eligible to the NRHP based upon its surface component. However, subsurface	Significant	**Mitigation Measure 5.9.2-1: Archaeological Monitoring of Known Heritage Resources During Project Construction.** See Mitigation Measure 5.9.1-1 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
and/or near surface intact archaeological deposits may exist and if encountered, this site may be eligible for NRHP listing and consequently considered significant historic resource per federal and TRPA regulations. Because construction associated with Alternative 2 has the potential to affect the integrity of this resource, this impact would be **significant**. Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The CA/NV boundary monument in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. If construction associated with Alternative 2 affected the integrity of these resources, the impact would be **significant**.			
Impact 5.9.2-2 Effects on Previously Undiscovered Heritage Resources or Human Remains. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 2 would be the same as Alternative 1. Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features, artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. If previously undiscovered and significant (per NRHP/TRPA criteria) archaeological or historical resources or human remains are disturbed by construction associated with Alternative 2, this would be a **significant** impact.	Significant	**Mitigation Measure 5.9.2-2: Previously Undiscovered Heritage Resources and Human Remains.** See Mitigation Measure 5.9.1-2 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.9.2-3 Effects on Paleontological Resources. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 2 would be the same as Alternative 1. The project area is located within Holocene (10,000 years ago to present) and Pleistocene (1.8 million to 10,000 years ago) geologic formations. Because an object must be 10,000 years old to be	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
considered a fossil, project activities in the Holocene formations would have no impact on paleontological resources. Marine deposits may occur in lacustrine terrace deposits and older beach deposits within the project area; however, these types of fossils are not considered to be a unique paleontological resource. Further, no fossils have been recorded in Pleistocene-era formations in Douglas County, Nevada. Therefore, project-related construction activities would have a **less-than-significant** impact on unique, scientifically-important paleontological resources.			
Impact 5.9.3-1 Effects on Known Archeological and Historical Resources. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 3 would be the same as Alternative 1. Prehistoric site 26-Do-4 is reported to be in at least three locales throughout the project area. Surface remains of the site(s) have not been observed and are believed to have been destroyed, therefore, the site has been recommended as not-eligible to the NRHP based upon its surface component. However, subsurface and/or near surface intact archaeological deposits may exist and if encountered, this site may be eligible for NRHP listing and consequently considered significant historic resource per federal and TRPA regulations. Because construction associated with Alternative 3 has the potential to affect the integrity of this resource, this impact would be **significant**. Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The CA/NV boundary monument in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. If construction associated with Alternative 3 affected the integrity of these resources, the impact would be **significant**.	Significant	**Mitigation Measure 5.9.3-1: Archaeological Monitoring of Known Heritage Resources During Project Construction.** See Mitigation Measure 5.9.1-1 described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.9.3-2 Effects on Previously Undiscovered Heritage Resources or Human Remains. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 3 would be the same as Alternative 1. Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features, artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. If previously undiscovered and significant (per NRHP/TRPA criteria) archaeological or historical resources or human remains are disturbed by construction associated with Alternative 3, this would be a **significant** impact.	Significant	**Mitigation Measure 5.9.3-2: Previously Undiscovered Heritage Resources and Human Remains.** See Mitigation Measure 5.9.1-2 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.9.3-3 Effects on Paleontological Resources. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 3 would be the same as Alternative 1. The project area is located within Holocene (10,000 years ago to present) and Pleistocene (1.8 million to 10,000 years ago) geologic formations. Because an object must be 10,000 years old to be considered a fossil, project activities in the Holocene formations would have no impact on paleontological resources. Marine deposits may occur in lacustrine terrace deposits and older beach deposits within the project area; however, these types of fossils are not considered to be a unique paleontological resource. Further, no fossils have been recorded in Pleistocene-era formations in Douglas County, Nevada. Therefore, project-related construction activities would have a **less-than-significant** impact on unique, scientifically-important paleontological resources.	Less than significant	No mitigation is required.	Less than significant
5.10 Traffic, Parking, and Circulation			
Impact 5.10.1-1 Intersection LOS Under Existing (2009) Plus Project Conditions – Alternative 1. Although implementation of Alternative 1 would result in increased vehicular delays at the study intersections, all intersections would continue to operate at an acceptable LOS under existing (2009) plus project conditions. This impact is considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.10.1-2 Potential for Traffic Accidents Under Existing (2009) Conditions. Alternative 1 is not expected to result in any driver sight distance deficiencies or other characteristics that would create a potential safety hazard provided that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. However, the traffic queues forming at the gatehouse could interfere with traffic operations along Lake Parkway during periods when a large banquet event begins. This is a **potentially significant** impact.	Potentially significant.	**Mitigation Measure 5.10.1-2: Design Final Landscape and Tree Removal Plan to Provide Adequate Corner Sight Distance at the Realigned Site Driveway on Lake Parkway, and Relocate Gatehouse and Either Provide Two Lanes or Stagger Events.** Prior to TRPA permit acknowledgement, the project applicant shall demonstrate that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. In addition, the mitigation measures below provide options to resolve traffic queuing impacts on Lake Parkway. The measures below are mutually exclusive – implementation of either one of these measures alone would mitigate this impact to a less-than-significant level. **Mitigation Measure 5.10.1-2a: Relocate Entry Gatehouse.** The site plan shall be revised in subsequent design phases to relocate the entry gatehouse to a point at least 125 feet from the edge of curb on Lake Parkway. **Mitigation Measure 5.10.1-2b: Expand Site Access Road to the Gatehouse and Provide Two Attendants at the Gatehouse During Peak Use Periods.** To address potential queuing conflicts on Lake Parkway, the site plan shall be revised in subsequent design phases to expand the inbound site access road between Lake Parkway and the gatehouse to include two northbound lanes. Also, during any peak day, the gatehouse shall be staffed with at least two attendants. The provision of a second lane leading up to the gatehouse from Lake Parkway with a second attendant at the gatehouse would result in a 95th-percentile traffic queue length at the gatehouse of less than 50 feet during peak periods with a banquet event starting.	Less than significant
Impact 5.10.1-3 Emergency Access. Because Alternative 1 would provide primary and secondary emergency access that has been deemed adequate by the Tahoe Douglas Fire Protection District, and emergency responders have confirmed their ability to serve the proposed development, this impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.10.1-4 Transit, Pedestrian, and Bicycle Facilities. Adequate transit and bicycle facilities are provided under Alternative 1. However, because no pedestrian facilities are proposed to be provided along the project frontage to the west of the site access driveway, there is no pedestrian connectivity between the project site and the off-site employee parking lot. This is a **significant** impact.	Significant	**Mitigation Measure 5.10.1-4: Provide Safe Access from the Off-Site Employee Lot to the Site.** The mitigation measures below provide options to provide safe access from the employee lot to the site. The measures are mutually exclusive – implementation of either of these measures alone would mitigate this impact to a less-than-significant level. **Mitigation Measure 5.10.1-4a: Provide ADA-Accessible Path and Crossing on Lake Parkway.** A marked crosswalk with potential signage and lighting should be provided on Lake Parkway adjacent to the off-site parking lot. The project applicant should work with Douglas County staff regarding the design of this crossing. In addition, if the proposed project is implemented before the South Demonstration Project shared-use path (a separate project that has undergone environmental review and received TRPA approval—see also Section 5.15, "Cumulative Impacts," for more details) is constructed adjacent to the site, the project applicant shall construct an ADA-accessible path along the portion of the project frontage between the off-site employee parking lot and the site access driveway. **Mitigation Measure 5.10.1-4b: Provide Shuttle Serving Off-Site Parking Lot.** The project applicant shall provide convenient shuttle service for employees using the off-site parking lot on the south side of Lake Parkway, in order to provide connectivity between the project site and the off-site lot.	Less than significant
Impact 5.10.1-5 Vehicle Miles Traveled (VMT). Alternative 1 would result in an increase of approximately 501 VMT over the course of a peak summer day, or a 0.03-percent increase in existing region-wide VMT. Based on Subsection 65.2.4(C) of the TRPA Code of Ordinances, an air quality mitigation fee of $8,434.60 is required. Because the increase in VMT resulting from Alternative 1 is not substantial in relation to the VMT threshold, this impact is **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.10.1-6 Parking Conditions. Alternative 1 would result in an overall parking surplus of up to 50 spaces during peak periods. Therefore, this alternative would result in a **less-than-significant** parking impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.1-7 Construction Traffic Impacts. Construction of Alternative 1 would result in temporary construction traffic, which would access the site via Lake Parkway. The project would be constructed over a total of five construction seasons. Because construction-related traffic volumes (including employee and truck haul trips) would be substantially lower than traffic volumes associated with operation of Alternative 1, the corresponding effects on intersection delays during construction would be less than those under full buildout of Alternative 1 such that all study intersections would be expected to operate at an acceptable LOS during construction. Further, the project applicant would be required to prepare a Traffic Control Plan (TCP) for review and approval by TRPA, NDOT, and Douglas County prior to construction activities. This impact is **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.2-1 Intersection LOS Under Existing (2009) Plus Project Conditions – Alternative 2. Although implementation of Alternative 2 would result in increased vehicular delays at the study intersections relative to Alternative 1, all intersections would continue to operate at an acceptable LOS under existing (2009) plus project conditions. The intersection LOS with Alternative 2 is the same as with Alternative 1, although the average delays are the same or slightly higher. This impact is **less than significant.**	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.2-2 Potential for Traffic Accidents Existing (2009) Conditions. Similar to Alternative 1, Alternative 2 is not expected to result in any driver sight distance deficiencies or other characteristics that would create a potential safety hazard provided that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the driveway on Lake Parkway. However, the traffic queues forming at the gatehouse could interfere with traffic operations along Lake Parkway during periods when a large banquet event begins. This is a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.10.2-2: Design Final Landscape and Tree Removal Plan to Provide Adequate Corner Sight Distance at the Realigned Site Driveway on Lake Parkway, and Either Relocate Gatehouse or Provide Two Lanes.** Prior to TRPA permit acknowledgement, the project applicant shall demonstrate that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. In addition, the mitigation measures below provide options to resolve traffic queuing impacts on Lake Parkway. The measures below are mutually exclusive – implementation of either one of these measures alone would mitigate this impact to a less-than-significant level.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Mitigation Measure 5.10.2-2a: Relocate Entry Gatehouse. The site plan shall be revised in subsequent design phases to relocate the entry gatehouse to a point at least 150 feet from the edge of curb on Lake Parkway. **Mitigation Measure 5.10.2-2b: Expand Site Access Road to the Gatehouse and Provide Two Attendants at the Gatehouse During Peak Use Periods.** To address potential queuing conflicts on Lake Parkway, the site plan shall be revised in subsequent design phases to expand the inbound site access road between Lake Parkway and the gatehouse to include two northbound lanes. Also, during any peak day, the gatehouse shall be staffed with at least two attendants. The provision of a second lane leading up to the gatehouse from Lake Parkway with a second attendant at the gatehouse would result in a 95th-percentile traffic queue length at the gatehouse of less than 50 feet during peak periods with a banquet event starting.	
Impact 5.10.2-3 Emergency Access. Because Alternative 2 would provide the same primary and secondary emergency access as Alternative 1 that has been deemed adequate by the Tahoe Douglas Fire Protection District, and emergency responders have confirmed their ability to serve the proposed development, this impact would be the same as Alternative 1 and would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.2-4 Impact on Transit, Pedestrian, and Bicycle Facilities. This impact under Alternative 2 would be the same as Alternative 1 above. Adequate transit and bicycle facilities are provided under Alternative 2. However, because no pedestrian facilities are proposed to be provided along the project frontage to the west of the site access driveway, there is no pedestrian connectivity between the project site and the off-site employee parking lot. This is a **significant** impact.	Significant	**Mitigation Measure 5.10.2-4: Provide Safe Access from the Off-Site Employee Lot to the Site.** The mitigation measures below provide options to provide safe access from the employee lot to the site. The measures are mutually exclusive – implementation of either of these measures alone would mitigate this impact to a less-than-significant level. **Mitigation Measure 5.10.2-4a: Provide ADA-Accessible Path and Crossing on Lake Parkway.** See Mitigation Measure 5.10.1-4a described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Mitigation Measure 5.10.2-4b: Provide Shuttle Serving Off-Site Parking Lot. See Mitigation Measure 5.10.1-4b described above for Alternative 1. The same mitigation measure would apply.	
Impact 5.10.2-5 Vehicle Miles Traveled (VMT). Alternative 2 would result in a net increase of approximately 185 VMT over the course of a peak summer day, or a 0.01-percent increase in existing region-wide VMT. In comparison with Alternative 1, Alternative 2 would generate a smaller increase in existing region-wide VMT. Based on Subsection 65.2.4(C) of the TRPA Code, an air quality mitigation fee of $3,221.80 is required. As the increase in VMT resulting from Alternative 2 is not substantial in relation to the VMT threshold, this impact is **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.2-6 Impact on Parking Conditions. Alternative 2 would result in an overall parking surplus of up to 11 spaces during peak periods. Therefore, this alternative would result in a **less-than-significant** parking impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.3-1 Intersection LOS Under Existing (2009) Conditions. Although implementation of Alternative 3 would result in increased vehicular delays at the study intersections relative to Alternative 1, all intersections would continue to operate at an acceptable LOS under existing (2009) conditions. The intersection LOS with Alternative 3 is the same as with Alternative 1, although the average delays are the same or slightly higher. This impact is **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.3-2 Potential for Traffic Accidents Under Existing (2009) Conditions. Similar to Alternative 1, Alternative 3 would not result in any driver sight distance deficiencies or other characteristics that would create a potential safety hazard provided that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the driveway on Lake Parkway. However, the traffic queues forming at the gatehouse could interfere with traffic operations along Lake Parkway during periods when a large banquet event begins. This is a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.10.3-2: Design Final Landscape and Tree Removal Plan to Provide Adequate Corner Sight Distance at the Realigned Site Driveway on Lake Parkway, and Either Relocate Gatehouse or Provide Two Lanes.** Prior to TRPA permit acknowledgement, the project applicant shall demonstrate that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. In addition, the mitigation measures below provide options to resolve traffic queuing impacts on Lake Parkway. The measures below are mutually exclusive – implementation of either one of these measures alone would mitigate this impact to a less-than-significant level.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Mitigation Measure 5.10.3-2a: Relocate Entry Gatehouse. The site plan shall be revised in subsequent design phases to relocate the entry gatehouse to a point at least 150 feet from the edge of curb on Lake Parkway. **Mitigation Measure 5.10.3-2b: Expand Site Access Road to the Gatehouse and Provide Two Attendants at the Gatehouse During Peak Use Periods.** To address potential queuing conflicts on Lake Parkway, the site plan shall be revised in subsequent design phases to expand the inbound site access road between Lake Parkway and the gatehouse to include two northbound lanes. Also, during any peak day, the gatehouse shall be staffed with at least two attendants. The provision of a second lane leading up to the gatehouse from Lake Parkway with a second attendant at the gatehouse would result in a 95th-percentile traffic queue length at the gatehouse of less than 50 feet during peak periods with a banquet event starting.	
Impact 5.10.2-3 Emergency Access. Because Alternative 3 would provide the same primary and secondary emergency access as Alternative 1 that has been deemed adequate by the Tahoe Douglas Fire Protection District, and emergency responders have confirmed their ability to serve the proposed development, this impact would be the same as Alternative 1 and would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.2-4 Impact on Transit, Pedestrian, and Bicycle Facilities. This impact under Alternative 3 would be the same as Alternative 1 above. Adequate transit and bicycle facilities are provided under Alternative 3. However, because no pedestrian facilities are proposed to be provided along the project frontage to the west of the site access driveway, there is no pedestrian connectivity between the project site and the off-site employee parking lot. This is a **significant** impact.	Significant	**Mitigation Measure 5.10.3-4: Provide Safe Access from the Off-Site Employee Lot to the Site.** The mitigation measures below provide options to provide safe access from the employee lot to the site. The measures are mutually exclusive – implementation of either of these measures alone would mitigate this impact to a less-than-significant level. **Mitigation Measure 5.10.3-4a: Provide ADA-Accessible Path and Crossing on Lake Parkway.** See Mitigation Measure 5.10.1-4a described above for Alternative 1. The same mitigation measure would apply.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Mitigation Measure 5.10.3-4b: Provide Shuttle Serving Off-Site Parking Lot. See Mitigation Measure 5.10.3-4b described above for Alternative 1. The same mitigation measure would apply. **Mitigation Measures 5.10.3-4a and b are mutually exclusive.** Implementation of either of these mitigation measures would provide safe access between the off-site employee parking lot and the site. Implementation of Mitigation Measure 5.10.3-4a or b would mitigate this impact to a less-than-significant level.	
Impact 5.10.3-5 Vehicle Miles Traveled (VMT). Alternative 3 would result in a net increase of approximately 1,221 VMT over the course of a peak summer day, or a 0.06-percent increase in existing region-wide VMT. In comparison with Alternative 1, Alternative 3 would generate a slightly higher increase in existing region-wide VMT. Based on Subsection 65.2.4(C)of the TRPA Code of Ordinances, an air quality mitigation fee of $13,502.60 is required. As the increase in VMT resulting from Alternative 3 is not substantial in relation to VMT, this impact is **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.10.3-6 Parking Conditions. With Alternative 3, there would be a parking shortfall of up to 5 spaces during peak periods. This is a **significant** impact.	Significant	**Mitigation Measure 5.10.3-6: Implement Parking Strategy to Address Parking Shortfall.** The mitigation measures below provide options to resolve the projected parking shortfall. The measures are mutually exclusive – implementation of any one of these measures alone would mitigate this impact to a less-than-significant level. **Mitigation Measure 5.10.3-6a: Provide Additional Valet Parking During Peak Periods.** The project applicant shall use one of the other Edgewood parking lots (in addition to the Remote Parking Structure, which is proposed for valet parking) for valet parking during peak periods. With this additional valet parking, an additional 5 parking spaces could be provided. This would eliminate the parking shortfall. This option would result in operational changes only. No physical changes would be necessary. **Mitigation Measure 5.10.3-6b: Provide an Additional 5 Spaces During Peak Periods.** The project applicant shall expand the	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		proposed parking supply to provide an additional 5 spaces. For instance, the off-site parking lot on the south side of Lake Parkway could be configured to provide a total of 65 spaces. This would eliminate the parking shortfall during peak periods.	
5.11 Air Quality			
Impact 5.11.1-1 Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. Unmitigated PM10 emissions would exceed the significance criteria of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative 1 could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to TRPA standards. This would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.11.1-1: Reduce Construction-Generated Emissions of ROG, NOX, and PM10.** In accordance with TRPA Code, the project applicant shall implement the following mitigation measures during construction. In addition to the mitigation measures identified below, construction of the project is required to comply with all applicable TRPA, BAQP, and BAPC codes, particularly TRPA Code Chapter 60 (Best Management Practices), Section 33.3 (Grading Standards), and Chapter 91 (Air Quality Control), and NAC 445B.22037. 〉 Soil disturbing activities shall not occur between October 15 and May 1 of each year, unless approval has been granted by TRPA. Prior to October 15, all construction sites shall be winterized. 〉 Dust control measures shall be required for any grading activity creating substantial quantities of dust. Dust control measures shall be approved by TRPA prior to groundbreaking and shall include: 〉 Earth-moving construction equipment shall be cleaned with water once per day. 〉 Soil binders shall be spread on unpaved roads and employee/equipment parking areas. 〉 Apply approved chemical soil stabilizers according to manufacturer specifications, to all-inactive construction areas (previously graded areas which remain inactive for 96 hours). 〉 The contractor shall wet broom or wash streets if silt is carried over to adjacent public thoroughfares.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		〉 All grading operations shall be suspended when wind speeds (as instantaneous gusts measured by an on-site anemometer) exceed 25 mph and dust is impacting adjacent properties. Wind speeds shall be measured with an anemometer on-site a minimum of once per day. Additional anemometer measurements shall be conducted if wind conditions noticeably increase or are forecast to be greater than 15 mph. 〉 The area and extent of all excavation and soil disturbance shall be minimized. 〉 The speed of any vehicles and equipment traveling across unpaved areas shall not exceed 15 miles per hour (mph) unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 mph from emitting dust exceeding Ringlemann 2 or visible emissions from crossing the property boundary line. [Note: The Ringlemann Chart/System is a scheme, developed by a Maximillian Ringlemann, to determine the "density" of a smoke plume whereby graduated shades of gray, varying by five equal steps between white and black, may be accurately reproduced by means of a rectangular grill of black lines of definite width and spacing on a white background. Opacity is a visual evaluation of the amount of one's view that is obscured by a dust plume (i.e., the amount of visible light that does not pass through the dust plume).] 〉 The applicant shall limit the opacity of fugitive dust resulting from construction operations such that dust leaving the project site boundary shall not obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on the Ringlemann Chart (i.e., 40 percent opacity). Refer to above mitigation measure for definition of the Ringlemann Chart/System and	

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		opacity. 〉 The prime contractor shall comply with NAC 445B.7665 standards of opacity for heavy-duty equipment. 〉 No open burning of removed vegetation shall occur during infrastructure improvements. Vegetative material shall be chipped or delivered to waste-to-energy facilities. 〉 Construction contracts shall include language that prohibits the use of all heavy duty off-road diesel equipment on days when air quality advisories are issued because of special circumstances such as high levels of particulate matter generated by wildfires circumstances.	
Impact 5.11.1-2 Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions. Because long-term operational emissions would not exceed TRPA's stationary source significance criteria or the mass emission significance criteria, implementation of Alternative 1 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.1-3 Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Because the traffic analysis indicates that all area intersections would continue to operate at acceptable levels of service, long-term operational (local) mobile-source CO emissions under Alternative 1 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.1-4 Odor Emissions. Neither construction nor operation of Alternative 1 would create objectionable odors affecting a substantial number of people, because the proposed development does not include construction and operation of the types of facilities that are known to	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
produce odors and any diesel exhaust odors generated by construction equipment would be intermittent and temporary, and would dissipate rapidly from the source with an increase in distance. This impact would be **less than significant**.			
Impact 5.11.1-5 Hazardous Air Pollutant Emissions. Neither construction nor operation of Alternative 1 would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.2-1 Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. As with Alternative 1, unmitigated PM10 emissions would exceed the significance criterion of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative 2 could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to TRPA standards. This would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.11.2-1: Reduce Construction-Generated Emissions of ROG, NOX, and PM10.** Implement Mitigation Measure 5.11.1-1 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.11.2-2 Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions. Because long-term operational emissions would not exceed TRPA's stationary source significance criteria or the mass emission significance criteria, implementation of Alternative 2 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.2-3 Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Because the traffic analysis indicates that all area intersections would continue to operate at acceptable levels of service, long-term operational (local) mobile-source CO emissions under Alternative 2 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.11.2-4 Odor Emissions. Because implementation of Alternative 2 would result in similar types of proposed uses on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-4. Neither construction nor operation of Alternative 2 would create objectionable odors affecting a substantial number of people. This impact would be considered **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.2-5 Hazardous Air Pollutant Emissions. Because implementation of Alternative 2 would result in similar types of proposed uses on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-5. Neither construction nor operation of Alternative 2 would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.3-1 Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. As with Alternative 1, unmitigated PM10 emissions would exceed the significance criterion of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative 3 could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to TRPA standards. This would be a **potentially significant** impact.	Potentially significant	**Mitigation Measure 5.11.3-1: Reduce Construction-Generated Emissions of ROG, NOX, and PM10.** Implement Mitigation Measure 5.11.1-1 described above for Alternative 1. The same mitigation measure would apply.	Less than significant
Impact 5.11.3-2 Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions. Because long-term operational emissions would not exceed TRPA's stationary source significance criteria or the mass emission significance criteria, implementation of Alternative 3 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.3-3 Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Because the traffic analysis indicates that all area intersections would continue to operate at acceptable levels of service, long-term operational (local) mobile-source CO emissions under Alternative 3 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant**.			
Impact 5.11.3-4 Odor Emissions. Because implementation of Alternative 3 would result in the same type of proposed uses on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-4. Neither construction nor operation of Alternative 3 would create objectionable odors affecting a substantial number of people. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.11.3-5 Hazardous Air Pollutant Emissions. Because implementation of Alternative 3 would result in the same type of proposed uses and on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-5. Neither construction nor operation of Alternative 3 would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
5.12 Greenhouse Gas Emissions and Climate Change			
Impact 5.12.1-1 Greenhouse Gas Emissions. The proposed project (Alternative 1) would result in less-than-cumulatively considerable GHG emissions and would have a **less-than-significant** impact on climate change.	Less than significant	No mitigation is required.	Less than significant
Impact 5.12.1-2 Greenhouse Gas Emissions. Alternative 2 would result in less-than-cumulatively considerable GHG emissions and would have a **less-than-significant** impact on climate change.	Less than significant	No mitigation is required.	Less than significant
Impact 5.12.1-3 Greenhouse Gas Emissions. Alternative 3 would result in less-than-cumulatively considerable GHG emissions and would have a **less-than-significant** impact on climate change.	Less than significant	No mitigation is required.	Less than significant
5.13 Noise			
Impact 5.13.1-1 Project-Generated Construction Source Noise Levels. Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, as stated in the project description, construction activities under Alternative 1 would be limited to the less noise-sensitive hours (e.g., daytime) for which associated noise levels are exempt from the provisions of the applicable standards. Thus, project-	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
generated construction source noise levels would not result in noise levels that exceed applicable standards. This would be a **less-than-significant impact**.			
Impact 5.13.1-2 Project-Generated Non-Transportation Source Noise Levels. Project-generated non-transportation source (e.g., stationary) noise levels under Alternative 1 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.1-3 Project-Generated Traffic Source Noise Levels. Project-generated traffic source noise levels under Alternative 1 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.1-4 Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. On-site noise levels under Alternative 1 would not exceed applicable TRPA standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.1-5 Vibration Levels. Project-generated groundborne vibration levels would not cause damage to structures or disruption to humans under Alternative 1 because ground vibration levels from construction equipment would not occur at levels that result in damage to structures and no existing receptors are located in close enough proximity to be affected by elevated vibration levels pile driving, if required. This would be a **less-than-significant impact**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.2-1 Project-Generated Construction Source Noise Levels. Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, as stated in the project description, construction activities under Alternative 2 would be limited to the less noise-sensitive hours (e.g., daytime) for which associated noise levels are exempt from the provisions of the applicable standards. Thus, project-generated construction source noise levels would not result in noise levels that exceed applicable standards. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.13.2-2 Project-Generated Non-Transportation Source Noise Levels. Project-generated non-transportation source (e.g., stationary) noise levels under Alternative 2 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.2-3 Project-Generated Traffic Source Noise Levels. Project-generated traffic source noise levels under Alternative 2 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.2-4 Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. On-site noise levels under Alternative 2 would not exceed applicable TRPA standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.2-5 Vibration Levels. Project-generated groundborne vibration levels would not cause damage to structures or disruption to humans under Alternative 2 because ground vibration levels from construction equipment would not occur at levels that result in damage to structures and no existing receptors are located in close enough proximity to be affected by elevated vibration levels pile driving, if required. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.3-1 Project-Generated Construction Source Noise Levels. Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, as stated in the project description, construction activities under Alternative 3 would be limited to the less noise-sensitive hours (e.g., daytime) for which associated noise levels are exempt from the provisions of the applicable standards. Thus, project-generated construction source noise levels would not result in noise levels that exceed applicable standards. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.3-2 Project-Generated Non-Transportation Source Noise Levels. Project-generated non-transportation source (e.g., stationary) noise levels under Alternative 3 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.13.3-3 Project-Generated Traffic Source Noise Levels. Project-generated traffic source noise levels under Alternative 3 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.3-4 Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. On-site noise levels under Alternative 3 would not exceed applicable TRPA standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.13.3-5 Vibration Levels. Project-generated groundborne vibration levels would not cause damage to structures or disruption to humans under Alternative 3 because ground vibration levels from construction equipment would not occur at levels that result in damage to structures and no existing receptors are located in close enough proximity to be affected by elevated vibration levels pile driving, if required. This would be a **less-than-significant** impact.	Less than significant	No mitigation is required.	Less than significant
5.14 Public Services and Utilities			
Impact 5.14.1-1 Increased Demand for Water Supply, Treatment, Distribution, and Storage. Implementation of Alternative 1 would result in a net increase in water demand of 80.5 acre feet annually (Nichols Consulting Engineers 2011). EWC has confirmed that the existing water supply, treatment facilities, distribution system, and storage facilities are adequate to serve the project. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.1-2 Increased Demand for Wastewater Service. Implementation of Alternative 1 would generate a net increase of an estimated 338,720 gallons of wastewater per day and, therefore, increase the demand for wastewater service. DCSID has indicated that the capacity of the wastewater treatment facility and sewer lines would be adequate to serve the project. Therefore, this impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.1-3 Increased Demand for Electrical Service. Implementation of Alternative 1 would increase the demand for electrical service at the project site. Electrical service would be provided from NV Energy's existing Round Hill Substation. NV Energy has confirmed that it would provide	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
service to the proposed project provided all necessary fees and contracts are negotiated in a proper and timely manner, in accordance with NV Energy's filed rules and tariffs. The applicant has committed to adhere to these requirements. This impact would be **less than significant**.			
Impact 5.14.1-4 Increased Demand for Natural Gas Services. Implementation of Alternative 1 would require the provision of natural gas service to the project site. Southwest Gas Corporation has confirmed that there are adequate supplies and infrastructure available to provide natural gas services to the project site. Therefore, this impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.1-5 Increased Demand for Telecommunications Services. Implementation of Alternative 1 would result in an increased demand for telecommunications services. Charter Business has indicated that it would be able to serve the proposed project. Therefore, this impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.1-6 Increased Demand for Solid Waste Services. Alternative 1 would generate approximately 2,268 pounds of solid waste per day, necessitating collection and disposal. STR has confirmed that it would be able to provide service to the project site without adversely affecting STR's existing services or facilities. Therefore, this impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.1-7 Increased Demand for Law Enforcement Services. Implementation of Alternative 1 would result in approximately 512 new tourists and 183 new full-time or full-time equivalent employees to the project area. DCSD has expressed that this would not affect DCSD's ability to serve the Stateline area, including the proposed project. Therefore, this impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.1-8 Increased Demand for Fire Protection. Implementation of Alternative 1 would result in an incremental increase in the local demand for fire protection. TDFPD staffing and equipment are adequate to provide service to the proposed project. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.14.1-9 Increased Demand for Emergency Medical Services. Implementation of Alternative 1 would result in an incremental increase in the local demand for emergency medical services. Medical facilities are available in close proximity to the project site, and TDFPD has adequate staffing and facilities to provide emergency medical services to the project site. Therefore, this impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.1-10 Increased Demand for Public Schools. Implementation of Alternative 1 could increase student enrollment at the Douglas County School District's schools. Enrollment at these schools has been steadily declining for the past 10 years. As a result, it is anticipated that the school district has sufficient capacity to accommodate the new students generated by implementation of Alternative 1. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-1 Increased Demand for Water Supply, Treatment, Distribution, and Storage. This impact would be similar to Impact 5.14.1-1 described above for Alternative 1 except that Alternative 2 would require more water because Alternative 2 would include the construction of a larger lodge complex (more TAUs) than proposed under Alternative 1. Implementation of Alternative 2 would result in a net increase in water demand of 99.7 acre feet annually. EWC has indicated it would have adequate water supplies, treatment facilities, distribution system, and storage facilities to serve the alternative. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-2 Increased Demand for Wastewater Service. This impact would be similar to Impact 5.14.1-2 described above for Alternative 1 except that Alternative 2 would generate more wastewater and, therefore, increase the demand for wastewater service as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increased demand for wastewater service, DCSID has available capacity to meet the demands of this alternative without the need to construct any new facilities. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.14.2-3 Increased Demand for Electrical Service. This impact would be similar to Impact 5.14.1-3 described above for Alternative 1 except that Alternative 2 would require more electricity as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increased demand for electrical service, NV Energy has sufficient available existing capacity to accommodate the demands associated with this alternative. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-4 Increased Demand for Natural Gas Services. This impact would be similar to Impact 5.14.1-4 described above for Alternative 1 except that Alternative 2 would require more natural gas as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increased demand for natural gas service, Southwest Gas Corporation has sufficient existing supplies and infrastructure to meet the demands of this alternative. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-5 Increased Demand for Telecommunications Services. This impact would be similar to Impact 5.14.1-5 described above for Alternative 1, with the proposed new telecommunications infrastructure anticipated to be similar under both alternatives (regardless of the number of TAUs proposed). While implementation of Alternative 2 would result in an increased demand for telecommunications service, Charter Business would be able to serve this alternative without any new facilities or infrastructure. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-6 Increased Demand for Solid Waste Services. This impact would be similar to Impact 5.14.1-6 described above for Alternative 1 except that Alternative 2 would generate more solid waste compared with Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increase in solid waste generation, necessitating collection and disposal, STR has sufficient capacity to accommodate the alternative's demands. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.14.2-7 Increased Demand for Law Enforcement Services. Implementation of Alternative 2 would result in a negligible increase in demand for law enforcement service. DCSD has indicated that it could adequately serve the site. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-8 Increased Demand for Fire Protection. Implementation of Alternative 2 would result in a negligible increase in demand for fire protection. TDFPD has indicated that it could adequately serve the site. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-9 Increased Demand for Emergency Medical Services. Implementation of Alternative 2 would result in a negligible increase in demand for emergency medical services. TDFPD has indicated it can adequately serve the site and no new facilities or equipment would be required. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.2-10 Increased Demand for Public Schools. Implementation of Alternative 2 could increase student enrollment at the Douglas County School District's schools. Enrollment at these schools has been steadily declining for the past 10 years. As a result, it is anticipated that the school district has sufficient capacity to accommodate the new students generated by implementation of Alternative 2. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-1 Increased Demand for Water Supply, Treatment, Distribution, and Storage. This impact would be similar to Impact 5.14.1-1 described above for Alternative 1 except that Alternative 3 would require more water because Alternative 3 would include the construction of larger lodge complex (more TAUs) than proposed under Alternative 1. Implementation of Alternative 3 would result in a net increase in water demand of 102.6 acre feet annually. EWC has indicated it would have adequate water supplies, treatment facilities, distribution system, and storage facilities to serve this alternative. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.14.3-2 Increased Demand for Wastewater Service. This impact would be similar to Impact 5.14.1-2 described above for Alternative 1 except that Alternative 3 would generate more wastewater and, therefore, increase the demand for wastewater service as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 3 would result in an increased demand for wastewater service, DCSID has available capacity to meet the demands of this alternative without the need to construct any new facilities. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-3 Increased Demand for Electrical Service. This impact would be similar to Impact 5.14.1-3 described above for Alternative 1 except that Alternative 3 would require more electricity as compared to Alternative 1 because more TAUs would be constructed. As part of Alternative 3, new power lines would be installed underground and existing overhead lines north and south of the clubhouse would be placed underground. While implementation of Alternative 3 would result in an increased demand for electrical service, NV Energy has sufficient available existing capacity to accommodate the demands associated with this alternative. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-4 Increased Demand for Natural Gas Services. This impact would be similar to Impact 5.14.1-4 described above for Alternative 1 except that Alternative 3 would require more natural gas as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 3 would result in an increased demand for natural gas service, Southwest Gas Corporation has sufficient existing supplies and infrastructure to meet the demands of this alternative. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-5 Increased Demand for Telecommunications Services. This impact would be similar to Impact 5.14.1-5 described above for Alternative 1, with the proposed new telecommunications infrastructure anticipated to be similar under both alternatives (regardless of the number of TAUs proposed). While implementation of Alternative 3 would result in an increased demand for telecommunications service, Charter Business would be able to serve this alternative without any new facilities or infrastructure. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.14.3-6 Increased Demand for Solid Waste Services. This impact would be similar to Impact 5.14.1-6 described above for Alternative 1 except that Alternative 3 would generate more solid waste compared with Alternative 1 because more TAUs would be constructed. While implementation of Alternative 3 would result in an increase in solid waste generation, necessitating collection and disposal, STR has sufficient capacity to accommodate the alternative's demands. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-7 Increased Demand for Law Enforcement Services. Implementation of Alternative 3 would result in a negligible increase in demand for law enforcement service. DCSD has indicated that it could adequately serve the site. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-8 Increased Demand for Fire Protection. Implementation of Alternative 3 would result in a negligible increase in demand for fire protection. TDFPD has indicated that it could adequately serve the site. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-9 Increased Demand for Emergency Medical Services. Implementation of Alternative 3 would result in a negligible increase in demand for emergency medical services. TDFPD has indicated it can adequately serve the site and no new facilities or equipment would be required. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant
Impact 5.14.3-10 Increased Demand for Public Schools. Implementation of Alternative 3 could increase student enrollment at the Douglas County School District's schools. Enrollment at these schools has been steadily declining for the past 10 years. As a result, it is anticipated that the school district has sufficient capacity to accommodate the new students generated by implementation of Alternative 3. This impact would be **less than significant**.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
5.15 Cumulative Impacts			
Impact 5.15-1 Cumulative—Consistency with Applicable Land Use Plans and Policies. Implementation of any of the Edgewood Lodge and Golf Course Project alternatives would be consistent with applicable land use plans and standards and would be compatible with on-site and surrounding land uses. All of the development alternatives would be consistent with the applicable plan area statements, community plan, and with the Goals and Policies of the TRPA Regional Plan (Tables 5.2-1, 5.2-2, and 5.2-3). Therefore, **the project would not make a considerable contribution** such that a significant cumulative impact related to land use would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-2 Cumulative—Effects on SR-1, Travel Route Ratings, SR-2, TRPA Scenic Quality Ratings, and SR-3, TRPA Recreation Areas and Bike Trails. The proposed development alternatives would not be visible from U.S. 50 within TRPA Roadway Travel Unit 32 – Casino Area and, therefore, would have no cumulative scenic impact on the travel route rating of this unit. The project would not contribute to the degradation of views from TRPA Public Recreation No. 1 (Nevada Beach) nearly 0.75 mile away because of the distance, screening, and any visible portions of the project from Nevada Beach would be within the context of the existing clubhouse. Other than the proposed project, the Beach Club on Lake Tahoe Project is also planned for development within Shoreline Travel Unit 30 – Edgewood. Both projects would comply with Chapter 66 of the TRPA Code and neither project would cause the travel route rating for Shoreline Travel Unit 30 – Edgewood and the scenic quality rating for SR 30.5 to decline. Rather, the development alternatives would all contribute toward a potential increase in the shoreline travel route rating because of the apparent reduction of manmade features associated with the removal of the lakefront parking lot and lakefront residences. Therefore, the project development alternatives **would not make a considerable contribution** to a significant cumulative impact on TRPA scenic thresholds SR-1, SR-2, and SR-3.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-3 Cumulative—Create the Demand for New or Expanded Recreational Facilities. Implementation of any of the development alternatives could increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, the recreation amenities proposed for	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Edgewood guests on-site in combination with the proposed lakefront recreation opportunities, including 15,507 square feet of public swimming beach, and existing recreation facilities in the project vicinity could easily accommodate any incremental increase in recreation demand generated by the project. Furthermore, several of the related projects listed in Table 5.15-1 include recreation elements which would add to the recreation opportunities available in the Stateline area. Providing additional lakefront recreation opportunities, public beach space and lakeshore access would assist with the continued attainment of TRPA's recreation thresholds, as would the recreation improvements associated with the related projects. Therefore, the proposed project would result in **a cumulative benefit** to recreation Basin-wide.			
Impact 5.15-4 Cumulative—Conflict with Existing or Proposed Recreation Uses In the Area. The proposed lodge associated with the development alternatives would not conflict with any of the existing recreational uses in the project area, which consist of the existing Edgewood Tahoe Golf Course and existing pier. Furthermore, all of the recreation facilities proposed as part of the project, both those associated with the lodge complex and golf course, as well as the new lakefront recreation opportunities, including a public swimming beach and paved access pathway, are compatible with and would complement the related projects described in Table 5.15-1. No significant cumulative impact related to recreation demand or uses exists in the project vicinity. Therefore, the proposed project would not make a considerable contribution such that a significant cumulative impact associated with conflict with either existing or proposed recreation uses in the area would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-5 Cumulative—Land Coverage. Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking, relocated residences, and the expanded clubhouse associated with all of the development alternatives. Of the related projects, the South Demonstration Project and the U.S. 50/South Shore Community Revitalization Project have the potential to affect coverage in LCDs 1b, 4, and 5 at the project site, because if carried forward they may require an easement from Edgewood Companies that would encroach within the project area. While the related projects could reduce the amount of banked 1b coverage, there is ample allowable coverage	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
available in LCDs 4 and 5. Therefore, no significant cumulative land coverage impacts would occur and the project **would not make a considerable contribution** such that a significant cumulative land coverage impact would occur.			
Impact 5.15-6 Cumulative—Increase Risks of Geologic Hazards. Implementation of any of the development alternatives and related projects in the region could expose additional structures and people to seismic and soil hazards. However, each related project considered in this cumulative analysis must individually meet building code requirements, and no additive effect would result from the combination of the projects considered in this cumulative analysis and the proposed project. Therefore, no significant cumulative effect related to geologic hazards would occur and the project **would not make a considerable contribution** such that a significant cumulative geologic hazard impact would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-7 Cumulative—Potential Adverse Effect on Surface Water Runoff, Groundwater and Water Quality in the Tahoe Basin. Under operational conditions, the project development alternatives would not make a considerable contribution to significant adverse cumulative water quality impacts because the project would implement water quality protection measures (i.e., BMPs) that are required of all projects in the Tahoe Basin. Additionally, the project development alternatives include voluntary water quality improvements that would decrease pollutant loading in surface runoff from the site and the Edgewood Creek watershed. Over the long-term, it is expected that the pollutant load reductions achieved by the project development alternatives would result in a **cumulative water quality benefit**. During project construction, related projects are likely to have overlapping timing and cumulative construction-related discharges and the project could result in significant cumulative water quality impacts. However, with the implementation of Mitigation Measure 5.6.1- 1 (Storm Water Pollution Prevention Plan), Mitigation Measure 5.6.1-5 (Dewatering Plan), and compliance with required TRPA and Douglas County regulations, the project **would not make a considerable contribution** such that a significant adverse cumulative water quality impact would occur.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.15-8 Cumulative—Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, Aspen, and SEZ). Under Alternatives 1, 2, and 3, implementation of the threshold improvement projects is expected to result in a long-term increase in the area, quality, and functions of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ) in the project area. Short-term disturbances to sensitive habitats resulting from project construction would be mitigated as part of the project. Therefore, improvements to sensitive habitats resulting from implementation of the project combined with effects of other ongoing and future stream and SEZ restoration projects in the Tahoe Basin would be a **beneficial contribution** to a cumulative impact on sensitive habitats.	Beneficial	No mitigation is required.	Beneficial
Impact 5.15-9 Cumulative—Effects on Tahoe Yellow Cress Populations. Implementation of Alternatives 1, 2, and 3 would relocate the mouth of Edgewood Creek; remove, relocate, and reconstruct the existing pier; and may result in incidental public use of portions of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of Tahoe yellow cress plants. However, through implementation of mitigation measures and coordination with the Tahoe Yellow Cress Adaptive Management Working Group (TYC-AMWG), the project **would not make a considerable contribution** to a significant cumulative impact to Tahoe yellow cress.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-10 Cumulative—Tree Removal. Numerous trees, including trees measuring 24 inches diameter at breast height or greater, would be removed under Alternatives 1, 2, and 3. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6 [A][4] of the TRPA Code) are scheduled for removal as part of the proposed project. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2)(a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area. Therefore, the project **would not make a considerable contribution** to a significant cumulative tree removal impact.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.15-11 Cumulative—Introduction and Spread of Invasive Species. Implementation of the project alternatives and related projects has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. This would be a potentially significant cumulative impact. However, with implementation of project mitigation measures to avoid or minimize introduction and spread of invasive species, the project **would not make a considerable contribution** to this significant cumulative impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-12 Cumulative—Effects on Common and Special Status Wildlife. Under all alternatives, the long-term response of natural habitats to the restoration of Edgewood Creek, Golf Course Creek, and the pond system is expected to improve the quantity, quality, and function of wetland and riparian habitats. These habitats are important for several wildlife species, including special-status species such as waterfowl, and are considered wildlife habitats of special significance by TRPA. Improvements to these habitats, combined with other future projects that would enhance similar habitats quality (e.g., Burke Creek Restoration Project, Van Sickle CA/NV Bi-State Park, and Beach Club on Lake Tahoe) would be considered a **beneficial** cumulative effect on common and special-status species associated with riparian, wetland, and aquatic habitats. For other projects that may not increase and/or improve sensitive habitats specifically, measures are in place through standard permitting and environmental review to protect these habitats. Because the development alternatives would increase the size and enhance the functions of TRPA-designated wildlife habitats of special significance and other related projects are required to protect sensitive habitats, the project alternatives combined with other related projects would make a **beneficial** contribution to restoration of sensitive habitat benefitting wildlife.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-13 Cumulative—Effects on Fisheries and Aquatic Habitat. Under all project alternatives, restoration of Edgewood and Golf Course Creeks, the pond system, and riparian and wetland habitats within the project area are expected to result in higher quality habitats for fish and the aquatic macroinvertebrate community. Implementation of these alternatives would include: removal of barriers to fish passage along Edgewood Creek from Lake Tahoe to pond 1; improved connectivity along	Beneficial	No mitigation is required.	Beneficial

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Edgewood Creek; increased aquatic habitat structure and complexity; removal of non-native invasive species; and reduction in sediment input and improved water quality. When combined with other projects that would either improve water quality and aquatic habitats or protect these resources through standard permitting and environmental review, Alternatives 1, 2, and 3 are expected to result in a **beneficial** contribution to a cumulative effect on fisheries and aquatic habitat.			
Impact 5.15-14 Cumulative—Expose the Public or Environment to Hazardous Materials. The activities of construction and transportation of hazardous materials associated with development projects are subject to the applicable governmental safety regulations. Compliance with these regulations would ensure that no significant cumulative effect related to hazardous materials or use or transport would occur. Compliance with the regulations governing handling and transport of hazardous materials would ensure that the project **would not make a considerable contribution** such that a significant cumulative effect related to hazardous materials use or transport would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-15 Cumulative—Create a Safety Hazard to Construction Workers. Development of the project and related projects would involve demolition, excavation, and construction activities that could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. However, each project considered in this cumulative analysis must individually comply with EPA and Nev-OSHA standards pertaining to construction worker safety. Therefore, no significant cumulative effect related to creation of safety hazards to construction workers would occur. Compliance with the regulations governing worker safety would ensure that the project **would not make a considerable contribution** such that a significant cumulative effect related to worker safety would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-16 Cumulative—Disruption of Public Services. Demolition, excavation, and construction activities on the project site associated with any of the development alternatives could result in the disruption of continuous public services in and around the project site. Overlapping construction schedules with related projects could potentially result in extended utility service interruptions and the project would make a	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
considerable contribution to a significant cumulative impact. However, Mitigation Measure 5.8.1-3 requires the project applicant to coordinate with affected utility providers to minimize loss of service. This measure would ensure that adequate services are provided. Therefore, the project **would not make a considerable contribution** to a significant cumulative impact related to disruption of public services.			
Impact 5.15-17 Cumulative—Expose Future Residents to Potential Health Hazard. All of Douglas County is considered a High Radon Potential Zone (4 pCi/L), as designated by the EPA's Map of Radon. Cumulative development in the region could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This would be a potentially significant cumulative impact. However, the project includes mitigation that would include investigation of site-specific radon potential and incorporation of specific construction techniques to reduce radon exposure, which would eliminate the project's contribution to any cumulative exposure conditions. Therefore, the project **would not make a considerable contribution** to a significant cumulative impacts related to radon exposure.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-18 Cumulative—Increased Risk of Health Hazards From Vector-borne Diseases. Development of related projects in the region as a whole would bring in additional, residents, visitors, and workers, which could increase the number of people potentially exposed to mosquito-borne diseases. This would be a potentially significant cumulative impact. The project includes features that would improve the hydrologic flow on the site and would minimize the amount of standing water that would attract vectors. Therefore, it is anticipated that the project w**ould not make a considerable contribution** to this potentially significant cumulative effect related to health hazards from vector-borne diseases.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-19 Cumulative—Increased Exposure to Wildland Fire Hazard. Cumulative development would increase the wildland-urban interface, therefore increasing exposure to wildland fire hazard. However, each project considered in this cumulative analysis must be evaluated to minimize the potential for exposure and incorporate fire protective measures. Each project would also be evaluated for provision of adequate fire protection services. Therefore, cumulative impacts related to increased exposure to wildland fire hazards would be less than significant and the	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives			
Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
project **would not make a considerable contribution** such that a significant cumulative impact would occur.			
Impact 5.15-20 Cumulative—Impacts on Undiscovered Cultural Resources. Cumulative development could potentially uncover previously unknown prehistoric or historic resources. Depending on whether such resources are considered significant according to NRHP or TRPA, this could be considered a significant impact. However, mitigation measures described in Section 5.9 would mitigate the project's potential impacts on cultural resources to a less-than-significant level and would ensure that the project **would not incrementally contribute** to any significant cumulative impacts on cultural resources in the region.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-21 Cumulative—Impact on Intersection Level of Service Under 2029 Conditions. Implementation of any of the Edgewood Lodge and Golf Course Improvement Project development alternatives (Alternatives 1, 2, and 3) would result in an acceptable LOS at all study intersections in 2029. Therefore, the project **would not make a considerable contribution** such that a significant cumulative impact related to intersection LOS would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-22 Cumulative—Impact on Transit, Pedestrian, and Bicycle Facilities. Adequate transit, pedestrian, and bicycle facilities are expected to be provided with all three development alternatives. Mitigation has been included to ensure that the development alternatives would provide safe access between the lodge complex and the proposed off-site employee parking lot on the south side of Lake Parkway. Many of the related projects in Table 5.15-1 (e.g., the South Demonstration Project, the Greenway Shared-Use Trail, the Ski Run to El Dorado Beach Bike Trail, Lake Tahoe Waterborne Transit, and the U.S. 50/South Shore Community Revitalization Project) include components that would create new or enhanced transit, pedestrian, and bicycle facilities in the Stateline area that together with the project would improve connectivity in the area and promote the use of alternative modes of transportation. Therefore, the project **would not make a considerable contribution** such that a significant cumulative impact related to transit, pedestrian, and bicycle facilities would occur.	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 5.15-23 Cumulative—Construction Traffic Impacts. Construction traffic related to any of the development alternatives would only be present in the project vicinity during the construction period, which may occur between 2013 and 2017. Adequate transportation conditions are expected to be provided during the construction phases. No construction traffic from the proposed project is expected in year 2029. This is a less than significant cumulative impact and the project **would not result in a considerable contribution** such that a significant cumulative impact would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-24 Cumulative—Traffic Impacts With U.S. 50/South Shore Community Revitalization Project. With the U.S. 50 Realignment Project, the two key intersections of U.S. 50/Park Avenue and U.S. 50/Lake Parkway are expected to operate at an acceptable LOS in 2029 with or without the Edgewood Project. The cumulative impact to these intersections is considered less than significant and the Edgewood Project **would not result in a considerable contribution** such that a significant cumulative impact would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-25 Cumulative— Construction-Related Air Quality Impacts. Unmitigated construction-generated emissions associated with the project development alternatives and other construction projects in the Lake Tahoe Air Basin (LTAB) would contribute on a cumulative basis to nonattainment conditions. This would be a significant cumulative impact. The development alternatives would be required to implement mitigation measures to reduce construction-generated emissions of ROG, NOX, PM10, and PM2.5. This would minimize construction-generated emissions, and would minimize the project's contribution to cumulative impacts. Therefore, the project **would not result in a considerable contribution** to this significant cumulative air quality impact.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-26 Cumulative—Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions. Because long-term operational emissions would not exceed TRPA's stationary source thresholds or the mass emission thresholds, implementation of the project would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. The proposed project **would not make a**	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
considerable contribution to a significant cumulative impact related to criteria air pollutant and precursor emissions.			
Impact 5.15-27 Cumulative—Local Carbon Monoxide (CO) Concentrations. The project area is a maintenance area for CO (rather than in nonattainment); therefore, no significant cumulative impact associated with local carbon monoxide concentrations has been identified for the project vicinity. The hourly traffic volumes at project-affected intersections would be an order of magnitude below the screening level criteria used for determining whether local CO modeling is necessary in order to evaluate impacts of traffic congestion on local CO concentrations and the increase in emission standards would continue to reduce CO emissions from vehicles over the cumulative project planning period. Therefore, the project **would not make a contribution to increases** in CO emissions at project intersections such that a significant cumulative CO impact would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-28 Cumulative—Exposure of Sensitive Receptors to Substantial Pollutant Concentrations. The proposed project would not include the construction or operation of any major stationary sources of hazardous air pollutant (HAP) emissions, or result in an increase in mobile-source HAP emissions (i.e., diesel truck traffic). Construction of the proposed project would result in short-term diesel exhaust emissions from on-site heavy duty equipment. Due to future reductions in exhaust emissions related to the replacement of older vehicles in the fleet mix over time, and the small scale of the proposed construction-related activities, short-term construction activities **would not make a considerable contribution** such that a significant cumulative impact related to exposure of sensitive receptors to HAP emissions would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-29 Cumulative— Construction-Generated Noise Levels. Construction of the Edgewood Lodge and Golf Course Project and nearby related projects would generate noise levels in excess of local standards. However, construction noise occurring during daytime hours is exempt from applicable standards, provided that construction equipment is properly fitted with feasible noise control devices. While it is unknown whether other cumulative projects would comply with these standards and potentially significant cumulative impacts could occur, because the project would comply with requirements of the exemption for construction-	Less than significant	No mitigation is required.	Less than significant

Table 1-1. Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
generated noise, the project **would not make a considerable contribution** to a potentially significant cumulative noise impact.			
Impact 5.15-30 Cumulative—Long-Term Traffic Source Noise Levels. Traffic generated by the project development alternatives, in combination with projected future cumulative traffic volumes, would not result in a perceptible increase in ambient noise levels on nearby roadways or highways. Therefore, this cumulative impact would be less than significant and the project **would not make a considerable contribution** such that a significant cumulative traffic source noise impact would occur.	Less than significant	No mitigation is required.	Less than significant
Impact 5.15-31 Cumulative—Provision of Public Services and Utilities. All utility and public service providers, including those providing emergency services, would have the capacity to meet the additional demand for utilities and public services for the proposed development alternatives. Additionally, it is expected that utility and public service providers would confirm their ability to meet additional demand for related projects that would be constructed in the project area prior to implementation. Therefore, no significant cumulative public service and utility impacts would occur and the proposed project **would not result in a considerable contribution** such that a significant cumulative impact would occur.	Less than significant	No mitigation is required.	Less than significant

Table 1-2. Summary Comparison of the Project Alternatives					
	Impact	Alternative 1 Proposed Project (194 Units)	Alternative 2 230 Unit Development	Alternative 3 Maximum Buildout Development (250 Units)	Alternative 4 No Project
5.2 Land Use					
1	Consistency with Regional Plan Goals and Policies, PAS 070A, PAS 080 and the Stateline Community Plan	LTS	LTS	LTS	NI
2	Consistency with Adjacent Land Uses or Expansion/Intensification of Existing Non-Conforming Uses	LTS	LTS	LTS	NI
5.3 Scenic Resources					
1	Effects on SR-1 Travel Route Ratings	LTS	LTS	LTS	NI
2	Effects on SR-2, Scenic Quality Ratings	LTS	LTS	LTS	NI
3	Effects on SR-3, Public Recreation Areas and Bike Trails	LTS	LTS	LTS	NI
4	Effects on SR-4, Community Design	1A - LTS 1B - NI	NI	NI	NI
5.4 Recreation and Public Access					
1	Create the Need for New or Expanded Recreation Facilities	B	B	B	NI
2	Conflicts with Existing or Proposed Recreation Uses	LTS	LTS	LTS	NI
5.5 Geology, Soils, and Land Capability and Coverage					
1	Land Coverage	LTS	LTS	LTS	NI
2	Site Topography, Grading, and Soil Erosion	LTS	LTS	LTS	NI
3	Seismic Hazards	LTS	LTS	LTS	NI
4	Other Geologic Hazards	LTS	LTS	LTS	NI
5.6 Hydrology and Water Quality					
1	Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction	LTS	LTS	LTS	NI
2	Changes in Surface Runoff Patterns	LTS	LTS	LTS	NI
3	Geomorphic Effects of Creek Modifications	B	B	B	NI
4	Pollutant Loading in Surface Runoff	B	B	B	NI
5	Interception of Groundwater Table During Construction	LTS	LTS	LTS	NI

Table 1-2. Summary Comparison of the Project Alternatives

	Impact	Alternative 1 Proposed Project (194 Units)	Alternative 2 230 Unit Development	Alternative 3 Maximum Buildout Development (250 Units)	Alternative 4 No Project
6	Interference with Littoral Processes from the Relocated, Reconstructed, and Expanded Pier and Relocated Mouth of Edgewood Creek	LTS	LTS	LTS	NI
7	Degradation of Water Quality During Pier Relocation and Extension	LTS	LTS	LTS	NI
8	Degradation of Source Water Quality from Boating Activity and Increased Beach Recreation	LTS	LTS	LTS	NI
9	Flood Hazard Effects	LTS	LTS	LTS	NI
10	Degradation of Groundwater Quality from Golf Course Modifications and the Proposed Event Lawn	LTS	LTS	LTS	NI
5.7 Biological Resources (Vegetation, Wildlife, and Fisheries)					
1	Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ)	LTS	LTS	LTS	NI
2	Long-Term Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ)	B	B	B	NI
3	Loss or Disturbance of Tahoe Yellow Cress Populations	LTS	LTS	LTS	NI
4	Tree Removal	LTS	LTS	LTS	NI
5	Introduction and Spread of Invasive Weeds and Aquatic Invasive Species	LTS	LTS	LTS	NI
6	Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats	LTS	LTS	LTS	NI
7	Long-Term Effects on Special-Status and Common Wildlife Species and Habitats	B or LTS	B or LTS	B or LTS	NI
8	Short-Term Degradation of Fish and Aquatic Habitat Resulting from Construction and Initial Response	LTS	LTS	LTS	NI
9	Long-Term Effects on Fish and Aquatic Habitat	B	B	B	NI
10	Effects on Lahontan Cutthroat Trout	NI	NI	NI	NI

Table 1-2. Summary Comparison of the Project Alternatives

	Impact	Alternative 1 Proposed Project (194 Units)	Alternative 2 230 Unit Development	Alternative 3 Maximum Buildout Development (250 Units)	Alternative 4 No Project
5.8 Human Health and Risk of Upset					
1	Expose the Public or Environment to Hazardous Materials	LTS	LTS	LTS	NI
2	Create a Safety Hazard to Construction Workers	LTS	LTS	LTS	NI
3	Disruption of Public Services	LTS	LTS	LTS	NI
4	Expose Future Residents to Potential Health Hazard Related to Radon	LTS	LTS	LTS	NI
5	Increased Risk of Health Hazards from Vector-borne Diseases	LTS	LTS	LTS	NI
6	Increased Exposure to Wildland Fire Hazard	LTS	LTS	LTS	NI
7	Increased Exposure to Boating Hazards	LTS	LTS	LTS	NI
5.9 Cultural Resources					
1	Effects on Known Archeological and Historical Resources	LTS	LTS	LTS	NI
2	Effects on Previously Undiscovered Heritage Resources or Human Remains	LTS	LTS	LTS	NI
3	Effects on Paleontological Resources	LTS	LTS	LTS	NI
5.10 Traffic, Parking, and Circulation					
1	Intersection LOS Under Existing (2009) Plus Project Conditions	LTS	LTS	LTS	NI
2	Potential for Traffic Accidents Under Existing (2009) Conditions	LTS	LTS	LTS	NI
3	Emergency Access	LTS	LTS	LTS	NI
4	Transit, Pedestrian, and Bicycle Facilities	LTS	LTS	LTS	NI
5	Vehicle Miles Traveled	LTS	LTS	LTS	NI
6	Parking Conditions	LTS	LTS	LTS	NI
7	Construction Traffic Impacts	LTS	LTS	LTS	NI
5.11 Air Quality					
1	Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions	LTS	LTS	LTS	NI
2	Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions	LTS	LTS	LTS	NI

Table 1-2. Summary Comparison of the Project Alternatives

	Impact	Alternative 1 Proposed Project (194 Units)	Alternative 2 230 Unit Development	Alternative 3 Maximum Buildout Development (250 Units)	Alternative 4 No Project
3	Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions	LTS	LTS	LTS	NI
4	Odor Emissions	LTS	LTS	LTS	NI
5	Hazardous Air Pollutant Emissions	LTS	LTS	LTS	NI
5.12 Greenhouse Gas Emissions and Climate Change					
1	Greenhouse Gas Emissions	LTS	LTS	LTS	NI
5.13 Noise					
1	Project-Generated Construction Source Noise Levels	LTS	LTS	LTS	NI
2	Project-Generated Non-Transportation Source Noise Levels	LTS	LTS	LTS	NI
3	Project-Generated Traffic Source Noise Levels	LTS	LTS	LTS	NI
4	Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels	LTS	LTS	LTS	NI
5	Vibration Levels	LTS	LTS	LTS	NI
5.14 Public Services and Utilities					
1	Increased Demand for Water Supply, Treatment, Distribution, and Storage	LTS	LTS	LTS	NI
2	Increased Demand for Wastewater Service	LTS	LTS	LTS	NI
3	Increased Demand for Electrical Service	LTS	LTS	LTS	NI
4	Increased Demand for Natural Gas Services	LTS	LTS	LTS	NI
5	Increased Demand for Telecommunications Services	LTS	LTS	LTS	NI
6	Increased Demand for Solid Waste Services	LTS	LTS	LTS	NI
7	Increased Demand for Law Enforcement Services	LTS	LTS	LTS	NI
8	Increased Demand for Fire Protection	LTS	LTS	LTS	NI
9	Increased Demand for Emergency Medical Services	LTS	LTS	LTS	NI
10	Increased Demand for Increased Demand for Public Schools	LTS	LTS	LTS	NI

Table 1-2. Summary Comparison of the Project Alternatives					
	Impact	Alternative 1 Proposed Project (194 Units)	Alternative 2 230 Unit Development	Alternative 3 Maximum Buildout Development (250 Units)	Alternative 4 No Project
5.15 Cumulative Impacts					
1	Cumulative—Consistency with Applicable Land Use Plans and Policies	LTS	LTS	LTS	NI
2	Cumulative—Effects on SR-1, Travel Route Ratings, SR-2, TRPA Scenic Quality Ratings, and SR-3, TRPA Recreation Areas and Bike Trails	LTS	LTS	LTS	NI
3	Cumulative—Create the Demand for New or Expanded Recreational Facilities	B	B	B	NI
4	Cumulative—Conflict with Existing or Proposed Recreation Uses In the Area	LTS	LTS	LTS	NI
5	Cumulative—Land Coverage	LTS	LTS	LTS	NI
6	Cumulative—Increase Risks of Geologic Hazards	LTS	LTS	LTS	NI
7	Cumulative—Potential Adverse Effect on Surface Water Runoff, Groundwater and Water Quality in the Tahoe Basin	LTS	LTS	LTS	NI
8	Cumulative—Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, Aspen, and SEZ)	B	B	B	NI
9	Cumulative—Effects on Tahoe Yellow Cress Populations	LTS	LTS	LTS	NI
10	Cumulative—Tree Removal	LTS	LTS	LTS	NI
11	Cumulative—Introduction and Spread of Invasive Species	LTS	LTS	LTS	NI
12	Cumulative—Effects on Common and Special Status Wildlife	LTS	LTS	LTS	NI
13	Cumulative—Effects on Fisheries and Aquatic Habitat	B	B	B	NI
14	Cumulative—Expose the Public or Environment to Hazardous Materials	LTS	LTS	LTS	NI
15	Cumulative—Create a Safety Hazard to Construction Workers	LTS	LTS	LTS	NI
16	Cumulative—Disruption of Public Services	LTS	LTS	LTS	NI
17	Cumulative—Expose Future Residents to Potential Health Hazard	LTS	LTS	LTS	NI
18	Cumulative—Increased Risk of Health Hazards From Vector-borne Diseases	LTS	LTS	LTS	NI
19	Cumulative—Increased Exposure to Wildland Fire Hazard	LTS	LTS	LTS	NI

Table 1-2. Summary Comparison of the Project Alternatives

Impact	Alternative 1 Proposed Project (194 Units)	Alternative 2 230 Unit Development	Alternative 3 Maximum Buildout Development (250 Units)	Alternative 4 No Project
20 Cumulative—Impacts on Undiscovered Cultural Resources	LTS	LTS	LTS	NI
21 Cumulative—Impact on Intersection Level of Service Under 2029 Conditions	LTS	LTS	LTS	NI
22 Cumulative—Impact on Transit, Pedestrian, and Bicycle Facilities	LTS	LTS	LTS	NI
23 Cumulative—Construction Traffic Impacts	LTS	LTS	LTS	NI
24 Cumulative—Traffic Impacts With U.S. 50/South Shore Community Revitalization Project.	LTS	LTS	LTS	NI
25 Cumulative— Construction-Related Air Quality Impacts	LTS	LTS	LTS	NI
26 Cumulative—Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions	LTS	LTS	LTS	NI
27 Cumulative—Local Carbon Monoxide (CO) Concentrations	LTS	LTS	LTS	NI
28 Cumulative—Exposure of Sensitive Receptors to Substantial Pollutant Concentrations	LTS	LTS	LTS	NI
29 Cumulative—Construction-Generated Noise Levels. Construction	LTS	LTS	LTS	NI
30 Cumulative—Long-Term Traffic Source Noise Levels	LTS	LTS	LTS	NI
31 Cumulative—Provision of Public Services and Utilities	LTS	LTS	LTS	NI

Notes:
Significance levels for Alternatives 1 through 4 reflect the levels of significance after mitigation.
NI = No Impact; B = Beneficial; LTS = Less than Significant; PS = Potentially Significant; S = Significant

2 INTRODUCTION

This document is an environmental impact statement (EIS) prepared in accordance with the Tahoe Regional Planning Compact (Compact), the Tahoe Regional Planning Agency (TRPA) Rules of Procedure, and TRPA Code of Ordinances (Code). This EIS has been prepared to evaluate the potential environmental impacts of the proposed Edgewood Lodge and Golf Course Improvement Project in Douglas County, Nevada.

In accordance with Article VII (a)(3) of the Compact and Subsection 3.7.2 of the TRPA Code, this document addresses the potential environmental effects of four different project alternatives: Alternative 1 (Proposed Project – 194 Units), Alternative 2 (230-Unit Development), Alternative 3 (Maximum Buildout Development – 250 Units), and Alternative 4 (No Project). The proposed project (Alternative 1) is described in Chapter 3, "Project Description." Other alternatives (Alternatives 2 through 4) are described in Chapter 4, "Alternatives," and all alternatives are evaluated at an equal level of detail in each subsection of Chapter 5, "Affected Environment and Environmental Consequences," of this EIS.

2.1 LEAD AGENCY

2.1.1 TAHOE REGIONAL PLANNING AGENCY

TRPA is the primary permitting agency and the lead agency under the Compact. TRPA is a bi-state regional planning agency created in 1969 by federal law to oversee development on both the California and Nevada sides of Lake Tahoe. The Compact, Public Law 96-551, as revised in 1980, provides TRPA the authority to adopt environmental quality standards, called "environmental threshold carrying capacities" (thresholds), and to enforce ordinances designed to achieve the thresholds, which were adopted by the TRPA Governing Board in 1982. TRPA's mission is to "lead the cooperative effort to preserve, restore, and enhance the unique natural and human environment of the Lake Tahoe Region."

Article VII of the Compact includes important TRPA directives relevant to the preparation and use of an EIS. Key provisions of the article are presented below:

- Article VII (a) (2) states that when acting upon matters that have a significant effect on the environment, TRPA shall "prepare and consider a detailed environmental impact statement before deciding to approve or carry out any project."
- Article VII (a) (3) states that the EIS shall "study, develop and describe appropriate alternatives to recommended courses of action for any project which involves unresolved conflicts concerning alternative uses of available resources."
- Article VII (a) (4) requires TRPA to "make available to states, counties, municipalities, institutions and individuals, advice and information useful in restoring, maintaining and enhancing the quality of the region's environment."
- Article VII (a) (5) requires TRPA to "initiate and utilize ecological information in the planning and development of resource-oriented projects."

The Compact charges TRPA with attaining and maintaining environmental thresholds to protect the unique values of the Lake Tahoe Basin. The nine thresholds adopted by TRPA in 1982 are:

- water quality
- air quality
- scenic resources
- soil conservation
- fish habitat
- vegetation
- wildlife habitat
- noise
- recreation

2.2 PURPOSE OF THE EIS

An EIS is an informational document used in the planning and decision-making process for a proposed project. The purpose of an EIS is not to recommend either approval or denial of a project, but to disclose objective information so that informed decisions can be made.

TRPA is the lead agency for the Edgewood Lodge and Golf Course Improvement Project under the Compact. After reviewing this EIS and other information regarding the project proposal, the TRPA Governing Board will consider the adequacy of the EIS in terms of compliance with the TRPA Regional Plan, Code, and Goals and Policies. This will be followed by an action on the project by the TRPA Governing Board.

As mandated by the Code, TRPA may not approve a project if any of the nine TRPA thresholds would be exceeded. If a project would result in an exceedance of an identified threshold, mitigation must be imposed to reduce the impact and maintain the threshold. Pursuant to Chapter 4 of the TRPA Code, written findings must be made regarding the disposition of all significant environmental impacts and their associated mitigation measures, with substantial evidence provided in the record of review prior to final project approval.

2.3 TYPE OF EIS

This EIS evaluates the Edgewood Lodge and Golf Course Improvement Project and is a project-level EIS. That is, it examines all phases of the project including planning, construction, and operation in sufficient detail to allow informed decision making by the TRPA Governing Board; no subsequent environmental documentation is required, except for those components of the project for which details are currently unknown or conceptual and which are specifically identified as requiring additional environmental review.

2.4 INTENDED USES OF THE EIS

This environmental document is intended to meet the environmental review requirements of TRPA, which maintains discretionary authority over the primary project approval.

This EIS is also intended to be used by other responsible agencies that may have authority over one or more elements of the Edgewood Lodge and Golf Course Improvement Project. Other potential permits and/or approvals that may be required for development of the project beyond the primary TRPA Project Permit could include, but are not limited to, those listed in Table 2-1.

Table 2-1. Required Permits and Reviews

Permitting Agency	Permit Name	Purpose of Permit
Douglas County	Site Improvement Permit	Grading and engineering work
	Building Permit	Building design
	Floodplain Development Permit	Development in floodplain
Douglas County Sewer Improvement District	Sewer Permit	Authorization for sewer connections
Nevada Division of Environmental Protection	SWPPP	Activities related to soil disturbance
Edgewood Water Company	N/A	Authorization for water connections
State Water Engineer	N/A	Authorization to commit water resources required for the project

Table 2-1. Required Permits and Reviews		
Permitting Agency	**Permit Name**	**Purpose of Permit**
Nevada Division of State Lands	Pier Permit	Relocation and reconstruction of pier
Tahoe Regional Planning Agency	TRPA Permit	Threshold attainment Permit covers amendment to Chapter 37 of TRPA Code [Alternative 1A only], pier relocation and reconstruction, grading, SEZ restoration, etc.
U.S. Army Corps of Engineers	Section 404	Discharge of fill materials in waters of the U.S.
Reviewing Agency		**Issue/Authority**
Douglas County Sheriff's Department		Public safety
Tahoe Douglas Fire Protection District		Fire safety
Nevada Department of Transportation		Traffic
Nevada Division of Wildlife		Wildlife
U.S. Fish and Wildlife Service		Wildlife
State Historic Preservation Office		Archaeological and Historical Resource
Franchise Utilities		
Southwest Gas Company, NV Energy, Edgewood Water Company, Douglas County Sewer Improvement District, and Charter Business		Public services

Notes:
SEZ = stream environment zone; SWPPP = storm water pollution prevention plan; TRPA = Tahoe Regional Planning Agency
Source: Data compiled by Ascent Environmental, Inc. in 2011

While the issuance of the permits listed in Table 2-1 would involve process separate from EIS preparation and approval, the applicable permitting agencies may review information contained in this EIS as part of the permit approval process.

2.5 ENVIRONMENTAL REVIEW PROCESS

To initiate the environmental review process, a notice of preparation (NOP) of an EIS was prepared and circulated to describe the proposed project, inform agencies and the public of the potentially significant environmental effects of the project, and to solicit comments and input on the scope and content of the EIS. The NOP was released on June 3, 2009 to the Nevada and California State Clearinghouses; surrounding property owners and residents (within 300 feet of the project site); local, state, and federal agencies with jurisdiction over resources potentially affected by the project; and other interested stakeholders. Two public scoping meetings were held at TRPA offices at 128 Market Street in Stateline, Nevada. The first meeting was held during the morning of June 25, 2009 and the second during the evening of July 7, 2009. The NOP comment period extended from June 3, 2009 to July 15, 2009. The NOP and a summary of environmental issues raised during the scoping period are provided in Appendix A.

Pursuant to TRPA Code Subsection 3.7.1(D), this draft EIS is being distributed for a minimum 60-day public comment period. Comments on the draft EIS may be made either in writing before the end of the review period or at the public hearings to be held before the TRPA Advisory Planning Commission and Governing Board. Dates, times, and locations of the public hearings are provided in the notice of availability accompanying this draft EIS. Written comments on the draft EIS should be addressed to:

Theresa Avance
Tahoe Regional Planning Agency
P.O. Box 5310
Stateline, NV 89449-5310
e-mail: tavance@trpa.org

Following the close of the public comment period, written responses to comments on the draft EIS will be prepared. The draft EIS, together with the responses to comments and other TRPA-mandated information, will constitute the final EIS. The final EIS will be considered by TRPA before any action is taken on the project.

2.6 DOCUMENT ORGANIZATION

This EIS is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Chapter 5, "Affected Environment and Environmental Consequences," and Section 5.2, "Land Use"):

Chapter 1, "Summary": This chapter introduces the Edgewood Lodge and Golf Course Improvement Project, and provides a summary of the environmental review process, alternatives to be considered, effects found not to be significant, key environmental issues, and a list of potentially significant impacts and mitigation measures to reduce significant impacts to a less-than-significant level.

Chapter 2, "Introduction": This chapter provides a description of the lead agency, responsible and reviewing agencies, the legal authority and purpose for the document, and the public review process.

Chapter 3, "Project Description": This chapter provides a detailed description of the proposed project (Alternative 1) including location, project purpose and objectives, and project characteristics.

Chapter 4, "Alternatives": This chapter describes a range of alternatives (Alternatives 2–4) that could attain the basic objectives of the project as well as alternatives that were considered but eliminated from detailed evaluation.

Chapter 5, "Affected Environment and Environmental Consequences": The sections within this chapter evaluate the expected environmental impacts generated by the proposed project and project alternatives, arranged by subject area (e.g., Land Use, Hydrology and Water Quality). Within each subsection of Chapter 5, the baseline conditions and regulatory settings are described for each environmental issue. The anticipated changes to the existing conditions after development of each project alternative are evaluated for each subject area. For any significant or potentially significant impact that would result from project development, mitigation measures are recommended and the resultant level of significance identified. For applicable resource sections, consequences for the relevant TRPA environmental threshold carrying capacities are also discussed for each alternative at the end of the section.

Chapter 6, "TRPA-Mandated Sections": This chapter addresses TRPA-mandated sections including: significant environmental effects that cannot be avoided, effects found not to be significant, irreversible and irretrievable commitment of resources, relationship between short-term use of the environment and the maintenance and enhancement of long-term productivity, and growth-inducing impacts.

Chapter 7, "Report Preparation": This chapter identifies the preparers of the document.

Chapter 8, "References": This chapter lists the documents, references, and personal communications used as source material for this EIS, and identifies organizations and persons consulted during document preparation.

Appendices: Appendices provide background information and additional technical support for the analysis.

2.7 TERMINOLOGY USED IN THE EIS

The EIS uses the following terminology to denote the significance of potential environmental impacts of the project:

No Impact*:* Actions that result in no changes to the physical environment. This impact level does not require mitigation.

Beneficial Impact*:* An impact that would result in an improvement or favorable change in the physical environment. This impact level does not require mitigation.

Less-than-Significant Impact: An impact that would not result in a substantial and adverse change in the physical environment. This impact level does not require mitigation.

Significant Impact: A substantial adverse change in any of the physical conditions within the area affected by the project. Potentially feasible mitigation measures or alternatives must be considered in an attempt to substantially reduce significant impacts.

Potentially Significant Impact: An impact that would be considered a significant impact as described above if it were to occur; however, the certainty of the impact cannot be immediately determined. For example, although the EIS may provide evidence that buried archaeological resources could be found in a particular location, the actual discovery cannot be determined until the time of project construction. For purposes of this EIS, a potentially significant impact is treated the same as a significant impact (i.e., it requires consideration of feasible mitigation measures and alternatives).

Significance Criteria: A criterion established to define at what level an impact would be considered significant (i.e., if an impact exceeds a standard of significance, it would be considered significant). Criteria are defined for this EIS based on TRPA environmental thresholds, regulatory requirements, and other information. Significance criteria may consider scientific and factual data relative to the lead agency, expert opinion based on facts, and other factors.

Mitigation Measure: An action that could feasibly reduce a significant environmental effect. Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments.

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3 PROJECT DESCRIPTION (ALTERNATIVE 1, PROPOSED PROJECT – 194 UNITS)

3.1 INTRODUCTION TO THE PROJECT

The Edgewood Lodge and Golf Course Improvement Project would include improvements on the Edgewood Tahoe Golf Course, at 180 Lake Parkway, Stateline, Douglas County, Nevada, west of U.S. Highway 50 (U.S. 50) and a small area east of U.S. 50 (Exhibits 3-1 and 3-2). The Edgewood Tahoe Golf Course property consists of four contiguous parcels located adjacent to Lake Tahoe and owned by Edgewood Companies (Assessor's Parcel Numbers [APN] 1318-27-001-001, -002, -003 and -004). The entire golf course encompasses approximately 234 acres of land located in California and Nevada (Exhibit 3-2), but the proposed project would affect only that portion within Douglas County, Nevada, which accounts for approximately 225 acres. The proposed project also would include improvements on a contiguous area of approximately 4 acres located across U.S. 50 from the Edgewood Tahoe Golf Course on property owned by Edgewood Companies (APNs 1318-27-001-005 and -006). Actions on these parcels focus on improving water quality in Edgewood Creek before it passes beneath U.S. 50 and flows through the golf course to Lake Tahoe. For purposes of this document, the "project area" refers to the 225-acre area on Edgewood Tahoe Golf Course, the two single-family lots (approximately 1 acre each) contiguous with the golf course and the 4-acre area on the east side of U.S. 50. The total project area covers approximately 231 acres. The parcel boundaries are shown on Exhibit 3-3.

The proposed project also would include off-site employee parking, intended for use primarily during peak season and large events, located on an approximately 0.8-acre area across Lake Parkway on Edgewood Companies' property adjacent to the Horizon Casino Resort entirely within APN 1318-27-001-012. This property is owned by Edgewood Companies and includes an existing paved parking area striped with approximately 100 parking spaces. Because this area is an existing parking lot that would not be physically altered by the project, it is not addressed further in this environmental impact statement (EIS) except in the context of accommodating parking demand generated by the project.

The proposed project (Alternative 1) generally consists of a new tourist accommodation complex and a series of environmental improvements proposed by Edgewood Companies. The proposal includes the following elements:

- A tourist accommodation complex of 11 buildings, including a 154-unit lodge (hotel) building with accessory uses, and 10 "casita" (meaning small house) buildings with four multi-bedroom interval ownership units per building (40 units), for a total of 194 new tourist accommodation units (TAUs). The term "interval ownership unit" is used throughout this EIS to refer to the casita units, which include kitchen units and are characteristic of the "Timeshare (Residential Design)" units defined in Chapter 90 of the TRPA Code. While these units are described as interval ownership units throughout this EIS, the project applicant has indicated that the secondary vacation home market at the time of project delivery would dictate whether these units would be interval ownership units, nightly rental units, or some combination thereof.
- The lodge complex would also include the following accessory uses: wellness center with spa and fitness program facilities, a restaurant and bar area, and banquet/conference space. The lodging complex would include guest and employee parking, including a remote two-level parking structure near the entrance on Lake Parkway, two levels of parking within the main lodge building, a surface parking lot, and off-site employee parking.
- Expansion of the South Room at the existing golf course clubhouse.
- Relocation of two existing lakefront single-family lots to higher capability lands on the property set back from Lake Tahoe.
- A new public beach area accessed from Lake Parkway via a non-motorized, shared-use (bicycle and pedestrian) pathway and other lakefront recreation opportunities.

- Amendment to TRPA Code Chapter 37, "Height," allowing additional height (up to a maximum of 60 feet) for tourist accommodation buildings containing 50 or more units within Special Area #1 of Plan Area Statement (PAS) 070A (Edgewood).

Each of the above-described elements and relevant background and planning information is described in greater detail below.

3.2 PROJECT OBJECTIVES

The objectives of the Edgewood Lodge and Golf Course Improvement Project, as stated by the project applicant, are to:

- Implement a high-quality, all-seasons lakefront tourist accommodation project that would complement the existing Edgewood Tahoe Golf Course, and meet the requirements set forth in PAS 070A (Edgewood), Special Area #1, including provision of public access to a variety of lakefront recreation opportunities through private lands;
- Create a project that offers new recreational and entertainment amenities in the area to encourage destination visitation and increased visitor length of stay;
- Construct the Edgewood lodge complex as a full-service destination resort, incorporating sustainable and energy efficient design that achieves at minimum a Leadership in Energy and Environmental Design (LEED®) Silver rating;
- Construct all on-site water quality improvements to retain and treat precipitation that meets or exceeds the 20-year, 1-hour storm event, with a focus on reducing fine sediment (16 microns or less) loads to Lake Tahoe;
- Implement Threshold Improvement Projects that achieve the following:
  - Meet and exceed existing TRPA stormwater infiltration and treatment requirements;
  - Reduce the overall pollutant load reduction for sediment, fine sediment, phosphorus and nitrogen as measured by the Lake Tahoe Basin Pollutant Load Reduction Model (PLRM);
  - Increase the area and improve the function of the Golf Course Creek and Edgewood Creek stream environment zones (SEZ);
  - Dredge, remove, and relocate accumulated material in ponds 1, 6, 10, 12, and Friday's Station pond;
  - Improve the treatment efficiency of the pond system associated with the Stateline Stormwater Association Pond System (pond 6, pond 10, and wetland) and pond 1 on the golf course;
  - Provide fish passage and create spawning habitat within the reach of Edgewood Creek from Lake Tahoe to pond 1;
  - Improve the treatment efficiency of Friday's Station pond and mitigate the potential flood hazard associated with the existing dam;
  - Meet and exceed existing TRPA requirements for fertilizer management on the golf course; and
  - Comply with Douglas County Design Criteria and Improvement Standards related to drainage.
- Provide for additional Edgewood Creek flood flow attenuation and sediment capture for events exceeding the standard design storm;
- Remove the approximately 2 acre lakeside asphalt parking lot and two single-family residences constructed on land capability district (LCD) 1b soils within 60 feet of Lake Tahoe;
- Reduce managed turf within the stream environment zone (SEZ/LCD 1b) and introduce native riparian vegetation within the golf course setting;
- Increase sustainable golf course management practices to further minimize the use of fertilizers and irrigation; and
- Contribute to the implementation of five TRPA Environmental Improvement Program (EIP) projects that contribute to the attainment of TRPA's soil conservation/stream environment zone (SEZ), fisheries, and scenic thresholds.

3.3 REGIONAL AND LOCAL SETTING

3.3.1 EXISTING LAND USES AND CHARACTERISTICS

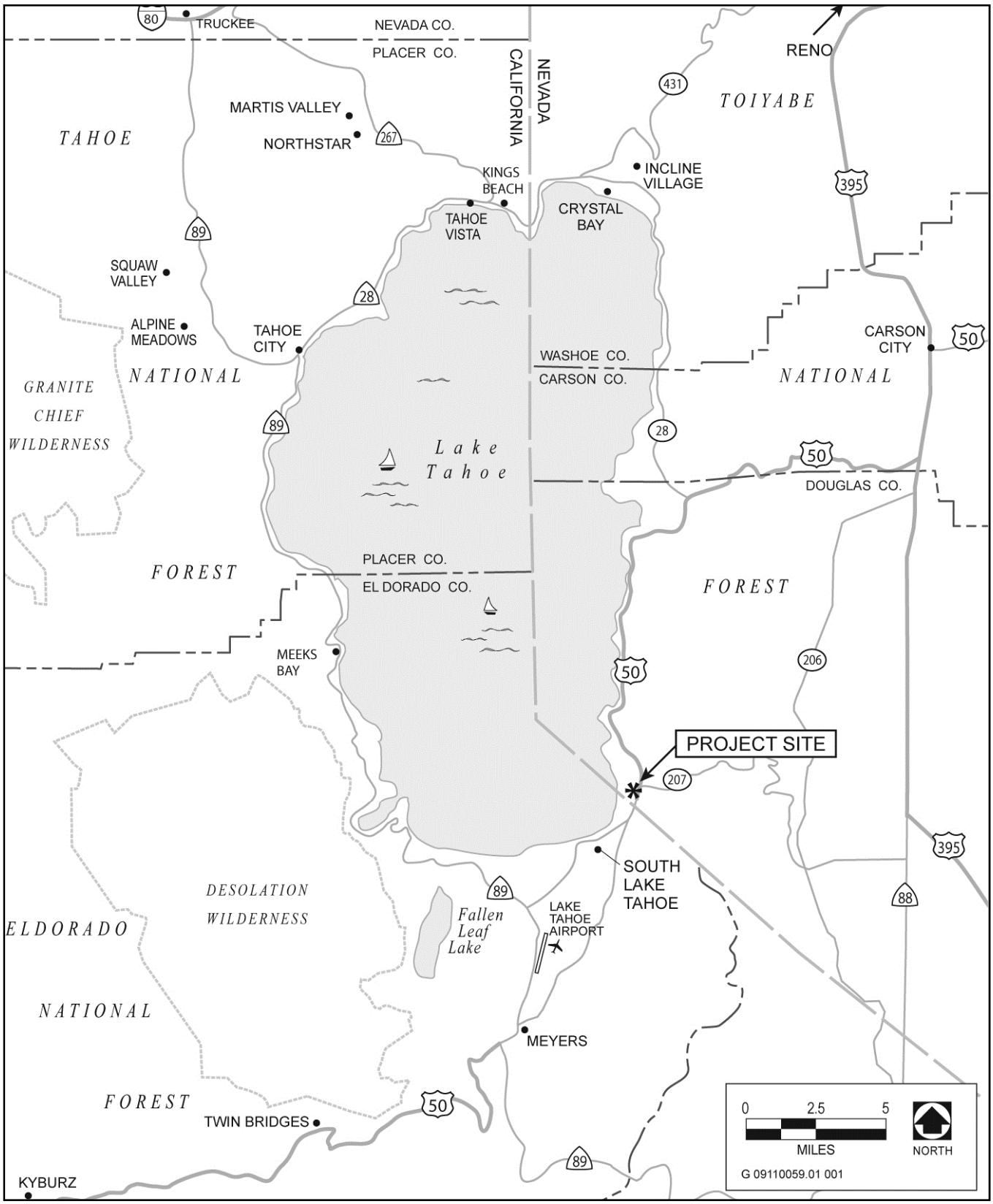
The project area west of U.S. 50 is occupied by the existing Edgewood Tahoe Golf Course which includes an accessory clubhouse. Housed in the existing clubhouse are two banquet event rooms (North and South), a golf retail pro-shop, a formal dining restaurant, and Brooks Sports Bar & Grill. The clubhouse also contains back of house and administrative areas, storage, locker rooms, and restroom facilities. This area also contains golf course support facilities (e.g., maintenance and utility facilities, pathways, surface parking, pump houses, a gate house, a snack bar, and restrooms) and two single-family lakefront residences, one of which has an elevated fixed pier. Access to the project area is provided by Lake Parkway from U.S. 50. Exhibit 3-4 shows the existing conditions at the Edgewood Tahoe Golf Course. The golf course operates during summer months only, from approximately May through October each year. Wintertime use at the golf course is limited to the operation of Edgewood's fine dining restaurant, Brooks Sports Bar & Grill, and snowmobiling operations on a portion of the golf course leased from Edgewood Companies to a private vendor.

TRPA determines land capability through seven levels of land capability classification, called land capability districts (LCDs), which are based on soil types. Lower capability lands, LCDs, 1a, 1b, 1c, 2 and 3, designate lands that are environmentally fragile and sensitive to development. Higher capability lands, LCDs 4 through7, can tolerate a more intense level of use without sustaining permanent environmental damage. Land areas that are influenced by a stream or high groundwater are assigned a land capability rating of 1b, also known as "Stream Environment Zone" or SEZ. The portion of the project area west of U.S. 50 has been verified as having the following TRPA LCDs: 1b, 3, 4, 5, 6, and 7 (Exhibit 3-5a). Much of the project area west of U.S. 50 is in LCD 1b. The locations of the proposed lodge complex, parking, relocated residential lots, and the expanded clubhouse are primarily on higher capability lands (LCDs 5, 6, and 7).

The project area east of U.S. 50 is located adjacent to Friday's Station, an important historic inn site listed on the National Register of Historic Places primarily because of its association with the Pony Express. The project area includes Friday's Station pond, a bunkhouse on the pond, an unpaved road over the dam to Friday's Station pond, and a portion of Edgewood Creek. It does not include any upland buildings associated with Friday's Station. The portion of the project area east of U.S. 50 has been verified to include lands classified entirely as LCD 1b (Exhibit 3-5b).

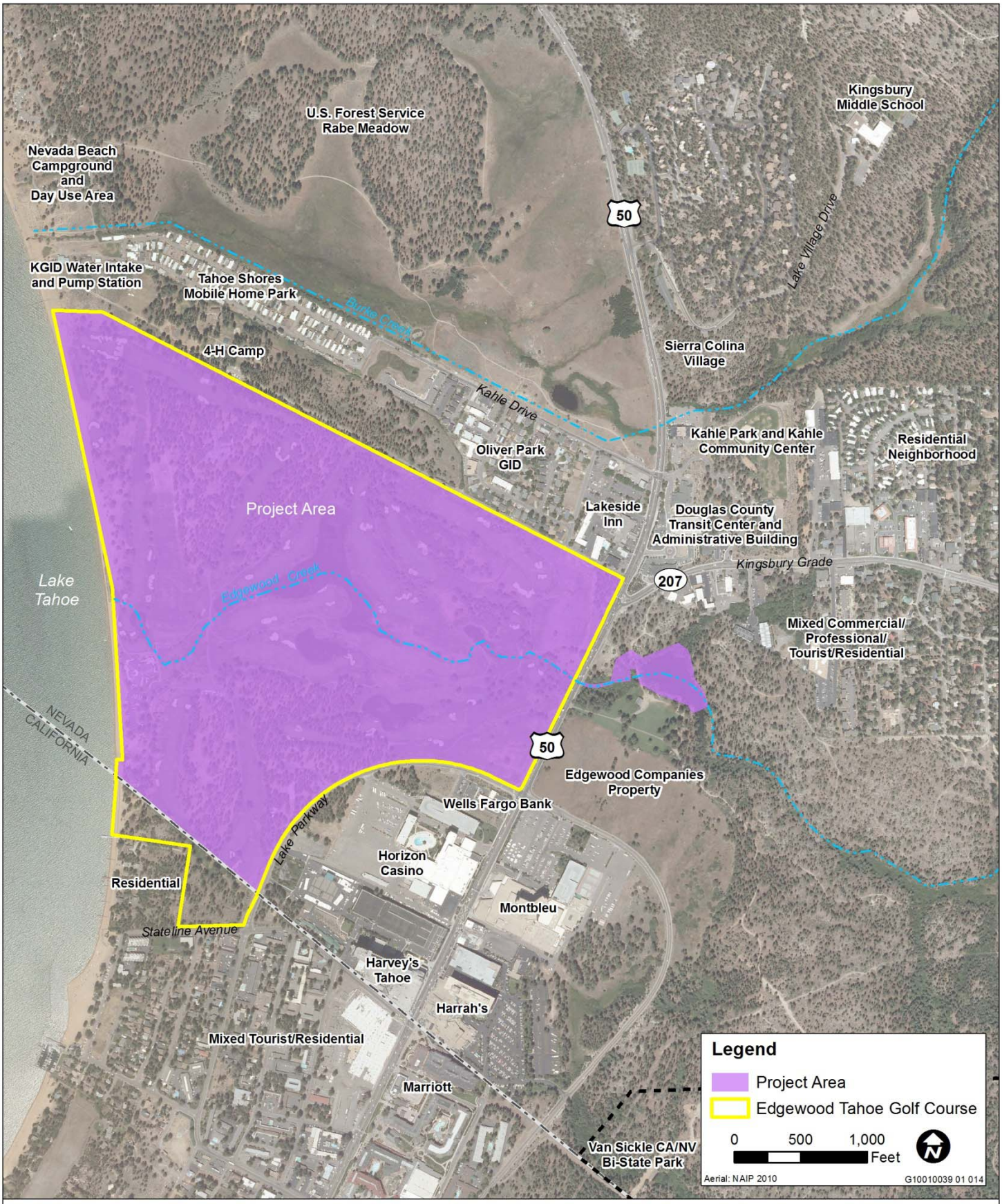
The project area is located at the bottom of the Edgewood Creek watershed which drains an area of approximately 6.6 square miles, or approximately 4,200 acres. Land use within the watershed includes state and federal land, primary and secondary roads, residential neighborhoods, commercial areas, a ski area, the Stateline Casino and Tourism Corridor, and the Edgewood Tahoe Golf Course. These uses and other historical uses in the area have interrupted the natural hydrologic processes, and the resulting influx of nutrients and sediment have degraded the quality of the Edgewood Creek Watershed. Because the project area is situated at the downstream end of this disturbed watershed, it functions as a sump for runoff and pollutants generated upstream. Edgewood Creek is identified as a high priority watershed for restoration in the Lake Tahoe Environmental Improvement Program (EIP), which is a comprehensive, collaborative, long-term strategy to preserve and restore the Lake Tahoe Basin, created to address the degradation of Lake Tahoe's water clarity and surrounding environment.

The shoreline in the project area is located within TRPA Shorezone Tolerance Districts 1 (barrier beaches and lakeshore dunes) and 7 (comparatively level shorezone underlain by morainic and alluvial materials with slopes of 0-9 percent).



Source: Adapted by Ascent Environmental, Inc. in 2010

Exhibit 3-1. Regional Location



Source: Adapted by Ascent Environmental, Inc. in 2010

Exhibit 3-2. Project Area and Surrounding Land Uses

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Edgewood Golf Course Parcel Information						
	APN	Old APN	Area (sq. ft.)	Area (acres)	Address	Owner
1	1318270018	0103030	9,843,312	227.98	150 Lake Parkway	Park Cattle Company
2	1318270102	0103060	33,288	0.76	160 Lake Parkway	Park Cattle Company
3	1318270103	0103050	47,480	1.09	152 Lake Parkway	Park Cattle Company
4	1318270104	0174060	231,341	5.31	160 Lake Parkway	Park Cattle Company
5	N/A	0290102	217,800	5.00	PO Box 2249 - Stateline	Park Cattle Company
6	N/A	0290102	N/A	N/A	N/A	McDonnel, Dennis
7	N/A	0290103	N/A	N/A	N/A	N/A
8	N/A	0290107	N/A	N/A	N/A	Park Cattle Company
9	N/A	0290104	N/A	N/A	N/A	Park Cattle Company
10	N/A	0290100	220,414	5.06	PO Box 2249 - Stateline	Park Cattle Company
11	N/A	0290141	N/A	N/A	PO Box 6054 - Stateline	Haas Fu Shen
12	N/A	0290142	N/A	N/A	N/A	Carpenter, Philip J.
13	N/A	0290103	N/A	N/A	N/A	Moore, Frank Ralph
14	1318270108	0174010	530,388	11.48	40 Hwy 50	Park Cattle Company
15	1318270117	0174010	116,248	2.71	50 Hwy 50	Park Cattle Company
16	1318270108	0174010	907,200	20.83	50 Hwy 50	Park Cattle Company
17	1318270101	0103010	131,551	3.02	N/A	Park Cattle Company
18	1318270110	0103060	32,325	1.89	110 Lake Parkway	First Interstate Bank
19	1318270107	0140010	301,730	21.18	55 Hwy 50	Park Cattle Company
20	1318270106	0140010	291,416	6.69	N/A	Park Cattle Company
21	1318270105	0140010	886,702	16.24	101 Hwy 50	Park Cattle Company
22	1318000200	0140010	4,548,155	104.41	N/A	Park Cattle Company
23	1318270113	0120000 & 0131000	31,024	0.71	155 Hwy 50	Edgewood commercial village
24	1318220101	0112000	15,768	0.44	146 Hwy 50	Wells Fargo Bank Trustee
25	1318220101	0112000	17,424	0.40	152 Hwy 50	Crus Company
26	1318220102	0120000	27,662	0.88	158 Hwy 50	Lonning, Patricia M.
27	1318220101	0112010	13,316	0.43	164 Hwy 50	Lakeside Inn Inc.
28	1318220101	0112010	27,443	0.63	166 Hwy 50	Lakeside Inn Inc.
29	1318220110	0120100	74,488	1.71	181 Kuhle Dr	Lakeside Inn Inc.
30	1318220101	0120100	6,970	0.16	175 Inwi Dr	MK Inc.
31	1318220110	0112140	6,098	0.14	113 Inwi Dr	Hughes, Joanne & Richard
32	1318220108	0112110	6,098	0.14	111 Inwi Dr	Lindrud, Susan M.
33	1318220108	0112100	6,098	0.14	169 Inwi Dr	Schanhofer, Edgar & Ruth
34	1318220107	0112090	6,098	0.14	167 Inwi Dr	Schanhofer, Edgar & Ruth
35	1318220106	0112080	6,098	0.14	165 Inwi Dr	Tay, Virginia M.
36	1318220105	0112070	6,098	0.14	163 Inwi Dr	Fishman-Holmes, Barbara
37	1318220104	0112100	6,098	0.14	161 Inwi Dr	Black Investment Group LLC
38	1318220103	0112190	5,663	0.13	159 Inwi Dr	Rusk, Alonzo T. & Sharon June
39	1318220102	0112080	5,663	0.13	157 Inwi Dr	Fields, Mark & Dominique
40	1318220101	0112060	5,663	0.13	155 Inwi Dr	Spur, Mark J.
41	1318220109	0112040	6,534	0.15	153 Inwi Dr	Bielejack, Michael & Susan
42	1318220108	0112030	6,712	0.20	151 Inwi Dr	Loeser, Kenning B.
43	1318220108	0112020	7,405	0.17	149 Inwi Dr	Blank, Michael A.
44	1318220107	0112010	13,246	0.30	145 Inwi Dr	Kuhrman, David & Karen
45	1318220107	0111130	6,970	0.16	158 Laura Dr	Friese, Laurence & Lillian
46	1318220106	0111140	6,098	0.14	172 Inwi Dr	Nelson, Alcie & John
47	1318220106	0111150	6,970	0.16	170 Inwi Dr	Solis, Francisco & Edith
48	1318220105	0111210	6,970	0.16	168 Inwi Dr	Usdin, Loretta H.
49	1318220107	0111220	6,534	0.15	164 Inwi Dr	Trachsel, Thomas & Karla
50	1318220105	0111230	6,098	0.14	162 Inwi Dr	Pisc, Elbert J. & Trachsel
51	1318220107	0111300	19,602	0.45	158 Inwi Dr	Birney, Christopher & Gong, Mary
52	1318220106	0111100	7,405	0.17	108 Michelle Dr	Lee, Pauline
53	1318220108	0108020	1,306,800	30.00	140 Hwy 50	Nevada, University of
54	1318270102	0110010	43,560	1.00	207 Kingsbury Grade	Continental Telephone

LEGEND

① PARCEL REFERENCE NUMBER

1b LAND CAPABILITY DESIGNATION

NOTES

1. HIGH WATER LINE 6229.1
LOW WATER LINE 6223.0
LAKE TAHOE DATUM

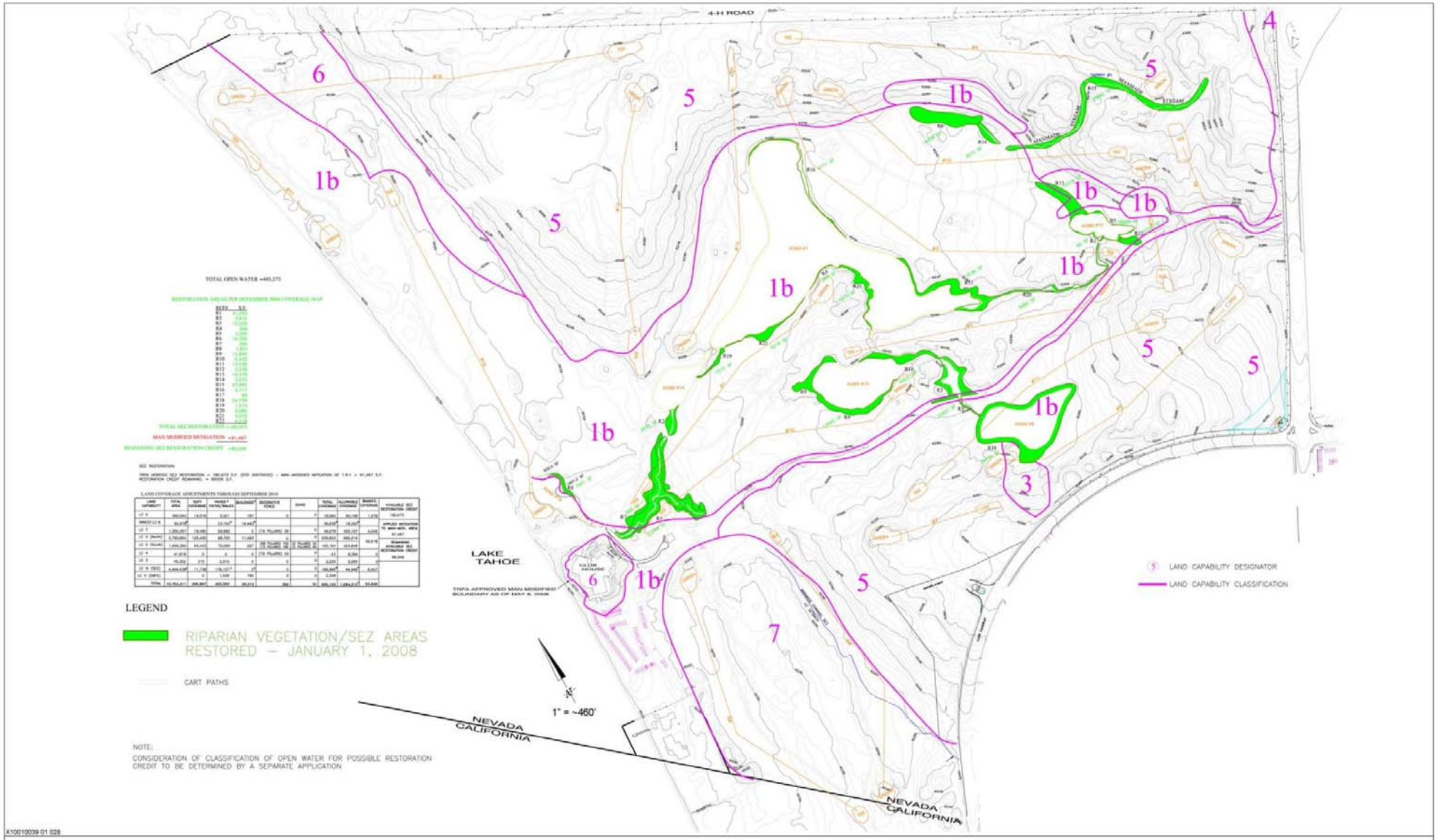
X100100039.01.004

Source: Edgewood Companies 2012

Exhibit 3-3. **Assessor's Parcel Map**

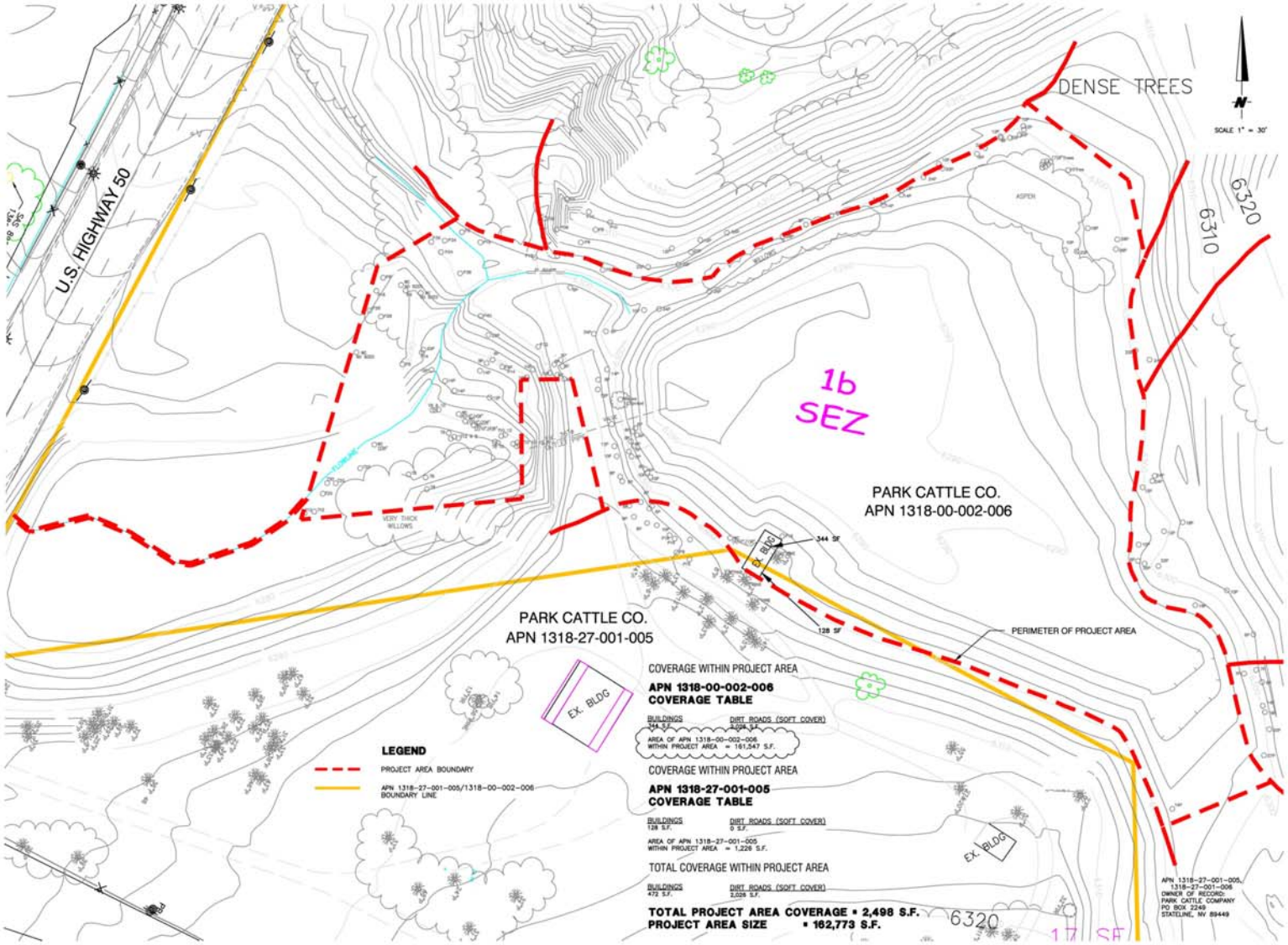
Source: Edgewood Companies 2012

Exhibit 3-4. **Existing Conditions**



Source: Data provided by Resource Concepts, Inc. in 2011

Exhibit 3-5a. **TRPA Verified LCD Boundaries for the Project Area, West of U.S. 50**



X10010039_01_054

Source: Data provided by Resource Concepts, Inc. in 2011

Exhibit 3-5b. **TRPA Verified LCD Boundaries for the Project Area, East of U.S. 50**

3.3.2 RECENT IMPROVEMENTS AT EDGEWOOD TAHOE GOLF COURSE

The Edgewood Tahoe Golf Course began operations in 1968, and many improvements have been made since. Edgewood Companies has implemented several recent projects that are considered part of the existing baseline conditions for EIS purposes and are included here to identify on-going permitted improvements at the site that have or would occur regardless of project implementation. Some of the more recent improvements to the golf course property include an irrigation system upgrade implemented in 2009 and 2010 that replaced leaking irrigation pipes resulting in substantial reductions in irrigation water and energy use, and the construction of a KGID intertie building at the northeastern corner of the golf course property. Table 3-1 includes the TRPA permit and/or file number and description of projects at Edgewood implemented between 1992 and the end of 2010. Projects are listed in chronological order.

Table 3-1. Recent Projects at Edgewood Tahoe Golf Course

TRPA Permit # / File #	Description
Permit # 19920423	Clubhouse/parking lot elements of Stateline Stormwater Association System best management practices (BMPs), SSWA pump station, and pipeline to pond 10) (Note: the pond numbering at the site corresponds to the adjacent golf hole number.)
Permit # 19930383	Clubhouse remodel
File # 19940843STD	Underground tank removal
Permit # 19940894	Multi-year SEZ Restoration Project (restore SEZ, create wetlands, install fish ladder)
File # 19960417STD	Runoff control (BMPs) and parking lot paving
Permit # 19990525	Divert U.S. 50 runoff to new wetland; collect Lakeside Casino runoff to pre-treat and convey to new wetland; recontour 4th fairway; tree removal; fish habitat protection along Edgewood Creek; remove diversion structure below pond 5 and replace w/ rock drop structure to allow fish passage; create 0.5 acre additional wetlands; and remove about 6 acres of turf from golf play.
File # 2000365STD	Replace chain link fence with wrought iron fence
File # 20030239STD	Golf course entry gate replacement
File# 2030101STD	Golf course new and updated signage
Permit # 20030945	Utility line upgrades and maintenance facility relocation
Permit # 20050333	Outdoor recreation concessions and minor revision to parking and turn around area
Permit # 2006111	Grading permit for golf areas
Permit # 20060819	Placement of a generator on a newly constructed 68 square foot pad. Revegetated and retired 102 square feet of SEZ.
Permit # 20070006	Golf course modification (relocation of golf greens for golf holes 5 and 12)
Permit # 2007 0032	Man-modified determination (clubhouse project area changed from LCD 1b to 6)
Permit # ERSP2007-0139	Edgewood Water Company and KGID waterline project
Permit # ERSP2008-0466	Re-contour driving range near the golf hole 15 tee
Permit # ERSP2009-0766	Upgrade golf course irrigation system
Permit # ERSP2009-2090	Brooks Bar winter operation – temporary use (expired April 11, 2011)
Permit # ERSP2009-3415	Snowmobile operation – temporary activity (expired June 17, 2010)
Permit # Tree2010-0945	Tree removal (completed). Thinning around golf holes 5, 7, 8, and 9 for forest health reasons, and removal of a single tree near the entryway on Lake Parkway for safety reasons.
Permit # Tree2010-1295	Tree removal (has not been completed). Limited tree removal near the maintenance building to protect the structure.

Note: in addition to the projects and permits listed above, in 2011 and 2012 Edgewood Companies also obtained permits from TRPA verifying the land capability and coverage associated with the parcels where the two existing lakefront residences are located and that portion of the project area east of U.S. 50.

Source: Thiel, pers. comm., 2010

3.3.3 PLANNING CONTEXT

RELEVANT PLAN AREA STATEMENTS AND COMMUNITY PLANS

The project area extends across two TRPA Plan Area Statements (PASs) (Exhibit 3-6). The portion of the project area west of U.S. 50 is located entirely within the Edgewood PAS 070A, which includes the Edgewood Tahoe Golf Course, the 4-H Camp to the north, and miscellaneous private uses. The land use classification for PAS 070A is recreation and the planning statement calls for providing a range of visitor and local serving outdoor oriented recreation opportunities, integrated with the existing and planned improvements within the casino corridor.

The portion of the project area east of U.S. 50 is located within Special Area #2 in the Kingsbury Drainage PAS 080, which includes residential uses, the inactive Douglas County landfill and maintenance yard, and other miscellaneous uses. The land use classification for PAS 080 is conservation. The proposed improvements east of U.S. 50 would be entirely within Special Area #2 of PAS 080, which includes the area around Friday's Station and the meadow at the northeast corner of the U.S. 50/Lake Parkway intersection.

PASs 070A and 080 are adjacent to and within the influence of the Stateline Community Plan; therefore, the proposed project would be subject to certain policies and standards of the Stateline Community Plan and, where applicable, shall be consistent with the planning direction provided in Chapter I of the Stateline Community Plan (PAS 070A, Special Policy 8). The off-site employee parking area on Edgewood Companies' property east of Lake Parkway adjacent to the Horizon Casino Resort is located within the Stateline Community Plan boundaries.

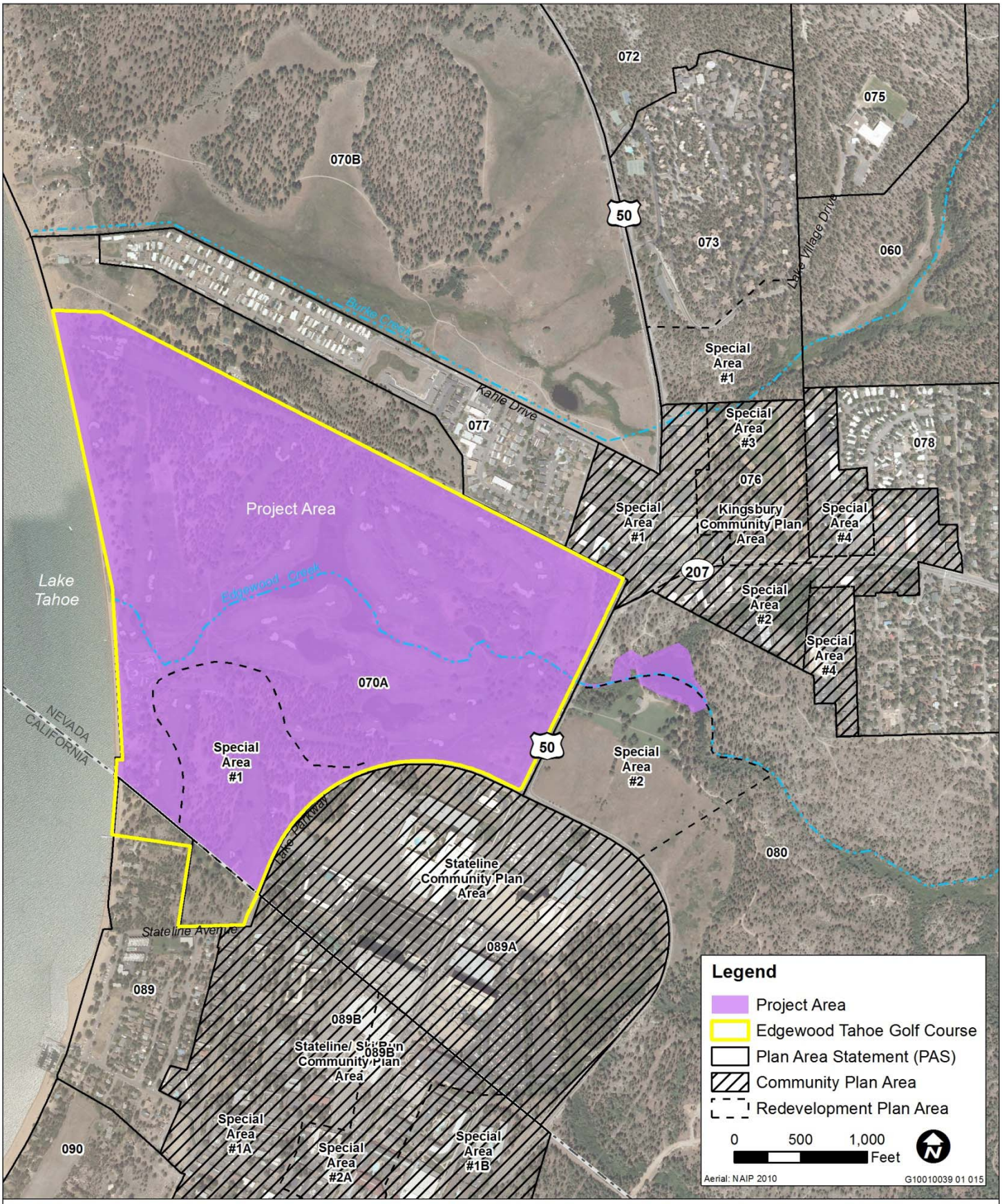
The proposed lodge complex, except the pool terrace, would be concentrated on approximately 10 acres of land located within Special Area #1 (Tourist Area) of PAS 070A. The proposed clubhouse expansion is located outside of Special Area #1. In accordance with PAS 070A Special Policy 7, tourist accommodation and recreation uses are encouraged in Special Area #1 but shall not exceed the maximum equivalent of 250 tourist accommodation units (TAUs). The construction of a hotel/conference center project in Special Area #1 is conditioned on the developer making an irrevocable commitment to improve access, capacity, and/or the range and quality of lakefront experiences available to the public in the Stateline area. Furthermore, in accordance with PAS 070A Special Policy 9, any proposed tourist accommodation project in PAS 070A must include the following items in its application for the proposed project and comply with the applicable limitations:

a) Any application for a proposed tourist accommodation project must contain information on all tourist accommodation units including:
    1. Identification of all tourist accommodation units that will be transferred into any proposed tourist accommodation dwelling project in PAS 070A.
    2. A description and assurance of the revegetation/restoration planned for the parcels from which the tourist accommodation units are to be transferred (or the equivalent amount of revegetation/restoration elsewhere if the sending parcel(s) is within LCDs 4-7).

b) Prior to approving any proposed tourist accommodation project, a Stateline area-wide drainage system must have been designed, funded, independently analyzed for engineering, design and environmental adequacy and approved by all permitting agencies.

c) Prior to approving any proposed tourist accommodation project, the beach access in Special Policy 7 must have been specifically identified and assurances given that the beach access is available.

d) Any application for a proposed tourist accommodation project in Special Area #1 must be accompanied by a description of the commitment of the water resources for the project (as documented by the state engineer). This is because a tourist accommodation project in Special Area #1 will involve the commitment of a significant quantity of the remaining Nevada water left for use in the Tahoe Basin.



Source: Adapted by Ascent Environmental, Inc. in 2010

Exhibit 3-6. Plan Area Statements and Community Plan Areas in Project Vicinity

ORDINANCE 93-20 AND SPECIAL AREA #1 OF PAS 070A

On November 17, 1993, TRPA certified the Final EIS for three community plans in Douglas County (Round Hill Community Plan, Kingsbury Community Plan, and Stateline Community Plan) with the adoption of Ordinance 93-20. These community plans replaced PASs 071, 076, and 089A, respectively. The ordinance also affected PAS 070A and PAS 080. Specific to the Edgewood Project, the ordinance established Special Area #1 of PAS 070A and Special Area #2 of PAS 080, and the land uses permissible within both special areas.

The Stateline Community Plan, though adopted at the same time as the amendments to PAS 070A and 080, was written prior to approval of the titles and boundaries of Special Areas #1 and #2. Because the Stateline Community Plan was never corrected after approval of the amendments to PAS 070A and 080, the plan refers incorrectly to Special Area #1 as Special Area #2 throughout the document. To alleviate any confusion in this EIS, all references to the area depicted as Special Area #2 in the Stateline Community Plan have been changed to Special Area #1 to be consistent with the updated name of the special area in PAS 070A.

3.4 PROJECT CHARACTERISTICS

Alternative 1, the proposed Edgewood Lodge and Golf Course Improvement Project, would construct a new 194-unit lodge complex with a full-service spa and wellness center, restaurant and bar, and banquet and meeting space as well other accessory uses at the Edgewood Tahoe Golf Course. These elements and other details of the proposed project are described in detail below and illustrated in Exhibits 3-7 through 3-9.

3.4.1 DEVELOPMENT DETAILS

LODGE COMPLEX

The proposed project would include the construction of a three-story lodge complex that would include 194 TAUs (see Table 3-2, below, for details on the TAUs) and other improvements, as follows:

- A main hotel/lodge building that would include:
  - A pool terrace on its lake side;
  - An approximately 1,810 square foot porte-cochere (lodge entryway);
  - First floor uses that would include: a 3,000-square foot restaurant; an 800-square foot bar area; approximately 8,750 square feet of banquet and meeting space (the banquet space would have a capacity of 250 seats); 150 square feet of retail space; 400 square feet for a kids camp/game room; 85 parking spaces; lobby and living area; storage and mechanical equipment areas; an administrative area; employee facilities; and 28 hotel units;
  - Second floor uses that would include: an approximately 12,900-square foot spa and wellness center; locker rooms; 99 parking spaces; a library; storage areas; administrative areas; employee facilities; and 48 hotel units; and
  - 78 hotel units on the third floor.
- Lined pond to support an aesthetic water feature, which also provides stormwater storage capacity.
- An articulated roofline and landscaped terraces.
- Ten casitas buildings with four multi-bedroom units in each for a total of 40 units (see Table 3-2 for details on these units). The secondary vacation home market at the time of project delivery would dictate whether these units would become interval ownership units, nightly rental units, or some combination thereof.
- A surface parking lot with 24 spaces.
- A two-level parking structure with 230 spaces near the entrance on Lake Parkway.

Source: Edgewood Companies 2012

Exhibit 3-7. **Alternative 1: Proposed Project – Proposed Site Plan**

Source: Edgewood Companies 2012

Exhibit 3-8. **Alternative 1: Proposed Project – Proposed Site Plan, Lodge Area**

Source: Edgewood Companies 2012

Exhibit 3-9. **Alternative 1: Proposed Project – Illustrative Site Plan, Lodge Area**

The proposed restaurant and bar would an accessory to the new lodge and would be in addition to the existing restaurant and sports bar and grill associated with the golf course clubhouse. The existing maintenance facility would be retained.

Table 3-2 summarizes development details associated with the TAUs for the lodge building and the 10 casita buildings, including total square footage, the unit count by unit type, and the average unit size in square feet. Hotel units would not include kitchens, but each of the multi-bedroom casita units would include a kitchen. The total number of bedrooms associated with the proposed project would be 256.

Table 3-2. Alternative 1 Proposed TAU Unit Detail

3-story Hotel (Lodge)	Quantity	Average Unit Size (sf)	Net Size (sf)
Standard Room	122	525	64,050
Guest Suites	28	775	21,700
Deluxe Suites	4	1,075	4,300
Total Hotel Rooms	**154**		**90,050**
2-story Casitas (Interval Ownership Units)	**Quantity**	**Average Unit Size (sf)**	**Net Size (sf)**
2-Bedroom Units	20	1,250	25,000
3-Bedroom Units	18	1,650	29,700
4-Bedroom Units	2	2,040	4,080
Total Interval Ownership Units	**40**	**1,470**	**58,780**
TOTAL	**194**		**148,830**

Source: Hill, pers. comm., 2011a

Activities associated with the lodge complex would also include:

- Remodeling the existing Edgewood Water Company pump house.
- Removal of the existing golf course snack bar and restroom building.
- Realigning the entrance to the property off of Lake Parkway and construction of a small gatehouse (approximately 180 square feet) setback from Lake Parkway at approximately the same distance as the existing gatehouse.

The proposed lodge building includes a building height that exceeds the existing height limits set forth in Chapter 37, "Height," of the TRPA Code (see discussion under the heading "Building Heights and Elevations" below) to provide variability in the roof line and increased ceiling heights in some locations. The proposed lodge building design that requires an amendment to Chapter 37 of the TRPA Code is referred to as Alternative 1A in this chapter as well as the scenic evaluation contained in Section 5.3, "Scenic Resources." Alternative 1B described herein includes the same development program as Alternative 1A, meaning the number and size of proposed units and accessory spaces would not change, but includes a proposed lodge design that complies with Chapter 37 of the TRPA Code. The extra "space" resulting from the Alternative 1A lodge design would create additional air space and/or accommodate mechanical equipment and possibly limited storage. When referring to Alternative 1 herein, unless otherwise specified, the reference applies to Alternatives 1A and 1B.

Expansion of the South Room at the Edgewood Clubhouse

The proposed project would include the expansion of the Edgewood Clubhouse by approximately 6,770 square feet. The expansion would be located on high capability LCD 6 land.

First (main) floor amenities in the expanded area would include:

- a 2,500 square foot banquet room with seating capacity for 200 people for large events such as weddings (the existing South Room accommodates 100 guests);
- a terrace; and
- a fire pit area.

The basement expansion would include an additional 4,270 square feet to accommodate:

- relocated loading and receiving area directed away from the lake;
- additional storage;
- locker rooms;
- restrooms (four stalls [two men's and two women's stalls], available to beach users); and
- mechanical facilities.

The South Room expansion would include an event lawn with a temporary outdoor event seating capacity of up to 1,000 people, just south of the expansion area. Edgewood Companies currently uses the existing beach front parking lot to accommodate 1,000+ person events that would be held on the proposed event lawn upon project approval and construction.

Relocation of Existing Lakefront Residential Lots

The proposed project would include the removal of the two existing single family structures that are adjacent to Lake Tahoe and a boundary line adjustment that relocates the residential lots lines on record to higher capability land on the Edgewood Tahoe Golf Course property near the existing maintenance facility and east of golf hole 18 and the driving range (Exhibit 3-7). The relocated single-family residential lots would be approximately 1.5 acres each.

The proposed project does not include redevelopment of residences on the relocated lots; however, it is expected that development of the lots could occur in the future. Access to the future residences is anticipated to be by cart path, and a location for a future parking structure for the residences has been identified east of the existing clubhouse and south of golf hole 10 (Exhibit 3-7). For the purposes of this EIS, conceptual locations for the future residences and associated parking have been illustrated on the proposed site plans. It is assumed for purposes of this EIS that the residential structures would be two stories and would have a combined footprint of 7,235 square feet (equivalent to the structure and driveway coverage of the existing lakefront residences). The development of the parking area and future development of the residential parcels (including the actual combined food print area) would be subject to subsequent TRPA environmental review and permitting.

Public Beach, Lakefront Recreation Facilities, and Pedestrian Path

Consistent with Special Policies 7 and 9 of PAS 070A, the development of a hotel/conference center within Special Area #1 is conditioned on an irrevocable commitment to improve access, capacity and/or the range and quality of lakefront experiences available to the public with a focus on access for Stateline overnight visitors. The project would include public access to a variety of lakefront recreation opportunities that include a public swimming beach, food and beverage service, viewing decks, a shared-use access pathway, concessions (e.g., kayak and bicycle rentals), natural areas, restrooms, and open space. The proposed swimming beach component would extend south from the proposed relocated pier (see below) to the northern edge of the golf safety setback zone near realigned golf hole 9. The total public beach area from the high water line (6,229.1 feet above mean sea level [msl]) to the backshore would be 15,507 square feet (approximately 556 feet long by an average of 27 feet wide). The size of the beach would exceed 15,507 square feet in most years as Lake Tahoe historically is rarely at the high water line. At the average Lake elevation of 6,225 feet above msl, the size of the public swimming beach would be approximately 26,350 square feet.

The public beach and other lakefront recreation opportunities would be accessible via a paved non-motorized shared-use (bicycle and pedestrian) path that would parallel the north side of the main entry road to the Edgewood Tahoe Golf Course. Those coming to the site to enjoy the beach and/or other lakefront recreation opportunities could also be dropped off at the loop driveway between the clubhouse and the main lodge building (Exhibit 3-8). A public restroom for beachgoers is included in the plans for the ground floor (basement) of the clubhouse expansion. The restroom entrance would be directly accessible from the beach area. The public swimming beach would be a new primary use at the site and would be eligible to receive recreational persons-at-one-time (PAOT) allocations from TRPA (see Section 5.2, "Land Use," for a description of existing and proposed primary and accessory uses, and Section 5.4, "Recreation and Public Access," for a full discussion of PAOT allocations required for the project).

To encourage the use of transportation shuttles and non-motorized arrival from the Stateline casino corridor, dedicated public parking for beach users is not proposed. Edgewood Companies would manage the lakefront recreation area so that it is compatible with the existing golf course and clubhouse uses. Rules may include such things as no alcohol on the beach, as well as limitations on hours of beach use. During peak times and the peak season, Edgewood would enforce the no lakefront recreation parking on site. Public users would have access to the lakefront recreation area via the public shared-use access pathway, or a loop drop-off area in front of the existing clubhouse. This access plan is consistent with the desired outcomes of the Stateline Community Plan, which describe improving lakefront recreation access for the Stateline tourism core through increased use of trails and transit as opposed to reliance on additional parking (TRPA and Douglas County 1993: V-6). During certain special events at the clubhouse south room and event lawn, access to portions of the public beach and lakefront recreation area could be restricted. During these special events (such as weddings), which could occur regularly on weekends throughout the summertime, the public swimming beach portion of the lakefront recreation area would be reduced to an approximately 3,000 square-foot (120 feet by 25 feet) area south of the event lawn. However, the other lakefront recreation opportunities would still remain available. The proposed lakefront recreation area is not intended to accommodate large numbers of people. Edgewood Companies proposes to take an adaptive management approach to public use of the lakefront recreation area through such measures as limiting access during peak periods. For example, all public lakefront recreation users would need to pass through the gate house area at the entry from Lake Parkway. To facilitate event control and security for large crowds, Edgewood Companies would need to restrict access to the lakefront recreation area to ticketed members of the public during extraordinary events such as the Celebrity Golf Event and the 4th of July.

Pier Removal, Relocation, and Reconstruction

The existing Pruett Pier (so named after former lakefront homeowners Margaret Park Pruett and Robert Pruett) is a multiple-use pier constructed in 1978 under a permit issued by the Nevada Division of State Lands (Permit Number L0056) (NDSL 1978) in connection with the private residence at APN 1318-27-001-002, now owned by Edgewood Companies. The original NDSL permit was valid for a 20-year period and expired in 1998. An application for a renewed NDSL pier permit was submitted by Edgewood Companies on January 12, 2012. A TRPA pier permit application was submitted in 2009, but has not yet been issued because of the TRPA Shorezone Ordinances litigation. The existing pier extends approximately 91 feet into the lake and is 6 feet wide. It consists of wood decking supported on pairs of pilings spaced about every 15 feet and includes an approximately 16-foot by 3-foot ramp at its lakeward terminus. The existing pier includes a total of 18 pier pilings (14 pilings for the main pier and 4 pilings for the ramped area). The existing pilings are 12 inches in diameter for the main pier and 4 inches in diameter for the ramped section. Exhibit 3-10 shows the existing pier plan.

As part of the proposed project, the existing pier would be removed, relocated, and reconstructed at a location approximately 1,200 feet north of its current location (Exhibits 3-4 and 3-7). Exhibit 3-11 shows the proposed conceptual pier plan. The proposed multiple-use pier would not be for commercial use. The pier would be

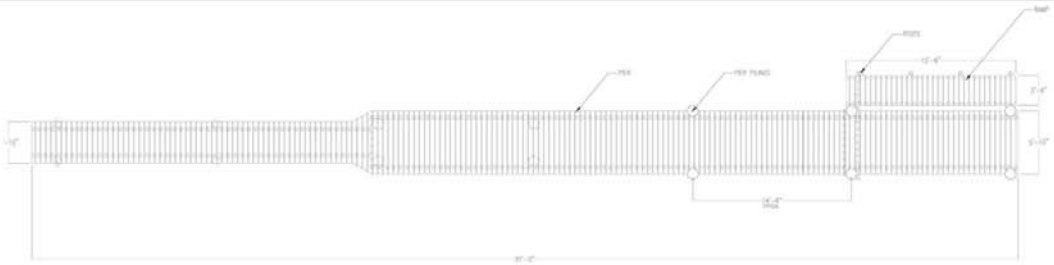
accessible from the project area by Edgewood Lodge guests, with limited space for boat mooring. Edgewood Companies is not proposing the pier as a water taxi stop, but has indicated that if the pier is determined to be a desirable location for future water taxi service, it would be considered and likely allowed. No sewage, boat lift, lighting, or refueling facilities are proposed in conjunction with the pier.

As a proposed multiple-use pier, the facility is eligible for deviation from the Design and Construction Standards of TRPA Code Subsection 84.5.2(F). Specifically, a multiple-use pier can deviate from the 10-foot pier width standard specified in TRPA Code Subsection 84.5.2(A). The conceptual design for the proposed pier would extend approximately 123 feet into the lake from the high water line (natural rim; elevation 6229.1 feet Lake Tahoe Datum), approximately 32 feet longer than the existing pier. The proposed pier would include an approximately 15-foot wide approach walk above the high water line to provide stable and American Disabilities Act (ADA) compliant access from the clubhouse to the pier. The first 20 feet of the pier would be a stationary fixed section, followed by 11 feet of a fixed transition ramp section, and then a 19-foot adjustable section that connects the fixed portion of the pier (50 feet total) via a second 10-foot ramp section to a 73-foot floating section. The floating section of the pier would be constructed in an “L” shape and would end with a platform approximately 16 feet long by 30 feet wide. The proposed pier would include an estimated 14 steel pilings for the fixed and floating sections (the ramped sections would not include pilings), with the fixed portion of the pier having parallel sets of pilings (4 pilings per section or 8 pilings total) and the floating sections having a single piling in the center of each section (1 piling per section or 6 pilings total). The proposed pilings would be 12 inches in diameter. The proposed pier would extend to the TRPA-designated pierhead line (elevation 6219.0 feet Lake Tahoe Datum).

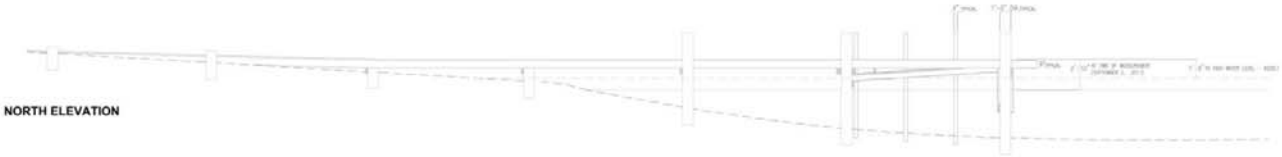
Operation of the vertically adjustable fixed pier section would be accomplished via a hand operated mechanical system that would adjust the pier deck elevation. The applicant would prepare an Operations Plan as part of the final design and permitting package for this portion of the pier subject to review and approval by TRPA. During a “normal lake level season,” the pier would be adjusted routinely (every 2 weeks or once per month) to conform to the seasonal rise and fall of Lake Tahoe.

In addition to the existing Pruett Pier, Edgewood Companies owns five existing mooring buoys and one navigational buoy associated with the project parcels. Edgewood Companies does not propose any changes to the existing buoys as part of the project.

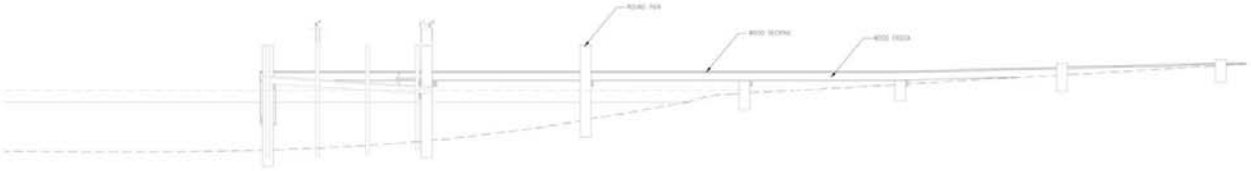
Remnant pier pilings from a pre-1987 pier are located near the existing clubhouse. These pilings are from a pier that was in use during the late 1960s and 1970s. Edgewood Companies does not propose any changes to these existing pilings as part of the project (Exhibit 3-4).



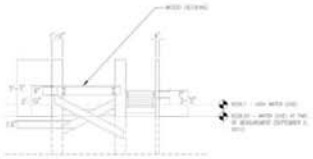
PLAN



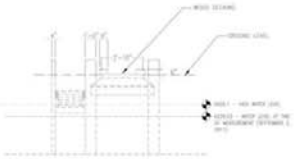
NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION



EAST ELEVATION

VIEW FROM THE WEST

VIEW FROM THE SOUTH

VIEW FROM THE EAST

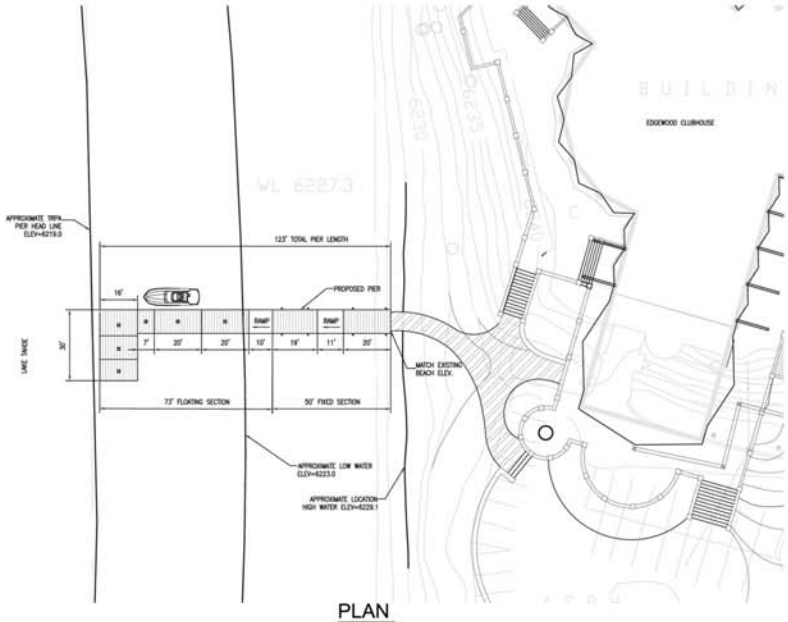
VIEW FROM THE NORTH

PRELIMINARY
FOR REVIEW
NOT FOR
CONSTRUCTION

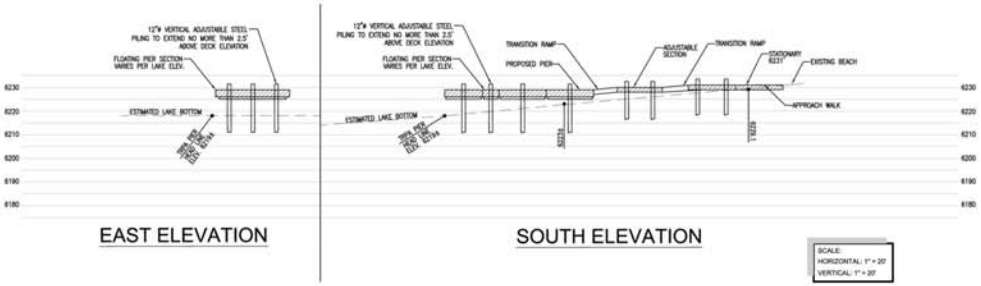
X10010039 01 007

Source: Edgewood Companies 2012

Exhibit 3-10. **Existing Pier Plan**



PLAN



EAST ELEVATION

SOUTH ELEVATION

PRELIMINARY
FOR REVIEW
NOT FOR
CONSTRUCTION
DATE: 05.08.2012

X10010039.01.006

Source: Edgewood Companies 2012

Exhibit 3-11. **Alternative 1 (Proposed Project) – Proposed Pier Plan**

GOLF COURSE AND CART PATH MODIFICATIONS

The proposed lodge complex and water quality improvements would require several golf course and cart path modifications. In some cases the modifications are necessary to ensure adequate golf safety zones in and around the lodge and for the proposed lakefront recreation area. In other cases modifications are required to implement water quality improvement projects, either to create space for those projects to be implemented or to use material excavated as part of those projects to reshape golf areas in an effort to balance materials on site and minimize off-site export. Changes to the golf course are proposed in a manner that would maintain and enhance golf play. The proposed golf course modifications include the following:

- Realignment of golf holes and fairways 7, 8, and 9.
- Reshaping of golf holes and fairways 3, 13, and 14 associated with the pond 1 enhancements.
- Reshaping of golf hole and fairway 6 associated with the pond 6 enhancements.
- Realignment and reshaping of tees for golf holes 1 and 10 in association with wetland and creek improvements.
- Realignment and reshaping of the putting greens.
- Realignment and shaping of golf hole 18 cart path in association with pond 18 and related SEZ enhancements.

Some golf cart paths would be realigned in conjunction with the above-described golf improvements.

BUILDING HEIGHTS AND ELEVATIONS

Appendix B includes proposed building elevations and plans for the lodge, casitas, clubhouse expansion, parking garage, outbuildings, and the cart path bridge over Edgewood Creek. Lodge building elevations for Alternatives 1A (with height amendment) and 1B (Code compliant design) are also included in Appendix B. The Alternative 1A lodge design reflects Edgewood Companies proposal. The proposed lodge building could be constructed at existing height standards (Alternative 1B), but would not provide the architectural merits of the Alternative 1A design as described below.

TRPA Staff-Recommended Height Amendment

TRPA staff is initiating a height amendment for the proposed lodge building that would exceed the current TRPA maximum allowable height limits set forth in Chapter 37 of the TRPA Code. The proposed design for the lodge building includes typical sections of the lodge building (the north and south wings) proposed at a height of 46 feet, 4 feet above the maximum height allowed under current TRPA Code. Within the main section of the lodge building, the building height would be up to 60 feet, or 18 feet above the maximum height allowed under current TRPA Code. Exhibits 3-12 and 3-13 compare cross-sections of the main section of the lodge building with Alternatives 1A and 1B, respectively.

The purpose of the additional height for Alternative 1A would be to enhance the architectural appearance of the lodge building. The additional height does not add additional program or square footage to the proposed lodge. The additional height would provide the following:

- enhanced architectural interest;
- articulated design and structural massing;
- contrasting line and shape elements;
- a focal point of interest;
- distinctive iconic heritage architecture;

- greater consistency with traditional Alpine architecture;
- completed gable roof forms; and
- flexible mechanical and back of house storage space.

To implement Alternative 1A, Chapter 37 of the TRPA Code would need to be amended. The proposed Code amendment language would include a new Code subsection as follows:

37.5.8. Additional Height for Tourist Accommodation Buildings Containing 50 or More Units within Special Area No. 1 of the Plan Area Statement 070A (Edgewood)

In addition to the provisions set forth in Subsection 37.5.2, TRPA may approve building heights greater than those set forth in Section 37.4 for buildings whose primary use is tourist accommodation and that are located within Special Area No. 1 of Plan Area Statement 070A (Edgewood) and are within the influence area of the Stateline Community Plan. The maximum heights specified in Table 37.4.1-1 may be increased up to a maximum height of 60 feet in accordance with the following provisions, if TRPA makes the findings 1, 2, 3, and 5 in Section 37.7.

A. General Requirements

1. The maximum height is 60 feet or three-fourths of the maximum height of the tallest trees within the immediate proximity of the proposed project, whichever is lower. Determination of the tallest tree within the project area shall be based on a tree survey provided by the applicant.

2. The area proposed for additional height shall not be located within the shoreland as defined by Chapter 90.

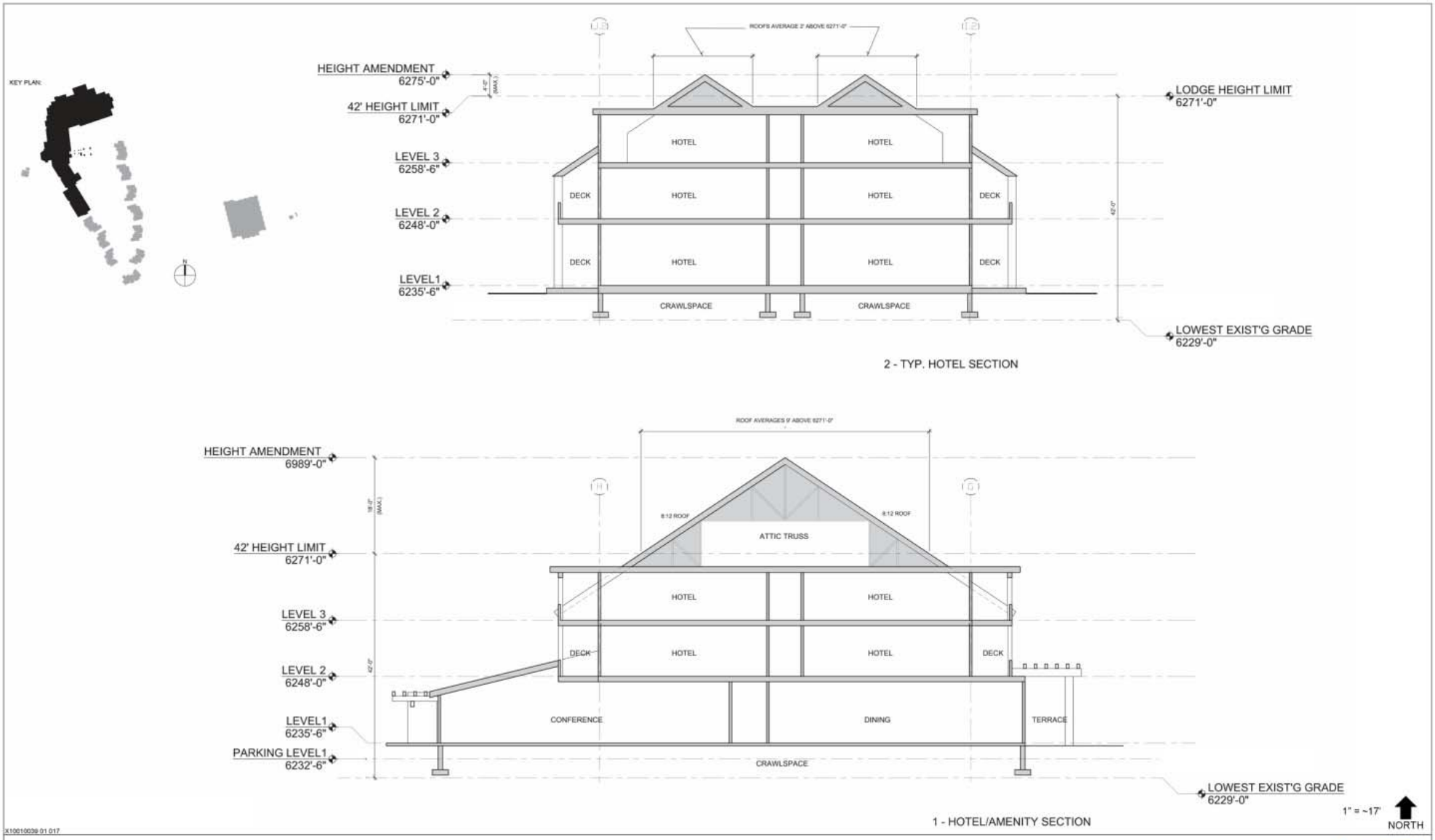
3. The project shall not cause a decrease in numerical ratings assigned to scenic travel routes or identified scenic resources pursuant to Section 66.1.

4. Additional height may be permitted for architectural roof features that incorporate community design features such as gable roofs, hip roofs, pitched roofs, articulated roof planes and dormers as follows:

    a. A maximum of four additional feet may be permitted to extend and articulate roofs; and

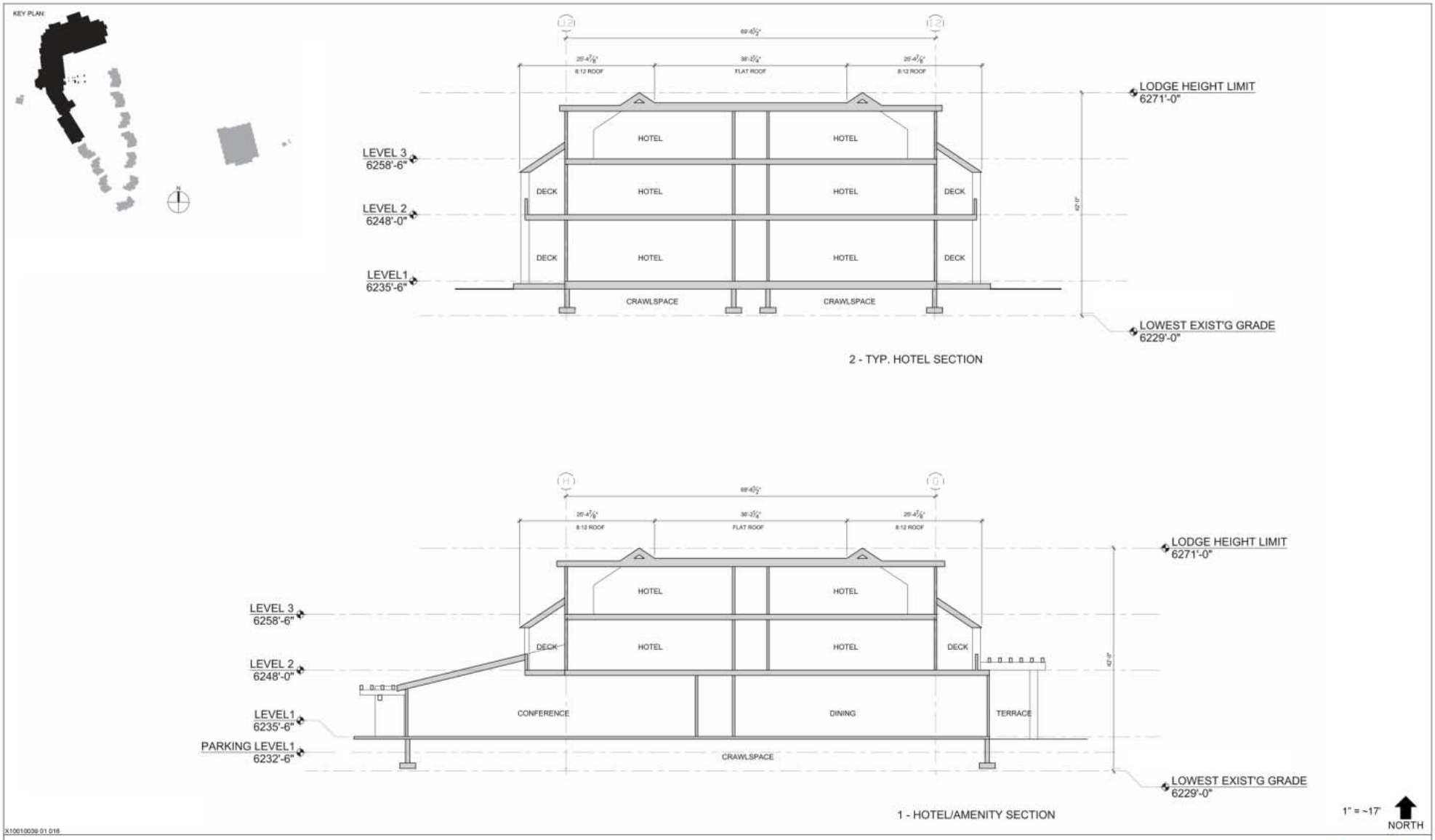
    b. A maximum of ten additional feet may be permitted to incorporate 6:12 or greater pitched roof if the roof does not exceed 15 percent of the total roof area when viewed in plan view; and

    c. A maximum of 20 feet may be permitted, but not to exceed a total building height of 60 feet, to incorporate 6:12 or greater pitched roof if the roof does not exceed 5 percent of the total roof area when viewed in plan view.



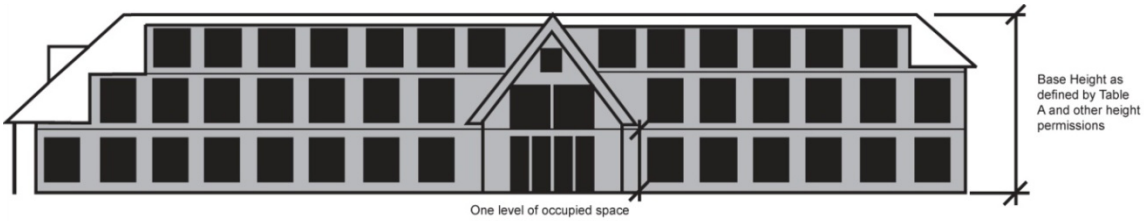
Source: Edgewood Companies 2012

Exhibit 3-12. **Alternative 1A: Lodge Section with Height Requiring TRPA Code Amendment**

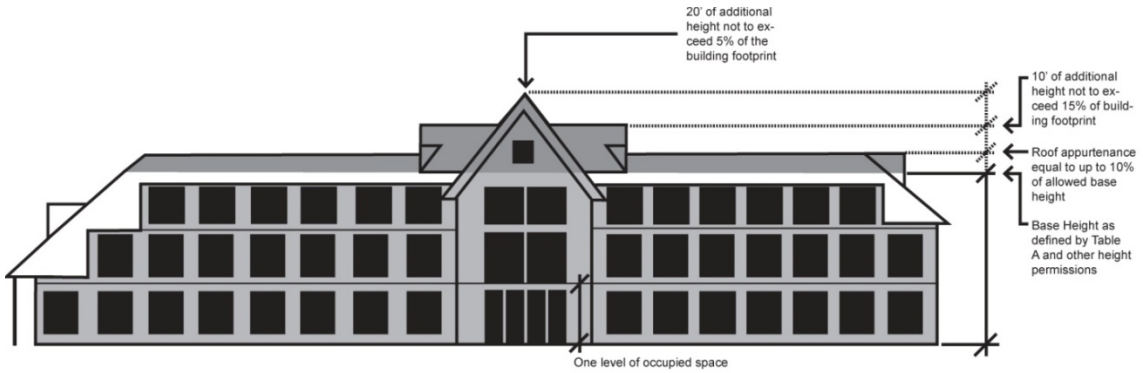


Source: Edgewood Companies 2012

Exhibit 3-13. **Alternative 1B: Lodge Section with Height Compliant with TRPA Code**



Existing Building Form Conforming to Base Height Limit



Application of the Additional Height for Design Improvement

Proposed Buildings Heights

With the exception of the lodge building under Alternative 1A, all of the proposed buildings are designed to comply with existing TRPA building height standards. Chapter 37, "Height," of the TRPA Code establishes height standards necessary to ensure attractive and compatible development. TRPA Code Sections 37.3 and 37.4 establish the maximum allowable heights of each building based on the building's purpose, the slope across each building site, the dominant roof pitch, and the lowest natural ground elevation; maximum building heights are set forth in Table 37.4.4-1 in Chapter 37 of the Code. The maximum allowable building heights and the proposed building heights are shown in Table 3-3, below.

TRPA Code Subsection 37.5.1 addresses additional building height, above 26 feet, as follows:

> Building heights greater than 26 feet may be approved if the project is in compliance with the standards in Section 66.1 "Scenic Quality Standards" and TRPA makes the findings specified below. If, in any case, the TRPA is unable to make the required findings, maximum building height shall be limited to that height for which the required findings can be made.
>
> **A. Additional Height for Roof Pitch of up to 5:12**
> Building height greater than 26 feet, up to the maximums set forth in Table 37.4.4-1 for a roof pitch of 5:12, may be approved if TRPA makes finding 1 as set forth in Section 37.7.
>
> **B. Additional Height for Roof Pitch Greater than 5:12**
> Building height greater than set forth in Table 37.4.4-1 for a roof pitch of greater than 5:12 may be approved for residential buildings if TRPA makes findings 1, 2, and 8 as set forth in Section 37.7, and for other buildings if TRPA makes findings 1, 2, 3, and 8 as set forth in Section 37.7.

The proposed parking structure would not exceed 26 feet in height and is consistent with the Table 37.4.4-1 maximum building heights. The proposed clubhouse expansion is consistent with the Table 37.4.4-1 maximum heights, but would exceed 26 feet in height and would require that TRPA make the following findings specified in Code Section 37.7:

Table 3-3. Alternative 1 – Proposed and Maximum Allowable Building Heights

Building	Proposed Roof Height (feet, inches)[1]	Slope Retained Across Individual Building Site (%)	Roof Pitch (rise/run)[2]	Table 37.4.1-1 Maximum Heights (feet, inches)	Maximum Building Height Allowed (feet)
Lodge					
Alternative 1A	60’	2%	8:12	34’ 1”	60’[3]
Alternative 1B	42’	2%	8:12	34’ 1”	42’[4]
Casita 1	37’ 11”	4%	13:12[5]	37’ 0”	38’[5]
Casita 2	38’ 5”	4%	13:12	37’ 0”	42’[4]
Casita 3	37’ 5”	0%	13:12	36’ 0”	38’[5]
Casita 4	37’ 2”	2%	13:12	36’ 6”	38’[5]
Casita 5	38’ 5”	4%	13:12	37’ 0”	42’[4]
Casita 6	38’ 5”	4%	13:12	37’ 0”	42’[4]
Casita 7	38’ 11”	4%	13:12	37’ 0”	42’[4]
Casita 8	38’ 5”	2%	13:12	36’ 6”	42’[4]
Casita 9	37’ 5”	2%	13:12	36’ 6”	38’[5]
Casita 10	38’ 5”	2%	13:12	36’ 6”	42’[4]
Clubhouse Expansion	40’	16%	12:12	40’ 0”	40’
Parking Structure	19’ 6”	4%	0:12	25’ 0”	25’

Notes:
Numbers are rounded to the nearest whole inch.
1. All heights calculated based on the difference between the point of lowest natural ground elevation along the exterior foundation of the structure and the elevation of the highest point of the structure.
2. Reflects dominant (greater than 50 percent of total roof surface) roof pitch.
3. Reflects the maximum building height with the TRPA staff initiated height amendment and new TRPA Code Subsection 37.5.8. Reflects roof plan design with 8.6 percent of the roof up to 10 feet above the current height limit, and 4.6 percent of the roof up to 20 feet above the current height limit.
4. Maximum building height allowed under TRPA Code Subsections 37.5.2(A) and 37.5.2(B).
5. Maximum building height allowed under TRPA Code Subsection 37.5.2(A).
Source: TRPA Code, Chapter 37, “Height”; Shaw, pers. comm., 2011; Edgewood Companies 2012.

37.7.1 Finding 1. When viewed from major arterials, scenic turnouts, public recreation areas or the waters of Lake Tahoe, from a distance of 300 feet, the additional height will not cause a building to extend above the forest canopy, when present, or a ridgeline. For height greater than that set forth in Table 37.4.4-1 for a 5:12 pitch, the additional height shall not increase the visual magnitude beyond that permitted for structures in the shoreland as set forth in Subsection 66.3.7, Additional Visual Magnitude, or Appendix H, Visual Assessment Tool, of the Design Review Guidelines.

37.7.2 Finding 2. When outside a community plan, the additional height is consistent with the surrounding uses.

37.7.3 Finding 3. With respect to that portion of the building which is permitted the additional height, the building has been designed to minimize interference with existing views within the area to the extent practicable.

37.7.8 Finding 8. The maximum height at any corner of two exterior walls of the building is not greater than 90 percent of the maximum building height. The maximum height at the corner of two exterior walls is the difference between the point of lowest natural ground elevation along an exterior of the wall of the building, and point at which the corner of the same exterior wall meets the roof. This standard shall not apply to an architectural feature described as a prow.

The proposed casitas and lodge building would exceed the Table 37.4.4-1 maximum building heights. Section 37.5 of the TRPA Code allows for additional height beyond the Table 37.4.4-1 maximum heights for

some buildings if certain conditions are met. For tourist accommodation buildings, additional height allowances are permitted under TRPA Code Subsections 37.5.2(A) and 37.5.2(B).

TRPA Code Subsection 37.5.2(A) allows up to an additional 4 feet of height (not to exceed 38 feet) for tourist accommodation buildings if TRPA makes the findings 1, 2, and 3 in Section 37.7. Four of the 10 casitas buildings (Casitas 1, 3, 4, and 9) are proposed at heights below 38 feet and would require only these findings.

Because the remaining six casitas buildings (Casitas 2, 5, 6, 7, 8, and 10) and the proposed lodge building would exceed 38 feet, TRPA Code Subsection 37.5.2(B) would also apply. TRPA Code Subsection 37.5.2(B) allows an increase in maximum height by one foot for each on-site reduction in land coverage equal to 5 percent of the base allowable coverage, or existing land coverage, whichever is greater, up to a limit of 4 additional feet, but not to exceed a maximum height of 42 feet. Subsection 37.5.2(B) also requires TRPA to make the findings 1, 2, 3, and 5 specified in TRPA Code Section 37.7. TRPA Code Subsection 37.7.5 reads as follows:

> **37.7.5 Finding 5**. That portion of the building which is permitted the additional height is adequately screened, as seen from major arterials, the waters of lakes, and other public areas from which the building is frequently viewed. In determining the adequacy of screening, consideration shall be given to the degree to which a combination of the following features causes the building to blend or merge with the background.
>
> (a) The horizontal distance from which the building is viewed;
> (b) The extent of screening; and
> (c) Proposed exterior colors and building materials.

To achieve an allowed height of 42 feet, 20 percent of the base allowable coverage for the project area must be retired. The project area has a base allowable coverage of 1,537,694 square feet. Consistent with TRPA Code Subsection 37.5.2(B), Edgewood Companies proposes to permanently retire 307,539 square feet of allowable coverage to meet the requirement and allow structures within the proposed lodge complex with the maximum allowed height of 42 feet. Subtracting the retired coverage (307,539) from the base allowable coverage (1,537,694) results in a base allowable coverage of 1,230,156 square feet for the project area.

Section 5.3, “Scenic Resources,” evaluates the scenic impacts of Alternatives 1A and 1B in terms of the required height findings described above.

Building Design/Leadership in Energy and Environmental Design (LEED)

The proposed project is designed to blend with the natural environment and to reflect Tahoe’s Alpine design style. The exterior colors and building materials, including natural stone and wood, are intended to blend with the natural surroundings and additional vegetative screening is proposed to blend the buildings with the existing landscape.

The U.S. Green Building Council (USGBC) is a non-profit organization with over 6,400 member organizations that include government agencies, builders, non-profits, professional firms, universities, and others, that is striving to transform the way buildings are designed, built, and operated. The USGBC encourages an environmentally and socially responsible, healthy, and prosperous built environment that improves the quality of life in communities. The USGBC has developed Leadership in Energy and Environmental Design (LEED®) Rating Systems (for categories such as New Construction, Commercial Interiors, Existing Buildings, Homes, Campuses) to determine whether structures meet sustainable criteria.

The LEED® Green Building Rating System is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings; it is a voluntary green building certification program that recognizes and rewards the nation’s top green home builders in terms of environmentally sound construction and community development. LEED® gives building owners and operators the tools needed to have an immediate and

measurable impact on their buildings' performance. Relative to conventional buildings, LEED-certified buildings use substantially less energy and reduce greenhouse gas emissions. They also create spaces that are healthy and comfortable for occupants. LEED® promotes a whole building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

The proposed project is being designed to achieve at minimum, a LEED® Silver rating from the USGBC. Through final design and construction, it is possible that the project may qualify a LEED Gold or Platinum rating. After discretionary project approval, a more detailed analysis would be performed by the project applicant team to determine whether or not it makes economic sense to attain a LEED Gold or Platinum rating. The project applicant is also evaluating the use of other green technologies (such as active solar panels and ground source heat pump systems) for the proposed project.

The proposed lodge and casita units constructed at the project site would utilize much less water and energy resources than the older TAU units removed from offsite locations and transferred to the project site (see discussion below under the header "Proposed Sources of Allocations, Development Rights, and Existing Development"). Based on information provided by the project applicant, it is expected that the proposed units would reduce electricity use by 32 to 50 percent, natural gas use by 26 to 60 percent, and water consumption by 40 to 55 percent relative to the original TAU units that would be transferred (Thiel, pers. comm., 2012). These reductions would result in a commensurate decrease in greenhouse gas emissions from energy consumption relative to the original TAU units.

SITE COVERAGE

As shown in Table 3-4, below, the existing base allowable land coverage for the project area is 1,537,694 square feet (35.3 acres). However, because a parcel or project area is entitled to the greater of its base allowable coverage or its legally existing (pre-1972) coverage, the permissible coverage for the project area is 1,719,311 square feet (39.5 acres). The difference in base allowable coverage and permissible coverage (181,616 square feet) is attributable to the total existing coverage in LCDs 1b and 3 that is above the base allowable (LCD 1b: 224,151 square feet – 42,662 square feet = 181,489 square feet; LCD 3: 2,225 square feet – 2,098 square feet = 127 square feet). The existing coverage in all other LCDs within the project area is less than the base allowable coverage amount. Additionally, as described above under "Building Heights and Elevations," Edgewood Companies would permanently retire approximately 307,539 square feet (7.1 acres) of LCD 5 coverage in association with the proposed heights for the project structures, which would incrementally reduce the amount of base allowable and permissible coverage available at the site.

The proposed project would create new coverage and remove, restore, relocate, and retire existing coverage. Proposed development would be concentrated on higher capability lands. As shown in Table 3-4, the proposed project would result in an overall net increase in physical on the ground coverage within the project area of approximately 134,217 square feet (3.1 acres), but would result in a net reduction in coverage at the site, when taking into account existing banked coverage on the site, of 35,988 square feet (0.8 acres). The project would result in a net reduction in coverage in LCD 1b primarily related to removal of the lakeside surface parking lot, lakefront residences, and small structures on the site and removal of unused cart path area. The total proposed physical on the ground coverage within the project area of 797,857 square feet (18.32 acres) would be well within the 1,230,156 square feet (28.24 acres) of resultant base allowable coverage and the 1,411,772 square feet (32.4 acres) of resultant permissible coverage (after retiring 7.1 acres of coverage in association with the proposed building heights). Overall, there would be 0.5 percent increase in total coverage within the project area.

Table 3-4. Existing and Proposed Project Land Coverage

Land Capability District (LCD)	Project Area by LCD (sf)	Base Allowable Land Coverage (%)	Base Allowable Land Coverage (sf)	Existing Physical Land Coverage (sf)	Existing Banked Land Coverage (sf)	Total Existing Land Coverage (sf)	Existing Land Coverage (%)	Proposed Relocated Land Coverage Across LCD (sf)	Permissible Land Coverage (sf)	Proposed Physical Coverage (sf)	Change in Land Coverage from Existing (sf)	Coverage Available for Banking (sf)	Coverage to be Retired for Additional Height (sf)	Resultant Base Allowable Land Coverage (sf)	Resultant Permissible Coverage (sf)
1b (SEZ)	4,266,178	1%	42,662	212,268	11,883	224,151	5.25%	0	224,151	164,686	(59,466)	59,466	0	42,662	224,151
3	41,950	5%	2,098	2,225	0	2,225	5.30%	0	2,225	2,225	0	0	0	2,098	2,225
4	44,251	20%	8,850	43	0	43	0.10%	0	8,850	43	0	0	0	8,850	8,850
5	4,484,248	25%	1,121,062	338,090	155,287	493,377	11.00%	(155,287)	965,775	323,473	(14,617)	14,617	307,539	813,523	658,236
6	359,859	30%	107,958	61,692	2,557	64,249	17.85%	0	107,958	55,390	(8,859)	8,859	0	107,958	107,958
7	850,217	30%	255,065	49,322	477	49,799	5.86%	155,287	410,352	252,040	46,954	0	0	255,065	410,352
Totals (sf)	**10,046,703**	**NA**	**1,537,694**	**663,640**	**170,204**	**833,844**	**8.30%**	**NA**	**1,719,311**	**797,857**	**(35,988)**	**82,942**	**307,539**	**1,230,156**	**1,411,772**
Totals (acres)	**230.64**	**NA**	**35.30**	**15.24**	**3.91**	**19.14**	**NA**	**NA**	**39.47**	**18.32**	**(0.83)**	**1.90**	**7.06**	**28.24**	**32.41**

Notes:
NA = not applicable
Source: Hill, pers. comm., 2012

TREE REMOVAL

In 2011, the project applicant completed a tree survey documenting all trees 14 inches diameter at breast height (dbh) or greater (which is the dbh below which trees may be removed without a TRPA permit) on the approximately 231 acres that constitute the project area (Edgewood Companies 2012). The tree survey documented a total of 4,637 trees greater than 14 inches dbh within the project area. The project applicant proposes to remove 540 trees that are 14 inches dbh or greater. Table 3-5 shows the total number of trees and the percentage of trees by diameter class to be removed as part of the proposed project.

Table 3-5. Proposed Tree Removal by Diameter Class

Tree Diameter at Breast Height (inches)	Existing	Proposed for Removal	Retained After Removal	% Removed
14" – 23 5/6"	2,924	388	2,536	13.3
≥ 24"	1,713	152	1,561	8.9
Total	**4,637**	**540**	**4,097**	**11.6**

Source: Edgewood Companies 2012

With limited exception, TRPA Code Subsection 61.1.4(A) prohibits the removal of trees greater than or equal to 24 inches dbh in eastside forest types within lands classified by TRPA as recreation land. TRPA Code Subsection 61.1.4(A)(11) allows private landowners to remove trees larger than 24 inches dbh in eastside forest types (i.e., forests within the Nevada side of the Region) provided the landowner follows one of the planning processes in TRPA Code Subsection 61.1.4(C). In accordance with this TRPA Code Subsection 61.1.4(C)(2), the project applicant has prepared a limited forest plan (Appendix C) that includes a description of the proposed harvest activities; management activities; an explanation of how thresholds, goals, and policies would be attained under the forest plan; and, the expiration date of the plan.

Trees potentially threatened by construction activities yet proposed to be retained would be protected prior to the initiation of demolition or construction activities, which would include fencing the trees outside their drip-lines and using other methods to protect and preserve their health.

CIRCULATION AND PARKING

As illustrated in the site plan for the proposed project (Exhibits 3-7 through 3-9), vehicle access to the project area would be via a single main roadway from Lake Parkway. The entrance roadway would be realigned from current conditions. Additional emergency access to the project area would be provided via an emergency access only entrance south of the main entrance along Lake Parkway. This entrance would remain gated except in the event of an emergency.

The proposed project would provide a total of 498 parking spaces, 438 of which would be located on site. New on-site parking would include 185 spaces included as part of the lodge complex, 230 valet spaces in the new two-story parking structure near the entrance on Lake Parkway, and 24 surface parking spaces. The existing 134-space lakefront parking lot would be removed. The off-site employee parking would include 60 spaces on Edgewood Companies' property east of Lake Parkway.

In effort to limit vehicle miles traveled within the Basin and promote visitor connection with the existing tourism core and Heavenly Gondola, the applicant has proposed a shuttle service. The proposed shuttle service would operate based on demand in a manner that would serve guest needs, but not result in unnecessary shuttle trips.

EMPLOYMENT PROJECTIONS

Edgewood Companies estimates the project would create 183 new full time or full time equivalent (e.g., two half time positions equal one full time position) positions. Table 3-6 describes the estimated type of employment opportunities and the estimated number of employees by classification.

Table 3-6. Alternative 1 – Anticipated–Employment

Employee Classification	Estimated # of Net New Employees
Administration	10
Full Service Restaurant	70
Beverage Lounge	7
Banquet	17
Retail/Library	3
Interval Ownership	4
Concierge	6
Spa/Fitness	11
Hotel	41
Physical Facilities	9
Grounds	5
Total	**183**

Source: Edgewood Companies 2012

UTILITIES

The proposed project would require new utility lines for water supply, sanitary sewer, fire flows, electricity, natural gas, telephone, and cable. All new utility lines would be placed underground. Existing overhead utility lines north and south of the clubhouse would be undergrounded as part of the project.

In accordance with Special Policy 9(d) of PAS 070A, a proposed tourist accommodation project located within Special Area #1 is required to identify a commitment of the water resources (supply) necessary for the project. The project area is within the service area of Edgewood Water Company (EWC), a subsidiary of Edgewood Companies. The EWC's primary and back-up water intake lines extend from the Edgewood Tahoe Golf Course property just north of the existing lakefront residences and pier into Lake Tahoe. EWC has submitted a Will Serve letter demonstrating excess water rights and sufficient resources to serve the proposed project (King, pers. comm., 2011).

The Douglas County Sewer Improvement District (DCSID) collects and treats wastewater for the project area. Using existing pumping facilities, wastewater would be pumped to the DCSID treatment facility in Round Hill, Nevada and eventually pumped over Kingsbury Grade to Carson Valley storage reservoirs as reclaimed effluent for use in part in Edgewood Companies' agricultural operations. DCSID has submitted a Will Serve letter acknowledging capacity to provide sanitary sewer service for the proposed project (Ikehara, pers. comm., 2011).

Electricity would be provided by NV Energy. Existing electrical lines cross the project area. NV Energy has submitted a Will Serve letter acknowledging the ability to provide electrical service for the proposed project (Picotte, pers. comm., 2011).

Natural gas would be provided to the project area by the Southwest Gas Corporation. Southwest Gas Corporation has submitted a Will Serve letter acknowledging the ability to provide natural gas services for the proposed project (Echeverria, pers. comm., 2011).

Solid waste disposal services at the project area would continue to be provided by South Tahoe Refuse. All materials collected, including garbage and recyclables, would be hauled to the materials recovery facility in South Lake Tahoe to be sorted. All non-recyclable material would be hauled out of the basin and disposed of at the Lockwood Landfill near Sparks, Nevada.

Charter Business would continue to provide local and long-distance phone services to the site and would also provide data and video services. Charter Business has submitted a Will Serve letter acknowledging the ability to provide these serves for the proposed project (Brooks, pers. comm., 2011).

3.4.2 PROPOSED SOURCES OF ALLOCATIONS, DEVELOPMENT RIGHTS, AND EXISTING DEVELOPMENT

The Edgewood Tahoe Golf Course property has two legally existing residential units of use (ERU) at the site; these include two single family lakefront residences located in the southwest corner of the project area. The existing restaurant and clubhouse building, and maintenance and pump house buildings are considered accessory to the Edgewood Tahoe Golf Course and have not been assigned units of use or other development rights such as commercial floor area.

The proposed residential lot line adjustment associated with the relocated residences would require that the existing ERUs be reassigned to the relocated lots after project approval.

Tourist accommodation uses and tourist accommodation units (TAUs) are defined in TRPA Code Chapter 90, as follows:

- **Tourist Accommodation:** Uses, facilities, and activities primarily pertaining to the occupation of buildings for eating, sleeping, and living on a temporary basis by persons whose permanent residence is elsewhere.
- **Tourist Accommodation Unit:** One bedroom, or a group of two or more rooms with a bedroom, with or without cooking facilities, primarily designed to be rented by the day or week and occupied on a temporary basis.

Because there are no existing TAU allocations within the project area, the proposed project would require that all of the TAUs be purchased and transferred from off-site locations to the project area. Each of the 194 proposed lodge and interval ownership units would require a TAU. TAUs would need to be purchased and transferred to the property through a TRPA transfer application in accordance with TRPA Code, Chapters 50 and 51. TAUs are banked on the deed of a property until transferred. At the time of NOP release (June 3, 2009), the project applicant had identified the sources of TAUs to include the Tahoe Beach & Ski Club located at 3601 Lake Tahoe Boulevard in South Lake Tahoe and the Chateau at Heavenly Village (Redevelopment Project 3) in South Lake Tahoe, and the balance of TAUs to come from Edgewood Companies Horizon Casino Resort property located across Lake Parkway. Since that time, Edgewood Companies has been considering redevelopment options or continued status quo operations for the Horizon property and plans to retain the TAUs on that site. In place of the previously pledged Horizon TAUs, Edgewood Companies has obtained other needed TAUs for the project from the former Colony Inn and C&M Lodge. Information on the source and location of TAUs for the proposed project are summarized in Table 3-7.

The City of South Lake Tahoe consented to the transfer of the TAUs associated with the Tahoe Beach & Ski Club (consent executed on May 10, 2007), Chateau at Heavenly Village (consent executed on August 1, 2007), and

Colony Inn (consent executed March 18, 2008) to locations outside of the City's jurisdiction prior to adoption of City Ordinance 1013 (effective June 18, 2010), which limits the circumstances under which a transfer of land use commodities outside the City are to be approved. The City Council unanimously approved the transfer of TAUs from the C&M Lodge property to the Edgewood Project Area, which is outside the City limits, on June 7, 2011 with the stipulation that Edgewood Companies construct a neighborhood park on the C&M parcel at 1209 Bonanza Avenue. This stipulation satisfies the intent of City Ordinance 1013, the purpose of which is to prohibit the transfer of TAUs to areas outside the City without the City receiving an economic, social or environmental benefit. The demolition of the existing structures on the C&M Lodge property and creation of a park has received discretionary approvals from TRPA and the City.

The proposed spa, wellness center, retail area, bar and restaurant, and parking garage would be considered accessory to the lodge, and subject to TRPA provisions that apply to accessory uses (TRPA Code Section 21.3), but would not require commercial floor area or TAU allocations. The public beach is intended to provide a recreational facility to beachgoers other than lodge guests, and is not, therefore, considered an accessory use. However, because the beach is an outdoor recreation area the only allocations it requires are "persons at one time" (PAOT) allocations. Section 5.4, "Recreation and Public Access," provides a detailed description of the process by which PAOTs may be assigned to the proposed public beach.

To be consistent with PAS 070A, Special Policy 9 A(2), and with Implementation Element, Goal # 3 of TRPA's Goals and Policies, Edgewood Companies was required to provide a description and assurance of the revegetation/restoration planned for the parcels from which the TAUs were transferred. If the land capability districts of the sending parcels were defined as high capability lands (land capability districts 4-7), then revegetation/restoration of the equivalent amount of land in areas with low capability (land capability districts 1-3) was required. Table 3-7 describes the LCDs of the TAU sending parcels and the restoration/revegetation planned either on- or off-site of the sending parcel.

Except for the Colony Inn parcel, all of the sending parcels were high capability lands, meaning off-site restoration of low capability land was required. To determine the required area of off-site low capability land restoration for the transfer of TAUs, Edgewood Companies calculated the total existing coverage of the sending parcel and divided by the total number of TAUs that currently exist or that had existed on the parcel (for several parcels the motel or hotel had already been demolished and TAUs were banked on site) (Hill, pers. comm., 2011b). This method assigned an equal amount of total coverage to each unit. This approach to calculating coverage per TAU assigns more coverage to each unit than each unit likely occupied on the site because total site coverage includes parking, hardscape, and other impervious areas – not just the building footprint. Once the average coverage per TAU was obtained, Edgewood Companies multiplied this average by the number of TAUs planned for transfer from the parcel. For example, the average coverage assigned to each TAU on the Carousel Motel property was 509.11 square feet. Edgewood Companies obtained approval to transfer 27 units from this site to the Edgewood Tahoe Golf Course. Multiplying 27 units by 509.11 square feet per unit equals 13,746 square feet, the area of low capability land Edgewood Companies was responsible for restoring to comply with PAS 070A Special Policy 9 for the Carousel Motel property.

Table 3-7. Alternative 1 – Proposed Project TAU Source Details

Description of retired property	Address	APN	No. of TAUs	Status	Land Capability District of Sending Parcel	Planned Re-use of Sending Parcel	Restoration Location and Square Feet of Restoration Required	Evidence Completed
Tahoe Beach & Ski Club	3601 Lake Tahoe Blvd, South Lake Tahoe, CA	027-040-33 (Formerly 027-040-21)	63	TAUs banked on the sending property. The 63 TAUs were allowed to be banked through the combining of rooms.	7	Tahoe Beach & Ski Club (less 63 units), still exists. Rooms were combined resulting in an excess of TAUs for the property. Edgewood has purchased the 63 excess units.	Off-site, 41,263 sf	SEZ restoration on Edgewood Tahoe Golf Course
Carousel Motel	Laurel Ave, South Lake Tahoe, CA	029-061-10	27	Two motels on site, Carousel Motel and Thunderbird Motel, were demolished to allow for construction of Redevelopment Project 3. The identified TAUs are in excess of those needed for Redevelopment Project 3, and are banked on the sending property.	5	Redevelopment Project 3	Off-site, 13,746 sf	SEZ restoration on Edgewood Tahoe Golf Course
		029-061-14			5			
Thunderbird Motel		029-061-08	20		5		Off site, 21,050 sf	
		029-061-13			5			
Colony Inn	3794 Montreal Road (west of Forest Suites Inn), Stateline, NV	029-441-04	34	Structures previous demolished. TAUs banked on the sending property.	5	Native SEZ & Upland restoration	On-site, 32,563 sf	Parcel restored (TRPA File ERSP 2009-3560)
					1b		On-site, 32,247 sf	
C&M Lodge	1209 Bonanza, South Lake Tahoe, CA	032-151-15	50	In June 2011 the South Lake Tahoe City Council approved Edgewood Companies' request to transfer 50 TAUs from the site to the project area and to replace the existing structure with a park (Bonanza Park) to be owned and managed by the City after completion. Park is expected to be constructed in 2012.	7	Conversion to a Neighborhood Park (Bonanza Park)	Off-site, 30,194 sf	SEZ restoration on Edgewood Tahoe Golf Course
Totals			**194**				**129,800 sf**	

Source: Data provided by Edgewood Companies in 2011

3.4.3 LAKE TAHOE ENVIRONMENTAL IMPROVEMENT PROGRAM (EIP) PROJECT IMPLEMENTATION

The Lake Tahoe Environmental Improvement Program (EIP) is a cooperative effort to preserve, restore and enhance the unique natural and human environment of the Lake Tahoe Region. The program defines restoration needs for attaining environmental goals or thresholds and, through a substantial investment of resources, increases the pace at which the thresholds will be attained. Key to this strategy is reliance upon partnerships with all sectors of the community, including the private sector, local, state and federal government. The EIP has several components, which make up a comprehensive strategy for restoration and improvements. The components include capital projects, research and science, program support and technical assistance, and operations and maintenance.

The EIP includes numerous projects on or in the vicinity of the Edgewood Tahoe Golf Course which have been identified to further attainment of TRPA's soil conservation/stream environment zone (SEZ), fisheries, and scenic thresholds. The proposed project implements, at least partially, the following EIP projects.

- **EIP Project 412: Edgewood Creek – Stateline CP Restoration Project.** The main element of this project is to restore 0.25 acres of naturally-functioning SEZ in Edgewood Creek and nearby tributaries. Target soil conservation threshold indicator is SC-2. This EIP project would be completed with implementation of Threshold Improvement Projects C and D.
- **EIP Project 413: Edgewood Creek – Golf Course Project.** The main element of this project is to restore 1.5 acres of the main channel of Edgewood Creek as it crosses the golf course. Target soil conservation threshold indicator is SC-2. This EIP project would be completed with implementation of Threshold Improvement Projects C and D.
- **EIP Project 414: Edgewood Creek – Stateline Avenue SEZ Restoration Project.** The main element of this project is to restore 0.5 acre of stream channel along the fairway of golf hole 8 extending from Lake Parkway to the main branch of Edgewood Creek. Target soil conservation threshold indicator is SC-2. This EIP project would be completed with implementation of Threshold Improvement Project A, as it relates to the restoration of Golf Course Creek.
- **EIP Project 506: Scenic Shore Unit #30 Edgewood Improvement Project.** The main element of this project is to add landscape screening and reduce clutter areas of concern, underground utility lines along the shoreline, and reduce contrast of lakefront structures. Target scenic threshold indicator is SR-1. The proposed project implements this EIP project within the project area boundaries.
- **EIP Project 656: Edgewood Creek 1st Reach Phase 1 – Stream Habitat Restoration Project.** The main elements of this project are intended to improve stream habitat by daylighting the creek above the mouth, removing the culvert at the outfall, removing the golf cart path bridge, and re-contouring and stabilizing banks. Target fisheries threshold indicator is F-2A. With the exception of removing the golf cart path bridge, this project would be completed with implementation of Threshold Improvement Projects C and D.

3.4.4 THRESHOLD IMPROVEMENT PROJECTS AND SEZ RESTORATION

The proposed project would include five improvement efforts intended to enhance natural resources and contribute to attainment of TRPA environmental threshold carrying capacities; these improvement efforts are referred to as "Threshold Improvement Projects." The Threshold Improvement Projects focus on improvements to water quality, vegetation, wildlife habitat, and SEZ (including riparian vegetation, soils, fisheries, and hydrology). Improving water quality in the project area is one of the primary goals of the Threshold Improvement Projects. The five Threshold Improvement Projects (A–E) include:

- A: Edgewood Lodge Stormwater Approach – best management practices for the lodge complex
- B: Water Quality Improvements to the Stateline Stormwater Association Pond System
- C: Edgewood Creek Improvements
- D: Friday's Station Dam Rehabilitation
- E: Edgewood Tahoe Golf Course Fertilizer Management Plan

None of the improvements associated with Threshold Improvement Projects B, C, and D are regulatory requirements, mitigation measures, or compliance requirements; they are voluntary improvements proposed by the Edgewood Companies as part of the overall project. Threshold Improvement Projects A and E would be required for implementation of the proposed project; however, these projects are proposed in a manner that exceeds current regulatory requirements.

The Threshold Improvement Projects are described below, including discussion of the following for each:

- Opportunities for Improvement
- Purpose and Objectives
- Proposed Components
- Anticipated Benefits

Detailed descriptions and plans for the Threshold Improvement Projects are provided in the *Edgewood Lodge and Golf Course Improvement Project – Threshold Improvement Project Quantification Report* (Nichols Consulting Engineers, et al. 2012). Exhibit 3-14 shows the locations of each Threshold Improvement Project.

THRESHOLD IMPROVEMENT PROJECT A: EDGEWOOD LODGE STORMWATER APPROACH

Threshold Improvement Project A would include the preparation and implementation of a comprehensive approach to managing stormwater that would include low-impact development design, multi-stage treatment, and preparation and implementation of a Stormwater Management Plan and a stormwater pollution prevention plan (SWPPP). Threshold Improvement Project A also would include the restoration of Golf Course Creek (shown on Exhibit 3-20 later in this section and described in greater detail in Section 5.6, "Hydrology and Water Quality").

OPPORTUNITIES FOR IMPROVEMENT

The proposed project is subject to stormwater quality and runoff regulations of the U.S. Environmental Protection Agency (EPA), the Nevada Department of Environmental Protection (NDEP), TRPA, and Douglas County. Because of the proximity of the project area to Lake Tahoe and Edgewood Creek, there is a heightened need for water quality protection in this location.

Golf Course Creek, which historically flowed adjacent to the east side of the area where the proposed lodge complex is proposed, is currently a sparsely vegetated, earthen ditch. The creek is in poor condition and does not provide the functions and values desired for an SEZ in the Lake Tahoe Basin (e.g., riparian vegetation, surface and subsurface hydrology, habitat for amphibians and birds).

Purpose and Objectives

The purpose of Threshold Improvement Project A is to not only meet and exceed existing water quality requirements, but to improve the quality of stormwater discharged from the developed areas of the property, resulting in substantial environmental gain. Specific objectives of Threshold Improvement Project A include the following:

- Meet and exceed existing TRPA infiltration and treatment requirements;
- Comply with Douglas County Design Criteria and Improvement Standards related to drainage;
- Reduce the overall pollutant load for sediment, fine sediment, phosphorus, and nitrogen using the PLRM comparing the pre-project condition to the post-project condition; and
- Increase the riparian area and improve the function of Golf Course Creek by:
  - Removing the flow path of Golf Course Creek from the existing linear ditch,
  - Restoring the natural creek form via a low-flow channel and floodplain,
  - Establishing riparian vegetation that does not impede golf course play, and
  - Providing a riparian buffer between the active channel and adjacent golf course turf and uses.

Proposed Components

Threshold Improvement Project A would include the following proposed components:

- **Low Impact Development (LID) design**: The proposed project design would integrate the principles of LID, such as limiting the extent of impervious cover, locating development on high capability land, separating stormwater runoff from different surface types, utilization of pervious pavers, and providing on-site detention and infiltration facilities for runoff from impervious areas. Under the LID design, the separation of flows from different surface types would allow for different and source-specific treatments of relatively high- and low-quality stormwater.

  Higher quality stormwater runoff associated with runoff from roofs, patios, decks, walkways, and paths would be infiltrated in vegetated drip line swales, vegetated basins, and vegetated swales, or would be allowed to sheet flow and infiltrate into landscaped and vegetated areas. Lower quality stormwater from roads and parking lots would receive multi-stage treatment (discussed below).
- **Multi-stage treatment**: Runoff from impervious surfaces associated with vehicles (low-quality runoff) would receive multi-stage treatment for the removal of pollutants of concern prior to its discharge to on-site detention/infiltration facilities or to constructed wetlands. The stormwater treatment design is focused on removing sediment (including the fine sediment fraction, 16 microns or less), nutrients (nitrogen and phosphorus), and oil and grease.
- **Stormwater Management Plan**: A comprehensive Stormwater Management Plan for the lodge complex and associated facilities has been prepared. The plan presents stormwater management objectives, identifies pertinent regulatory requirements, and includes a long-term operations and maintenance plan for the proposed stormwater facilities. (Note: this Plan is an appendix to the Threshold Improvement Project Quantification Report [Nichols Consulting Engineers, et al. 2012] and has been integrated into the Monitoring, Inspection, and Operations Plan described below.)
- **SWPPP**: A comprehensive SWPPP would be developed, implemented, and actively managed during all stages of construction. The SWPPP would follow NDEP and TRPA stormwater guidelines.

In addition, Golf Course Creek would be restored by creating a more natural channel morphology that can support a riparian vegetation community. Riparian buffers would be constructed to provide separation between the managed turf of the fairway and the primary channel of Golf Course Creek.

X10010039 01 029

Source: Nichols Consulting Engineers, et al. 2012

Exhibit 3-14. Proposed Threshold Improvement Projects A through D

ANTICIPATED BENEFITS

Implementation of Threshold Improvement Project A would result in a decrease in volume of stormwater runoff and a net reduction in pollutant loading under post-project conditions. The proposed improvements would collectively meet or exceed all regulatory requirements for water quality.

Under post-project conditions, the annual average loading of total suspended solids (TSS) and fine sediment particles less than 16 microns (FSP) are anticipated to be reduced by 56 percent and 55 percent, respectively. Proposed multi-stage treatment facilities for lower quality runoff would be sized to treat the peak discharge from a storm event having a 25-year recurrence interval (more than three times the flow rate generated by a 20-year, 1-hour storm event). The infiltration and detention facilities following treatment of lower quality runoff would be sized to detain and infiltrate more than 1.2 times the volume of lower quality runoff generated by a 20-year, 1-hour storm event. Infiltration and detention facilities for higher quality runoff would be sized to detain and infiltrate more than four times the volume of higher quality runoff generated by the 20-year, 1-hour storm event.

Restoration of Golf Course Creek would result in a net increase of 53,028 square feet (1.22 acres) of SEZ.

THRESHOLD IMPROVEMENT PROJECT B: WATER QUALITY IMPROVEMENTS TO THE STATELINE STORMWATER ASSOCIATION POND SYSTEM

Threshold Improvement Project B would improve water quality treatment efficiency, reduce overall pollutant loads, and increase riparian community complexity. Specifically, Threshold Improvement Project B proposes improvements to pond 6 (Project B1 on Exhibit 3-14), pond 10 (Project B3 on Exhibit 3-14), and the wetland area between these ponds (Project B2 on Exhibit 3-14) to improve the capture of fine sediment (16 microns or less) and nutrients (nitrogen and phosphorus). The ponds and wetland (also referred to as the pond and wetland system) currently function as the final treatment component of the Stateline Stormwater Association (SSWA) facilities prior to stormwater being discharged to pond 1 and Edgewood Creek. These improvements would also provide enhanced riparian and wetland vegetation communities.

OPPORTUNITIES FOR IMPROVEMENT

The Edgewood Tahoe Golf Course has a number of water features that were constructed to regulate irrigation water, improve aesthetics, and provide golf course water hazards. The existing pond and wetland system receives stormwater runoff from the highly urbanized casino corridor area in Stateline and has been shown to be effective at removing sediments, particularly course sands and silts; however, implementation of Threshold Improvement Project B would allow for more effective capture and removal of the fine-grained fraction. In addition, the areas adjacent to the ponds and the shallow pond edges are presently a mix of turf grass and cattails; this vegetation type has limited habitat value, ecological function, and ability to remove pollutants of concern. Ponds 6 and 10 have accumulated large amounts of sediment since their construction and would benefit from dredging to renew storage volume.

PURPOSE AND OBJECTIVES

The objectives of Threshold Improvement Project B include the following:

- Reduce the overall pollutant load of sediment, fine sediment, phosphorus, and nitrogen using the Lake Tahoe Basin PLRM;
- Improve the treatment efficiency of the pond system associated with the SSWA (pond 6, pond 10, and wetland) on the golf course by restoring storage volume and constructing wetlands in ponds 6 and 10,

increasing the size of the wetland between ponds 6 and 10, and providing filter strips or buffers around the ponds and wetland from adjacent managed turf;

- Dredge and remove accumulated sediments in ponds 6 and 10 to restore volume capacity; and
- Improve riparian and wetland vegetation communities by increasing plant diversity and complexity by:
  - Removing the existing mono-culture cattail vegetation community;
  - Developing a wetland grass and shrub community with sedges, rushes, and willows (where it does not inhibit golf play);
  - Increasing the density of wetland shrubs, particularly willows, in areas where it would not inhibit golf play, so as to deter geese from using the ponds, reducing manure in open water; and
  - Adding boulders and logs to pond edges to create habitat diversity and improve visual aesthetics.

Proposed Components

Threshold Improvement Project B would include the following proposed components:

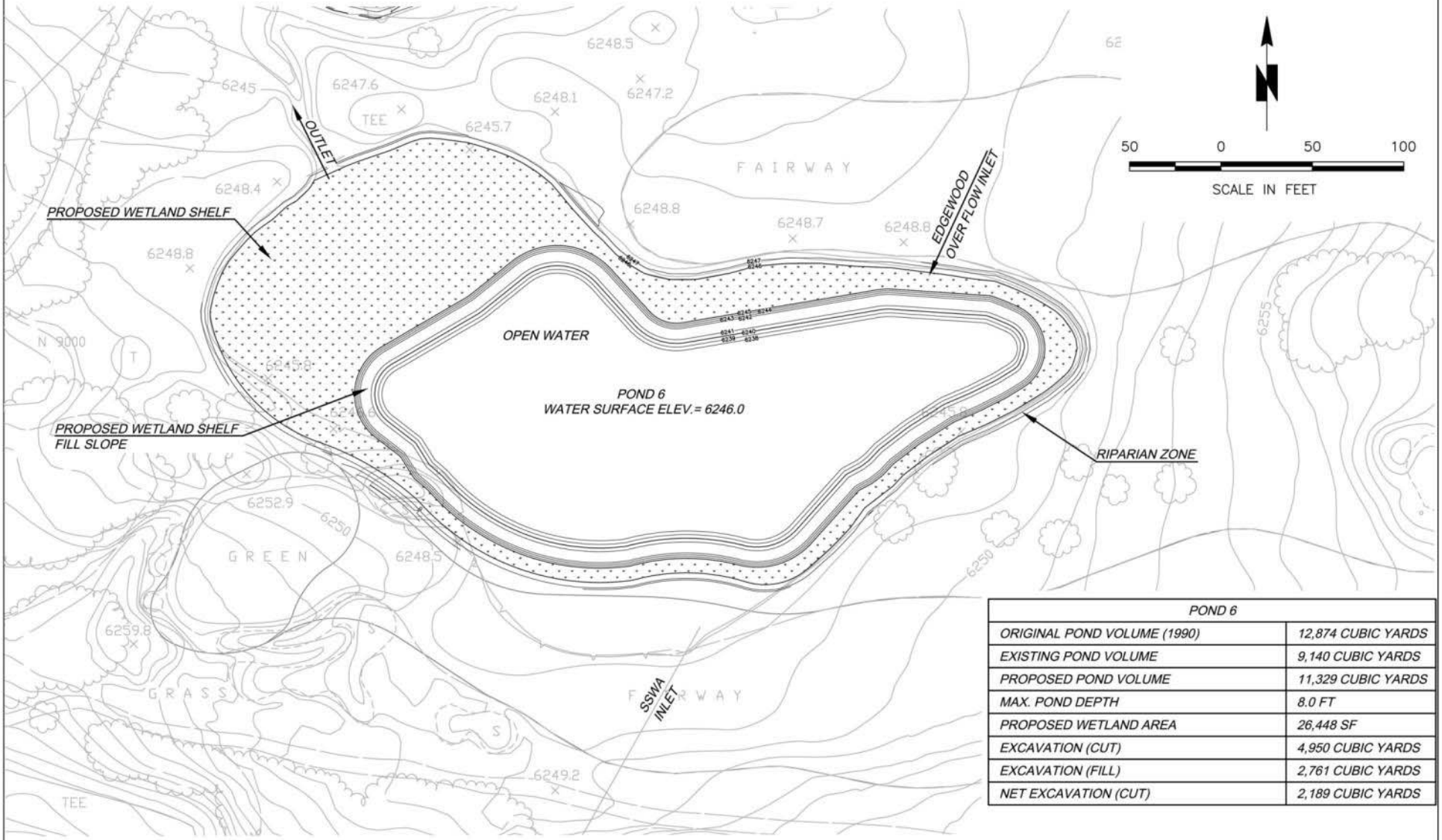
- Remove accumulated sediment to restore storage volume in ponds 6 and 10;
- Create wetlands at the outlet and along the perimeter of pond 6; and at the inlet, outlet, and along the perimeter of pond 10;
- Reconfigure and expand the existing wetland between ponds 6 and 10 to minimize deep water areas and maximize water-to-vegetation contact;
- Lengthen the general flow path between the inlet and outlet of the pond and wetland system to increase the hydraulic residence time (HRT) of stormwater in the pond and wetland system; and
- Remove the existing cattail-dominated vegetation community and replace with a native wetland grass (sedge and rush) and riparian shrub community.

Exhibits 3-15 through 3-17 show the proposed improvements to pond 6, pond 10, and the wetland area between the ponds, respectively.

Anticipated Benefits

The Lake Tahoe Basin Pollutant Load Reduction Model (PLRM), a modeling tool developed to evaluate the effects of stormwater on Lake Tahoe, predicts substantial reductions in sediment and nutrient loading to Edgewood Creek with implementation of Threshold Improvement Project B. Proposed water treatment features would result in a 33 percent reduction in TSS, 35 percent reduction in FSP, 25 percent reduction in total phosphorous (TP), 30 percent reduction in soluble reactive phosphorous (SRP), 12 percent reduction in total nitrogen (TN), and 18 percent reduction in dissolved inorganic nitrogen (DIN). Sediment capture is calculated at 424,000 lbs/year of TSS and 41,400 lbs/year of FSP under pre-project conditions and would increase by approximately 18 percent after implementation of Threshold Improvement Project B, increasing capture by 76,400 lbs/year for TSS and 7,800 lbs/year for FSP.

The proposed improvements associated with the pond and wetland system would also result in a net increase of 32,766 square feet (0.61 acre) of SEZ.

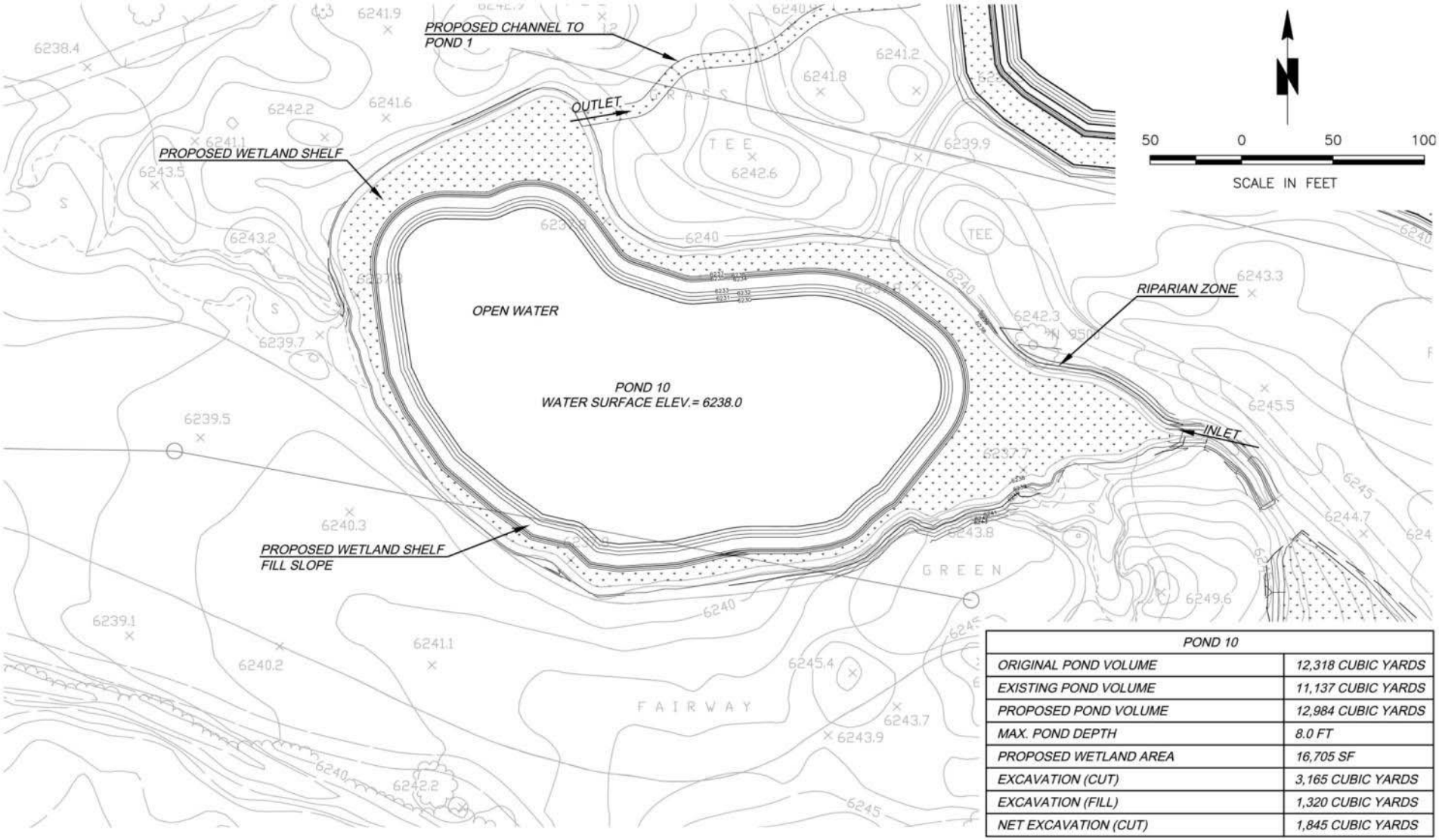


POND 6	
ORIGINAL POND VOLUME (1990)	12,874 CUBIC YARDS
EXISTING POND VOLUME	9,140 CUBIC YARDS
PROPOSED POND VOLUME	11,329 CUBIC YARDS
MAX. POND DEPTH	8.0 FT
PROPOSED WETLAND AREA	26,448 SF
EXCAVATION (CUT)	4,950 CUBIC YARDS
EXCAVATION (FILL)	2,761 CUBIC YARDS
NET EXCAVATION (CUT)	2,189 CUBIC YARDS

X10010039.01 024

Source: Nichols Consulting Engineers, et al. 2012

Exhibit 3-15. Threshold Improvement Project B: Proposed Pond 6 Improvements

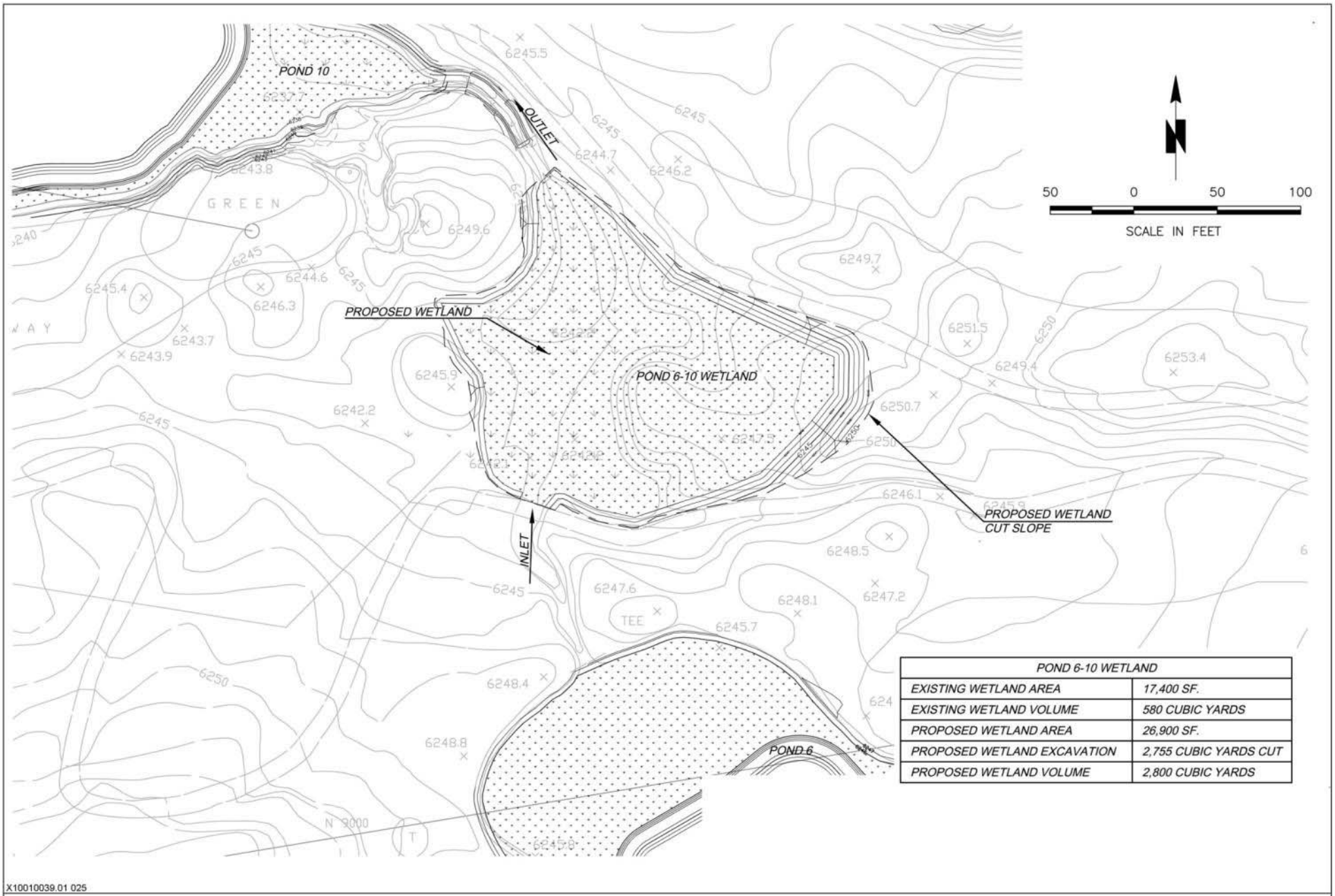


POND 10	
ORIGINAL POND VOLUME	12,318 CUBIC YARDS
EXISTING POND VOLUME	11,137 CUBIC YARDS
PROPOSED POND VOLUME	12,984 CUBIC YARDS
MAX. POND DEPTH	8.0 FT
PROPOSED WETLAND AREA	16,705 SF
EXCAVATION (CUT)	3,165 CUBIC YARDS
EXCAVATION (FILL)	1,320 CUBIC YARDS
NET EXCAVATION (CUT)	1,845 CUBIC YARDS

X10010039.01 026

Source: Nichols Consulting Engineers, et al. 2012

Exhibit 3-16. Threshold Improvement Project B: Proposed Pond 10 Improvements



POND 6-10 WETLAND	
EXISTING WETLAND AREA	17,400 SF.
EXISTING WETLAND VOLUME	580 CUBIC YARDS
PROPOSED WETLAND AREA	26,900 SF.
PROPOSED WETLAND EXCAVATION	2,755 CUBIC YARDS CUT
PROPOSED WETLAND VOLUME	2,800 CUBIC YARDS

Source: Nichols Consulting Engineers, et al. 2012

Exhibit 3-17. Threshold Improvement Project B: Proposed Wetland Improvements

THRESHOLD IMPROVEMENT PROJECT C: EDGEWOOD CREEK IMPROVEMENTS; AND THRESHOLD IMPROVEMENT PROJECT D: FRIDAY'S STATION DAM REHABILITATION

Threshold Improvement Project C proposes improvements to Edgewood Creek to improve bank stability, riparian vegetation, functional wetland area, and fish passage and spawning habitat. In addition, Threshold Improvement Project C proposes improvements to pond 1 to increase the capture of fine sediment (16 microns or less) and nutrients (including nitrogen and phosphorous, with a focus on dissolved nutrients) and dredging of pond 12.

Threshold Improvement Project D proposes improvements to Friday's Station dam and its outlet structure that would result in discharge from near the water surface rather than at the base of the dam to minimize the extent of sediment that passes downstream. Because of the connectivity of the ponds and wetlands along Edgewood Creek, evaluation of the water quality benefit of Threshold Improvement Projects C and D is best approached by viewing the system as a whole and the two projects together.

OPPORTUNITIES FOR IMPROVEMENT

Edgewood Creek, a perennial stream, flows through a series of ponds and wetlands on the Edgewood Tahoe Golf Course property before discharging to Lake Tahoe. In addition to the perennial flow in Edgewood Creek, Friday's Station pond and the other water features on the Edgewood Tahoe Golf Course receive urban stormwater runoff from U.S. 50 and State Route (SR) 207, the Kingsbury General Improvement District (KGID), the SSWA, and adjacent urban development.

The Friday's Station pond was drained in 2009 to sample accumulated sediment and to document existing conditions. The investigation revealed that sediment has accumulated up to the pond's existing outlet and has substantially reduced the pond's storage capacity. Based on visual observations during the draining of the pond, it is believed that sediment either passes through or, under high flow conditions, is likely to be scoured from the accumulated sediments.

Ponds 12, 1, 15, and 18 on the Edgewood Tahoe Golf Course and the Friday's Station pond were not originally constructed or operated to function as water quality BMPs and thus are not currently viewed, maintained, or regulated as such. However, as is evidenced by sediment accumulation, the ponds are providing a water quality benefit by capturing sediments before they reach Lake Tahoe. By implementing Threshold Improvement Projects C and D, additional water quality benefits could be realized as described below.

PURPOSE AND OBJECTIVES

The objectives of Threshold Improvement Projects C and D include the following:

- Improve the water quality treatment efficiency of the ponds and wetlands from Friday's Station pond along Edgewood Creek to Lake Tahoe through the following proposed measures:
  - Restore the storage volume of pond 1, pond 12, and Friday's Station pond through dredging and removal of accumulated sediment;
  - Construct wetlands at the inlets, outlet, and along the perimeter of pond 1;
  - Improve riparian and wetland vegetation communities by increasing community complexity by:
    - Removing the existing mono-culture cattail vegetation community;
    - Developing a wetland grass and shrub community with sedges, rushes and willows (where it does not inhibit golf play);

    - Increasing the density of wetland shrubs, particularly willows, in areas where it would not inhibit golf play with the intent of deterring geese from using the ponds and thereby reducing manure in open water; and
    - Adding boulders and logs to pond edges to create habitat diversity and improve visual aesthetics.
  - Remove pond 15 and reconstruct a creek channel and expanded riparian buffer in its place with habitat suitable for fish spawning;
  - Construct a new outlet structure that changes the outlet location to be closer to the surface of the pond, to reduce the potential for settled material to resuspend during peak flows and be transported downstream;
  - Expand the emergency spillway on Friday's Station dam to bypass the 100-year storm and prevent the dam from being overtopped by the 100-year event, which would also stabilize the emergency spillway and include energy dissipation devices in the spillway to reduce velocities of flow returning to the creek downstream of the dam; and
  - Increase the riparian buffer associated with Edgewood Creek, pond 12, and pond 1.
- Provide fish passage and create spawning habitat from Lake Tahoe to pond 1 (approximately 1,373 linear feet) during spring runoff at normal lake levels.

PROPOSED COMPONENTS

Threshold Improvement Project C consists of the following five component projects. The location of each is shown on Exhibit 3-14. Proposed improvements to ponds 1 and 12 are illustrated on Exhibits 3-18 and 3-19, respectively.

- **Project C1**: The section of Edgewood Creek from the outlet at Lake Tahoe to the existing location of golf hole 1 and golf hole 10 tees would be realigned and improved. A new section of channel would be constructed immediately south of pond 18, allowing the creek to bypass the pond itself and the culvert under the golf hole 18 fairway. A stable outfall, designed to allow fish passage, would be constructed to elevation 6225 feet above msl. The existing channel between pond 18 and the pond 1 and pond 10 tees would be realigned and the riparian buffer increased.
- **Project C2**: The alignment of Edgewood Creek in the tee areas of golf holes 1 and 10 would be modified, and wetlands would be constructed on both sides of Edgewood Creek and Golf Course Creek (Golf Course Creek flows into Edgewood Creek just above the tees on golf holes 1 and 10). The constructed wetland would provide an additional opportunity to capture and treat fine sediment and nutrients from Edgewood Creek and Golf Course Creek before discharging to Lake Tahoe. The creation of the wetland would also provide improved wildlife habitat and riparian vegetation.
- **Project C3**: Edgewood Creek from the tees on golf holes 1 and 10 to the outlet of pond 1 would be improved. The most important element of Project C3 is the elimination of pond 15. The pond is currently a stagnant water feature that is overrun with invasive vegetation and fish species. The pond would be filled and the invasive species removed. A new channel with a stable bed and banks and an expanded riparian buffer would be constructed in approximately the same location as the existing flow line. The channel would be designed to provide fish spawning habitat.
- **Project C4**: Ponds 1 and 12 would be dredged to remove accumulated sediment and wetlands would be created in pond 1 at the inlets, outlet, and along the perimeter. Currently, the pond provides detention of Edgewood Creek flows as well as stormwater from ponds 6 and 10, and has functioned as an effective sink for sediment. The purpose of the improvements would be to increase the ability of pond 1 to capture fine sediment (<16 microns) and dissolved nutrients. The shallow edges of the existing pond and adjacent areas are a mix of turf grass and cattails, which has limited habitat value, ecological function, and limited ability to

remove pollutants of concern. The proposed riparian and wetland vegetation would be superior in these functional areas.

- **Project C5**: The channel at the outfall from U.S. 50 would be stabilized and erosion on the banks above the outfall would be corrected. Excessive woody debris in the channel and adjacent areas would be removed to improve stream hydraulics and the vegetation community.

To support the regulatory review and permit approval processes for Threshold Improvement Project C, following certification of this EIS and a decision on project approval, the project applicant would develop the necessary hydrologic, hydraulic, and geomorphic design studies for regulatory review and approval. The studies would include the following types of information that may be required by applicable permitting agencies:

- Hydraulic design of the outlet at Lake Tahoe to demonstrate that the bed of the outlet structure would be stable through the full range of anticipated flood flows and that the structure is designed to protect against and limit potential scour due to waves and channel flows over the range of anticipated lake levels.
- Hydraulic design information for passage flows, velocities, depths, and timing criteria relative to proposed fish passage objectives.
- Hydraulic design information demonstrating channel and floodplain stability during a full range of flows, including all transitions in channel and floodplain types and widths.
- Hydraulic design information using allowable velocity or shear stress calculations to demonstrate the stability of placed bed materials.
- A maintenance and monitoring plan used to ensure that physical characteristics of the channel and lake outlet are consistent with the objectives of the project over the long term.

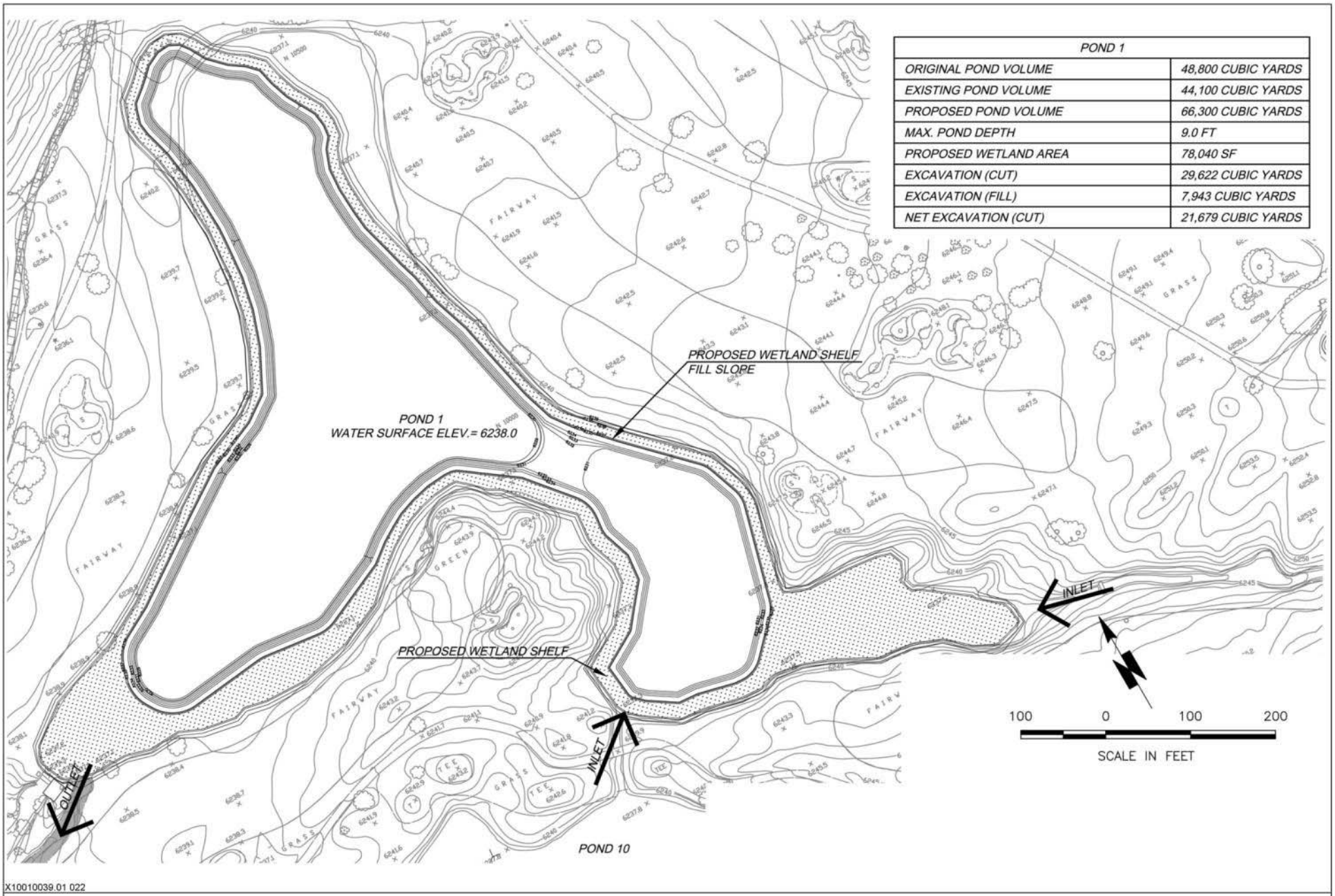
Threshold Improvement Project D would include the following proposed components associated with Friday's Station pond and dam:

- Modifications to the outlet structure that would result in discharge of water from near the water surface rather than the bottom of the pond, as currently configured. This would improve the pond's ability to capture fine sediment and reduce scour of collected sediment at the pond bottom.
- Expansion of the emergency spillway to ensure that sufficient capacity exists to pass the 100-year storm (1 percent chance of occurring in any given year), preventing the dam from being overtopped. This improvement would include erosion control devices to reduce velocities of the flow returning to the creek downstream of the dam.
- Dredging the pond to remove approximately 8,500 cubic yards (14,300 tons) of accumulated sediment, which would restore capture and storage capacity and increase the hydraulic residence time within the facility.
- Stabilization of the stream channel that enters the north side of the pond from the lower Kingsbury subdivision. This channel currently functions to convey storm water from adjacent developed areas across Edgewood Companies' property. The channel is incised with vertical slopes rendering it unstable and a likely contributor of sediment to Friday's Station pond.

Anticipated Benefits

Sediment accumulation rate calculations for pre-project conditions demonstrate capture rates of 340,639 lbs/year of TSS and 27,740 lbs/year FSP for the pond system. The post-project sediment capture rates, which apply an 18 and 19 percent improvement for Threshold Improvement Projects C and D, respectively, are 401,953 lbs/year of TSS and 33,010 lbs/year FSP.

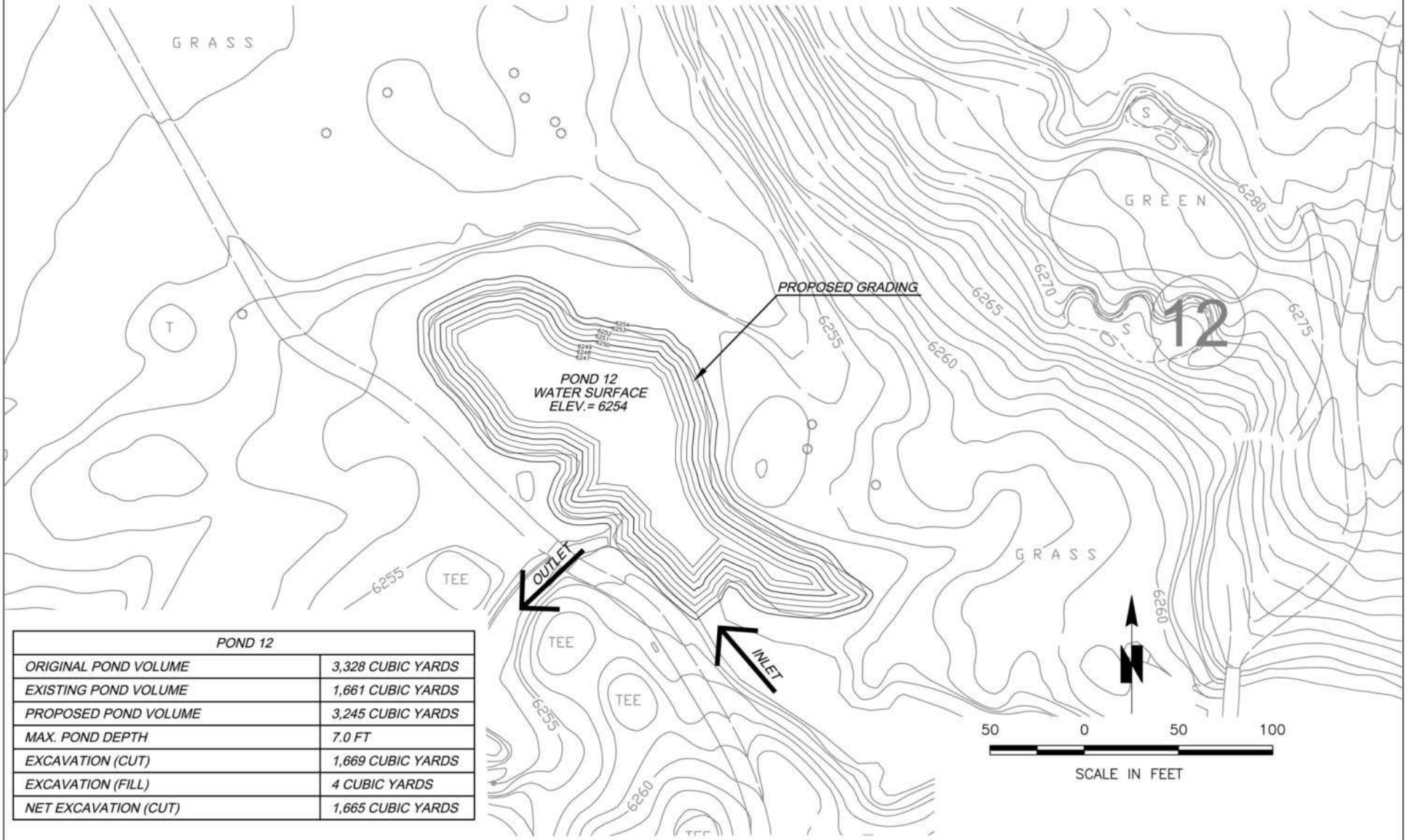
The proposed improvements associated with Threshold Improvement Projects C and D would also result in a net increase of 114,553 square feet (2.6 acres) of SEZ.



POND 1	
ORIGINAL POND VOLUME	48,800 CUBIC YARDS
EXISTING POND VOLUME	44,100 CUBIC YARDS
PROPOSED POND VOLUME	66,300 CUBIC YARDS
MAX. POND DEPTH	9.0 FT
PROPOSED WETLAND AREA	78,040 SF
EXCAVATION (CUT)	29,622 CUBIC YARDS
EXCAVATION (FILL)	7,943 CUBIC YARDS
NET EXCAVATION (CUT)	21,679 CUBIC YARDS

Source: Nichols Consulting Engineers, et al. 2012

Exhibit 3-18. Threshold Improvement Project C: Proposed Pond 1 Improvements



POND 12	
ORIGINAL POND VOLUME	3,328 CUBIC YARDS
EXISTING POND VOLUME	1,661 CUBIC YARDS
PROPOSED POND VOLUME	3,245 CUBIC YARDS
MAX. POND DEPTH	7.0 FT
EXCAVATION (CUT)	1,669 CUBIC YARDS
EXCAVATION (FILL)	4 CUBIC YARDS
NET EXCAVATION (CUT)	1,665 CUBIC YARDS

X10010039.01 023

Source: Nichols Consulting Engineers et al. 2012

Exhibit 3-19. Threshold Improvement Project C: Proposed Pond 12 Improvements

THRESHOLD IMPROVEMENT PROJECT E: EDGEWOOD TAHOE GOLF COURSE FERTILIZER AND POND MANAGEMENT PLAN

Threshold Improvement Project E would update and modify the existing Fertilizer Management Plan (FMP) for the Edgewood Tahoe Golf Course. The proposed FMP includes adaptive management strategies and pond maintenance commitments that would continue in perpetuity.

OPPORTUNITIES FOR IMPROVEMENT

Edgewood Tahoe Golf Course currently operates under an FMP that is prepared in accordance with Subsection 60.1.8, "Fertilizer Management," of the TRPA Code. The FMP addresses maintenance and monitoring activities at the golf course, and is updated annually to address ongoing water quality monitoring and any operational changes that have been made. With implementation of the proposed project, a revised and updated plan is proposed.

PURPOSE AND OBJECTIVES

The objective of Threshold Improvement Project E would include the following:

- Demonstrate Edgewood Companies' efforts to address and exceed the requirements of Subsection 60.1.8 of TRPA Code.

PROPOSED COMPONENTS

Threshold Improvement Project E includes the preparation and implementation of the FMP for the Edgewood Tahoe Golf Course. The FMP would follow the regulatory directives outlined in Subsection 60.1.8 of the TRPA Code, and describe maintenance and monitoring activities at the Edgewood Tahoe Golf Course. Exhibit 3-20 shows existing turf areas and FMP features. The proposed FMP, illustrated in Exhibit 3-21, addresses the following:

- Types and timing of fertilizer use – no change from current practice;
- Fertilizer application rate – evaluated on an annual basis in an adaptive management approach;
- Watering schedule and irrigation – Edgewood replaced the leaking irrigation system as part of a separate TRPA project application in 2009/2010 (excluding holes 7 ,8, and 9, pending relocation in accordance with Alternative 1);
- Areas retired from fertilizer application – Edgewood transferred 20 acres from golf play area to rough in 2009 as part of a separate TRPA project application in 2009. The proposed project would remove an additional 24 acres of turf from active fertilizer management;
- Areas incorporated as no-fertilizer buffer zones around creeks and ponds;
- Enhanced naturalized areas;
- Use of pond water for irrigation;
- Use of stormwater treatment from on- and off-site sources;
- Avoidance of water hazards;
- Pesticide use; and
- Water quality monitoring.

ANTICIPATED BENEFITS

Threshold Improvement Project E would result in the preparation of the FMP, which would be implemented during operation of the proposed project. The FMP includes a commitment by Edgewood Companies to maintain a reduction of 24 acres of golf course area from active turf management relative to the baseline condition. As such, the area removed from turf management practices would no longer be fertilized. In the baseline condition fertilized turf area associated with the golf course is 129 acres (Nichols Consulting Engineers et al. 2012). The commitment in the FMP would maintain fertilized turf area at roughly 105.5 acres.

SUMMARY OF THRESHOLD IMPROVEMENT PROJECTS

Table 3-8 summarizes the primary anticipated benefits of the Threshold Improvement Projects. Calculations and input assumptions of the analysis are explained in detail in the *Edgewood Lodge and Golf Course Improvement Project – Threshold Improvement Project Quantification Report* (Nichols Consulting Engineers et al. 2012).

Exhibit 3-22 shows the location of the proposed SEZ improvements.

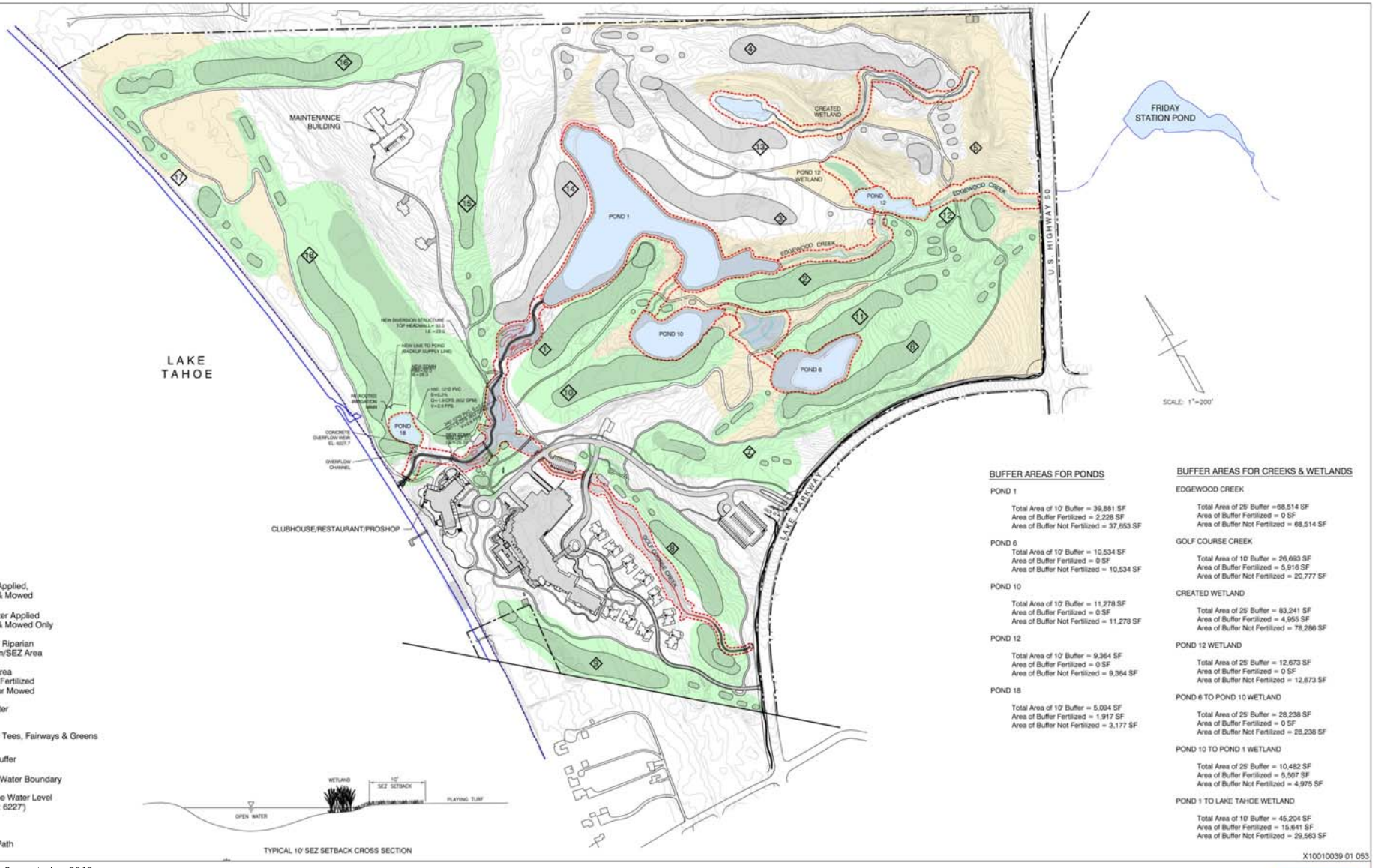
Table 3-8. Summary of Threshold Improvement Projects' Anticipated Benefits

Type of Improvement	Quantity of Improvement
Pollutant Reduction based on Lake Tahoe Basin Pollutant Load Reduction Model (PLRM)[1]	
Total suspended solids (TSS)	Net reduction of 6,744 lbs/year
Fine sediment particles less than 16 microns (FSP)	Net reduction of 4,742 lbs/year
Total nitrogen (TN)	Net reduction of 42 lbs/year
Total phosphorous (TP)	Net reduction of 16 lbs/year
Sediment Capture in Ponds 1, 6, 10, 12, and Friday's Station Pond[2]	
Total suspended solids (TSS)	Net additional capture of 76,396 lbs/year
Fine sediment particles less than 16 microns (FSP)	Net additional capture of 7,859 lbs/year
Water Quality Improvements	
Additional pond volume[3]	811,080 cubic feet
Additional functional wetland vegetation area	130,693 square feet
Increased hydraulic residence time (HRT)	55.2 hours
Stream Environment Zone (SEZ) Improvements	
New, restored, or improved SEZ	200,347 square feet
Fish Habitat Improvements	
New/improved fish spawning habitat	1,419 square feet
Edgewood Creek fish passage	1,373 linear feet

Notes:
[1] Pollutant loading results are a sum of PLRM outputs for both Threshold Improvement Projects A and B.
[2] Accounts for Sediment Capture in ponds 1, 6, 10, and 12, and Friday's Station pond.
[3] Accounts for ponds 6 and 10, the intervening wetland, pond 1, and pond 12.
Source: Nichols Consulting Engineers 2012

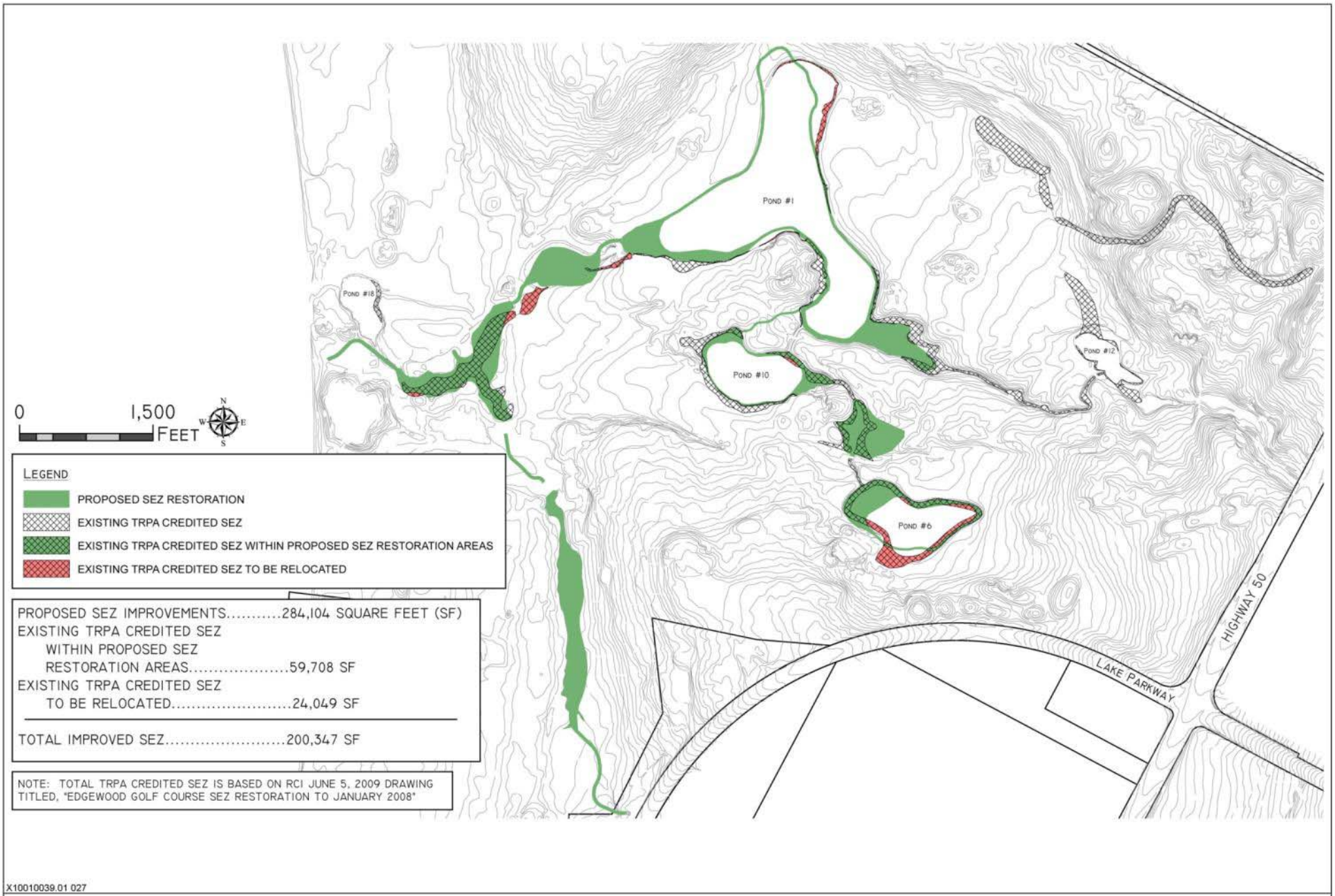
Source: Data provided by Resource Concepts, Inc. in 2010

Exhibit 3-20. **Existing (2009) Fertilizer Management Plan Areas and Setbacks**



Source: Resource Concepts, Inc. 2012

Exhibit 3-21 **Proposed Fertilizer Management Plan Areas and Setbacks**



Source: Nichols Consulting Engineers, et al. 2012

Exhibit 3-22. Threshold Improvement Projects: Proposed SEZ Improvements

3.5 MONITORING, INSPECTION, AND OPERATIONS PLAN

Edgewood Companies is committed to complying with all existing regulatory requirements that govern recreation and golf course facilities in the Lake Tahoe Basin. In addition, Edgewood Companies is committed to maintaining the function of the proposed project and its associated Threshold Improvement Projects. This will require inspection, operation and maintenance of both existing infrastructure and proposed improvements. For these reasons, Edgewood Companies has prepared a Monitoring, Inspection, and Operations Plan (MIOP) as part of the proposed project.

The purpose of the MIOP is to:

- Assemble and consolidate all documents related to the monitoring, inspection, operation, and maintenance of the golf course and the proposed project into a single, unified adaptive management manual;
- Provide guidance to and establish certain policies for the golf course maintenance staff;
- Implement a surface and groundwater monitoring program that would guide Edgewood Companies through current and future monitoring requirements; and
- Demonstrate Edgewood Companies' commitment to maintaining the function of the Threshold Improvement Projects.

The main body of the MIOP consists of the purpose and need, a description of the regulatory environment, and design approach. The main document also introduces the three components of the MIOP which include:

1) Golf Course Monitoring
2) Lodge Monitoring
3) Stormwater Inspection and Maintenance Plan for both the lodge complex and the golf course

In addition to the three existing groundwater monitoring wells at the site, the monitoring program includes the establishment of two additional wells (one between the fairway on golf hole 9 and Lake Tahoe and the other along the fairway on golf hole 18 in the area down gradient of the fairway, driving range, pond 1, and up gradient portions of the golf course).

Working in collaboration with TRPA, the project applicant also commits to revising the MIOP following project approval and prior to TRPA permit acknowledgement, to include adaptive management measures to control and limit the spread of invasive aquatic species. The adaptive management measures contained within a revised MIOP would identify target invasive species, control measures, timing, and removal techniques appropriate for the ponds and Edgewood Creek.

3.6 CONSTRUCTION SCHEDULE

Construction of the project would commence as soon as possible after project approval and acquisition of initial permits and would be completed over the course of at least 5 years as shown in Table 3-9 below. Initial construction is anticipated to begin in 2013, with final project completion anticipated for the fall of 2017. Construction activities would be continuous, except during winter months when activities may cease for a period of time. Construction staging would be established on the project area, on previously disturbed areas, and would be secured to prevent unauthorized access.

Construction activities would occur between 8:00 AM and 6:30 PM. On occasion, there may be a need for longer work hours to meet specific constructability issues that cannot otherwise be accomplished in the standard 8-hour work period. Such work would be coordinated with and require authorization by TRPA and Douglas County

as well as emergency service providers and any local residents that could be affected by construction activities outside of the established daytime hours. TRPA and Douglas County could impose conditions on construction outside of typical hours.

Construction equipment would be expected to include standard equipment such as haul trucks, backhoes, water trucks, and forklifts. Heavy equipment would primarily be used during Phase 1 of construction for site clearing and grading activities. Once the initial site clearing and grading is completed, most construction vehicles would be between ½ ton and ¾ ton in size. Lighter weight equipment (rubber tire excavators instead of more traditional track driven moving units) would be used whenever possible. In the SEZ area, landing mats that distribute the weight loads of the equipment would be used to reduce soil disturbance. The existing paved roads on the project area would be used and retained as long as possible during initial construction activities to reduce dust emissions.

Table 3-9 Proposed Project (Alternative 1) Construction Timeline

2013	2014	2015	2016	2017
〉 Construct remote parking structure 〉 Demolish existing single family homes 〉 Realign entry road 〉 Construct pedestrian path to beach 〉 Realign golf holes 7, 8 and 9 〉 Install utility site infrastructure 〉 Implement Threshold Improvement Project E (Fertilizer and Pond Management Plan) 〉 Construct Edgewood Creek improvements at U.S. 50 culvert outfall 〉 Implement pond 1 and pond 12 improvements	〉 Excavate for lodge building 〉 Grade site for Phase 1 of Edgewood Lodge 〉 Initiate construction of Clubhouse expansion 〉 Initiate construction of Edgewood Lodge, Phase 1 〉 Remove existing surface parking	〉 Continue construction of Edgewood Lodge, Phase 1 〉 Initiate construction of casita buildings 1, 2 and 3 〉 Continue construction of Clubhouse expansion 〉 Implement Threshold Improvement Project C (Edgewood Creek Enhancements) 〉 Implement Threshold Improvement Project A (Lodge Stormwater Management Plan [temporary and permanent BMPs])	〉 Complete construction of Edgewood Lodge, Phase 1 〉 Complete construction casita buildings 1, 2, and 3 〉 Complete construction Clubhouse expansion 〉 Operate Phase 1 〉 Implement Threshold Improvement Project C (Edgewood Creek Enhancements) 〉 Implement Threshold Improvement Project A (Lodge Stormwater Management Plan [temporary and permanent BMPs])	〉 Excavate and grade site for Edgewood Lodge, Phase 2 〉 Construct Edgewood Lodge, Phase 2 〉 Construct casita buildings 4, 5, 6, 7, 8, 9, and 10 〉 Implement Threshold Improvement Project B (Stateline Storm Water Improvements) 〉 Implement Threshold Improvement Project D (Friday's Station Pond and Dam Improvements)

Source: Edgewood Companies 2012

Construction access to the project area would be provided via Lake Parkway. Any partial street closures and traffic control would be coordinated with the Nevada Department of Transportation (NDOT) and the Douglas County Public Works Department, as necessary and local residents would be informed of potential traffic controls. Adequate emergency access would be provided at all times and local emergency service providers would be notified of any potential road closures or detours at least 48 hours in advance.

During construction, the project applicant anticipates that between 50 and 100 laborers would be working on various aspects of the project at any given time in the schedule. In addition, the project applicant anticipates that vendor deliveries of construction materials via large trucks would occur an average of 25 times per week.

Haul trips to export material and debris from the project area would occur primarily during Phase 1 of construction and demolition, with several large (20 cubic yard) truck trips per day. Edgewood Companies would strive to balance all excavated materials on site. Material hauled off site, if necessary, would be taken to an appropriate disposal/recycling facility outside the Tahoe Basin.

3.7 BEST MANAGEMENT PRACTICES

At Lake Tahoe, best management practices (BMPs) are defined as "alternative structural and nonstructural practices proven effective in soil erosion control and management of surface runoff in the Lake Tahoe Region" (TRPA Code Section 90.2). BMPs vary from site to site and include both temporary and permanent facilities. Temporary BMPs are typically implemented to minimize erosion on properties while construction activities (including soil disturbance) are underway; permanent BMPs are constructed as a means to minimize ongoing erosion on properties when they are no longer disturbed by active construction. The proposed project would include temporary and permanent BMPs for the protection of water quality.

Project construction would require soil disturbance at various locations on the project area, and would include clearing, excavating, filling, grading, compacting, tilling, driving piles (for pier construction) and removing accumulated sediments from golf course ponds. These activities would be necessary for the demolition of existing improvements and the construction of new facilities, including the following:

- building foundations;
- roadways, driveways, golf cart paths;
- walkways and patios;
- underground utilities;
- artificial ponds;
- pier;
- landscape improvements; and
- permanent BMPs and water quality improvements.

It is well documented that sediment and nutrients carried by stormwater runoff from disturbed land areas can have a significant adverse impact upon receiving waters, especially in the Lake Tahoe Basin where Lake Tahoe provides a sink for sediment and nutrients delivered to the Lake via tributary streams and other urban inputs. These pollutants have a very real impact upon Tahoe's water quality and clarity. It is also well documented that the implementation of temporary BMPs in areas where land disturbance is occurring can provide an effective means to mitigate potential adverse impacts to water quality resulting from construction activities. As part of the project permitting process, TRPA requires the submittal of temporary BMP plans for the project that depict the proposed layout and installation details for temporary BMPs to be employed during project construction. In addition, the proposed project would need to comply with Nevada Division of Environmental Protection (NDEP) Stormwater General Permit which requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which would include a comprehensive plan for temporary BMPs.

Temporary BMPs would be implemented during construction to prevent the discharge of sediment and nutrients to stormwater runoff from the project area. For the duration of project construction the following would be implemented:

- Temporary BMPs to prevent the transport of earthen materials and other construction waste materials from disturbed land areas during periods of precipitation or runoff, including: filter fence, fiber roll, erosion control blankets, mulch (pine needles, wood chips, etc.), temporary drainage swales and settling basins. Pre-grade inspection of temporary BMPs by TRPA staff would be conducted a minimum of 48 hours prior to

commencing construction activities to identify any inadequacies in the installation of temporary BMPs, and shutdown of grading operations would occur during inclement weather and between October 15 and May 1 (unless TRPA issues an exemption to the grading prohibition);

- Temporary BMPs to prevent the tracking of earthen materials and other waste materials from the project area to off-site locations including stabilized points of entry/exit for construction vehicles/equipment (designed to enhance the shedding of mud carried on equipment vehicles prior to their departure from the project area), and designated vehicle/equipment rinse stations;
- Temporary BMPs to prevent wind erosion of earthen materials and other waste materials from the project area including routine application of water to disturbed land areas and covering of stockpiles with plastic or fabric sheeting;
- Temporary BMPs to prevent the migration of earthen materials and other waste materials from disturbed land areas to existing storm drain facilities, including: fiber roll and/or gravel filled bags placed around grated inlets (drop inlet protection), chevrons constructed of gravel filled bags or fiber roll placed at regular intervals along existing curb and gutter to provide additional catchment of sediment carried in runoff, and broom sweeping (hand or mechanical) of earthen materials tracked onto paved areas that drain to existing storm drain facilities;
- Temporary BMPs to capture and contain pollutants from fueling operations, fuel storage areas, other areas used for the storage of hydrocarbon based materials, including secondary containment, oil absorbent booms and sheets for the cleanup of accidental spills, drip pans beneath construction equipment, training of site workers in spill response measures, immediate cleanup of spilled materials in accordance with requirements of the TRPA and the NDEP, proper disposal of waste materials at an approved off-site location licensed to receive such wastes;
- Temporary BMPs to capture and contain pollutants generated by concrete construction including lined containment for rinsate from concrete delivery trucks and equipment;
- Temporary BMPs to prevent damage to trees and other vegetation that are to remain after construction, including tree protection fencing and individual tree protection such as wood slats (2”x 4”x 8’) strapped to the trunks of trees and consistent with the proposed limited forest plan (Appendix C) ;
- Temporary BMPs for the isolation and diversion of surface waters within the project area (e.g., Edgewood Creek) through and around construction zones including temporary lined diversion channels and piping;
- Temporary BMPs for the containment of disturbed sediment associated with new pier construction including turbidity barriers and restricted beach access;
- Temporary BMPs for the containment of waste associated with pier demolition including netting/fabric installed below the pier deck to prevent waste materials from falling into Lake Tahoe; and
- Regular inspection and maintenance of temporary BMPs.

With respect to permanent BMPs, Threshold Improvement Projects A through E incorporate a variety of permanent structural and/or non-structural BMPs that are designed to ensure the long-term protection and improvement of water quality. The details of these projects are provided under “Threshold Improvement Projects and SEZ Restoration” earlier in this chapter.

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4 ALTERNATIVES

4.1 TAHOE REGIONAL PLANNING AGENCY REQUIREMENTS FOR ALTERNATIVES

In accordance with Article VII (a)(3) of the Tahoe Regional Planning Compact and Subsection 3.7.2 of the TRPA Code of Ordinances, this environmental document includes an analysis of alternatives to the proposed project that could feasibly attain the basic project objectives, review of a "no project" alternative, and discussion of alternatives considered but determined to be infeasible.

The alternatives described in this chapter include two alternative development proposals with varying development intensities and a "no project" alternative. These alternatives are evaluated in order to disclose to the public and decision-makers the environmental impacts of a range of alternatives, providing the lead agency with a reasoned choice. The analysis of Alternative 4, No Project Alternative, discusses existing conditions at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current golf course and clubhouse operations.

The development alternatives described herein and evaluated in detail in this EIS include a 230-unit lodge development (Alternative 2) and a 250-unit lodge development (Alternative 3). Alternative 2 reflects the project applicant's original project proposal reflected in its TRPA application submitted in 2008 and characterized as the proposed project in the Notice of Preparation (NOP) released on June 3, 2009. At that time, it was envisioned that the EIS would consider a reduced footprint alternative (210-unit lodge) and a maximum buildout alternative (250-unit lodge). Subsequent to the submittal of the original proposal to TRPA and completion of the EIS scoping process, the project applicant, in consultation with TRPA staff, investigated a further reduced project alternative consisting of the current 194-unit lodge proposal (Alternative 1) described in detail in Chapter 3, "Project Description." The project applicant thereafter substituted this 194-unit reduced project alternative as the proposed project.

This section also includes a description of alternatives considered but eliminated from detailed evaluation, and the rationale for their elimination.

4.2 ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Alternative 2 would result in the construction of a lodge complex featuring all of the accessory uses and amenities included as part of the proposed project (Alternative 1). However, Alternative 2 would increase by 36 units the number of tourist accommodation units (TAUs) associated with the lodge complex, for a total of 230 units – 123 hotel-type units and 107 interval ownership (Timeshare [Residential Design]) units. These units would be accommodated in six buildings: the main lodge, an annex building, a small lodge, and three casitas buildings with four interval ownership units per building. The Alternative 2 lodge complex would include the following components (Exhibit 4-1). The similarities and differences between Alternative 2 and the proposed project (Alternative 1) are also noted below.

- A tourist accommodation complex of six buildings and the following accessory uses similar to Alternative 1: wellness center with spa and fitness program facilities, a restaurant and bar area, and banquet/conference space. The lodging complex would include guest and employee parking, including a remote two-level parking structure near the entrance on Lake Parkway (the same as Alternative 1), parking within the annex building, a surface parking lot, and off-site employee parking. However, Alternative 2 involves larger amenity areas and a larger footprint than Alternative 1.

- Expansion of the South Room at the existing golf course clubhouse – the same as Alternative 1.
- Relocation of two existing lakefront single-family lots to higher capability lands on the property at a location setback further from Lake Tahoe than their current location – the same as Alternative 1.
- A new public beach area accessed from Lake Parkway via a non-motorized, shared-use (bicycle and pedestrian) pathway – the same as Alternative 1.
- Removal of the existing pier and reconstruction, redesign, and expansion of the pier at a new location on the project site – similar to Alternative 1. The pier design and dimensions would be the same as Alternative 1; however, with Alternative 2 the pier would be reconstructed in the location of the existing pier at the southern end of the shoreline within the project area.
- Golf course realignment and cart path modifications and improvements – similar to Alternative 1 with some variations in path design to accommodate the modified building footprint associated with Alternative 2.
- A set of environmental threshold improvement projects – same as Alternative 1, except as it relates to Threshold Improvement Project A where the stormwater system would be slightly different based on the building footprint associated with Alternative 2.

As with Alternative 1, Alternative 2 would be designed to achieve at minimum, a LEED® Silver rating from the USGBC, and would include a shuttle service and utility improvements associated with the lodge complex. The same Monitoring, Inspection, and Operations Plan (MIOP), and best management practices that are part of Alternative 1 would also apply to Alternative 2.

4.2.1 ALTERNATIVE 2 CHARACTERISTICS

LODGE COMPLEX

Alternative 2 would result in construction of a 230-unit lodge complex with the following features:

- The total gross program area (including structured parking) for Alternative 2 is 436,393 square feet
- Approximately 864,343 square feet (19.84 acres) of impervious coverage
- A main hotel/lodge building that includes:
  - A pool terrace on its lake side
  - First floor uses that include: an approximately 14,000-square foot spa and wellness center, locker rooms, storage areas, waiting areas, administrative areas, employee facilities, and five hotel units
  - Second floor uses that include: an approximately 4,500-square foot bar and restaurant, approximately 10,000 square feet of banquet and meeting space (the banquet space would have a capacity of 500 seats), a library/lounge area, great room, office space, retail space, a banquet room, and 33 hotel units
  - 37 hotel and 10 interval ownership units on the third floor
  - 21 hotel and 10 interval ownership units on the fourth floor
- An annex building that includes:
  - 126 subsurface parking spaces on its first floor
  - 19 interval ownership units on the second floor
  - 27 hotel and 10 interval ownership units on the third floor
  - 13 interval ownership units on the fourth floor
- A small lodge that includes 33 interval ownership units on its three floors
- Three casitas buildings with four interval ownership (Timeshare [Residential Design]) units each
- Two pavilion areas – one located between the main lodge building and the annex building and the second just east of the northernmost casita building

Source: Edgewood Companies 2011a

Exhibit 4-1. **Site Plan – Alternative 2, 230-Unit Development**

Table 4-1 summarizes development details associated with the TAUs for each building, including total square footage, the proposed number of stories, the unit count by unit type, and average size per unit type. The total number of bedrooms proposed under Alternative 2 is 356. The average unit size under Alternative 2 is approximately 1,077 square feet compared to Alternative 1, where the average unit size is approximately 767 square feet. The difference in the average unit size between Alternatives 1 and 2 is due to the percentage of multiple bedroom units that make up each program. Alternative 2 is comprised of 53 percent multiple bedroom units and 47 percent hotel rooms. Alternative 1 is comprised of 21 percent multiple bedroom units. Under Alternative 2, hotel units would not include kitchens, but each of the multiple bedroom units would include a kitchen.

Table 4-1. Alternative 2: TAU Unit Detail

	Total Units	Hotel Units	Interval Ownership Units	Total (sf)
4-story Hotel (Main Lodge)	**116**	**96**	**20**	
Average Unit Size (sf)		559	1,995	
Net Size (sf)		53,709	39,904	93,613
4-story Annex	**69**	**27**	**42**	
Average Unit Size (sf)		513	1,605	
Net Size (sf)		13,852	67,425	81,277
3-story Lodge	**33**	**0**	**33**	
Average Unit Size (sf)		NA	1,559	
Net Size (sf)		NA	51,462	51,462
2-story Casitas 1, 2, and 3	**12**	**0**	**12**	
Average Unit Size (sf)		NA	1,781	
Net Size (sf)		NA	21,372	21,372
Total	**230**	**123**	**107**	**247,724**

Source: Edgewood Companies 2011a

As with Alternative 1, Alternative 2 would also include:

- Remodeling the existing Edgewood Water Company pump house.
- Removal of the existing golf course snack bar and restroom building.
- Realigning the entrance to the property off of Lake Parkway and construction of a small gatehouse.

Building Heights

As with Alternative 1, all of the Alternative 2 buildings would comply with TRPA building height standards. TRPA Code of Ordinances Subsection 37.3.1 establishes the maximum allowable heights of buildings based on the slope of the project area and pitch of the proposed building roofs. The maximum allowable building heights and the proposed building heights for Alternative 2 are shown in Table 4-2, below. The height amendment for the lodge building under Alternative 1 does not apply to Alternative 2.

Table 4-2. Alternative 2: Proposed and Maximum Allowable Building Heights					
Building	Proposed Roof Height (feet, inches) [1]	% Slope Retained Across Individual Building Site	Roof Pitch (rise/run) [2]	Table A Maximum Heights (feet, inches)	Maximum Building Height Allowed (feet)
Main Lodge (Hotel)	42'-0"	2%	8:12	38'-0"	42'
Annex	42'-0"	2%	8:12	38'-0"	42'
Small Lodge	42'-0"	4%	14:12	38'-0"	42'
Casita 1	35' 5"	0%	14:12	38'-0"	42'[3]
Casita 2	35' 5"	2%	14:12	38'-0"	42'[3]
Casita 3	35' 5"	2%	14:12	38'-0"	42'[3]
Clubhouse Expansion	40'	16%	12:12	40' 0"	40'
Parking Structure	19' 6"	4%	0:12	25' 0"	25'

Notes:
1. All heights calculated based on the difference between the point of lowest natural ground elevation along the exterior foundation of the structure and the elevation of the highest point of the structure.
2. Reflect dominant (greater than 50% of total roof surface) roof pitch
3. Maximum building height allowed under TRPA Code Subsections 37.5.2.(A) and 37.5.2(B)
4. Maximum building height allowed under TRPA Code Subsection 37.5.2(A).
Sources: TRPA Code of Ordinances, Chapter 37, "Height"; Edgewood Companies 2011b

Tree Removal

As with Alternative 1, Alternative 2 would require the removal of on-site trees. Table 4-3 shows the total number of trees and percentage of trees by diameter class to be removed as part of Alternative 2. Alternative 2 would result in the removal of approximately 568 trees, 28 more trees than for Alternative 1 (proposed removal of 540 trees).The limited forest plan (Appendix C) prepared for the proposed project (Alternative 1) would also apply to Alternative 2.

Table 4-3. Alternative 2: Tree Removal by Diameter Class				
Tree Diameter at Breast Height (inches)	Existing	Proposed for Removal	Retained After Removal	% Removed
14" – 23 5/6"	2,924	397	1,542	13.6%
≥ 24	1,713	171	2,527	10.0%
Total	**4,637**	**568**	**4,069**	**12.2%**

Source: Edgewood Companies 2011a

Trees potentially threatened by construction activities associated with Alternative 2 yet proposed to be retained would be protected prior to the initiation of demolition or construction activities, which would include fencing the trees outside their drip-lines and using other methods to protect and preserve their health.

Circulation and Parking

Vehicle access to and circulation within the project area under Alterative 2 would be similar to that of the proposed project (Alternative 1). Vehicle access to the project area would be via a single main roadway from Lake Parkway. The entrance roadway would be realigned from current conditions. The major difference between Alternative 1 and 2 with respect to circulation relates to location of parking spaces within and near the lodge complex. Alterative 2 would provide for 504 parking spaces; 444 located on-site, and would include

removal of the existing 134-space lakefront parking lot. New parking would include: 88 surface parking spaces in a single lot adjacent to the north of the main lodge building; 126 subsurface parking spaces on the first floor of the annex building; and 230 valet spaces in the new two-level parking structure near the site entrance from Lake Parkway. Sixty (60) of the existing spaces on the Horizon property (owned by Edgewood Companies) would be retained as employee parking.

EMPLOYMENT PROJECTIONS

Under Alternative 2, the lodge complex would have 356 bedrooms of varying sizes. Assuming occupancy of one to two people per bedroom of any given TAU unit, the maximum occupancy of overnight guests for the Alternative 2 lodge complex would be between 356 and 712 people. This is between 100 and 200 more overnight guests than would likely be accommodated with the proposed project (Alternative 1). Staffing requirements for operation of the lodge complex and grounds would likely increase over that for Alternative 1 (Table 3-6 in Chapter 3, "Proposed Project"); however, the increase would not be commensurate with the additional overnight guests as many of the positions are based on needs other than serving the lodge complex overnight population. For instance, the same number of groundskeepers would likely be required under any of the action alternatives. Similarly, the size of the restaurant, not the capacity of the lodge, would dictate the likely maximum number of servers required. Edgewood Companies estimates that 183 net new full time jobs would be created with implementation of Alternative 1, once the complex is built-out. Using this estimate as a baseline, it is reasonable to assume that as many as 200 people may be employed during peak season operation under Alternative 2. The general classifications of jobs available (administration, bar, banquet, retail/library, interval ownership, concierge, spa/fitness, hotel, physical facilities, and grounds) would be the same with Alternative 2 as with Alternative 1.

4.2.2 SOURCES OF ALLOCATIONS, DEVELOPMENT RIGHTS, AND EXISTING DEVELOPMENT

As described in Chapter 3, "Project Description," there are no existing TAU allocations within the project area; therefore, all units proposed under any of the action alternatives would require the purchase and transfer of TAUs from off-site locations. With Alternative 2, all of the 194 TAUs identified for the proposed project (Alternative 1) would be used (see Table 3-7 in Chapter 3, "Project Description"). The source(s) of the remaining 36 TAUs has not been identified, except that the project applicant has indicated that they would likely be purchased and transferred from properties within the City of South Lake Tahoe. If Alternative 2 were approved and carried forward for implementation, the sources of the remaining 36 TAUs would need to be identified and transferred to the property as a condition of TRPA permit issuance. Special Policy 9(a)(2) of PAS 070A applies equally to the proposed project and Alternative 2, and therefore the project applicant would need to provide a description and assurance of the revegetation/restoration planned for the parcels from which the remaining TAUs were transferred (Section 3.4.2, "Proposed Sources of Allocations, Development Rights, and Existing Development"). Because these elements of the project are described in detail in Chapter 3, "Project Description," they are not described at length in this chapter.

4.3 ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Like Alternatives 1 and 2, Alternative 3 would result in the construction of a lodge complex featuring all of the accessory uses and amenities described in Alternative 1. Alternative 3, the maximum buildout alternative, would be based on the maximum number of TAUs allowed by Special Area #1 in PAS 070A, which is 250 units. Of these, 127 would be hotel-type units and 123 would be interval ownership units. Similar to Alternative 2, the hotel complex under Alternative 3 would be composed of six buildings: the main lodge, an annex building, a small

lodge, and three casita buildings. The footprint of the lodge complex with Alternative 3 would the same as Alternative 2, except that the small lodge building would be slightly larger on its southern end with Alternative 3 to accommodate additional TAU units. Also, with Alternative 3 the small lodge building would be four stories as compared to the 3-story building proposed with Alternative 2 and the average TAU unit size in the main lodge, annex building, and small lodge would be smaller with Alternative 3 than Alternative 2. The Alternative 3 lodge complex would include the following components (Exhibit 4-2); similarities and differences between Alternative 3 and the proposed project (Alternative 1) are noted below:

- A tourist accommodation complex of six buildings and the following accessory uses similar to Alternative 1: wellness center with spa and fitness program facilities, a restaurant and bar area, and banquet/conference space. The lodging complex would include guest and employee parking, including a remote two-level parking structure near the entrance on Lake Parkway (the same as Alternative 1), parking within the annex building, a surface parking lot, and off-site employee parking.
- Expansion of the South Room at the existing golf course clubhouse – the same as Alternative 1.
- Relocation of two existing lakefront single-family lots to higher capability lands on the property at a location setback further from Lake Tahoe than their current location – the same as Alternative 1.
- A new public beach area accessed from Lake Parkway via a non-motorized, shared-use (bicycle and pedestrian) pathway – the same as Alternative 1.
- Removal of the existing pier and reconstruction, redesign, and expansion of the pier at a new location on the project site – similar to Alternative 1. The pier design and dimensions would be the same as Alternative 1; however, with Alternative 3 the pier would be reconstructed at a location approximately 236 feet north of the location of the existing pier, southwest of the proposed event lawn.
- Golf course realignment and cart path modifications and improvements – similar to Alternative 1 with some variations in path design to accommodate the modified building footprint associated with Alternative 3.
- A set of environmental threshold improvement projects – same as Alternative 1, except as it relates to Threshold Improvement Project A where the stormwater system would be slightly different based on the building footprint associated with Alternative 3.

As with Alternatives 1 and 2, Alternative 3 would be designed to achieve at minimum, a LEED® Silver rating from the USGBC, and would include a shuttle service and utility improvements associated with the lodge complex. The same Monitoring, Inspection, and Operations Plan (MIOP), construction schedule, and best management practices that are part of Alternative 1 would also apply to Alternative 3.

4.3.1 ALTERNATIVE 3 CHARACTERISTICS

LODGE COMPLEX

Alternative 3 would result in the construction of a 250-unit lodge complex with the following features:

- The total gross program area (including structured parking) for Alternative 3 is 457,169 square feet
- Approximately 865,546 square feet (19.87 acres) of impervious coverage
- A main hotel/lodge building that includes:
  - A pool terrace on its lakeside
  - First floor uses that include: an approximately 14,000-square foot spa and wellness center, locker rooms, storage areas, waiting areas, administrative areas, employee facilities, and eight hotel units

Source: Edgewood Companies 2011a

Exhibit 4-2. **Site Plan – Alternative 3, Maximum Buildout Development (250 Units)**

- Second floor uses that include: an approximately 4,500-square foot bar and restaurant, approximately 10,000 square feet of banquet and meeting space (the banquet space would have a capacity of 500 seats), a library/lounge area, great room, office space, retail space, a banquet room, and 34 hotel units
- 37 hotel and 10 interval ownership units on the third floor
- 21 hotel and 10 interval ownership units on the fourth floor

- An annex building that includes:
  - 126 subsurface parking spaces on its floor
  - 20 interval ownership units on the second floor
  - 27 hotel and 10 interval ownership units on the third floor
  - 14 interval ownership units on the fourth floor
- A small lodge that includes 47 interval ownership units on its four floors
- Three casitas buildings with four interval ownership units each
- Two pavilion areas – one located between the main hotel/lodge building and the annex building and the second just east of the northernmost casita building

Table 4-4 summarizes development details associated with the TAUs for each building, including total square footage, the proposed number of stories, the unit count by unit type, and average size per unit type. The total number of bedrooms proposed under Alternative 3 is 385.The average unit size under Alternative 3 is approximately 1,074 square feet, compared to Alternative 1 which has an average unit size of approximately 767 square feet. The difference in the average unit size between Alternatives 1 and 3 is due to the multiple bedroom units that make up each program. Alternative 3 is comprised of 51 percent multiple bedroom units and 49 percent hotel rooms. Alternative 1 is comprised of 21 percent multiple bedroom units. Under Alternative 3, hotel units would not include kitchens, but each of the multiple bedroom units would include a kitchen.

Table 4-4. Alternative 3: TAU Unit Detail

	Total Units	Hotel Units	Interval Ownership Units	Total (sf)
4-story Hotel (Main Lodge)	120	100	20	
Average Unit Size (sf)		559	1,996	
Net Size (sf)		55,895	39,916	95,811
4-story Annex	**71**	**27**	**44**	
Average Unit Size (sf)		513	1,531	
Net Size (sf)		13,852	67,357	81,209
4-story Small Lodge	**47**	**0**	**47**	
Average Unit Size (sf)		NA	1,492	
Net Size (sf)		NA	70,108	70,108
2-Story Casitas 1, 2, and 3	**12**	**0**	**12**	
Average Unit Size (sf)		NA	1,781	
Net Size (sf)		NA	21,372	21,372
Total	**250**	**127**	**123**	**268,500**

Source: Edgewood Companies 2011a

As with Alternative 1, Alternative 3 would also include:

- Remodeling the existing Edgewood Water Company pump house.
- Removal of the existing golf course snack bar and restroom building.
- Realigning the entrance to the property off of Lake Parkway and construction of a small gatehouse.

BUILDING HEIGHTS

As with Alternatives 1 and 2, all of the Alternative 3 buildings are designed to comply with TRPA building height standards. TRPA Code of Ordinances Subsection 37.3.1 establishes the maximum allowable heights of buildings based on the slope of the project area and pitch of the proposed building roofs. The maximum allowable building heights and the proposed building heights for Alternative 3 are shown in Table 4-5, below. The optional height amendment for the lodge building under Alternative 1 does not apply to Alternative 3.

Table 4-5. Alternative 3: Proposed and Maximum Allowable Building Heights

Building	Proposed Roof Height (feet, inches)[1]	% Slope Retained Across Individual Building Site	Roof Pitch (rise/run)[2]	Table A Maximum Heights (feet, inches)	Maximum Building Height Allowed (feet)
Main Lodge (Hotel)	42’-0”	2%	8:12	38’-0”	42’
Annex	42’-0”	2%	8:12	38’-0”	42’
Small Lodge	42’-0”	4%	14:12	38’-0”	42’
Casita 1	35’ 5”	0%	14:12	38’-0”	42’[3]
Casita 2	35’ 5”	2%	14:12	38’-0”	42’[3]
Casita 3	35’ 5”	2%	14:12	38’-0”	42’[3]
Clubhouse Expansion	40’	16%	12:12	40’ 0”	40’
Parking Structure	19’ 6”	4%	0:12	25’ 0”	25’

Notes:
1. All heights calculated based on the difference between the point of lowest natural ground elevation along the exterior foundation of the structure and the elevation of the highest point of the structure.
2. Reflect dominant (greater than 50% of total roof surface) roof pitch
3. Maximum building height allowed under TRPA Code Subsections 37.5.2.(A) and 37.5.2(B)
4. Maximum building height allowed under TRPA Code Subsection 37.5.2.(A)
Sources: TRPA Code of Ordinances, Chapter 37, “Height”; Edgewood Companies 2011b

TREE REMOVAL

As with Alternatives 1 and 2, Alternative 3 would require the removal of on-site trees. Table 4-6 shows the total number of trees and percentage of trees by diameter class to be removed as part of Alternative 3. Alternative 3 would result in the removal of approximately 569 trees, 29 more trees than for Alternative 1 (proposed removal of 540 trees). The limited forest plan (Appendix C) prepared for the proposed project (Alternative 1) would also apply to Alternative 3.

Trees potentially threatened by construction activities associated with Alternative 3 yet proposed to be retained would be protected prior to the initiation of demolition or construction activities, which would include fencing the trees outside their drip-lines and using other methods to protect and preserve their health.

Table 4-6. Alternative 3: Tree Removal by Diameter Class				
Tree Diameter at Breast Height (inches)	Existing	Proposed for Removal	Retained After Removal	% Removed
14" – 23 5/6"	2,924	397	2,527	13.6%
≥ 24"	1,713	172	1,541	10.0%
Total	**4,637**	**569**	**4,068**	**12.3%**
Source: Edgewood Companies 2011a				

CIRCULATION AND PARKING

Circulation and parking features of Alternative 3 would be the same as that described for Alternative 2.

EMPLOYMENT PROJECTIONS

Under Alternative 3, the lodge complex would have 385 bedrooms of varying sizes. Assuming occupancy of one to two people per bedroom of any given TAU unit, the maximum occupancy of overnight guests for the Alternative 3 lodge complex would be between 385 and 770 people. This is between 129 and 258 more overnight guests than would likely be accommodated with the proposed project (Alternative 1). Edgewood Companies estimates 183 new full time jobs would be created under implementation of Alternative 1, once the complex is built-out. Using this estimate as a baseline, and the rationale applied under Alternative 2, it is reasonable to assume that as many as 215 people may be employed during peak season operation under Alternative 3.

The general classifications of jobs available (administration, bar, banquet, retail/library, interval ownership, concierge, spa/fitness, hotel, physical facilities, and grounds) would be the same as Alternatives 1 and 2.

4.3.2 SOURCES OF ALLOCATIONS, DEVELOPMENT RIGHTS, AND EXISTING DEVELOPMENT

With Alternative 3, all of the 194 TAUs identified for the proposed project (Alternative 1) would be used. The sources of the remaining 56 TAUs have not been identified, except that the project applicant has indicated that they would likely be purchased and transferred from properties within the City of South Lake Tahoe. If Alternative 3 were approved and carried forward for implementation, the sources of the remaining 56 TAUs would need to be identified and transferred to the property as a condition of TRPA permit issuance. Special Policy 9A(2) of PAS 070A applies equally to the proposed project and Alternative 3, and therefore the project applicant would need to provide a description and assurance of the revegetation/restoration planned for the parcels from which the remaining TAUs were transferred.

4.4 ALTERNATIVE 4: NO PROJECT ALTERNATIVE

Under Alternative 4 (No Project Alternative), the project area would remain in its existing condition. No lodge complex or golf course modifications would occur; the lakefront residential estates and surface parking lot would not be removed; the existing pier would not be reconstructed; no improvements to the Stateline Stormwater System or other water quality improvements would occur; and the project site would retain existing conditions with ongoing operations and maintenance of the existing Edgewood Tahoe Golf Course, restaurant, and clubhouse.

4.5 COMPARISON OF ALTERNATIVES EVALUATED IN THIS EIS

Table 4-7 compares major elements of Alternatives 1 through 4. Table 4-8 compares land coverage for each of the action alternatives. The proposed project and each alternative would result in a relatively similar site plan and footprint; however, Alternative 1 would result in approximately 66,500 square feet less impervious coverage and less building mass than Alternatives 2 and 3. See Section 5.5, "Geology, Soils, and Land Capability and Coverage," for a more detailed discussion of land coverage regulations and land coverage related to the action alternatives.

4.6 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION

The following alternatives and/or alternative concepts were considered for the project area, but as discussed below, were determined to be infeasible and/or failed to meet many of the project objectives.

4.6.1 210-UNIT DEVELOPMENT ALTERNATIVE

The project applicant originally considered a 210-unit alternative, 16 more tourist accommodation units than the proposed project. These TAUs would have included 118 hotel units and 92 interval ownership units. In addition to a difference in the total number of units, this alternative differed from the proposed project, and the 230 and 250 unit alternatives, in that it proposed to reconstruct the existing lake front residences at their current locations, and reconstruct the existing private pier into a floating multiple-use pier that would extend to deeper water and serve only the two private residences. Based on the potential scenic impacts for expanded structures within the shorezone, impacts to the relocated fairway for golf hole 9 and golf safety, as well as restricting use of the pier to the private residences, this alternative was rejected from further consideration.

4.6.2 MAXIMUM DENSITY MIXED HOTEL/CONDOMINIUM ALTERNATIVE

The existing PAS permits tourist accommodation units but does not permit either multi-family residential development or subdivision. The project applicant considered an alternative for a 230- to 250-unit whole ownership condominium hotel, but because whole ownership subdivided condominiums must first be approved for multi-family residential development, which is not an allowed use under PAS 070A, this alternative was rejected from further consideration.

4.6.3 ALTERNATIVE WITH HOTEL UNITS ONLY

The concept of a project composed entirely of hotel units was rejected from further consideration as the project applicant determined it to be economically infeasible.

4.6.4 ALTERNATIVE WITH INTERVAL OWNERSHIP UNITS ONLY

The concept of a project composed entirely of interval ownership units was rejected from further consideration as the project applicant determined it to be economically infeasible.

Table 4-7. Comparison of Development Details by Alternative

Alternative	Total # of Lodge (Hotel) Units	Unit Breakdown								Accessory Uses					Additional Project Components						
		Total		Interval Ownership Unit Breakdown																	
		Hotel Units	Interval Ownership Units	Studio	1 bedroom	1 bedroom + Den	2 Bedroom	3 Bedroom	Suite (4 bedroom)	South Room Expansion (sf)	Spa and Wellness Center (sf)	Restaurant and Bar (sf)	Banquet, Event, and Meeting Space	Parking Spaces	Golf Course Modifications	Removal of Existing Lakefront Parking in SEZ	Threshold Improvement Projects A – E	Public Beach	Relocation of Residential Lots Out of SEZ	Tree Removal (Total ≥24" to be removed; % of ≥24" in Project Area)	Pier
1	194	154	40	0	0	0	20	16	4	9,270	12,900	3,800	Lodge = 8,750 sf; 250 pers. capacity Clubhouse expansion = 2,500 sf; 200 pers. capacity Event Lawn = 1,000 pers. capacity	Total = 498 Surface Lot = 24 Structure = 230 Lodge = 184 Horizon = 60	<u>Realignment:</u> Golf holes 7, 8, 9 <u>Reshaping/realignment:</u> Golf holes 3, 6, 13, 14, and 18 Tees at golf holes 1 and 10 Driving range and putting greens	X	X	X	X	152 8.9%	Relocated and reconstructed near clubhouse expansion area
2	230	123	107	4	13	7	51	27	5	Same as Alt. 1	14,000	4,500	Lodge = 10,000 sf; 500 pers. capacity Clubhouse expansion = same as Alt. 1 Event Lawn = same as Alt. 1	Total = 504 Surface Lot = 88 Structure =230 Annex = 126 Horizon = 60	Same as Alt. 1	X	X	X	X	171 10.0%	Relocated and reconstructed at a location southwest of the event lawn
3	250	127	123	5	19	9	57	29	4	Same as Alt. 1	15,000	Same as Alt. 2	Same as Alt. 2	Same as Alt. 2	Same as Alt.1	X	X	X	X	172 10.0%	Reconstructed in the location of the existing pier (southern end of project area)
4	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	No new parking spaces; retains existing surface parking areas	NA	NA	NA	NA	NA	NA	NA (existing pier remains as is)

Notes:
Alternative 1: Proposed Project (194 Units)
Alternative 2: 230-Unit Development
Alternative 3: Maximum Buildout Development (250 units)
Alternative 4: No Project
Source: Edgewood Companies 2011a; Adapted by Ascent Environmental, Inc. in 2011

Table 4-8. Existing and Proposed Land Coverage for Each Alternative (Alternatives 1, 2, and 3)

Land Capability District (LCD)	Project Area by LCD (sf)	Base Allowable Land Coverage (%)	Base Allowable Land Coverage (sf)	Existing Physical Land Coverage (sf)	Existing Banked Land Coverage (sf)	Total Existing Land Coverage (sf)	Existing Land Coverage (%)	Proposed Relocated Land Coverage Across LCD (sf)	Permissible Land Coverage (sf)	Proposed Physical Coverage (sf)	Change in Land Coverage from Existing (sf)	Coverage Available for Banking (sf)	Coverage to be Retired for Additional Height (sf)	Resultant Base Allowable Land Coverage (sf)	Resultant Permissible Coverage (sf)
Alternative 1: Proposed Project (194 Units)															
1b (SEZ)	4,266,178	1	42,662	212,268	11,883	224,151	5.25	0	224,151	164,686	(59,466)	59,466	0	42,662	224,151
3	41,950	5	2,098	2,225	0	2,225	5.30	0	2,225	2,225	0	0	0	2,098	2,225
4	44,251	20	8,850	43	0	43	0.10	0	8,850	43	0	0	0	8,850	8,850
5	4,484,248	25	1,121,062	338,090	155,287	493,377	11.00	(155,287)	965,775	323,473	(14,617)	14,617	307,539	813,523	658,236
6	359,859	30	107,958	61,692	2,557	64,249	17.85	0	107,958	55,390	(8,859)	8,859	0	107,958	107,958
7	850,217	30	255,065	49,322	477	49,799	5.86	155,287	410,352	252,040	46,954	0	0	255,065	410,352
Totals (sf)	**10,046,703**	**NA**	**1,537,694**	**663,640**	**170,204**	**833,844**	**8.30**	**NA**	**1,719,311**	**797,857**	**(35,988)**	**82,942**	**307,539**	**1,230,156**	**1,411,772**
Totals (acres)	**230.64**	**NA**	**35.30**	**15.24**	**3.91**	**19.14**	**NA**	**NA**	**39.47**	**18.32**	**(0.83)**	**1.90**	**7.06**	**28.24**	**32.41**
Alternative 2: 230-Unit Development															
1b (SEZ)	4,266,178	1	42,662	212,268	11,883	224,151	5.25	0	224,151	182,521	(41,631)	41,631	0	42,662	224,151
3	41,950	5	2,098	2,225	0	2,225	5.30	0	2,225	2,225	0	0	0	2,098	2,225
4	44,251	20	8,850	43	0	43	0.10	0	8,850	43	0	0	0	8,850	8,850
5	4,484,248	25	1,121,062	338,090	155,287	493,377	11.00	(155,287)	965,775	324,113	(13,977)	13,977	307,539	813,523	658,236
6	359,859	30	107,958	61,692	2,557	64,249	17.85	0	107,958	70,283	6,034	0	0	107,958	107,958
7	850,217	30	255,065	49,322	477	49,799	5.86	155,287	410,352	285,158	80,072	0	0	255,065	410,352
Totals (sf)	**10,046,703**	**NA**	**1,537,694**	**663,640**	**170,204**	**833,844**	**8.30**	**NA**	**1,719,311**	**864,343**	**30,499**	**55,608**	**307,539**	**1,230,156**	**1,411,772**
Totals (acres)	**230.64**	**NA**	**35.30**	**15.24**	**3.91**	**19.14**	**NA**	**NA**	**39.47**	**19.84**	**0.70**	**1.28**	**7.06**	**28.24**	**32.41**
Alternative 3: Maximum Buildout Development (250 Units)															
1b (SEZ)	4,266,178	1	42,662	212,268	11,883	224,151	5.25	0	224,151	183,397	(40,755)	40,755	0	42,662	224,151
3	41,950	5	2,098	2,225	0	2,225	5.30	0	2,225	2,225	0	0	0	2,098	2,225
4	44,251	20	8,850	43	0	43	0.10	0	8,850	43	0	0	0	8,850	8,850
5	4,484,248	25	1,121,062	338,090	155,287	493,377	11.00	(155,287)	965,775	324,113	(13,977)	13,977	307,539	813,523	658,236
6	359,859	30	107,958	61,692	2,557	64,249	17.85	0	107,958	70,283	6,034	0	0	107,958	107,958
7	850,217	30	255,065	49,322	477	49,799	5.86	155,287	410,352	285,485	80,399	0	0	255,065	410,352
Totals (sf)	**10,046,703**	**NA**	**1,537,694**	**663,640**	**170,204**	**833,844**	**8.30**	**NA**	**1,719,311**	**865,546**	**31,702**	**54,732**	**307,539**	**1,230,156**	**1,411,772**
Totals (acres)	**230.64**	**NA**	**35.30**	**15.24**	**3.91**	**19.14**	**NA**	**NA**	**39.47**	**19.87**	**0.73**	**1.26**	**7.06**	**28.24**	**32.41**

Source: Hill, pers. comm., 2012

4.6.5 ENVIRONMENTAL IMPROVEMENTS SCALED TO CORRESPOND WITH THE NUMBER OF APPROVED UNITS

The project applicant considered scaling back the environmental threshold improvements outlined in Threshold Improvement Projects B, C, D, and E to correspond to the number of units to be developed, based on the rationale that greater density should be accompanied by greater water quality enhancements; and that a reduced density alternative should not require as robust water quality improvements. One version of the proposed project alternative did not, for instance, include Threshold Improvement Project C. However, the project applicant determined that the entire array of water quality improvements should be packaged with all of the development alternatives, and therefore, the scaling of the threshold improvement projects to correspond with proposed density was rejected from further consideration.

4.6.6 PUBLIC-PRIVATE VENTURE TO CONSTRUCT A PUBLIC PIER SERVICING WATERBORNE TRANSIT AT THE INTERSECTION OF STATELINE AVENUE AND LAKESIDE BEACH

Creating a waterborne transit system at Lake Tahoe is under consideration by several agencies, including TRPA. The project applicant considered working with the California Tahoe Conservancy, the City of South Lake Tahoe and the Lakeside Park Home Owners Association to construct a public pier capable of serving future waterborne transit at the intersection of Stateline Avenue and Lakeside Beach. This project component would have been compatible with other project alternatives, and would have required the project provide public parking on its lands with support from the California Tahoe Conservancy, City of South Lake Tahoe, and Lakeside Home Owners Association. After preliminary planning efforts, the Lakeside Home Owners Association chose not to pursue this alternative and without their participation, this alternative was determined to be infeasible and rejected from further consideration.

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5 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

5.1 APPROACH TO THE ENVIRONMENTAL ANALYSIS

5.1.1 INTRODUCTION TO THE IMPACT ANALYSIS

CONTENTS OF ENVIRONMENTAL ANALYSIS SECTIONS

Discussion of each resource area of concern is contained in Sections 5.2 through 5.13. These sections describe the applicable regulatory background; existing environmental setting; the potential for the proposed project (Alternative 1) and the project alternatives (Alternatives 2 through 4) to significantly affect the environment; mitigation measures to reduce or avoid potentially significant impacts; and the effect on TRPA environmental threshold carrying capacities for applicable resources. Section 5.14 contains a discussion of project impacts in the context other existing and proposed development that may contribute to cumulative impacts. The issues evaluated in Chapter 5 include all environmental topics originally identified for review in the notice of preparation (NOP) for the draft environmental impact statement (EIS) and issue areas identified in the TRPA Initial Environmental Checklist, with the exception of population and housing. Population and housing is discussed under the heading "Effects Found Not to be Significant" in Chapter 6, "Other TRPA-Mandated Sections." Appendix A of this EIS contains the NOP and the comments received during public scoping conducted for the project. Sections 5.2 through 5.13 of this EIS are organized into the following major subsections:

Regulatory Background: This section presents the applicable regulatory framework and planning context, if any, for the specific technical issue, and under which the proposed project would be implemented.

Affected Environment: This section describes the existing regional and local environmental conditions relevant to the issue under evaluation. The affected environment differs by resource area, and is determined by the potential for environmental impact. For example, traffic impacts resulting from the proposed project are assessed for the regional roadway network, whereas cultural resource impacts are assessed for the project site only.

Environmental Consequences and Recommended Mitigation Measures: This section identifies the criteria used to determine the level of significance of an environmental impact and discusses potentially significant effects of Alternatives 1 through 4 on the existing environment, including the environment beyond the project boundaries.

Project impacts are numbered sequentially for Alternatives 1 through 4 in each section. For example, impacts in Section 5.3 are numbered 5.3.1-1, 5.3.1-2, 5.3.1-3, and so on for Alternative 1 (Proposed Project) and impacts in Section 5.3 for Alternative 2 (230-Unit Development) are numbered 5.3.2-1, 5.3.2-2, 5.3.2-3, and so on. A **bold** font impact statement precedes the discussion of each impact and provides a summary of each impact and its level of significance. The discussion that follows includes the substantial evidence on which conclusions are made. In cases where mitigation would reduce potentially significant effects of the project to less-than-significant levels, a mitigation measure is described below the impact statement, and the significance of the project to the impact post mitigation is also described. The mitigation measures are numbered to correspond with the impact addressed by the measure.

This section also describes whether mitigation measures would reduce project impacts to less-than-significant levels. This section is presented in accordance with Section 5.8.B(3) of the TRPA Code of Ordinances, which requires identification of significant unavoidable impacts, and with Section 5.8.D of the TRPA Code of

Ordinances, which calls for "required findings" in conjunction with the identification of significant unavoidable impacts.

Consequences for TRPA Environmental Threshold Carrying Capacities: For applicable resource sections, consequences for the relevant TRPA environmental threshold carrying capacities: water quality, soil conservation, air quality, vegetation, wildlife, fisheries, noise, recreation and scenic resources – are also discussed for each alternative at the end of the section.

5.1.2 ANALYSIS OF PROJECT ALTERNATIVES

The Edgewood Lodge and Golf Course Improvement Project alternatives, Alternatives 1 through 4, are analyzed at an equal level of detail in this chapter. Impacts and associated mitigation measures, if necessary, are identified for each alternative in each of the resource sections. Because all project alternatives but Alternative 4 (No Project) contemplate some level of development on the project site, some alternatives have many of the same or similar impacts. In these instances, the reader is referred to the impact discussion of Alternative 1 to reduce redundancy.

5.2 LAND USE

This chapter describes the regulatory background, existing land uses of the project area and vicinity, and the consistency of Alternatives 1 through 4 with relevant land use plan goals and polices.

5.2.1 REGULATORY BACKGROUND

Numerous federal, regional, state, and local laws, rules, regulations, plans, and policies define the framework for regulating land use in the Tahoe Basin. The following discussion focuses on land use requirements applicable to the Edgewood Lodge and Golf Course Improvement Project.

FEDERAL

Federal regulations related to land use are associated with resources such as wetland identification and protection, special status species protection, cultural resource protection, and health and safety on private lands. In the Lake Tahoe Basin, many of these regulations are enforced by TRPA and/or by the states of California and Nevada. The U.S. Forest Service (USFS) also enforces many federal land use regulations, as well as manages all National Forest System lands within the Basin. There are no federal lands within the Edgewood Project area. The closest USFS holdings in the vicinity are Nevada Beach and Burke Creek (Rabe) Meadow east of the site across Kahle Drive, and lands in the upper areas of the Edgewood Creek watershed.

TAHOE REGIONAL PLANNING AGENCY

REGIONAL PLAN

During the last 40 years, the increasing number of people enjoying Lake Tahoe and the Tahoe Basin has caused changes in the ecosystem and altered the watershed. In an effort to prevent continued and irreversible degradation, the states of California and Nevada (with the consent of Congress) created TRPA in 1969 through a bi-state agreement, the Tahoe Regional Planning Compact (Compact) (Public Law 96-551, 94 Stat. 3233). The Compact was revised in 1980; TRPA continues to operate today under its authority.

The Compact, as amended in 1980, defines the purpose of TRPA:

> To enhance governmental efficiency and effectiveness of the Region, it is imperative there be established a Tahoe Regional Planning Agency with the powers conferred by this compact including the power to establish environmental threshold carrying capacities and to adopt and enforce a regional plan and implementing ordinances which will achieve and maintain such capacities while providing opportunities for orderly growth and development consistent with such capacities.

The Compact also calls on TRPA to create a regional plan that establishes equilibrium between the natural and human-made environments. TRPA is to allow opportunities for orderly growth and development consistent with environmental threshold carrying capacities.

TRPA implements its authority to regulate growth and development in the Lake Tahoe region through the Regional Plan for the Lake Tahoe Basin. Similar to a city or county general plan, the Regional Plan provides the upper tier of land use regulation for the area under TRPA's jurisdiction. The Regional Plan is composed of the following documents: Goals and Policies (TRPA 2006); Code of Ordinances (TRPA 2011); Plan Area Statements (PASs); Regional Transportation Plan—Air Quality Plan (Tahoe Metropolitan Planning Organization [TMPO] 2008); Water Quality Management Plan (TRPA 1998); and Scenic Quality Improvement Program (TRPA 1989). To approve a project TRPA must find that the project is consistent with, and will not adversely affect

implementation of the Regional Plan, including all applicable goals and policies, PASs and maps, the Code, and other TRPA plans and programs (TRPA 2006). With the exception of the Regional Transportation Plan—Air Quality Plan (see Sections 5.10, "Traffic, Parking, and Circulation," and 5.11, "Air Quality"), the Water Quality Management Plan (see Section 5.6, "Hydrology and Water Quality"), and the Scenic Quality Improvement Program (see Section 5.3, "Scenic Resources"), which are discussed elsewhere in this document, these documents are described below. The Regional Plan is currently being updated by TRPA; adoption is expected in late 2012.

Goals and Policies

The Goals and Policies document for the Regional Plan establishes an overall framework for development and environmental conservation in the Lake Tahoe region, including meeting of TRPA environmental thresholds. TRPA goals and policies relevant to the project are included in each of the Goals and Policies document's six elements: land use, transportation, conservation, recreation, public services and facilities, and implementation (TRPA 2006). The land use element is a key component of the Goals and Policies document because land development may negatively affect attainment of an environmental threshold. The Land Use Element of the Goals and Policies document identifies the fundamental philosophies directing land use and development in the Lake Tahoe Basin. Table 5.2-1 analyzes the consistency of the alternatives evaluated in this EIS with the goals and policies in the land use element of TRPA's Goals and Policies document.

Code of Ordinances

The TRPA Code of Ordinances (Code) compiles all of the laws and ordinances needed to implement the goals and policies of the Regional Plan. The TRPA Code regulates, among other things, land use, density, rate of growth, land coverage, excavation and scenic impacts. The regulations are designed to bring the Tahoe Region into conformance with the nine threshold standards established for water quality, air quality, soil conservation, wildlife habitat, fish habitat, vegetation, noise, recreation and scenic resources. Public agencies and organizations in the Lake Tahoe Basin must comply with the Code or may establish equivalent or higher requirements in their jurisdiction (TRPA 2011).

Permissible Uses

Chapter 50, "Allocation of Development," of the TRPA Code sets forth the requirements for regulating the rate and timing of growth within the region. TRPA regulates growth through the issuance of allocations of residential units, commercial floor area (CFA), tourist accommodation units (TAU), and PAOTs (people at one time, i.e., the number of people that a recreation use can accommodate at a given time). Allocations are generally only required for primary uses, meaning that an allocation is only required for the main use for which the parcel is developed.

Primary uses are defined in Chapter 21, "Permissible Uses," of the TRPA Code. All parcels have one or more permissible primary uses. Primary use definitions relevant to the proposed project include uses defined as either "allowed" or "special." Plan area statements and community plans define which terms apply to a particular parcel. Examples of primary uses include hotels and motels, beach recreation, eating and drinking places and golf courses. Subsection 21.2.1 defines allowed uses as uses listed in the applicable plan area statement, community plan, redevelopment plan or specific plans that are appropriate uses for the specified area, and projects and activities pursuant to such uses may be permitted. By definition, allowed uses are assumed to be compatible with the direction of the Regional Plan and surrounding land uses. Special uses are uses that may be determined to be appropriate uses for the specified area, and projects and activities pursuant to such uses found to be appropriate may be permitted. To determine whether a special use is appropriate, TRPA must make the following findings (Subsection 21.2.2):

A. The project, to which the use pertains, is of such a nature, scale, density, intensity and type to be an appropriate use for the parcel on which, and surrounding area in which, it will be located;

B. The project, to which the use pertains, will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water and air resources of both the applicant's property and that of surrounding property owners; and

C. The project, to which the use pertain, will not change the character of the neighborhood, detrimentally affect or alter the purpose of the applicable planning area statement, community plan and specific or master plan, as the case may be.

Accessory uses are also defined in Chapter 21 of the TRPA Code. Accessory uses are defined as a use, building, or other facility customarily a part of any primary use; that is clearly incidental and secondary to the primary use; that does not change the character or the intensity of the primary use; and that does not operate independent of the primary use. Examples of accessory uses for parcels for which TAUs are a primary use include: garages, parking lots, bars and restaurants, meeting rooms, and gymnasiums. Accessory uses do not require allocations, though some commercial accessory uses for noncommercial primary uses do require an allocation of CFA, unless TRPA makes all of the findings under Subsection 50.5.1(A) of the TRPA Code. These findings are:

- The accessory use meets all criteria specified by Chapter 21 for an accessory use; and
- The accessory use is designed to serve the noncommercial primary use, as determined by reference to the following criteria:
  - There is no separate entrance for the accessory use;
  - The accessory use is compatible with the size and patronage of the primary use;
  - The accessory use does not rely on separate parking;
  - The accessory use is not separately advertised;
  - The use season of the accessory use corresponds to that of the primary use; and
  - In applicable instances, the accessory use is principally for service or repair rather than sales.

Examples of accessory uses of a commercial nature not subject to the allocation of additional CFA include, but are not limited to: ski rental shops in ski areas, gift shops in airports, tackle shops used by patrons of marinas, newsstands in motels, pro shops at golf courses, and cafeterias in hospitals.

Transfer of Existing Development

Chapter 51 of the TRPA Code sets forth the provisions for the transfer of development rights, allocations, and existing development, from one parcel to another as provided in the Goals and Policies, Development and Implementation Priorities Sub-element, Implementation Element, Goal #3, Policies 1-6. These regulations allow for the transfer of existing units of use from other lands within the Basin. All such transfers require TRPA approval and can occur only in conjunction with a project approval. Section 51.5 specifies the regulations that determine if and how a parcel can act as a receiving area for existing development and if and how existing development is eligible for transfer. Per Section 51.5 existing development may be transferred to any plan area or adopted community plan where the unit of use is a permissible use. Units of use may be transferred within the same major use classifications (e.g., residential, tourist accommodation, commercial, and recreation). Tourist accommodations and recreation uses are encouraged in PAS 070A Special Area #1 (not exceeding the equivalent of 250 tourist accommodation units) and Special Area #1 is identified as a receiving area for existing development. As described above, per PAS 070A Special Policy 9, any application for a proposed tourist accommodation project must include identification of all tourist accommodation units that would be transferred. Table 3-7 in Chapter 3, "Project Description," describes the source parcels from which tourist accommodation units would be transferred to the Edgewood Lodge and Golf Course Improvement Project site.

Shorezone Uses

TRPA regulates uses in the shorezone and the lakezone based on Chapter 81 of the TRPA Code, "Permissible Uses and Accessory Structures in the Shorezone and Lakezone." The Lake Tahoe shorezone is a thin strip of land surrounding the lake at the land and water interface. The permissible uses in the shorezone are limited to water-oriented/dependent uses, such as beach recreation, boat launching facilities, marinas, tour boat operation, fences, buoys, piers, and floating docks and platforms. The shorezone is defined as that area including the nearshore, foreshore, and backshore (see description of each below).

- **Nearshore**: The zone extending from the low water elevation of Lake Tahoe (6223.0 feet Lake Tahoe Datum) to a lake bottom elevation of 6193.0 Feet Lake Tahoe Datum, but in any case, a minimum lateral distance of 350 feet measured from the shoreline. In other lakes, the nearshore extends to a depth of 25 feet below the low water elevation.
- **Foreshore**: The zone of a lake level fluctuation which is the area between the high and low water level. (For Lake Tahoe, the elevations are 6229.1 feet Lake Tahoe Datum and 6223.0 feet Lake Tahoe Datum, respectively.)
- **Backshore**: This zone is considered the area of instability and extends from the high water level (elevation 6229.1) to stable uplands. The area is not stable because of interaction with lake waves and the inherent dynamic nature of littoral processes. The backshore boundary is established using one or both of the following criteria, whichever establishes the wider backshore (both criteria were used to establish the backshore boundary for the project area):
  - **Wave Run-Up** – The area of wave run-up, plus 10 feet;
  - **Instability** – **The area of** instability, plus 10 feet. The area of instability is measured landward from the high water line a horizontal distance equal to 1.5 times the height of the bluff located adjacent to the shoreline. As an alternative, the area of instability may be determined through a report prepared by a licensed engineering geologist or soils engineer.

Shorezone Tolerance Districts

Shorezone tolerance districts were developed in 1971 by the USFS in cooperation with TRPA, to provide a relative quantification of tolerance of land in the Lake Tahoe Basin to human disturbance (Bailey 1974). TRPA has established eight shorezone tolerance districts with different levels of sensitivity. The purpose of shorezone tolerance districts is to aid in establishing development standards and regulations for construction, marina operations and maintenance, pier installation, and other shorezone uses. Each tolerance rating or district has specific development standards and management policies described in Chapter 83 of the TRPA Code.

According to the map for TRPA Plan Area Statement (PAS) 070A, the classifications of the shorezone within the project area includes areas designated as Shorezone Tolerance Districts 1 and 7. Both Tolerance Districts 1 and 7 allow for some types of structures in the shorezone if they are accessory to an existing, allowed use located on the same or adjoining parcel.

Shorezone Tolerance District 1 is characterized in Subsection 83.7.1 of the TRPA Code as an ecologically fragile area where substantial use or alternation of the shorezone can lead to excessive sedimentation, beach erosion, and water turbidity. The beach that forms the shoreline in these districts is a low sandy barrier that separates the lake from marshes and wetlands. Primary uses allowed in Shorezone Tolerance District 1 within PAS 070A are for safety and navigation facilities, beach recreation, and salvage operations. Accessory structures allowed include buoys, piers, fences, boat ramps, shoreline protective structures, floating docks and platforms, and water intake lines.

Development standards for Shorezone Tolerance District 1 are set forth in Subsection 83.7.2 of the TRPA Code as follows:

A. Access to the shoreline shall be restricted to planned footpaths which minimize the impact to the backshore.

B. Vegetation shall not be manipulated or otherwise disturbed except when permitted under Chapter 85.

C. No drainage or modification of backshore wetlands shall be permitted.

D. New development in the backshore of Shorezone Tolerance District 1 shall be regulated in accordance with the regulations in this Code for stream environment zones.

E. Replacement of existing land coverage in the backshore of a Shorezone Tolerance District 1 shall be in accordance with the regulations for replacing existing land coverage in stream environment zones.

Shorezone Tolerance District 7 is described in the Subsection 83.10.1(B) of the TRPA Code as a "comparatively level shorezone underlain by morainic and alluvial materials with slopes of zero to nine percent (0–9 percent)." Primary uses for Shorezone Tolerance District 7 within PAS 070A include those associated with water-oriented outdoor recreation, beach recreation, boat launching facilities, tour boat operations, safety and navigation facilities, salvage operations, marinas, and water intake lines. The District also allows for the same accessory structures permitted in Shorezone Tolerance District 1, described above.

Development standards for Shorezone Tolerance District 7 are set forth in Subsections 83.9.2 and 83.10.2 of the TRPA Code as follows:

Section 83.9.2:

A. Permitted development or continued use may be conditioned upon installation and maintenance of vegetation to stabilize backshore areas and protect existing cliffs from accelerated erosion.

B. Projects shall not be permitted in the backshore unless the TRPA finds that such project is unlikely to require the cliff area to be mechanically stabilized or that the project will not accelerate cliff crumbling, beach loss or erosion.

C. Access to the shoreline shall be restricted to stabilized access ways which minimize the impact to the backshore.

D. Access to buoys shall be designed to cause the least possible environmental harm to the foreshore and backshore.

E. Access to piers, floating platforms, and boat ramps shall be designed to cause the least possible alteration to the natural backshore.

Section 83.10.2:

A. Vehicular access to the shoreline shall not be permitted except where the TRPA finds that such access will not cause environmental harm.

B. Boat launching facilities and marinas shall be located where the nearshore shelf is of sufficient width to enable construction and use without potential for significant shelf erosion.

Plan Area Statements and Community Plan

Chapter 11, "Plan Area Statements (PAS) and Plan Area Maps," in the TRPA Code requires that all projects and activities be consistent with the provisions of a particular area's applicable PAS. The Lake Tahoe Basin is divided into 175 separate plan areas. For each plan area, a "statement" is made as to how that particular area should be regulated to achieve environmental and land use objectives. Each PAS also includes a general land use classification and description of the area, planning considerations for the area, a list of permissible uses, maximum allowable densities (if any), recreational or commercial use allocations (if any), and maximum acceptable noise levels. In some areas, community plans have been established and approved by TRPA. In these locations, the community plan and associated maps replace the PAS, and all projects and activities are to be consistent with the adopted Community Plan.

PAS 070A – Edgewood

The existing land uses in PAS 070A include the Edgewood Tahoe Golf Course, the 4-H camp area, and some miscellaneous private uses. The PAS 070A land use designation is recreation. The planning statement for PAS 070A states, "This entire area should provide a range of visitor and local serving outdoor-oriented recreation opportunities, integrated with the existing and planned improvements within the Casino Core. In addition special areas should provide accommodations for tourists."

PAS 070A provides a list of permissible uses throughout the PAS, a subset of permissible uses within Special Area #1, and uses allowed with Shorezone Tolerance Districts 1 and 7. Generally, PAS 070A allows for single-family dwellings, eating and drinking places, beach recreation, day use areas, participant sports facilities, outdoor recreation concessions, and group facilities, transportation routes, transit stations, schools and other public service, and resource management permissible uses. There is also a "special area" within PAS 070A—Special Area #1 (Tourist Area). Amendments to PAS 070A to include Special Area #1 were approved by TRPA's Governing Board in 1993. Permissible uses allowed throughout Special Area #1 within PAS 070A include: employee and multi-family dwellings, hotel, motel and other transient dwelling units, timeshares, retail uses, entertainment, cultural facilities, recreational facilities (including developed campgrounds), recreation vehicle park, riding and hiking trails and the same resource management uses as allowed throughout the whole of PAS 070A. Permissible uses in Shorezone Tolerance Districts 1 and 2 include: buoys, piers, and beach recreation, among others. Many of these permissible uses are "special uses" that require consideration under the provisions for a special use in accordance with Subsection 21.2.2 or Subsection 81.2.2 of the TRPA Code.

The maximum community noise equivalent level (CNEL) for PAS 070A is 55. The maximum CNEL for the U.S. 50 corridor is 65 CNEL. There are no summer, winter or overnight developed outdoor recreation PAOTs for PAS 070A.

There are several special policies in PAS 070A that apply to the project. Special policies 1, 2, 7, 8 and 9 are detailed below. Table 5.2-2 analyzes the consistency of the alternatives evaluated in this EIS with these policies.

- **Special Policy 1** encourages a fertilizer management program at the golf course and the redesign of the golf course to provide for natural buffers of vegetation along the creek and pond areas.
- **Special Policy 7** encourages tourist accommodations and recreation uses in Special Area #1 specifying that such accommodations are not to exceed 250 tourist units. The policy also states that the construction of a hotel or conference center in Special Area #1 is conditioned on the developer making an irrevocable commitment to improve access, capacity, and/or the range and quality of lakefront experiences available to the public in the California/Nevada Stateline area.
- **Special Policy 8** states that PAS 070A is within the influence of the Stateline Community Plan and that where applicable, any projects proposed within PAS 070A shall be consistent with the planning direction provided in Chapter I of the Stateline Community Plan.

- **Special Policy 9** requires that any application for a proposed tourist accommodation project in PAS 070A must include the following items and must comply with the applicable limitations:
  - Identification of all tourist accommodation units that will be transferred into any proposed tourist accommodation dwelling project in 070A.
  - A description and assurance of the revegetation/restoration planned for the parcels from which the tourist accommodation units are to be transferred (or the equivalent amount of revegetation/restoration elsewhere if the sending parcel[s] is within land capability district 4-7).
  - Prior to approving any proposed tourist accommodation project, a Stateline area-wide drainage system must have been designed, funded, independently analyzed for engineering, design and environmental adequacy and approved by all permitting agencies.
  - Prior to approving any proposed tourist accommodation project, the beach access in Special Policy No. 7 must have been specifically identified and assurances given that the beach access is available.
  - Any application for a proposed tourist accommodation project in Special Area #1 must be accompanied by a description of the commitment of the water resources for the project (as documented by the state engineer). This is because a tourist accommodation project in Special Area #1 will involve the commitment of a significant quantity of the remaining Nevada water left for use in the Tahoe Basin.

PAS 080 – Kingsbury Drainage

The only portion of the project that extends outside of PAS 070A is Threshold Improvement Project D – the proposed improvements to Friday's Station dam and pond. This threshold improvement project includes improvements for more efficient sediment capture and other water quality benefits (Chapter 3, "Project Description," for a more detailed description of Threshold Improvement Project D). The pond is east of U.S. 50 and completely within Special Area #2 of PAS 080 (Kingsbury Drainage). The land use classification for PAS 080 is conservation. The planning statement for this PAS states "this area should be rehabilitated to provide watershed restoration to enhance the area's natural features and qualities." The portion of PAS 080 that will be affected by Threshold Improvement Project D is also within the influence of the Stateline Community Plan and the Kingsbury Community Plan. Erosion control, runoff control and SEZ restoration are all permissible uses in Special Area #2 of PAS 080.

Stateline Community Plan

As described above, projects within PAS 070A are subject to the planning direction of Chapter 1 of the Stateline Community Plan (CP), a collaborative planning document developed jointly by TRPA and Douglas County. The Stateline CP supersedes TRPA PASs and Douglas County zoning within the community plan boundaries. The CP is a guide for the enhancement of Stateline and surrounding lands as a major destination resort. The planning statement calls for the area to continue as a gaming area with associated support facilities; to become better integrated with the surrounding natural environment; and to offer improved access to the lake and the mountains. The facilities devoted to non-restricted gaming activities are allowed uses and may continue pursuant to the limitations set forth in Article VI of the TRPA Compact, as amended. The Stateline CP addresses land use issues and opportunities for the general Stateline area, including land in adjoining plan area statements.

Chapter 1 of the Stateline CP is the plan's introduction. The Chapter includes the purpose and background of the document and CP goals. Chapters 2 through 7 of the CP include objectives and policies related to implementation of the goals stated in Chapter 1. Chapter 1 also includes an illustrative plan for the Stateline area, and provides an overview and summary of design concepts particular to Special Area #1 of PAS 070A. The illustrative plan represents the summation and integration of the Stateline CP's goals, objectives and elements. The CP encourages use of the illustrative plan when making findings of consistency as required under Section 4.4 of the TRPA Code.

Table 5.2-3 analyzes the consistency of the project alternatives with those portions of the CP illustrative plan applicable to the project area and with the design concept described for Special Area #1. Table 5.2-3 also analyzes the consistency of the project alternatives with Stateline CP goals, objectives and policies related to recreation and applicable to the project area, because, though not all policies related to recreation are contained in Chapter 1 of the CP, both PAS 070A and the CP place special emphasis on improving public lake access as a condition for development within the project area.

The following goals were adopted for the Stateline CP and included in Chapter 1:

- Environmental Threshold Goal. Ensure that physical development is consistent with the environment and ecology of the area.
- Urban Design and Development Goal. Ensure the design elements of new, remodeled, and rehabilitated development are compatible with the scenic, recreation, and community values of Stateline and the Region.
- Traffic Circulation and Parking Goal. Reduce dependency on the automobile and improve the movement of people, goods, and services within Stateline and the Tahoe Region consistent with the economic and environmental goals of the community plan.
- Public Service Facilities Goal. Public services and facilities should be upgraded to support existing and new development and to ensure attainment of environmental targets.
- Commercial Development Goal. Maintain a balance between economic health and the environment by correcting past deficiencies in land use and being responsive to the needs and opportunities of the Stateline business community.
- Recreation Goal. Preserve and enhance the high-quality recreational experience of Stateline and the Region.

Environmental Threshold Carrying Capacities

TRPA does not have an environmental threshold for land use. However, land development may negatively affect attainment of environmental thresholds. Land use policy is outlined in the existing Regional Plan and is incorporated into this environmental document by reference.

In August 1982, TRPA adopted Resolution No. 82-11, establishing environmental threshold carrying capacities for the Lake Tahoe Region. These thresholds were created to provide a standard for which all projects and activities would be measured to achieve the goals set forth in the TRPA Compact. TRPA threshold criteria have been established for nine environmental resource topics; water quality, air quality, scenic resources, soil conservation, fish habitat, vegetation, wildlife habitat, noise, and recreation. The threshold standards define levels of (environmental) quality desired for the region. Each indicator is analyzed every 5 years to track the progress made toward achieving the thresholds. In September of 2007, TRPA issued the latest environmental threshold report (TRPA 2007). A threshold evaluation update for 2011 is underway and is anticipated to be released in early 2012.

As discussed above, TRPA is currently working on a Regional Plan update process and adoption of a new Regional Plan is anticipated in late 2012.

Both attainment and maintenance of the thresholds are required, and TRPA does not have flexibility in its enforcement when evaluating projects. In accordance with Subsection 4.4.1(B) of the TRPA Code, TRPA may not approve a project if it will cause the carrying capacity of any of the nine TRPA thresholds to be exceeded. If a project would result in the carrying capacity of an identified threshold to be exceeded, mitigation must be adopted to reduce the impact and maintain the carrying capacity of the threshold. An impact that is considered significant based on these threshold criteria must be mitigated by avoidance, relocation, or removal of the identified project element that would create the impact (TRPA 1982). These thresholds are incorporated into the

significance criteria and discussed collectively at the end of each relevant resource section in Chapter 5 of this EIS.

DOUGLAS COUNTY

DOUGLAS COUNTY MASTER PLAN

The 2006 Douglas County Master Plan (Douglas County 2007) provides long-range guidance for numerous programs related to planning activities in the county including: development, open space preservation planning, transportation, flood and drainage, water resources planning and management, and capital improvements planning. The Lake Tahoe Planning Area is not included as part of the Land Use Element of the Douglas County Master Plan (DCMP) because the area is within the jurisdiction of TRPA, and the Stateline CP serves that function. This means that much of the planning guidance and many of the policies and regulations related to growth and development in Douglas County do not apply to the project. Other planning elements of the DCMP apply to the Lake Tahoe Planning Area to the extent that they do not conflict with the provisions of plans or regulations adopted by TRPA. Those planning elements (e.g., recreation goals) of the DCMP applicable to the project area are discussed within the relevant sections in Chapter 5, "Affected Environment and Environmental Consequences," of this EIS.

5.2.2 AFFECTED ENVIRONMENT

TAHOE PLANNING AREA OF DOUGLAS COUNTY

The Tahoe Planning Area is located on the western edge of Douglas County. The area totals 28,431 acres or about 6.5 percent of the County. Approximately 10 percent of the land is urbanized, 80 percent is in public ownership or control, and the remaining 10 percent is in private non-urban use. The Lake Tahoe Planning Area consists of the communities of Round Hill/Zephyr Cove, Stateline, Cave Rock/Glenbrook, and Kingsbury. TRPA has adopted community plans for Roundhill, Stateline, and Kingsbury, and these plans have also been adopted by Douglas County. The areas not included within the three community plans are divided into 33 planning areas, subject to 30 TRPA PASs. The project area is located in Stateline, an unincorporated community in Douglas County, though it is not located within the Stateline CP (Exhibit 3-6).

HISTORIC AND EXISTING LAND USES

As described in Chapter 3, "Project Description," the 227-acre portion of the project site west of U.S. 50 is occupied by the Edgewood Tahoe Golf Course, which was developed in the 1960s as a private country club. In 1986, it was converted to a public facility. This portion of the project area includes a clubhouse with banquet room space, a pro shop, a restaurant, and a bar and grill, golf course support facilities (e.g., maintenance and utility facilities, pathways, surface parking, pump houses, a gate house, and restrooms), and two single-family lakefront residences. Access to the project area is provided by Lake Parkway from U.S. 50. The approximately 4-acre area east of U.S. 50 includes Friday's Station pond and dam. As described in Section 5.9, "Archaeological and Historical Resources," Friday's Station is a site rich with history and is listed on the National Register of Historic Places.

SURROUNDING LAND USES

The project area is surrounded by Lake Tahoe to the west; the University of Nevada 4-H Camp, the Oliver Park General Improvement District (GID) – including single- and multi-family residences, Lakeside Inn and Casino, Dart Liquor and other commercial businesses to the north; and U.S. 50, a residential estate, and open space owned by Edgewood Companies, SR 207, Lake Parkway, commercial and casino properties (i.e., Wells Fargo, the

Horizon Casino, and Harvey's Tahoe), and a mix of residential and smaller motel/hotel uses to the east and south. Surrounding land uses are illustrated in Exhibit 3-2.

5.2.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Land use is not one of TRPA's nine established environmental thresholds; however, according to Section 4.4 of the TRPA Code, implementation of a project that proposes uses inconsistent with applicable goals and policies of the TRPA Regional Plan, the Stateline CP, PAS 070A, or the DCMP would constitute a significant impact requiring mitigation (TRPA 2006). In addition, TRPA's Initial Environmental Checklist considers a proposal to have a significant impact if it would expand or intensify an existing non-conforming land use or if it would include uses that are not listed as permissible in the applicable PAS.

CONSISTENCY WITH RELEVANT PLANS AND POLICIES

The three tables below (5.2-1, 5.2-2, and 5.2-3) include consistency determinations for the action alternatives and the no project alternative and provide supporting narratives.

Consistency with the DCMP is not analyzed here because the Lake Tahoe Planning Area is not included as part of the Land Use Element of the DCMP. Consistency of the proposed project with applicable goals and policies from other chapters of the DCMP (e.g., Public Services and Facilities) are discussed separately within the relevant section of Chapter 5, "Affected Environment and Environmental Consequences," of this EIS.

Consistency with PAS 080 is not analyzed here because all of the development proposed as part of the project takes place within the 227 acres completely within PAS 070A. Though about 4 acres of the project area are located in PAS 080, the only action proposed within PAS 080 is Threshold Improvement Project D, which includes improvements to Friday's Station pond and dam. Threshold Improvement Project D is completely within Special Area #2 of PAS 080 and does not propose any new development or result in any changes in coverage. As discussed under Subsection 5.2.1, "Regulatory Background," Threshold Improvement Project D is consistent with the allowable uses described for Special Area #2 of PAS 080. Therefore, Table 5.2-2 below only analyzes the consistency of the alternatives considered in this EIS with those Special Policies of PAS 070A that are applicable to the project.

- Table 5.2-1 identifies goals and policies of the TRPA Regional Plan applicable to the project. The TRPA's Goals and Policies document contains six elements: land use, transportation, conservation, recreation, public services, and implementation.
- Table 5.2-2 identifies policies of PAS 070A applicable to the project.
- Table 5.2-3 identifies policies of the Stateline Community Plan applicable to the project.

Alternatives 1 through 3 are development alternatives and Alternative 4 is the no project alternative. (See Chapter 3, "Project Description," and Chapter 4, "Alternatives," for detailed descriptions of the proposed project and alternatives.)

TRPA Goals and Policies Consistency Analysis

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	Consistency Determination	Rationale
Land Use Element		
Land Use		
Goal #1: Restore, maintain, and improve the quality of the Lake Tahoe Region for the visitors and residents of the region.		
Policy 1. *The primary function of the region shall be as a mountain recreation area with outstanding scenic and natural values.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All development alternatives would result in the construction of a full-service lodge complex with a spa, restaurant, and meeting space within Special Area #1 of PAS 070A and would adhere to the guidelines and policies particular to the PAS. All development alternatives would include public beach access, on-site water quality improvements, SEZ restoration, removal of asphalt parking on Class 1b soils near the lake shore, golf course realignments, and would increase the capacity and efficiency of the Stateline Stormwater treatment system. All alternatives would also demolish the existing residential buildings along the shoreline and relocate the lots to higher capability lands set back approximately 600 feet from high water. It is a stated project goal that the project would initiate a transition from the existing casino corridor tourist product to a product offering broader recreational and entertainment amenities to encourage destination visitation and increasing length of stay. Development of the project would improve visitor accommodations and recreation facilities and would include lake shore and golf course improvements with the intent to improve the quality of the Stateline area for both visitors and residents. Alternative 4 would involve no changes to the Edgewood Tahoe Golf Course and would maintain the current recreation and residential uses on the project area. These uses are not in conflict with this policy.
Policy 3. *The plan shall seek to maintain a balance between economic health and the environment.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Alternatives 1, 2 and 3 would enhance tourist accommodations and recreation facilities, and could potentially increase visitor length of stay resulting in increased economic health for the Stateline area. The project is projected to create up to approximately 180 - 200 net new on-site jobs, depending on alternative, a beneficial source of employment to the south shore region. In addition to potential economic benefits, Alternatives 1, 2 and 3 include environmental improvements (Edgewood Creek drainage and SEZ improvements; and restoration of low capability lands). New development is proposed mainly for high capability lands, thereby minimizing development on lower capability lands.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
		Under Alternative 4 existing operations associated with the Edgewood Tahoe Golf Course would be projected into the future. The Edgewood Tahoe Golf Course currently helps to treat and clean storm water runoff from the impaired Edgewood Creek watershed and offers dining and recreation activities that attract visitors to the Stateline area.
Goal #2: Direct the amount and location of new land uses in conformance with the environmental threshold carrying capacities and the other goals of the Tahoe Regional Planning Compact.		
Policy 7. *No new divisions of land shall be permitted within the region which would create new development potential inconsistent with the goals and policies of this plan.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	None of the alternatives propose any division of land. The relocated residential lots would be a boundary line adjustment, which does not constitute a division of land.
Policy 10. *Nonconforming uses may continue, but may not be modified, expanded, or intensified.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	There are no non-conforming uses within the project area and none of the alternatives would result in a non-conforming use being located at the site.
Goal #3: All new development shall conform to the [Bailey] Coefficients of Allowable Land Coverage.		
Policy 1. *Allowed base land coverage shall be calculated by applying the Bailey coefficients.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All development alternatives would result in additional physical coverage. The new coverage proposed would be well within the coverage limits allowed for each land capability district in the project area. See Section 5.5, "Geology, Soils, and Land Capability and Coverage," for coverage details for each alternative. Alternative 4 would maintain the TRPA verified land coverage in the project area.
Policy 3. *Rehabilitation, reconstruction, and upgrading of the existing inventory of structures or other forms of coverage in the Tahoe Region are high priorities. Policies to encourage rehabilitation and upgrading of structures apply.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The existing pump house is the only structure on the Edgewood Tahoe Golf Course that would be upgraded and would not modify existing coverage. All development alternatives propose new buildings, or propose expanding an existing building (i.e., clubhouse) that would provide space for uses not currently available at the project site. With Alternative 4, existing structures and coverage at the project site would remain as they are today.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Goal #4: Provide to the greatest extent possible, within the constraints of the environmental threshold carrying capacities, a distribution of land use that ensures the social, environmental, and economic well-being of the region.		
Policy 1. *All persons shall have the opportunity to utilize and enjoy the region's natural resources and amenities.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Consistent with Special Policies #7 and #9 of PAS 070A, the development of a hotel/conference center within Special Area #1 is conditioned on an irrevocable commitment to improve access, capacity, and/or the range and quality of lakefront experiences available to the public with a focus on access for Stateline overnight visitors. All development alternatives include public beach access via a shared-use, paved path and a shuttle system between the Edgewood Tahoe Golf Course and the casino corridor. In addition to the public beach, other passive and active lakefront recreation opportunities are proposed. These lakefront recreation opportunities include but are not limited to natural areas, open space, pedestrian access, restrooms, concessions (e.g., kayak and bicycle rentals), restaurants, pedestrian and/or auto access, viewing decks, high quality views, food and beverage service, and pedestrian access. With Alternative 4, the public would continue to be allowed to use and enjoy the golf course and clubhouse facilities.
Policy 2. *No person or persons shall develop property so as to endanger the public health, safety, and welfare.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Construction of Alternatives 1, 2, and 3 would likely involve the use of hazardous materials, such as fuels and other materials during construction, and the long-term storage of hazardous materials (fuel, paint, fertilizer) on-site. However, the quantities of materials would be limited and use would be in accordance with applicable federal, state, and local laws and consistent with existing practices at the site. As discussed in Sections 5.5, "Geology, Soils, and Land Capability and Coverage" and 5.8, "Human Health and Risk of Upset," with implementation of mitigation measures the development alternatives are not expected to expose the public to public health and geologic risks (e.g., earthquakes, tsunami, etc.). With Alternative 4 conditions would persist as they are today – no new development is proposed as part of this alternative.
Noise		
Goal #1: Single event noise standards shall be attained and maintained.		
Policy 5. *The use of snowmobiles will be restricted to designated areas.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	A private contractor leases land at the site during the winter season to rent snowmobiles and operate a snowmobile track. These activities are conducted within a designated area on the site and in accordance with an existing TRPA permit. Changes to the snowmobile operations are not proposed as part of any of the development alternatives.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 6. *The plan will permit uses only if they are consistent with the noise standards. Sound proofing practices may be required on all structures containing uses that would otherwise adversely impact the prescribed noise levels.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All development alternatives would be consistent with applicable noise standards. Sound proofing is not required for any alternative. See Section 5.13, "Noise," for additional detail. Alternative 4 would be a continuation of existing conditions, and would not alter noise conditions at the site.
Goal #2: Community noise equivalent levels shall be attained and maintained.		
Policy 1. *Transmission of noise from the transportation corridors shall be reduced.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	None of the development alternatives would result in a perceptible increase (greater than 3 dB CNEL) in noise levels along affected roadways that exceed applicable TRPA thresholds. Alternative 4 would not result in any changes to roadside noise levels.
Natural Hazards		
Goal #1: Risk from natural hazards will be minimized.		
Policy 2. *Prohibit construction, grading, and filling of lands within the 100-year flood plain and in the area of wave run-up. Require all public utilities, transportation facilities, and other necessary public uses located in the 100-year flood plain and area of wave run-up to be constructed or maintained to prevent damage from flooding and to not cause flooding.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	As discussed in Section 5.6, "Hydrology and Water Quality," based on the most recent Douglas County Flood Insurance Rate Maps (January 2010), Alternative 1 would site structures outside the 100-year flood hazard boundary and would not result in placement within the 100-year flood hazard boundary any structures that would impede or redirect flood flows. Proposed structures associated with Alternatives 2 and 3 intersect a small portion of the mapped 100-year flood hazard boundary. However, applicable to all of the development alternatives, the current flood hazard boundary in the vicinity of the proposed development was delineated using approximate methodologies and is classified as a Zone A boundary, which does not provide base flood elevations. In this situation, Douglas County Floodplain Management Code (Section 20.50) requires additional study by a licensed civil engineer to delineate the floodplain boundary using approved engineering methods to confirm that proposed structures do not encroach into a special flood hazard area. Because at this stage in the project design process the floodplain boundary on the subject parcels has not been delineated to required Douglas County standards to make the necessary findings, mitigation measures have been identified that establish steps to demonstrate that all structures are placed outside of the 100-year floodplain. Alternative 4 would not result in any new structures.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 3. *Inform residents and visitors of the wildfire hazard associated with occupancy in the Basin. Encourage use of fire resistant materials and fire preventative techniques when constructing structures, especially in the highest fire hazard areas. Manage forest fuels to be consistent with state laws and other goals and policies of this plan.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	As discussed in Section 5.8, "Human Health and Risk of Upset," the project site is located in a moderate fire hazard area. All of the development alternatives would incorporate fire resistant roofs and defensible space, and adequate fire protection services are available to the serve the project. These measures would reduce the project's potential to increase exposure of people or structures to wildland fires. Alternative 4 would be a continuation of existing conditions – no new structures would be constructed. Therefore, this policy statement does not apply.
Water Quality		
Goal #1: Reduce loads of sediment and algal nutrients to Lake Tahoe; meet sediment and nutrient objectives for tributary streams, surface runoff, and sub-surface runoff, and restore 80% of the disturbed lands.		
Policy 1. *Discharge of municipal or industrial wastewater is prohibited.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.14, "Public Services and Utilities," wastewater would continue to be discharged into the Douglas County Sewer Improvement District (DCSID) system under all alternatives. DCSID has issued a "Will Serve" letter for the project.
Policy 2. *BMPs must be in place and maintained, vegetation protected from unnecessary damage and disturbed soils restored.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The Edgewood Tahoe Golf Course currently operates with permanent TRPA approved BMPs in place and under a fertilizer management plan that is prepared in accordance with Chapter 60.1.8 of the TRPA Code of Ordinances. Therefore, no conflict would occur under Alternative 4. Permanent BMPs and a storm water treatment system exceeding the requirements of Chapter 60 of the TRPA Code would be installed with implementation of any of the development alternatives.
Policy 3. *Application of BMPs to projects shall be required as a condition of approval for all projects.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The Edgewood Tahoe Golf Course currently operates with permanent TRPA approved BMPs in place and with a TRPA-approved fertilizer management plan. Therefore, no conflict would occur under Alternative 4. Permanent BMPs and a storm water treatment system exceeding the requirements of Chapter 60 of the TRPA Code would be installed with implementation of any of the development alternatives.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 6. *The use of fertilizer shall be restricted to uses, areas, and practices, identified in the Handbook of Best Management Practices. Fertilizers shall not be used in or near stream and drainage channels, or in stream environment zones, including setbacks, and in shorezone areas. Fertilizer use for maintenance of preexisting landscaping shall be minimized in stream environment zones and adjusted or prohibited if found, through evaluation of continuing monitoring results, to be in violation of applicable water quality discharge and receiving water standards.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The Edgewood Tahoe Golf Course currently operates under a fertilizer management plan prepared in accordance with Chapter 60.1.8 of the TRPA Code. Therefore, no conflict would occur under Alternative 4. As discussed in Section 5.6, "Hydrology and Water Quality," the development alternatives would reduce the amount of fertilized turf within buffer strips associated with SEZ setbacks (i.e., 10-foot and 25-foot setbacks around ponds and wetlands on the golf course) by almost 4 acres. Further, as part of the development alternatives the project applicant would continue to operate the golf course with a reduction of approximately 24 acres of fertilized turf relative to the baseline condition. In total, the proposed project would result in an overall reduction in the amount of fertilizer applied on the golf course, which could have a benefit to existing groundwater quality.
Policy 8. *Transportation and air quality measures aimed at reducing airborne emissions of oxides of nitrogen shall be carried out.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All development alternatives include a shared-use pathway within walking distance of the casino corridor for visitors and residents to access the public beach. All development alternatives would also offer a shuttle service between the casino corridor and other nearby areas and the golf course. Alternative 4 would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy, and therefore would have no effect.
Goal #2: Reduce or eliminate the addition of other pollutants which affect, or potentially affect, water quality in the Tahoe Basin.		
Policy 2. *A discharge of sewage is prohibited. Sewage collection, conveyance and treatment districts shall have approved spill contingency, prevention, and detection plans.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.14, "Public Services and Utilities," wastewater would continue to be discharged into the DCSID system under all alternatives. DCSID has issued a "Will Serve" letter for the project.
Policy 5. *Solid waste discharge on or in the land is prohibited except as provided by TRPA ordinance.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.14, "Public Services and Utilities," for all alternatives solid waste disposal services for the project would continue to be provided by South Tahoe Refuse. All materials collected, including garbage and recyclables, would be hauled to the materials recovery facility in South Lake Tahoe to be sorted. All nonrecyclable material would be hauled out of the basin and disposed of at a landfill with sufficient capacity in Nevada.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	Consistency Determination	Rationale
Community Design		
Goal #1: Insure preservation and enhancement of the natural features and qualities of the region, provide public access to scenic views, and enhance the quality of the built environment.		
Policy 1. *Maintain or improve the scenic quality ratings.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.3, "Scenic Resources," all of the development alternatives would maintain and/or improve TRPA's scenic threshold ratings (SR-1, Travel Route Ratings, SR-2, Scenic Quality Ratings; and SR-3, Public Recreation Areas and Bike Trails). Alternative 4 would be a continuation of existing conditions and, as such, would not affect scenic quality ratings.
Transportation Element		
Objective #2: Plan for and promote land use changes and development patterns which will encourage the use of alternative transportation modes and minimize impacts on the existing transportation system.		
Policy C. *Development patterns shall provide for the in-fill of existing areas, making use of existing transportation facilities and promoting the use of alternative transportation modes.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All alternatives would make use of existing transportation facilities. In addition, all development alternatives include a shared-use pathway for bicycle and pedestrian use within walking distance of the casino corridor for visitors and residents to access the public beach. All development alternatives would also offer a shuttle service between the casino corridor and the golf course. The site's proximity to the casino corridor and the alternative transportation opportunities that are included with the project have attributes of an in-fill development. Alternative 4 would involve no changes to the existing Edgewood uses and existing transportation facilities would continue to be utilized.
Policy D. *New, expanded or revised developments and land uses shall fully mitigate their regional and cumulative traffic impacts.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	Section 5.15, "Cumulative Impacts," discusses that nearby intersections would continue to operate at an acceptable level of service (LOS) in future conditions (2029) with implementation of each of the development alternatives. Alternative 4 would not change the traffic associated with the project site, and would have no impact on regional and cumulative traffic conditions. This policy does not apply.
Policy F. *Parking for non-residential uses shall be the minimum/maximum required to meet the demand for parking generated by the use, except as may be offset by reducing parking demand through parking management and trip reduction programs.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.10, "Traffic, Parking, and Circulation," Alternatives 1 and 2 would have a small parking surplus whereas Alternative 3 is expected to result in a parking shortfall of 5 spaces during peak summer periods. However, with mitigation, the parking conditions with Alternative 3 would accommodate the parking demand generated on a typical peak summer day. Although Alternative 4 would not result in an increase in parking demand. This alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy, and therefore would have no effect.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy G. *Driveways shall be designed and sited to minimize impacts on public transportation, adjacent roadways and intersections, bicycle and pedestrian facilities.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	No adverse impacts to public transportation, adjacent roadways and intersections, and bicycle and pedestrian facilities are associated with the proposed driveway location under all development alternatives. Under Alternative 4, the existing driveway would not be modified. No concerns are identified at the site driveway location relative to other nearby driveways and intersections, public transportation, and bicycle and pedestrian facilities.
Objective #3: Actively pursue programs that promote the use of mass transit as an alternative to the automobile.		
Policy B. *Public or private transit services shall be given preference in mitigating traffic and transportation related impacts due to new, expanded or revised development or land use activities.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All development alternatives would offer a shuttle service between the casino corridor and the golf course/lodge complex. Alternative 4 would not result in new, expanded or revised development or land use activities.
Objective #4: Develop and encourage the use of pedestrian and bicycle facilities as a safe and viable alternative to automobile use.		
Policy D. *Bicycle racks or storage facilities shall be provided at non-residential developments, transit stops, and on transit vehicles.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All development alternatives would provide bicycle racks as well as a storage area for bicycles. Alternative 4 would not result in new bicycle facilities at the site.
Objective #5: Implement transportation demand management (TDM) measures to reduce the number of vehicle trips on the Region's highways.		
Policy B. *Employers shall implement vehicle trip reduction programs, including carpool and vanpool matching programs, employee shuttles, flexible work hours, and transit use incentives.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All development alternatives would offer a shuttle service between the casino corridor and the golf course/lodge complex. Alternative 4 would not result in new, expanded or revised development or land use activities that add vehicle trips to the roadway network. This alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy C. *Public and private employers shall develop parking management programs including preferential parking and reduced parking rates for carpools and vanpools, parking charges for employee parking and paid patron parking.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	By providing a shuttle service for guests and employees, the development alternatives propose to reduce emissions from employee vehicle trips. Further, employees outside of the Stateline vicinity would be encouraged to take advantage of existing public transportation systems such as Blue-Go. During peak periods, employee parking would be located in the employee lot east of Lake Parkway where preferential parking placement would be given to carpool vehicles. During non-peak periods, preferential parking may be established for employee carpool vehicles in either the parking structure at the site entrance near Lake Parkway or in the Main Lodge parking structure. Alternative 4 would be a continuation of existing practices, whereby Edgewood Companies promotes the use of existing public transportation systems.
Policy D. *Condominiums, timeshares, hotels and motels shall participate in public transit and private shuttle programs, and provide transit information and incentives to their guests and residents.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All development alternatives would offer a shuttle service between the casino corridor and the golf course/lodge complex. Information regarding the shuttle program would be promoted to site employees and lodge/golf course guests. Alternative 4 does not include condominiums, timeshares, hotels or motels. Therefore, this policy does not apply to this alternative.
Policy E. *Commercial interests providing gaming, recreational activities, or excursion services shall provide or participate in joint shuttle services or provide transit use incentives to their guests or patrons.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Inconsistent	All development alternatives would offer a shuttle service between the casino corridor and the golf course/lodge complex. Alternative 4 does not include a shuttle service or other transit use incentives to guests or patrons.
Objective #6: Transportation System Management (TSM) measures shall be used to improve the efficiency of the existing transportation system.		
Policy B. *Traffic conflicts should be reduced by limiting or controlling access to major regional travel routes and major local road ways.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All alternatives propose a single public access point on Lake Parkway. No access points are proposed on U.S. 50. Alternative 4 would not change the existing site driveway location on Lake Parkway. No public access points are provided on U.S. 50.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy D. *Roadway designs shall accommodate bicycle lanes and transit stops and reduce conflicts between vehicles and bicycle and pedestrians.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All development alternatives would offer a shuttle service between the casino corridor and the golf course/lodge complex, with a new shuttle stop provided on-site. All development alternatives also include a shared-use pathway separate from but parallel to the site access driveway for bicycle and pedestrian use, which would reduce conflicts between vehicles and bicycles and pedestrians. However, an adequate pedestrian connection is not provided between the proposed off-site parking lot and the project driveway. With mitigation, adequate pedestrian conditions would be provided under all development alternatives. As Alternative 4 is a continuation of existing conditions, it would not conflict with this policy.
Policy G. *Left-turn lanes and right-turn lanes shall be provided to reduce turning conflicts along major travel routes.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	A central two-way left-turn lane is provided along Lake Parkway for turns into and out of the project site. Right-turn lanes are not warranted under any of the alternatives. As no new turn lanes are warranted under Alternative 4, it would not conflict with this policy.
Objective #7: Limit improvements to the regional highway system to those necessary to meet the goals and policies of the Regional Plan.		
Policy F. *Level of service (LOS) criteria for the region's highway system and signalized intersections during peak periods shall be:* • *Level of Service "C" on rural recreational/scenic roads.* • *Level of Service "D" on rural developed area roads.* • *Level of Service "D" on urban developed area roads.* • *Level of Service "D" for signalized intersections.* • *Level of Service "E" may be acceptable during peak periods in urban areas, not to exceed four hours per day.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	See discussion above under Transportation Element, Objective #2, Policy D.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Objective #10: Improve the mobility of the elderly, handicapped and other transit-dependent groups.		
Policy B. *Ensure access to the public transportation system by providing and maintaining sidewalks with curb cuts and ramps.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Lake Parkway is currently served by a sidewalk on the north side of the roadway between the site access road and U.S. 50 to the east. Adequate crossing of U.S. 50 is provided at the U.S. 50/Lake Parkway traffic signal. Under all development alternatives, curb cuts would be provided at the site driveway. No changes to the existing sidewalks would occur under Alternative 4. The existing site driveway provides curb cuts.
Conservation Element		
Vegetation		
Goal #1: Provide for a wide mix and increased diversity of plant communities in the Tahoe Basin.		
Policy 5. *Permanent disturbance or unnecessary alteration of natural vegetation associated with development activities shall not exceed the approved boundaries [or footprints] of the building, driveway, or parking structures, or that which is necessary to reduce the risk of fire or erosion.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	Site plans for all the development alternatives indicate that vegetation removal proposed for the project is primarily associated with construction of the new lodge complex, which would include buildings, driveways, and parking areas. In addition, vegetation removal would occur with golf course modifications, and implementation of the threshold improvement projects. All development alternatives would be required to adhere to the final site plans and the Limited Forest Management Plan, which was prepared as part of the project, as approved by TRPA. These plans would include detailed descriptions of construction activities including the construction mitigation measures identified in Section 5.7, “Biological Resources (Vegetation, Wildlife, and Fisheries,” regarding tree removal and other disturbances to vegetation, including riparian vegetation. These mitigation measures include minimizing or avoiding impacts to and/or compensating for the loss of riparian vegetation. Therefore, all development alternatives would be consistent with this policy. Alternative 4 would be a continuation of existing conditions and no new development activities would occur. Therefore, this policy does not apply to Alternative 4.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 8. *Revegetation of disturbed sites shall require the use of species approved by the agency. TRPA shall prepare specific policies designed to avoid the unnecessary use of landscaping which requires long-term irrigation and fertilizer use.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Landscaping proposed in association with the new lodge complex under all of the action alternatives would include native species of trees, plants, and grasses to the extent feasible outside of managed golf areas. Plants recommended for landscaping would require minimal amounts of fertilization or water after they become established. Conceptual landscaping vegetation plans (that include a species list) are provided in the detailed design set submitted as part of the TRPA application package (Edgewood Companies 2011: G3.0). A final landscaping plan would be required for approval of final site plans by TRPA. Implementation of the development alternatives would also involve modifications to alignment and management of the existing golf course under the threshold improvement projects. Project E includes an updated Edgewood Tahoe Golf Course Fertilizer Management Plan. Measures include reduction in the amount of managed turf in sensitive habitats and reductions in fertilizer and irrigation use throughout the golf course. Therefore, all development alternatives would be consistent with this policy. Implementation of Alternative 4 would not result in the creation of any newly disturbed areas. Uses of irrigation and fertilizer would not be modified. Existing fertilizer use is administered under a Fertilizer Management Plan approved by TRPA. Therefore, this alternative would be consistent with this policy.
Policy 9. *All proposed actions shall consider the cumulative impact of vegetation removal with respect to plant diversity and abundance, wildlife habitat and movement, soil productivity and stability, and water quality and quantity.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Section 5.15, "Cumulative Impacts," considers the cumulative impacts on vegetation removal with respect to plant diversity and abundance, wildlife habitat and movement, soil productivity and stability, and water quality and quantity for Alternatives 1 through 4. Therefore, all alternatives would be consistent with this policy.
Goal #2: Provide for the maintenance and restoration of such unique eco-systems as wetlands, meadows, and other riparian vegetation.		
Policy 2. *Riparian plant communities shall be restored or expanded whenever and wherever possible.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	The development alternatives would include implementation of threshold improvement projects, through which riparian plant communities would be restored and expanded (see full discussion under Impact 5.7.1-2). Therefore, the development alternatives would be consistent with this policy. Under Alternative 4, the riparian area would continue to exist in its current degraded state; however, this alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy, and therefore would have no effect.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Goal #3: Conserve threatened, endangered, and sensitive plant species and uncommon plant communities of the Lake Tahoe Basin.		
Policy 1. *Uncommon plant communities shall be identified and protected for their natural values.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Tahoe yellow cress is the only uncommon plant community within the project area. See discussion under Policy 3 below.
Policy 2. *The population sites and critical habitat of all sensitive plant species in the Lake Tahoe Basin shall be identified and preserved.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Tahoe yellow cress is the only sensitive plant species within the project area. See discussion under Policy 3 below.
Policy 3. *The conservation strategy for tahoe yellow cress in the Lake Tahoe Basin shall foster stewardship for this species.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," populations of Tahoe yellow cress are known to occur in the beach/dune habitat within the project area, and Edgewood beach area is considered a "core" population for the species. Implementation of the development alternatives could disturb Tahoe yellow cress by moving the mouth of Edgewood Creek, thus changing the hydrologic condition in this area of the beach, as well as increasing recreational use. Mitigation measures are identified to avoid disturbance or removal of Tahoe yellow cress and to implement measures to adaptively manage and compensate for any adverse effects related to changes in hydrology and/or the beach/dune habitat, loss due to increased recreational use, and construction-related impacts. The identified mitigation would minimize the impact on Tahoe yellow cress. Therefore, all development alternatives would be consistent with Policies 1-3. No changes at the site or effects to Tahoe yellow cress would occur under Alternative 4.
Goal #4: Provide for and increase the amount of late seral/old growth stands within the Lake Tahoe Basin.		
Policy 2. *Stands not exhibiting late seral/old growth characteristics shall be managed to progress towards late seral/old growth.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	A TRPA Limited Forest Plan has been developed to guide tree removal associated with the development alternatives. The remaining forest stands, not currently characterized as late seral/old growth, would be left to grow over time, where natural factors can act upon the stands to increase their complexity. Therefore, all development alternatives would be consistent with this policy. Implementation of Alternative 4 would not include any tree removal or management of the forest stands within the project area. Implementation of all alternatives would allow forest stands to succeed naturally such that they can progress toward late seral/old growth. Alternative 4 would be consistent with this policy.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 4. *Retain large trees as a principal component of late seral/old growth ecosystems.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Forest stands within the project area are not considered late seral/old growth forest ecosystems (Appendix C). Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6[A][4] of the TRPA Code) are scheduled for removal as part of the development alternatives. Therefore, all development alternatives would be consistent with this policy. Implementation of Alternative 4 would not include any tree removal or management of the forest stands within the project area. No conflict with this policy would occur. Therefore, all alternatives would be consistent with this policy.
Wildlife		
Goal #1: Maintain suitable habitats for all indigenous species of wildlife without preference to game or non-game species through maintenance of habitat diversity.		
Policy 1. *All proposed actions shall consider impacts to wildlife.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Potential short-term, long-term, and cumulative impacts to common and sensitive wildlife resources related to implementation of Alternatives 1 through 4 were evaluated. Mitigation measures are proposed where necessary to reduce potential impacts to a less-than-significant levels. Therefore, all alternatives would be consistent with this policy. See full discussion under Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," Impacts 5.7.1-6 and 5.7.1-7.
Policy 2. *Riparian vegetation shall be protected and managed for wildlife.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The development alternatives would include implementation of the threshold improvement projects, through which wildlife habitat would be improved by creation, restoration, and/or enhancement of riparian and wetland habitat along Edgewood Creek and Golf Course Creek, and in/around the system ponds within the project area. Under Alternative 4, the riparian area would continue to exist in its current degraded state; however, this alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy. Therefore, all alternatives would be consistent with this policy. See full discussion under Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," Impact 5.7.1-2.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 3. *Non-native wildlife and exotic species shall be controlled and release of such animals into the wild is forbidden.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The development alternatives would include the removal of pond 15, which is known to contain non-native species. In addition, all ponds throughout the golf course would be dredged, and non-natives found in these ponds would be removed and disposed of. Implementation of Alternative 4 would not remove any non-native wildlife known to occur within the project area. Currently there is no management plan for non-natives found within the project area. However, this would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy. Therefore, all alternatives would be consistent with this policy.
Goal #2: Preserve, enhance, and, where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the basin.		
Policy 1. *Endangered, threatened, rare, and special interest species shall be protected and buffered against conflicting land uses.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The development alternatives would include implementation of the threshold improvement projects, through which habitat for special interest species would be protected and buffered from existing conflicting land uses due to creation, restoration, and/or enhancement of riparian and wetland habitat along Edgewood and Golf Course Creeks, and in/around the system ponds within the project area. Larger riparian/wetland areas with wider riparian zones at the periphery would provide a greater buffer distance between special interest species and golf course operations. Implementation of Alternative 4 would not offer additional protection or buffer between special interest species and golf course play and operation. This alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy. Therefore, all alternatives would be consistent with this policy.
Fisheries		
Goal #1: Improve aquatic habitat essential for the growth, reproduction, and perpetuation of existing and threatened fish resources in the Lake Tahoe Basin.		
Policy 1. *Development proposals affecting streams, lakes and adjacent lands shall evaluate impacts to the fishery.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Potential short-term, long-term, and cumulative impacts to fisheries resources related to implementation of Alternatives 1 through 4 were evaluated in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," Impacts 5.7.1-8 and 5.7.1-9. Mitigation measures are proposed where necessary to reduce potentially significant impacts to less-than-significant levels. Therefore, all alternatives would be consistent with this policy.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 2. *Unnatural blockages and other impediments to fish movement will be prohibited and removed wherever appropriate.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," all of the development alternatives would include implementation of the threshold improvement projects that would relocate the mouth of Edgewood Creek and reconstruct a stable, fish passable outfall south of the existing location. The current outfall of Edgewood Creek is impassable to fish. The new outfall would allow passage into Edgewood Creek by lake dwelling fish. The development alternatives would be consistent with this policy. Implementation of Alternative 4 would not relocate or improve the mouth of Edgewood Creek and it would remain impassable to fish. However, this alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy.
Policy 6. *Instream flows shall be regulated, when feasible, to maintain fishery values.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The development alternatives would include implementation of the threshold improvement projects which would improve aquatic habitat and fish passage along the lower reach of Edgewood Creek to pond 1. Measures are proposed as part of the development alternatives that would ensure passage benefits for target fish species and to avoid stranding (see Chapter 3, "Project Description"). Therefore, all development alternatives would be consistent with this policy. Implementation of Alternative 4 would not make any changes to the mouth or current condition of Edgewood Creek, and fish passage and aquatic habitat within the project area would continue to be limited. However, this alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy.
Soils		
Goal #1 Minimize soil erosion and the loss of soil productivity.		
Policy 1. *Allowable impervious land coverage shall be consistent with the threshold for impervious land coverage.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All of the action alternatives involve coverage modifications that are consistent with TRPA Code provisions and TRPA's threshold related to impervious land coverage. See full discussion under Section 5.5, "Geology, Soils, and Land Capability and Coverage," Impact 5.5.1-1.
Policy 2. *No new land coverage or other permanent disturbance shall be permitted in land capability districts 1-3 (with limited exception).*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	None of the action alternatives would result in new coverage in LCDs 1-3. However, the development alternatives would result in relocation of existing coverage within LCD 1b. See full discussion under Section 5.5, "Geology, Soils, and Land Capability and Coverage," Impact 5.5.1-1.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 6. *Grading, filling, clearing of vegetation (which disturbs soil), or other disturbances of the soil are prohibited during inclement weather and for the resulting period of time when the site is covered with snow or is in a saturated, muddy, or unstable condition. Special regulations and construction techniques will apply to all construction activities occurring between October 15 And May 1.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All of the development alternatives would limit construction during inclement weather between October 15 and May 1, unless TRPA issues an exemption to the grading prohibition, as identified in Mitigation Measures 5.6.1-1, 5.6.2-1, and 5.6.3-1 in Section 5.6, "Hydrology and Water Quality." No grading, filling, clearing, or other disturbances to soil would occur with Alternative 4.
Policy 7. *All existing natural functioning SEZs shall be retained as such and disturbed SEZs shall be restored whenever possible.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The development alternatives would include implementation of the threshold improvement projects, which provide for creation, restoration, and enhancement of SEZ lands. Under these alternatives 200,347 square feet of SEZ would be created or improved, and thus would be consistent with this policy. Implementation of Alternative 4 would not provide for restoration of SEZ lands within the project area. However, this alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy. See full impact discussion in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," Impact 5.7.1-2.
Shorezone		
Goal #1 Provide for the appropriate shorezone uses of Lake Tahoe, Cascade Lake, and Fallen Leaf Lake while preserving their natural and aesthetic qualities.		
Policy 1. *All vegetation at the interface between the backshore and foreshore zones shall remain undisturbed unless allowed by permit for uses otherwise consistent with the shorezone policies.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Under the development alternatives, two elements of the project would occur between the backshore and foreshore zones; removal of the existing pier and reconstruction of the new pier with an ADA access ramp leading to the pier. These activities would not occur in areas within the shorezone that contain existing vegetation, but they may be suitable habitat for Tahoe yellow cress. Relocation of the mouth of Edgewood Creek could affect existing vegetation between the backshore and foreshore zones by changing the hydrologic conditions in this zone where vegetation does exist near the existing creek mouth. This area is known to support riparian vegetation and populations of Tahoe yellow cress. Therefore, Mitigation Measures 5.7.1-3a, 5.7.1-3b, and 5.7.1-3c are identified to avoid disturbance or removal of Tahoe yellow cress and to implement measures to adaptively manage and compensate for any adverse effects related to changes in hydrology and/or the beach/dune habitat and construction-related impacts. Though designed primarily to reduce impacts to Tahoe yellow cress populations, implementation of the mitigation would reduce the project's impact on vegetation at the interface between the backshore and foreshore to a less-than-significant level. Therefore, all development alternatives would be consistent with this policy.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis

Regional Plan Goals and Policies	Consistency Determination	Rationale
		No changes would occur under Alternative 4. This alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy. See full discussion under Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," Impact 5.7.1-3.
Policy 3. *The use of lawns or ornamental vegetation in the shorezone shall be discouraged.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All development alternatives include lawn areas in close proximity to the lake associated with the outdoor event lawn and the relocated golf hole 9. However, these turf areas are not within the backshore boundary. Therefore, all development alternatives would be consistent with this policy. No changes would occur under Alternative 4. This alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy.
Policy 4. *Class 1 capability shorezones shall be managed consistent with the goals and policies of the stream environment zone sub-element.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The pier locations for the three development alternatives are located within Shorezone Tolerance District 1, as mapped within PAS 070A. Consistency with the goals and policies of the stream environment zone sub-element are discussed below.
Policy 8. *Stream channel entrances to the lake shall be maintained to allow unobstructed access of fishes to upstream spawning sites.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All of the development alternatives would include relocation of the mouth of Edgewood Creek to the south of its existing location. The new mouth would be constructed in a manner that would allow fish passage. See discussion under Fisheries Goal #1, Policy 2 above. All development alternatives would be consistent with this policy. No changes would occur under Alternative 4. This alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy.
Policy 9. *The agency shall regulate the placement of new piers, buoys, and other structures in the foreshore and nearshore to avoid degradation of fish habitats, creation of navigation hazards, Interference with littoral drift, interference with the attainment of scenic thresholds, and other relevant concerns.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All development alternatives involve reconstruction of an existing pier in the foreshore and nearshore. As discussed in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," the location of the new pier under each of the development alternatives would be located outside of prime fish habitat and is not expected to adversely affect fish habitat. As discussed in Section 5.3, "Scenic Resources," reconstruction of the new pier would not degrade scenic thresholds. The project area includes two Edgewood Water Company intake lines (a primary line that extends over 2,000 feet from the beach and a backup line located over 700 feet from the beach) that extend lakeward from a point near the existing lakefront residences. As discussed in Section 5.6, "Hydrology and Water Quality," these distances combined with the depths of the intakes is sufficient to protect water quality. The pier design as proposed could interfere with littoral drift; however, as discussed in Section 5.6, "Hydrology and

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
		Water Quality," refinements to the pier design identified as mitigation would resolve this issue. The proposed public beach involves a designated swim area that would be roped off to protect swimmers from boating activity associated with the relocated pier, as discussed in Section 5.4, "Recreation and Public Access," and Section 5.8, "Human Health and Risk of Upset." The proposed pier does not exceed the length of other piers in the area and is not expected to create a navigational hazard as it pertains to boats. Therefore, all development alternatives would be consistent with this policy. No changes would occur under Alternative 4. This alternative would be a continuation of existing conditions and would not result in any changes to the existing pier. Therefore, this policy does not apply.
Scenic		
Goal #1: Maintain and restore the scenic qualities of the natural appearing landscape.		
Policy 1. *All proposed development shall examine impacts to the identified landscape views from roadways, bikepaths, public recreation areas, and Lake Tahoe.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	Impacts to the identified landscape views from roadways, bike paths, public recreation areas, and Lake Tahoe are examined in detail in Section 5.3, "Scenic Resources." No new development would occur under Alternative 4. This alternative would be a continuation of existing conditions. Therefore, this policy does not apply.
Stream environment zone (SEZ)		
Goal #1: Provide for the long-term preservation and restoration of Stream Environment Zones.		
Policy 4. *Golf courses in stream environment zones shall be encouraged to retrofit course design in combination with fertilizer application standards (see water quality supplement, goal #1, policy 5) to prevent release of nutrients to adjoining ground and surface waters.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The development alternatives would include implementation of the threshold improvement projects which would include several modifications and enhancements throughout the golf course in order to improve water quality. This would include the implementation of a new Fertilizer Management Plan. This plan is designed to improve green golf course practices and would include removal of about 24 acres of fertilized turf area, and the creation of buffer zones between fertilized and natural areas. Therefore, all development alternatives would be consistent with this policy. Implementation of Alternative 4 would result in no changes to current golf course operations including the number of fertilized acres. However, this alternative would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Policy 5. *No new land coverage or other permanent land disturbance shall be permitted in stream environment zones except in defined circumstances.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	The development alternatives would not include any new land coverage or permanent land disturbance in stream environment zones, but would rather reduce the amount of current coverage in these areas in accordance with TRPA Code. Implementation of Alternative 4 would not change coverage in stream environment zones. Therefore, this policy does not apply.
Policy 6. *Replacement of existing coverage in stream environment zones may be permitted where the project will reduce impacts on stream environment zones and will not impede restoration efforts.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Under existing conditions, the project site includes coverage in SEZ areas. Implementation of the development alternatives would reduce coverage within SEZ by 0.6 acre to over 1 acre, depending on development alternative. In addition, 200,347 square feet of SEZ would be created, restored, or enhanced in association with the threshold improvement projects, which are also part of these alternatives. Alternative 4 would not affect SEZ coverage within the project site. This would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy. Therefore, all alternatives would be consistent with this policy.
Cultural		
Goal #1: Identify and preserve sites of historical, cultural and architectural significance within the region.		
Policy 1. *Historical or culturally significant landmarks in the basin shall be identified and protected from indiscriminate damage or alteration.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	As discussed in Section 5.9, "Archaeological and Historical Resources," over 20 prehistoric and historic-era cultural resources have been identified within the project vicinity (within 0.5 mile) and nine are known to be located within the project area boundaries. Three of these resources are either eligible or may be eligible for NRHP listing and as such are considered significant heritage resources per federal and TRPA regulations. Prehistoric site 26-Do-4 is reported to be in at least three locales throughout the project area. Surface remains of the site(s) have not been observed and are believed to have been destroyed; therefore, the site has been recommended as not-eligible to the NRHP based upon its surface component. However, subsurface and/or near surface intact archaeological deposits may exist and if encountered, this site may be eligible for NRHP listing and consequently considered significant historic resource per federal and TRPA regulations. Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The CA/NV boundary monument in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. Mitigation Measure 5.9.1-1 includes development and implementation of an Archaeological Monitoring Plan prepared in consultation with the Washoe Tribe, TRPA, and the Nevada SHPO that would protect

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
		known heritage resources, and requires fencing to protect known heritage resources. Mitigation Measure 5.9.1-2 would reduce impacts on previously undiscovered cultural resources to less-than-significant levels. Therefore, Alternatives 1, 2, and 3 would be consistent with this policy. Under Alternative 4, the project area would remain in its current state and existing operation of the golf course, clubhouse, snowmobile operations, lakefront residences, and pier would be projected into the future. Because there would be no ground disturbance within the project area under Alternative 4, there would be no potential disturbance of known or unknown archaeological or historical resources. Therefore, this policy does not apply.
Policy 2. *Sites and structures designated as historically, culturally, or archaeologically significant shall be given special incentives and exemptions to promote the preservation and restoration of such structures and sites.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	See discussion immediately above under Policy 1.
Energy		
Goal #1. Promote energy conservation programs and development of alternative energy sources to lessen dependence on scarce and high-cost energy supplies.		
Policy 1. *All new development shall comply with state and federal energy efficiency standards.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All of the development alternatives would comply with standard building codes (e.g., International Building Code (IBC) and the Uniform Building Code (UBC), which have been adopted by Douglas County. Furthermore, the proposed development alternatives are being designed to achieve at minimum, a LEED® Silver rating. Through final design and construction, it is possible that the project may qualify a LEED Gold or Platinum rating. After discretionary project approval, a more detailed analysis would be performed by the project applicant team to determine whether or not it makes economic sense to attain a LEED Gold or Platinum rating. The project applicant is also evaluating the use of other green technologies (such as active solar panels and ground source heat pump systems) for the proposed project. All of the development alternatives would comply with relevant energy efficiency standards. No new development would occur under Alternative 4. Therefore, this policy does not apply.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Recreation Element		
Dispersed Recreation		
Goal #1: Encourage opportunities for dispersed recreation when consistent with environmental values and protection of the natural resources.		
Policy 1. *Low density recreational experiences shall be provided along undeveloped shorelines and other natural areas consistent with the tolerance capabilities and character of such areas.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The majority of the shoreline within the project area is within TRPA Shorezone Tolerance District 7 (comparatively level shorezone underlain by morainic and alluvial materials with slopes of 0-9 percent). About one-third of the shoreline within the project area is within Shorezone Tolerance District 1 (barrier beaches and lakeshore dunes). The two shorezone tolerance district boundaries meet at a location approximately midpoint on the lakeside of the clubhouse. The proposed reconstructed pier and accessible ADA ramp under all of the development alternatives would be within the limits of Shorezone Tolerance District 1, as would the new public beach. The existing and proposed relocation of the mouth of Edgewood Creek are both within the limits of Shorezone Tolerance District 7. The existing and proposed development alternatives are consistent with the uses allowed within these shorezone tolerance districts.
Goal #2: Provide high-quality recreational opportunities.		
Policy 3. *Nearshore/foreshore structures should be appropriately located to minimize impacts to recreational boating and top line fishing.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	Each of the development alternatives proposes the removal of the existing 91-foot pier and the construction of a 123-foot pier. This is the only structure that would be located within the foreshore or nearshore under any of the alternatives. As discussed in Section 5.4, "Recreation and Public Access," the proposed pier would not impair or reduce fish habitat or otherwise impair recreational fishing activities. The areas surrounding both the existing and the proposed relocated pier are not located in prime fish habitat. The nearest fishing hole is Hobart's Hole, which is located approximately 800 feet from the high water line north of the project site (TRPA 2009). Because the relocated pier would be 123 feet long, it would not affect the aquatic habitat that supports the local recreational fishery nor otherwise interfere with the fishing experience at Hobart's Hole. Furthermore, because boating activity is not anticipated to increase substantially, fishing pressure would not increase significantly and the quality of fishing activities at this location would not be impaired. Therefore, all development alternatives would be consistent with this policy. No changes nearshore/foreshore structures would occur under Alternative 4. Therefore, this policy does not apply.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Developed Recreation		
Goal #1: Provide a fair share of the total basin capacity for outdoor recreation.		
Policy 3. *Provisions shall be made for additional developed outdoor recreation facilities capable of accommodating 6,114 PAOT in overnight facilities and 6,761 PAOT in summer day use facilities and 12,400 PAOT in winter day-use facilities.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	As discussed in Section 5.4, "Recreation and Public Access," PAOTs for the proposed public beach are required to be allocated from TRPA's PAOT pool. As many as 310 PAOTs are anticipated to be allocated to the project because the proposal includes a new public beach as part of the development. This is a benefit to TRPA recreation thresholds because it would bring TRPA closer to its summer day use PAOT target of 6,761. Other proposed lakefront recreation opportunities would not require PAOT allocations. Alternative 4 would not affect PAOT capacity at the project site. This would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy. Therefore, all alternatives would be consistent with this policy.
Goal #2: Provide for the appropriate type, location, and rate of development of outdoor recreational uses.		
Policy 7. *Development of day-use facilities shall be encouraged in or near established urban areas, whenever practical.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Both the Stateline Community Plan and PAS 070A condition the construction of the Edgewood Project on increasing public lakefront opportunities. The development alternatives propose a range of lakefront recreation opportunities, including opening a 15,507-square foot sandy beach area to the public and a public pathway to the newly opened beach area extending from Lake Parkway. The project site is immediately adjacent to the Stateline casino corridor, a highly urbanized area. Alternative 4 would not create additional recreation opportunities, but the project site already offers day-use activities (golf) and these activities would continue into the future. Therefore, all alternatives would be consistent with this policy.
Policy 10. *Transit operations, including shuttle-type boat service, should serve major recreation facilities and attractions.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The Edgewood Tahoe Golf Course serves as an important destination tourist attraction at Lake Tahoe and is home to the popular Celebrity Golf Course tournament. In addition to the golf course and associated bar and clubhouse, the Edgewood Project would result in a lodge complex and access to a range of public lakefront recreation opportunities. These opportunities include opening 15,507 square feet of previously inaccessible beach to the public. Edgewood Companies is also proposing a shuttle service that would run between the casino corridor and the lodge complex. Therefore, all development alternatives would be consistent with this policy. Alternative 4 would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy, and therefore would have no effect.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Goal #3: Protect natural resources from overuse and rectify incompatibility between uses.		
Policy 1. *Recreation development in the Tahoe Basin shall be consistent with the special resources of the area.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	The Edgewood Tahoe Golf Course serves as an important destination tourist attraction at Lake Tahoe, and is home to the popular Celebrity Golf Course tournament. In addition to the golf course and associated bar and clubhouse, the Edgewood Project would result in a lodge complex and a range of public lakefront recreation opportunities. Edgewood Companies is proposing a shuttle service that would run between the casino corridor and the Edgewood Clubhouse. Mitigation measures for the protection of special resources of the area, such as Tahoe yellow cress (Mitigation Measures 5.7.1-3a, 5.7.1-3b, and 5.7.1-3c) and known archaeological and historical resources (Mitigation Measures 5.9.1-1 and 5.9.1-2), have been identified and would mitigate any potential conflicts with existing resources. All alternatives are consistent with this policy. Alternative 4 would be a continuation of existing conditions and does not involve recreation development in the Tahoe Basin. Therefore, this policy does not apply.
Policy 2. *Regulate intensity, timing, type, and location of use to protect resources and separate incompatible uses.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The major recreational uses at the Edgewood Tahoe Golf Course would include the golf course and other active and passive lakefront recreation opportunities. There are also accessory recreational activities for lodge guests on-site including a pool, fitness center (gym) and spa. All development alternatives were designed with reference to golf hazard and safety areas in order to maximize safety for Edgewood lodge guests and users of the lakefront recreation facilities. None of the proposed uses are incompatible with the relevant Plan Area Statement or Community Plan, and none of the alternatives would result in incompatible recreation uses. All alternatives are consistent with this policy. Alternative 4 would be a continuation of existing conditions and would not result in new conditions that would be inconsistent with this policy, and therefore would have no effect.
Goal #4: Provide for the efficient use of outdoor recreation resources.		
Policy 2. *Seasonal facilities should provide opportunities for alternative uses in the off-season, wherever appropriate.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	A private snowmobiling concessionaire utilizes the grounds of the Edgewood Tahoe Golf Course in the winter for a permitted snowmobiling track. It is unknown whether this use would continue into the future with the development alternatives. The Edgewood Restaurant is open year round and the Edgewood lodge would be a year-round operation for personal vacations as well as for business meetings, conferences and special events.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Urban Recreation		
Goal #1: Provide sufficient capacity for local-oriented forms of outdoor and indoor recreation in urban areas.		
Policy 1. *Reserve sufficient public service and facility capacity to accommodate all forms of urban recreation.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	The development alternatives would increase use of all utilities and public services in the Stateline area. However, all relevant utilities and service providers have issued Will Serve letters for the project. As described in Section 5.14, "Public Services and Utilities," none of the project development alternatives are projected to have a significant impact on public services or facilities such that there would be any impact on the providers' ability to accommodate all forms of urban recreation. There are several winter and summer outdoor and indoor recreation activities in the project area vicinity. These facilities are described in Section 5.4, "Recreation and Public Access." As described in that section, the existing recreation facilities have the capacity to accommodate any additional guests that would result from implementation of the proposed project. Therefore, all development alternatives would be consistent with this policy. No changes would occur under Alternative 4. This alternative would be a continuation of existing conditions and would not affect public service and facility capacity. Therefore, this policy does not apply.
Public Services Element		
Goal #1: Public services and facilities should be allowed to upgrade and expand to support existing and new development consistent with the Regional Plan.		
Policy 3. *All new development shall employ appropriate devices to conserve water and reduce water consumption. Existing development shall be retrofitted with water conservation devices on a voluntary basis in conjunction with a public education program operated by the utility districts.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All development alternatives, if implemented, would be constructed with adherence to LEED-certified design standards. The average LEED®-certified building uses 32 percent less electricity, 26 percent less natural gas and 30-40 percent less total energy as compared to a conventional building. Similarly, the average LEED-certified building saves 40 percent on water use as compared to a conventional building. The proposed development alternatives would reduce the amount of golf turf areas by 24 acres, which would result in a commensurate reduction in water consumption. Alternative 4 is a continuation of existing conditions and does not involve new development. Edgewood Companies' recent upgrade to the golf course irrigation system resulted in reductions in water consumption at the site by replacing older leaking infrastructure with a newer more efficient irrigation system.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Goal #2: Consider the existence of adequate and reliable public services and facilities in approving new development under the plan.		
Policy 1. *No additional development requiring water should be allowed in any area unless it can be demonstrated that there is adequate water supply within an existing water right.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	Water for the project area is provided by Edgewood Water Company (EWC), which also provides water to the casino corridor and other properties in the project vicinity. As described in Section 5.14, "Public Services and Utilities," EWC has issued a Will Serve letter for the project describing its ability to serve the net new demand for water at the project site. All development alternatives would be consistent with this policy. Alternative 4 would be a continuation of existing conditions and does not involve additional development. Therefore, this policy does not apply.
Policy 3. *No additional development requiring water shall be allowed in any area unless there exists adequate storage and distribution systems to deliver an adequate quantity and quality of water for domestic consumption and fire protection.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	According to the utilities plan prepared by the project applicant, new utility lines for water supply, sewage, fire flows, electricity, gas, telephone, and cable would be installed as part of the proposed project. As described in Section 5.14, "Public Services and Utilities," none of the proposed alternatives would require any of the existing utility or service providers to expand their off-site facilities in order to service the project. All of the utilities have issued Will Serve letters for the project detailing their ability to service the project without diminishing their ability to continue to serve the existing population in the area. All of the development alternatives would be consistent with this policy. Alternative 4 would be a continuation of existing conditions and does not involve additional development. Therefore, this policy does not apply.
Goal #3: Prevent liquid and solid wastes from degrading Lake Tahoe and the surface and groundwaters of the region.		
Policy 1. *The discharge of municipal or industrial wastewaters to the surface and groundwaters of the Tahoe Region is prohibited, except for existing development discharging wastewaters under a State- or TRPA-approved disposal plan.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	Wastewater from the project area is currently discharged into the Douglas County Sewer Improvement District (DCSID) system. DCISD would continue to service the project area under implementation of any of the alternatives and has issued a Will Serve letter for the project. All alternatives would be consistent with this policy.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Implementation Element		
Development and Implementation Priorities		
Goal #3: Encourage consolidation of development through separate transfer of development rights and transfer of land coverage programs.		
***Policy 2**. Transfers of existing tourist accommodation units into designated areas may be permitted.* *A. Existing tourist accommodation units may be transferred to designated areas, in conjunction with TRPA approval of a project. The buildings shall be removed and the site restored, except in special circumstances of public benefits as set forth by ordinance.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	Because there are no existing TAU allocations on the project area, all the development alternatives must purchase and transfer TAUs from off-site locations to the project area. Each of the proposed lodge units requires a TAU allocation. The proposed project and alternatives have identified 194 TAUs for transfer. The balance of TAUs required under Alternatives 2 and 3 are required to be identified and transferred, and the associated restoration action approved, before TRPA permit issuance. For the purposes of this EIS, it is assumed that the remaining TAU allocations for Alternatives 2 and 3 (beyond the 194 TAU allocations associated with Alternative 1) would come from the City of South Lake Tahoe. The project applicant has committed to restoring the sites from which buildings have been or would be demolished in order to transfer TAUs. Table 3-7 in Chapter 3, "Project Description," describes those sites from which TAUs have been identified for transfer and describes the associated restoration action for each transfer. Therefore, all development alternatives would be consistent with this policy. As Alternative 4 is a continuation of existing conditions, this policy would not apply.
***Policy 5**. Before transfer of any development right or land coverage under this goal is effective, the transfer lot shall be appropriately restricted or retired. In the case where an allocation has been transferred, or all the development rights or coverage has been transferred of a parcel deemed inappropriate for future development, the entire parcel shall be retired.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	See discussion above under Policy 2. Table 3-7 in Chapter 3, "Project Description," describes those sites from which TAUs have been identified for transfer, the associated restoration action for each transfer, and the status of each site. There are four sites (composed of several parcels) from which TAUs have been identified for transfer: Tahoe Beach & Ski Club; Redevelopment Project 3 (the Chateau at Heavenly Village); Colony Inn, and C&M Lodge. Except for the 50 units on the C&M property, all 194 units currently identified for transfer come from parcels where previous TAU structures were already demolished and TAUs banked on site. In the case of the Tahoe Beach & Ski Club, guest rooms were consolidated resulting in larger (multiple room) guest accommodations, but fewer overall rental units. The Colony Inn parcel is currently being restored. A community park is planned and has been approved by the City at the C&M Lodge parcel. All development alternatives would be consistent with this policy. As Alternative 4 is a continuation of existing conditions, this policy would not apply.

Table 5.2-1. TRPA Regional Plan Goals and Policies Consistency Analysis		
Regional Plan Goals and Policies	**Consistency Determination**	**Rationale**
Goal #4: Condition approvals for new development in the Tahoe region on positive improvements in off-site erosion and runoff control and air quality.		
Policy 1. *New residential, commercial, and public projects shall completely offset their water quality impacts.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	As described in Section 5.6, "Hydrology and Water Quality," all of the development alternatives would offset their surface water runoff, groundwater, and surface water quality impacts with mitigation. As Alternative 4 is a continuation of existing conditions, this policy would not apply.
NA = Not applicable Source: Data compiled by LSC Transportation Consultants, Inc. and Ascent Environmental, Inc. in 2012		

PAS 070A Consistency Analysis

All of the development proposed as part of the Edgewood Project would take place within the 227 acres completely within PAS 070A. Table 5.2-2analyzes the consistency of the proposed project with those special policies of PAS 070A that are applicable to the project: Special Policies 1, 7, 8, and 9.

Table 5.2-2. PAS 070A Consistency Analysis		
Special Policies	**Consistency Determination**	**Rationale**
PAS 070A		
1. A fertilizer management program should be initiated at the golf course and the course redesigned to provide for natural buffers of vegetation along the creek and pond areas, wherever possible.	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	The golf course currently operates under a TRPA-approved Fertilizer Management Plan (FMP). All development alternatives include Threshold Improvement Project E, a project designed to increase green golf course management practices and minimize the use of fertilizers and irrigation. As part of the development alternatives the project applicant would continue to operate the golf course with a reduction of approximately 24 acres of fertilized turf relative to the baseline condition, including buffer areas between golf turf areas and vegetation along the creek and pond areas. In addition, all alternatives would result in water quality improvements, SEZ restoration, and enhanced and enlarged constructed wetlands to increase the capacity and efficiency of the Stateline Stormwater treatment system. Therefore, all alternatives are in compliance with Special Policy 1.
7. Tourist accommodations and recreation uses are encouraged. Tourist accommodations are not to exceed 250 tourist units. The construction of a hotel or conference center in Special Area #1 is conditioned on the developer making an irrevocable	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	All of the development alternatives would result in the construction of a tourist accommodation (lodge) complex of 250 or fewer units and would provide access to a range of passive and active lakefront recreation opportunities. The active recreation activities would include: active water-oriented recreation open to the general public, a swimming beach, natural areas and open space, pedestrian access, restrooms, concessions, and restaurants. The passive lakefront recreation opportunities being afforded include passive

Table 5.2-2. PAS 070A Consistency Analysis

Special Policies	Consistency Determination	Rationale
commitment to improve access, capacity and/or the range and quality of lakefront experiences available to the public in the California/Nevada Stateline area. Additional lakefront opportunities in the area will be made available sufficient to accommodate up to a total capacity of 250 people at one time. The capacity requirement assumes the construction of a 250 unit hotel and shall be adjusted in proportion to the actual units approved. [The PAS assumes a 1:1 ratio of people to be accommodated per hotel unit.]		enjoyment of views of lake and lakeshore with facilities that include viewing decks, high quality views, food and beverage service, and pedestrian access. The development alternatives also include the provision of a 15,507 square foot area of existing private beach to the public. Using the design capacity concept suggested in TRPA's 2005 Recreation Assessment, (a concept also outlined in the Stateline CP) which assesses the capacity of a developed urban beach at 50 square feet per person, the proposed public beach could accommodate approximately 310 people (15,507 square feet/50 square feet = 310) while maintaining the desired user experience associated with a developed beach area. Therefore, the proposed beach alone would exceed the one-to-one ratio of one TAU per person at the beach as required in the PAS. No additional tourist accommodation uses are proposed under Alternative 4, therefore Special Policy 7 does not apply.
8. This plan area is a recreation area which is in the influence area of the Stateline Community Plan. All projects shall be subject to the policies and standards of this plan area and, where applicable, shall be consistent with the planning direction provided in Chapter 1 of the Stateline Community Plan.	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	See Table 5.2-3 below.
9. The November 17, 1993 Governing Boards' motion to approve the amendments to 070A included (as a special condition of approval) the requirement that any proposed tourist accommodation project in PAS 070A must include the following four items in its presentation on the project, and must comply with the applicable limitations. Any application for a proposed tourist accommodation project must contain information on all tourist accommodation units including: 〉 Identification of all tourist accommodation units that will be transferred into any proposed tourist	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	As described throughout the EIS, all development alternatives adhere to the requirements of PAS 070A. Because there are no existing TAU allocations on the project area, all the development alternatives must purchase and transfer TAUs from off-site locations to the project area. Each of the proposed lodge units requires a TAU allocation. The proposed project and alternatives have identified 194 TAUs for transfer. The balance of TAUs required under Alternatives 2 and 3 are required to be identified and transferred, and the associated restoration action approved, before TRPA permit issuance. For the purposes of this EIS, it is assumed that the remaining TAU allocations for Alternatives 2 and 3 (beyond the 194 TAU allocations associated with Alternative 1) would come from the City of South Lake Tahoe. The description and assurance of revegetation and restoration of the sending parcels or equivalent area is described in Chapter 3, "Project Description," (Table 3-7) and Chapter 4, "Alternatives," of this EIS.

Table 5.2-2. PAS 070A Consistency Analysis

Special Policies	Consistency Determination	Rationale
accommodation dwelling project in 070A. 〉 A description and assurance of the revegetation/restoration planned for the parcels from which the tourist accommodation units are to be transferred (or the equivalent amount of revegetation/ restoration elsewhere if the sending parcel(s) is within land capability district 4-7). 〉 Prior to approving any proposed tourist accommodation project, a Stateline areawide drainage system must have been designed, funded, independently analyzed for engineering, design and environmental adequacy and approved by all permitting agencies. 〉 Prior to approving any proposed tourist accommodation project, the beach access in Special Policy No. 7 must have been specifically identified and assurances given that the beach access is available. 〉 Any application for a proposed tourist accommodation project in Special Area #1 must be accompanied by a description of the commitment of the water resources for the project (as documented by the state engineer). This is because a tourist accommodation project in Special Area #1 will involve the commitment of a significant quantity of the remaining Nevada water left for use in the Tahoe Basin.		The existing Stateline Stormwater Association pond and wetland system, which has been permitted and constructed, fulfills the PAS requirement to provide a Stateline area wide drainage system. Threshold Improvement Project B would enhance this existing system. See Special Policy 7 (above) for a discussion of public beach access. EWC issued a Will Serve letter for the project documenting the availability of water resources and adequacy of existing infrastructure to serve the proposed development alternatives. Section 5.14, "Public Services and Utilities," details the water resources available. No additional development in Special Area #1 of PAS 070A is proposed under Alternative 4; therefore, these policies do not apply.

NA = Not applicable
Source: Data compiled by Ascent Environmental, Inc. in 2012

Stateline Community Plan Consistency Analysis

Any project proposed in PAS 070A is subject to the planning direction of the Stateline CP as provided in Chapter 1 of the plan. In addition to the Stateline CP goals stated above in Section 5.2.1, "Regulatory Background," of this EIS, Chapter 1 of the Stateline CP includes an illustrative plan for the Stateline area, and provides an overview and summary of design concepts particular to Special Area #1. The illustrative plan represents the summation and integration of the Stateline CP's goals, objectives, and elements.

Table 5.2-3 analyzes the consistency of the proposed project with those portions of the illustrative plan applicable to the project area and with the design concept described for PAS 070A Special Area #1. Because the land use classification of 070A is recreation, and because both PAS 070A and the Stateline CP emphasize improving public lake access as a condition of development, the consistency of each alternative with the recreation goals, objectives, and policies in the CP are also analyzed in the table.

Table 5.2-3. Stateline Community Plan Consistency Analysis

Community Plan Vision, Goals, Objectives and Policies	Consistency Determination	Rationale
Illustrative Plan		
Land Use		
New projects on land outside the Loop Road and the Community Plan will provide expanded lodging, housing and associated recreation uses for Stateline and South Lake Tahoe visitors and employees within walking distance of the Casino Core.	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	All of the development alternatives provide new lodging and lakefront recreation opportunities within walking distance of the casino corridor. Alternative 4 does not propose any changes to the project area; therefore, these planned improvements do not apply.
Conservation		
Drainage Improvements - *A system of stormwater drainage improvements serving the Casino Core, the Loop Road, Highway 50 and adjoining private land is required by the Plan prior to allocation of rights for new commercial development.* ***Stream Zone Improvements -*** *Stream zone restoration is planned on sections of Edgewood Creek within the Edgewood Golf Course and, if feasible, on portions of the currently buried tributary creek within the Casino Core.* ***Disturbed Lands Improvements -*** *Disturbed lands and excess coverage will be mitigated and restored on a number of sites within and*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	The existing Stateline Stormwater Association pond and wetland system, which has been permitted and constructed, fulfills the CP requirement to provide a system of stormwater drainage improvements. Threshold Improvement Project B, associated with all of the development alternatives, would enhance this existing system. All development alternatives include SEZ enhancements on Edgewood Creek (Section 5.7, "Biological Resources [Vegetation, Wildlife, and Fisheries]") and restoration of Golf Course Creek (the portion of the buried tributary creek within the casino corridor that crosses the project site referenced in this policy statement). As described in Section 5.5, "Geology, Soils, and Land Capability and Coverage," the area from which the land coverage is proposed for removal for relocation would be restored in accordance with Subsection 30.5.3 and in accordance with the proposed landscaping plans submitted to TRPA as part of the TPRA permit application. Any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement in accordance

Table 5.2-3. Stateline Community Plan Consistency Analysis		
Community Plan Vision, Goals, Objectives and Policies	**Consistency Determination**	**Rationale**
adjoining the Community Plan boundaries. ***Vehicle Miles Traveled*** *- The Plan sets the stage for significant reductions in vehicle miles traveled, by concentrating development within walking distance of the Casino Core, expanding transit opportunities and creating a much improved environment for walking.* ***Scenic*** *- Design improvements and regulations are required by the Plan to upgrade the scenic quality of Highway 50. Planned improvements include increased use of street trees and other vegetation, street furniture, more attractive paving, water features, screening of mechanical equipment on buildings, and improved signage.*		with Section 30.6 of the Code. The lodge complex and amenities are all within walking distance of the casino corridor and a shared-use path and shuttle service would be provided from the casino corridor to the Edgewood Tahoe Golf Course and proposed lakefront recreation opportunities that would be available to residents, visitors and employees of the casino corridor. For all of these reasons the project helps set-the-stage for reductions in vehicle miles traveled in the immediate vicinity, but as described in Section 5.10, "Traffic, Parking, and Circulation," the project would result in an incremental increase in region-wide VMT. Region-wide VMT in the Tahoe Basin has dropped dramatically over time and it is not anticipated that any of the development alternatives would inhibit the ability of the Stateline CP to continue to achieve reductions in VMT. As described in Section 5.3, "Scenic Resources," the proposed lodge complex would not be visible from U.S. 50 and, as such, the project would have no effect on the scenic quality of U.S. 50. Alternative 4 does not propose any changes to the project area; therefore, these planned improvements do not apply.
Recreation		
Trails and Sidewalks *- New routes for strolling, hiking and biking are planned throughout the area including pedestrian improvements along the Highway 50 promenade, within the planned Mountain Lake Park, along the mountain and lake sides of the Loop Road, and connecting to adjacent retail, housing, and lodging.* ***Public Access*** *- The Plan, coupled with projects in adjoining PASs, will lead to improved access to public recreational areas along the Lake Tahoe shoreline and at the newly established Van Sickle State Park.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	None of the alternatives conflict with any plans for proposed trails and sidewalks. The South Demonstration Project environmental document has been adopted and funds secured for the first phases of construction between Kahle Drive and Round Hill Pines Beach. The alignment of this bikeway passes through the eastern edge of the Edgewood Property for approximately 0.9 mile. None of the alternatives conflict with this proposed alignment. All of the development alternatives include a shared-use path open to the public for access to the Edgewood property and lakefront recreation area. Alternative 4 does not propose any changes to the project area; therefore, these planned improvements do not apply.

Table 5.2-3. Stateline Community Plan Consistency Analysis		
Community Plan Vision, Goals, Objectives and Policies	**Consistency Determination**	**Rationale**
Transportation		
Pedestrian Facilities *– A system of new paths and sidewalks for bikes and pedestrians will encourage walking and make possible decreased reliance on the automobile.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Consistent	See response above under the header "Recreation" for trails and sidewalks and public access improvements. The same rationale for consistency applies here.
Design Concept for PAS 070A Special Area #1		
Goal: *Special Area #1 is the private land located to the lake-side of the Casino Core and includes portions of the existing Edgewood Golf Course. This area is intended to provide a site for a new hotel and associated conference facility and continuation of existing golf course recreation. Development rights for this project would be transferred from other locations. As part of the conditions allowing this lodging project the developer would improve public access to the Lake Tahoe shoreline.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Inconsistent	All of the development alternatives implement this goal by providing for a new lodge complex with associated banquet/conference facility space, and access to Lake Tahoe via a newly established shared-use path and public lakefront recreation area. Alternative 4 would not institute any of the intended changes within Special Area #1. Maintaining operation of the golf course, clubhouse and restaurant, and lakefront residences as they currently exist would not implement this goal of the Community Plan.
Design Guidelines: *New uses should be located and designed to protect and enhance views from the Loop Road, Highway 50 and the Casino Core. New uses should be designed to create minimum impact on the existing golf course operations and adjoining residential areas. This will be achieved through control of the siting, height, massing and design of new structures, use of vegetative and topographic buffers, and control of access.*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: NA	The development alternatives are designed to reflect Tahoe character, improve scenic qualities of the Edgewood site from Lake Parkway (i.e., "Loop Road") and U.S. 50, and avoid impacts to golf course operations and the adjacent residential area to the south. Lake Parkway is not a TRPA-designated scenic travel route. Section 5.3, "Scenic Resources," describes the scenic qualities of the project in detail. Existing and proposed vegetation and intervening topography would mostly screen views of the lodge and the remote parking structure and would protect views from Lake Parkway. The relocated gatehouse would be of a size and nature similar to the existing gatehouse design such that it would not adversely affect the view from this roadway. Alternative 4 does not propose any changes to the project area, therefore these design guidelines do not apply.

Table 5.2-3. Stateline Community Plan Consistency Analysis		
Community Plan Vision, Goals, Objectives and Policies	**Consistency Determination**	**Rationale**
Recreation Element: Goals, Objectives, and Polices		
***Recreation Goal**. Preserve and enhance the high quality recreational experience of Stateline and the Region.* ***Objective 4:** Improve access to nearby public recreation areas, including public beaches and parks.* ***Policy a:** Develop a pedestrian system that links the Casino Core with: 1) the potential Nevada State Park facility on the Van Sickle property; 2) the 4-H beach facility; 3) the proposed County park in the Kingsbury Community Plan area; and 4) planned new development in Special Areas #1 and #2 of PAS 070A.* ***Objective 5.** Increase public access to Lake Tahoe.* ***a. Policy:** TRPA, state and local government agencies, the Casinos, Park Cattle Company and other private parties should work together to improve the accessibility, variety and quality of lakefront recreational opportunities available in the Stateline Area. Improvement plans should focus on providing opportunities for visitors staying overnight in the Stateline area. A range of lakefront experiences should be provided, including those listed below:* 〉 *Active Recreation/Beach Park: Active water-oriented recreation open to the general public. Possible facilities: swimming beach, natural areas and open space, pedestrian and auto access with parking, restrooms, picnicking and*	Alt 1: Consistent Alt 2: Consistent Alt 3: Consistent Alt 4: Inconsistent	Consistent with the Special Policies of PAS 070A and the planning direction of the Stateline CP, all of the development alternatives include public beach access and access to other proposed lakefront recreation opportunities via a shared-use path originating at Lake Parkway. It is a stated project goal that the project initiate a transition from the existing casino corridor tourism product to a product offering broader recreational and entertainment amenities to encourage destination visitation and increasing length of stay. Development of the project would improve visitor accommodations and recreation facilities and would include lake shore and golf course improvements with the intent to improve the quality of the Stateline area for both visitors and residents. Under Alternative 4 public access to Lake Tahoe would not be improved, and the opportunity to work with Edgewood Companies to expand public beach access according to the conditions set forth in both the Stateline Community Plan and PAS 070A would not be implemented. Maintaining operation of the golf course, clubhouse, and restaurant as it currently exists would not implement or assist with achievement of this recreation goal or associated objectives described for the Stateline area in the Stateline CP.

Table 5.2-3. Stateline Community Plan Consistency Analysis		
Community Plan Vision, Goals, Objectives and Policies	**Consistency Determination**	**Rationale**
perhaps camping. The USFS operated Nevada Beach provides this type of experience. 〉 *Beach Front Developed Recreation: Active developed recreation in a beach front location. Possible facilities: swimming beach, restrooms, concessions (e.g., boat rentals), restaurants, boardwalk/plaza, children's park, sports facilities (e.g., tennis or roller skating), informal outdoor performing arts space, pedestrian and/or auto access, docking facilities for Lake tour boats.* 〉 *Passive Beach Front: Passive enjoyment of views of lake and lake shore. Possible facilities: viewing decks, high quality views, food and beverage service, pedestrian and/or auto access, boat mooring facilities.*		
NA = Not applicable Source: Data compiled by Ascent Environmental, Inc. in 2012		

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.2.1-1	**Consistency with Regional Plan Land Use Goals and Policies, PAS 070A, PAS 080 and the Stateline Community Plan.** Alternative 1 would result in a new lodge complex including 194 new TAUs, associated accessory facilities, a new lakefront recreation area, a relocated pier, expansion of the existing clubhouse, golf course enhancements, relocation of two lakefront residential lots, and threshold improvement projects. Alternative 1 is consistent with the relevant goals and policies of the Regional Plan and the Stateline Community Plan and with the policies of Plan Area Statements 070A and 080. For these reasons, this is a **less-than-significant** impact.

The proposed project consists of a new lodge complex composed of 11 buildings: one 154 unit main lodge building and 10 casita buildings (four interval ownership units per building – 40 units total) for a total of 194 new TAUs (154 hotel units and 40 interval ownership units). The lodge complex also includes accessory facilities including: a spa and wellness center, pool, retail area, bar and restaurant, banquet and meeting space and parking structure. The complex would be concentrated on approximately 10 acres of land located within PAS 070A Special Area #1 (Tourist Area).

Separate from the lodge complex, the proposed project also includes: the construction of a two-level parking structure with 234 parking spaces; removal of two single family homes and the relocation of the corresponding lots; removal, relocation and reconstruction of the existing pier; expansion of the South Room at the existing clubhouse; transit/pedestrian-based public beach access; golf course enhancements; and threshold improvement projects intended to enhance Edgewood Creek as it crosses the property and improve the creek system's natural ability to filter and clean stormwater runoff from the Stateline area.

As described previously in this section and in Tables 5.2-1, 5.2-2, and 5.2-3, Alternative 1 would be consistent with the TRPA Regional Plan Goals and Policies, PAS 070A, PAS 080, and the Stateline CP. For these reasons, this would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.2.1-2	**Consistency with Adjacent Land Uses or Expansion/Intensification of Existing Non-Conforming Uses.** Alternative 1 would result in a project that includes uses that are described as permissible and desired in both PAS 070A where it is to be located and in the Stateline Community Plan. In addition, implementation of Alternative 1 supports attainment of the goals and objectives of the Stateline Community Plan. None of the existing uses on-site at the Edgewood Tahoe Golf Course, or in the area of Friday's Station pond are non-conforming. The proposed Alternative 1 uses are compatible with the surrounding uses and are consistent with the scale, density, intensity, and type of uses envisioned in PAS 070A and the Stateline CP. Therefore, this impact is considered **less than significant.**

All of the uses proposed as part of Alternative 1 are permissible uses in PAS 070A and Special Area #1. The regulations that govern permissible uses are contained in Chapter 21 of the TRPA Code and summarized above in Section 5.2.1, "Regulatory Background."

As described in Section 5.2.2, "Affected Environment," existing land uses immediately south of the project area include dense urban development consisting of single-family residences, hotel units, interval ownership units, recreation areas and gaming facilities, among other uses. A 4-H camp, public beach, recreation amenities, and a variety of commercial, tourist, and residential establishments are located north and east of the project site.

Under existing conditions, the golf course and the pump house are primary uses on the project site. The existing golf course transcends areas within and outside of Special Area #1. Golf courses are allowed uses throughout PAS 070A and within Special Area #1. The existing clubhouse, snack shack, cart paths, and maintenance facilities are accessory to the golf course. The two lakefront residences are the primary uses on the parcels in which they are located. The existing pier located within Shorezone Tolerance District 1 is accessory to the northernmost lakefront residential parcel. The single-family residences and the pump house are special uses. The existing lakefront residences were constructed prior to the adoption of the Regional Plan, and at that time there was no requirement for special use findings. The future development of the relocated residential lots would require that subsequent special use findings be made.

Alternative 1 would provide additional TAUs to the Stateline area transferred from other areas within Stateline and from within the City of South Lake Tahoe. The project would also provide new recreational amenities available to the public. The proposed lodge and lakefront recreation area would result in the establishment of two additional primary uses at the site. The proposed relocated pier and shared-use path, restaurant and bar (3,800 square feet), spa and wellness center (12,900 square feet), retail (550 square feet), parking, and banquet facilities (8,750 square feet) would be accessory to the lodge. The proposed pool would be accessory to the public beach area. With respect to Shorezone Tolerance District 1, piers are allowable provided they are accessory structures to an existing, allowed primary use on the same or adjoining parcel. Within Special Area #1, the proposed hotel-type units are allowed uses, whereas the interval ownership units are special uses. The public beach area and shared-use path, as well as the relocated pier, are allowed uses within PAS 070A. The clubhouse expansion (2,500 square foot South Room expansion) and outdoor event lawn would be accessory to the golf course as is the case for the current clubhouse facilities. Excluding parking, with Alternative 1 the lodge guest rooms would account for approximately 67 percent of the total area of the main lodge building (109,140 square feet/163,093 square feet). The accessory space associated with the restaurant and bar, spa and wellness center, retail, and banquet facilities account for a total of 27,293 square feet or about 17 percent (27,293 square feet/163,093 square feet) of the total area of the lodge buildings. The ration of guest room space to accessory space is consistent with the amount of accessory space typically found in "resort conference centers" as defined in the book *Hotel Design Planning and Development*, where guest rooms account for 45-55 percent of the total gross floor area (as cited in the Boulder Bay Community Enhancement Program Project EIS, TRPA 2009; Feldman 2011). Further, the extent of guest room floor area relative to accessory space floor area is consistent with other similar resort hotels (such as the Boulder Bay Hotel and the Resort at Squaw Creek) in the region (TRPA 2009; Feldman 2011).

The existing and proposed accessory uses would be used by lodge and golf course guests and would be open to the public, but would not be separately advertised. These uses would be accessed through the lodge buildings and would not have a separate entrance, would utilize lodge parking, and would not operate independent of the lodge. These uses would also be used year round, consistent with the timeframe of the lodge.

The maximum density for hotel/interval ownership units permitted in PAS 070A is 40 units per acre where less than 10 percent of the units have kitchens, and 15 units per acre where 10 percent or more of the units have kitchens. None of the proposed 154 hotel-type units would have a kitchen. Each of the 40 interval ownership units in the casita buildings would have a kitchen. The interval ownership units comprise about 21 percent (40 units/194 units) of the total proposed units. Therefore, the applicable density standard is 15 units per acre. The parcel in which these units would be located is approximately 227 acres; however, TAUs are only allowed within

Special Area #1, which is approximately 28 acres. Based on the allowed density, notwithstanding other restrictions on the number of allowable units, up to 420 units (15 units per acre X 28 acres) could be developed within Special Area #1 while still meeting the PAS density standards. Therefore, the proposed uses would be consistent with applicable density standards.

As defined in Subsection 21.2.1 of the Code, allowed uses are appropriate for the specified area, permittable, and assumed to be compatible with the direction of the Regional Plan and surrounding land uses. In accordance with Subsection 21.2.2 of the Code, TRPA is required to make certain findings for proposed special uses (i.e., the interval ownership units). To this end, the new lodging, conference facilities and lakefront recreation area included in the project proposal are all compatible uses explicitly defined for the site in both the TRPA-approved PAS and Stateline Community Plan. The proposed interval ownership units, which are special uses requiring findings under Subsection 21.2.2., are consistent with the scale, density, intensity and type of tourist accommodation uses envisioned for Special Area #1 in PAS 070A and the Stateline CP, and consistent with standards set forth in PAS 070A. For these reasons, this is a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.2.2-1	**Consistency with Regional Plan Goals and Policies, PAS 070A, PAS 080 and the Stateline Community Plan.** Because the Alternative 2 land uses are consistent with the Alternative 1 land uses, this impact is the same as Alternative 1. Alternative 2 would result in a new lodge complex including 230 new tourist accommodation units, associated accessory facilities, a new public lakefront recreation area, a relocated pier, expansion of the existing clubhouse, golf course enhancements, relocation of two lakefront residential lots, and threshold improvement projects. Alternative 2 is consistent with the relevant goals and policies of the Regional Plan and the Stateline Community Plan and with the policies of Plan Area Statements 070A and 080. For these reasons, this is a **less-than-significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.2.1-1.

Mitigation Measure

No mitigation is required.

Impact 5.2.2-2	**Consistency with Adjacent Land Uses or Expansion/Intensification of Existing Non-Conforming Uses.** This impact is the same as Alternative 1. Like Alternative 1, Alternative 2 proposes a project that includes uses that are described in both PAS 070A where it is to be located and in the Stateline Community Plan. In addition, implementation of Alternative 2 supports attainment of the goals and objectives of the Stateline Community Plan. None of the existing uses on-site at the Edgewood Golf Course, or in the area of Friday's Station pond are non-conforming. The Alternative 2 ration of primary to accessory uses is scaled commensurate with the additional number of units relative to Alternative 1, and as such would be similar to Alternative 1. The proposed Alternative 2 uses are compatible with the surrounding uses and are consistent with the scale, density, intensity, and type of uses envisioned in PAS 070A and the Stateline CP. Therefore this impact is considered **less than significant.**

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.2.1-2.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT ALTERNATIVE (250 UNITS)

Impact 5.2.3-1	**Consistency with Regional Plan Goals and Policies, PAS 070A, PAS 080 and the Stateline Community Plan.** Because the Alternative 3 land uses are consistent with the Alternative 1 land uses, this impact is the same as Alternative 1. Alternative 3 would result in a new lodge complex including 250 new tourist accommodation units, associated accessory facilities, a new lakefront recreation area, a relocated pier, expansion of the existing clubhouse, golf course enhancements, relocation of two lakefront residential lots, and threshold improvement projects. Alternative 3 is consistent with the relevant goals and policies of the Regional Plan and the Stateline Community Plan and with the policies of Plan Area Statements 070A and 080. For these reasons, this is a **less-than-significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.2.1-1.

Mitigation Measure

No mitigation is required.

Impact 5.2.3-2	**Consistency with Adjacent Land Uses or Expansion/Intensification of Existing Non-Conforming Uses.** This impact is the same as Alternative 1. Like Alternative 1, Alternative 3 proposes a project that includes uses that are described in both PAS 070A where it is to be located and in the Stateline Community Plan. In addition, implementation of Alternative 3 supports attainment of the goals and objectives of the Stateline Community Plan. None of the existing uses on-site at the Edgewood Golf Course, or in the area of Friday's Station pond are non-conforming. The Alternative 3 ration of primary to accessory uses is scaled commensurate with the additional number of units relative to Alternative 1, and as such would be similar to Alternative 1. The proposed Alternative 3 uses are compatible with the surrounding uses and are consistent with the scale, density, intensity, and type of uses envisioned in PAS 070A and the Stateline CP. Therefore this impact is considered **less than significant.**

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.2.1-2.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4 existing conditions at the Edgewood Tahoe Golf Course would be projected into the future. No additional development, water quality improvement projects, or public lake shore access would be implemented.

Edgewood Creek is identified as a high priority watershed for restoration in the Lake Tahoe Environmental Improvement Program (EIP). While the current drainage system at the golf course functions in accordance with TRPA regulations, the drainage and SEZ improvements; and restoration of low capability lands proposed under each of the Edgewood Project development alternatives would assist in correcting water quality impacts caused by land use disturbances in the Edgewood watershed. These disturbances would not be corrected under the No Project Alternative. Correcting deficiencies in land use is Policy 2 of Goal #1 in the Land Use Element of TRPA's Goals and Policies; therefore, implementation of Alternative 4 would be inconsistent with this policy.

The Stateline Community Plan Goal for Special Area #1 in PAS 070A is to provide a site for a new hotel and associated conference facility, in addition to maintaining golf course recreation opportunities. The No Project Alternative would not result in the construction of any lodging or conference facilities on site. Therefore Alternative 4 would be inconsistent with the Design Concept for Special Area #1 in the Stateline Community Plan.

Under Alternative 4 public access to Lake Tahoe would not be improved, and the opportunity for private and public interests in the Stateline area to expand public beach access according to the conditions set forth in both the Stateline Community Plan and PAS 070A would not be implemented. Maintaining operation of the golf course, clubhouse and restaurant as it currently exists would not implement this recreation goal or associated objectives of the Stateline Community Plan.

5.3 SCENIC RESOURCES

This section describes the visual setting and scenic resources of the project area, identifies scenic impacts that would result from Alternatives 1 through 4, and recommends scenic mitigation measures. Parts of the Edgewood Tahoe Golf Course property are visible from U.S. 50 (Roadway Travel Unit 32 – Casino Area), Lake Tahoe (Shoreline Travel Unit 30 – Edgewood), within the visual context of certain features mapped in TRPA's Scenic Resource Inventory, and to a limited extent from Nevada Beach, which is a public recreation area with views protected by TRPA. The following impact analysis is based on an evaluation of consistency with the TRPA Code of Ordinances (Code) and TRPA environmental threshold carrying capacities for scenic resources.

5.3.1 REGULATORY BACKGROUND

TAHOE REGIONAL PLANNING AGENCY

REGIONAL PLAN

Goals and Policies

The Conservation Element, Scenic Sub-element Goal #1 is to "maintain and restore the scenic qualities of the natural appearing landscape." In support of this goal, Policy 1 states that, "all proposed development shall examine impacts to the identified landscape views from roadways, bike paths, public recreation areas, and Lake Tahoe." Additionally, the Community Design Sub-element of the Conservation Element calls for regional design review for projects in the Tahoe Basin and includes a policy that limits most buildings to two stories. Community Design Goal #2, Policy 1.B(1) states, "building height shall be limited to two stories except that provisions for additional height requirements shall be provided for unique situations such as lighting towers, ski towers, steep sites, redevelopment projects and tourist accommodation facilities" (TRPA 2006).

Code of Ordinances

The following chapters of the TRPA Code contain aesthetic standards that are relevant to the project.

Design Standards

Chapter 36, "Design Standards," of the TRPA Code contains design standards, including standards for building design, landscaping, and lighting. The TRPA Design Review Guidelines provide a summary of the Code requirements and guidelines or suggestions for attainment of the standards (TRPA 1989b).

Scenic Standards

Chapter 36 of the TRPA Code also contains design standards pertaining to scenic quality. These standards establish a process for analyzing projects for scenic quality and outlines when simulations and other documents are required. They also require a security deposit equal to the cost of scenic mitigation measures for projects visible from nonattainment areas, and a 5-year review for continued presence and maintenance. Chapter 66 of the TRPA Code contains scenic quality standards, provides scenic highway corridor design standards, and establishes scenic quality review processes. Specifically, Subsections 66.1.4 and 66.1.5 of the TRPA Code describes scenic quality standards for projects in view from roadway and shoreline travel units, and public recreation areas and bicycle trails. Section 66.3 of the TRPA Code sets forth methods to determine if a project located in the shoreland will contribute to a decrease in the numerical rating for a shoreline travel unit and establishes mitigation requirements.

Height Standards

Chapter 37, "Height," of the TRPA Code contains standards pertaining to the heights of buildings and appurtenant structures to ensure attractive and compatible development. The TRPA Code outlines maximum heights for buildings using the percent slope retained across the building site, the roof pitch, and the lowest natural ground elevation.

Tree Removal

TRPA regulates the management of forest resources in the Lake Tahoe Basin to achieve and maintain the environmental thresholds for species and structural diversity, to promote the long-term health of the resources, and to create and maintain suitable habitats for diverse wildlife species. Trees are also important for visual screening. Tree removal for any tree greater than 14 inches diameter at breast height (dbh) requires TRPA review and approval per Section 61.1, "Tree Removal," of the TRPA Code. Section 5.7, "Biological Resources," includes a complete discussion of tree removal regulations and potential tree removal impacts and mitigation measures.

Parking and Signage Standards

Driveway and parking standards are set forth in Chapter 34, "Driveway and Parking Standards", of the TRPA Code. Chapter 38, "Signs," of the TRPA Code contains standards pertaining to signs.

ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

TRPA adopted environmental threshold carrying capacities in August 1982 for the purpose of maintaining and improving the various resources of the Lake Tahoe Basin. Scenic quality is an exceptional attribute of the Lake Tahoe Basin, and specific threshold carrying capacities were developed to protect and improve the scenic resources of the area. TRPA threshold standards require maintenance of threshold rating values for roadway and shoreline travel routes, individually mapped scenic resources, recreation area scenic resources, and compatibility with the natural environment. Every 5 years, the threshold carrying capacities are reviewed to evaluate improvements or declines in assigned threshold ratings. The TRPA threshold carrying capacities were most recently evaluated in 2006; a 2011 threshold evaluation is underway but has not yet been finalized.

The following describes the threshold indicators established for scenic resources that are relevant to the project and the project alternatives.

SR-1 Travel Route Rating

The TRPA travel route rating threshold tracks long-term, cumulative changes to views of the landscape from state and federal highways in urban, transitional, and natural landscapes in the region. The threshold also tracks changes to views from the surface of Lake Tahoe looking toward the shore. Roadways have been divided into 53 segments called "travel units" based on their landscape characteristics. Lake Tahoe's shoreline is divided into 33 separate travel units. All six of the following criteria are rated to determine the threshold score for each Roadway Travel Unit. Three of the criteria, numbers 1, 5, and 6, are rated to determine the threshold score for each Shoreline Travel Unit:

1. Human-made features along roadways and shoreline;
2. Physical distractions to driving along roadways;
3. Roadway characteristics;
4. Views of the lake from roadways;
5. General landscape views from roadways and shoreline; and,
6. Variety of scenery from roadways and shoreline.

Roadway Travel Unit 32 – Casino Area extends along U.S. 50 between Kahle Drive in Nevada and Pioneer Trail in California. A large stretch of the Edgewood Tahoe Golf Course property borders on U.S. 50 within this travel unit. Shoreline Travel Unit 30 – Edgewood extends between Elk Point, just north of Nevada Beach, and the Nevada-California state line. The Edgewood Tahoe Golf Course is within this shoreline travel unit. Both travel units are in non-attainment of the scenic thresholds (TRPA 2007).

SR-2 Scenic Quality Rating

The purpose of this TRPA scenic quality threshold is to maintain or enhance views of individual, existing scenic resources. The scenic resources in the region include certain views of the natural landscape and distinctive natural features that were identified, mapped, described, and evaluated as part of the 1982 Scenic Resource Evaluation (TRPA 1982). Scenic resources include:

- foreground, middle-ground, and background views of the natural landscape from roadways;
- certain views to Lake Tahoe from roadways;
- certain views of Lake Tahoe and natural landscape from roadway entry points into the region;
- unique landscape features, such as streams, beaches, and rock formations that add interest and variety, as seen from roadways;
- certain views of the shoreline, the water's edge, and the foreground as seen from the lake;
- certain views of the backdrop landscape, including the skyline, as seen from the lake; and
- visual features on or near the shore that are of particular visual interest as seen from the lake. (TRPA 1982)

Numerical scenic quality ratings are derived for each mapped scenic resource using four visual indicators as subcomponents: unity, vividness, variety, and intactness. According to the TRPA 2006 Threshold Evaluation Report (TRPA 2007), unity is the degree to which the visual resources of a scene join together to form a single, coherent, harmonious unit. Vividness is a measure of contrasting elements, such as color, line, and shape, marked differences seen as related, or repetition of similarities. It is sometimes referred to as distinctiveness. Variety is numerous or different parts seen together and can be referred to as richness. Intactness describes the degree to which a landscape retains its natural condition, or the degree to which modifications emphasize or enhance the natural condition of the landscape (TRPA 2007).

Each of these four indicators is rated on a scale from zero (absent) to three (high). The ratings for all four indicators are summed to yield the scenic quality threshold rating. The 1982 Lake Tahoe Basin Scenic Resource Inventory identified and mapped the following scenic resources within Shoreline Travel Unit 30 – Edgewood: SR 30.1, a visual feature that includes views of Round Mound; SR 30.2, a shoreline view of the sandy beach near Nevada Beach; SR 30.3, a background view of the forested ridges and rock faces towards Kingsbury Grade; SR 30.4, a visual feature that includes views of the mobile home park located south of Nevada Beach and north of the 4-H camp property; SR 30.5, a shoreline view of Edgewood Tahoe Golf Course that includes meadows visible between trees; and SR 30.6, a background view of the forested mountains and conical peaks behind the Stateline casinos toward Ski Run Boulevard (TRPA 1982).

Of the mapped scenic resources in Shoreline Travel Unit 30 – Edgewood, only SR 30.5, "Shoreline View," could be affected by the proposed project, as the other scenic resources are outside the visual context of the project site. SR 30.5 consists of the view of the Edgewood Tahoe Golf Course property as seen from the Lake. In 1982, the composite rating for SR 30.5 was 10. The rating has not changed in any of the threshold evaluations that have occurred since then.

SR-3 Public Recreation Areas and Bike Trails Rating

The TRPA public recreation area scenic quality threshold applies to specific public recreation areas, including beaches, campgrounds, ski areas, and segments of Class I and Class II bicycle trails. Public recreation areas with views of scenic resources are valuable because they are major public gathering places, hold high scenic values, and are places where people are static (compared to people on the travel routes) and, therefore, have more time to focus their attention on the views and scenic resources. Scenic resources seen from public recreation areas include:

- views of the lake and the surrounding natural landscape from within the recreation area;
- views of distinctive natural features that are within the recreation area; and
- views of human-made features in or adjacent to the recreation area that influence the viewing experience.

Scenic quality threshold ratings for scenic resources associated with public recreation areas and bike trails are derived in the same manner described above for SR-2 using the same visual indicators; unity, vividness, variety, and intactness. The Edgewood Tahoe Golf Course property is near and partially visible from Nevada Beach, a public recreation area with views protected by TRPA. At the shoreline, the north end of the golf course property is separated from the south end of Nevada Beach by two private parcels, a distance of about 450 feet.

The specific scenic resources associated with Recreation Area No. 1 – Nevada Beach include: (1) four views from the recreation area – 1-1 (a 180 degree panorama view looking west across the lake from mid-beach), 1-2 (a view from south end of the beach looking south and west), 1-3 (a view from the southernmost campsite looking southwest), and 1-4 (a view from the beach looking west and north); and, (2) four natural features visible from the recreation area –1-5 (Round Mound), 1-6 (expansive sandy beach along the shoreline), 1-7 (conifer forest areas towards Rabe Meadow to the east), and 1-8 (specimen trees of unusual interest inland from the northern and southern ends of the beach). Of these, only View 1-2 could potentially be affected by the proposed project, as the other scenic resources are outside the visual context of the project site. This scenic resource (View 1-2) consists of the view from the south end of Nevada Beach looking south along the shore and west across the open water to the mountains beyond. It has a scenic quality rating of 18.

SR-4 Community Design

The TRPA community design threshold is a policy statement that applies to the built environment and is intended to ensure that design elements of buildings are compatible with the natural, scenic, and recreational values of the region. Following the direction established in the policy statement and the TRPA Goals and Policies, TRPA adopted the *Scenic Resource Management Plan* in 1989. The plan included the Scenic Quality Improvement Program (SQIP) (TRPA 1989b), and several Code provisions described below that are related to community design.

The community design threshold is implemented in two ways. First, the community and redevelopment plan process has been used to develop design standards and guidelines that are tailored to the needs and desires of individual communities. These standards and guidelines are considered “substitute” standards because they replace all or portions of the TRPA Code that would otherwise regulate the same subject. Secondly, the site planning and design principles contained in the TRPA Code are implemented as part of individual development projects, and are reviewed and approved by TRPA and local governments.

TRPA Scenic Quality Improvement Program/Environmental Improvement Program

The SQIP (TRPA 1989b) was adopted to provide a program for implementing physical improvements to the built environment in the Tahoe Basin. It is intended to contribute to the attainment of the scenic quality thresholds in the TRPA Regional Plan (TRPA 2006) and serves as an implementation guide for this plan. The program is an overall action plan to specifically improve the scenic quality of roadway and shoreline travel routes that do not meet the scenic thresholds.

The Environmental Improvement Program (EIP) adopted in 1998 incorporates elements of the SQIP. The EIP includes a list of specific projects throughout the Tahoe Basin that are deemed necessary to help attain and maintain scenic thresholds. Among the projects listed in the EIP is EIP Project 506 that applies to Shoreline Travel Unit 30 – Edgewood and EIP Project 97 that applies to Roadway Travel Unit 32 – Casino Area. EIP Project 506 involves removing overhead utility lines that run near the shore and placing them underground. It also involves adding landscape screening in mapped areas of concern to reduce the visual contrast of lakefront structures. EIP Project 97 involves removing overhead utility lines that run adjacent to U.S. 50 throughout Roadway Travel Unit 32 – Casino Area and placing them underground.

5.3.2 AFFECTED ENVIRONMENT

VISUAL CHARACTER OF THE PROJECT SITE

The project site includes the existing Edgewood Tahoe Golf Course and clubhouse property on the west side of U.S. 50 and a small primarily undeveloped area east of U.S. 50 and south of SR 207. The proposed lodge development would be concentrated west of U.S. 50 in the vicinity of the existing clubhouse and in the area east and south of the clubhouse. Exhibits 5.3-1 through 5.3-3 show photographs of the project site with an emphasis on locations where structural development would occur.

The project site west of U.S. 50 includes two existing private residences located at the shoreline about 575 feet south of the existing clubhouse. Exhibit 3-4, in Chapter 3, "Project Description," shows the layout of the project site and existing features. A grove of conifer trees occupies the area southeast of the clubhouse. A grove of conifer trees also occurs in the northwest quadrant of the golf course and in the south-central portion surrounding the entrance road off Lake Parkway. The layout of the golf course features a concentration of fairways and greens to the north and east of the clubhouse with only two golf holes in the southern part of the property, south of the main access road. The forest canopy in these areas extends to heights averaging between 60 and 80 feet above ground level with some trees up to 120 feet tall. Several ponds occur among the fairways. The largest pond (pond 1) is located near the center of the property. This creates a more open and pastoral appearance to the central and eastern areas that extend to U.S. 50. Two fairways surround the grove of conifer trees southeast of the clubhouse where most of the new development is proposed. A majority of the trees on the property occur within the western half. There is a dense stand of willows on the beach where Edgewood Creek flows into Lake Tahoe. Sand traps are along the fairways and greens, and a network of paved golf cart paths and service roads run throughout the property.

The entrance road off Lake Parkway leads northwest to the clubhouse at the lake shore. It also leads to the two private residences, south of the clubhouse. There is a paved parking lot with approximately 68 spaces on the south side of the entrance road just east of the clubhouse. A larger paved parking lot is along the shore immediately south of the clubhouse. It has approximately 125 spaces, 33 of which are aligned along the shore. A small and unobtrusive pump house is south of the lake shore parking lot. The two private residences are at the southwest corner of the golf course property. They are mostly unseen from the golf course or clubhouse area and are only partially visible from Lake Tahoe due to screening from trees and other vegetation. A maintenance building is located in the north-central part of the property among a grove of conifer trees.

An overhead utility line enters the golf course property from the north. The line runs southward, parallel to the beach about 575 feet from the shore to a point northeast of the driving range and at the southwestern edge of the grove of conifer trees where the existing maintenance facility is located. Another overhead line parallels the beach approximately 275 feet from the shore and runs from the pump house southward past and behind the two private residences to the Nevada-California state line where it turns southeast and follows the state line. Both overhead lines are visible from locations on the golf course property and from Lake Tahoe, but views of these lines from the lake are mostly screened by trees.

The project site located east of U.S. 50 includes Friday's Station pond and dam, the road over the dam, and portions of Edgewood Creek. A former bunk house building is located on the southern edge of Friday's Station pond.

Source: Tom Packard 2011

Exhibit 5.3-1a. Views from the Northeastern End of the Proposed Lodge Complex Looking West Toward Lake Tahoe

Source: Tom Packard 2011

Exhibit 5.3-1b. Views from the Center Portion of the Proposed Lodge Complex Looking West Toward Lake Tahoe

Source: Tom Packard 2011

Exhibit 5.3-2a. Views from the Southern End of the Proposed Lodge Complex Looking West Toward Lake Tahoe (Existing Pump House and Overhead Utilities Lines in the Background)

Source: Tom Packard 2011

Exhibit 5.3-2b. Views from the Southern Edge of the Proposed Lodge Complex Looking South Toward California Residences (fence indicates the property boundary)

Source: Tom Packard 2011

Exhibit 5.3-3a. Views Looking from the Western Edge of the Relocated Residential Lots Looking West Toward Lake Tahoe

Source: Tom Packard 2011

Exhibit 5.3-3b. Views Looking South from the Northern Edge of the Edgewood Tahoe Golf Course Property

VISUAL CHARACTER OF THE SURROUNDING ENVIRONMENT

Edgewood Companies owns the largely undeveloped property east of U.S. 50 between SR 207 and Lake Parkway. The northern half of this area is mostly wooded while the southern half is grass-covered which allows views across it. Approximately 4 acres of this property are included in the project area. An overhead utility line runs along the east side of this segment of U.S. 50. The casino corridor at Stateline with its large high-rise hotel towers and urban appearance is immediately southeast of the Edgewood Tahoe Golf Course and Lake Parkway. A concentration of single-family residences, hotels, and motels are located directly south of the golf course property closer to Lake Tahoe. The Edgewood Village Commercial Center (no ownership connection with Edgewood Companies) is located at the northeast corner of SR 207 and U.S. 50 and consists of a mix of multi-story buildings occupied by medical and government offices, the visitor center, and commercial uses. The Lakeside Inn and Stateline Center commercial area are directly across the street from the Edgewood Village Commercial Center. A residential area and the State of Nevada 4-H Camp are located immediately adjacent to the northern edge of the Edgewood Tahoe Golf Course. Exhibit 3-2, in Chapter 3, "Project Description," provides an aerial view of the project area and these surrounding land uses.

The Edgewood Tahoe Golf Course with its predominant open space character makes up almost the entire southern half of Shoreline Travel Unit 30 – Edgewood. The northern half of the unit is occupied by Nevada Beach, which is more than 0.5 mile long and is predominantly open space in character, and a cluster of shoreline developments at Elk Point. South of the project site and the Nevada-California state line, the City of South Lake Tahoe shoreline is characterized by continuous development.

VIEWS OF THE PROJECT SITE

VIEWS FROM U.S. 50

A large portion of the Edgewood Tahoe Golf Course property is adjacent to and directly visible from U.S. 50 within Roadway Travel Unit 32 – Casino Area (see Exhibit 5.3-4d). The clubhouse, surface parking, and single-family residences are not visible from U.S. 50, as views are blocked by vegetation and topography associated with Edgewood Creek, trees, an earthen berm north of Edgewood Creek that parallels U.S. 50, and the golf course. The portion of the project area east of U.S. 50 is screened from U.S. 50 by dense intervening vegetation.

Existing on-site development is visible to varying degrees from locations along Lake Parkway (west of U.S. 50) in the vicinity of the golf course entry road. Lake Parkway is not a TRPA-scenic route and is not part of any TRPA roadway travel unit. Because views from Lake Parkway are not protected by TRPA beyond the application of TRPA's design standards (Chapters 34, 36, and 38 of the TRPA Code), views from Lake Parkway are not discussed further herein.

VIEWS FROM LAKE TAHOE

Shoreline Travel Unit 30 – Edgewood includes a lengthy stretch of Nevada Beach, the Edgewood Tahoe Golf Course property, and stretches of forested backdrop. Consequently, it has a mostly natural-appearing character as seen from Lake Tahoe. However, manmade features that are visible from Lake Tahoe within the unit but outside the project area include the following: residences at Elk Point, parking lots, picnic grounds, restroom facilities at Nevada Beach, an overhead utility line, the Kingsbury General Improvement District (KGID) pump station and pier, part of the mobile home park, the 4-H Camp pier, the upper-most portions of the high-rise casino towers along U.S. 50, a communication tower on SR 207, and scattered residential development on the forested hillside east of U.S. 50. From certain viewpoints from the lake, part of the Edgewood Village Commercial Center development at U.S. 50 and SR 207 can be seen.

The Edgewood Tahoe Golf Course property fronts on the beach and is thus visible from the surface of Lake Tahoe. As shown in the photographs of existing conditions in Exhibits 5.3-4c and 5.3-4e, the Edgewood golf

course fairways and greens, golf course clubhouse, surface parking, overhead utility lines, two private residences, and pier are visible from the surface of Lake Tahoe. The interior of the golf course in the area north of the clubhouse can be seen from the lake due to a relative absence of trees in this area. Otherwise, tree stands of varying density limit how much of the golf course behind the beach is visible. Where the trees are fairly dense, relatively little of the area behind the beach can be seen. Where the trees are somewhat sparse, more land area is exposed. A Baseline Scenic Shoreland Assessment was performed in 2007 that resulted in a composite scenic baseline contrast rating score of 21 (Appendix D).

The portion of the project site east of U.S. 50 is not visible from Lake Tahoe due to distance, topography, and intervening vegetation.

VIEWS FROM NEVADA BEACH

A portion of the project site can be seen from Nevada Beach, but it cannot be seen from the adjoining campground, the entrance road to the recreation area, or from the parking areas near the entrance road. From the beach, the western portion of the project site is visible. The viewing distance from the north end of Nevada Beach to the Edgewood clubhouse is approximately 6,000 feet. From the south end of the beach the viewing distance is approximately 3,400 feet. The portion of the golf course that is near the lake is visible from the beach. Views of the existing clubhouse and of the two private residences south of the clubhouse are partially screened by coniferous trees. Views to the south from the beach include a variety of shoreline developments that are outside the project area and extend from Stateline to the City of South Lake Tahoe.

5.3.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

TRPA maintains applicable standards for scenic resource thresholds in its threshold carrying capacities. For the purposes of this analysis, a significant impact would result if one or more of the following would take place with project implementation:

- a decrease of adopted Travel Route threshold ratings;
- a decrease of adopted Scenic Quality threshold ratings;
- a decrease of adopted Public Recreation Areas and Bike Trails threshold ratings; or
- noncompliance with the adopted Community Design threshold by failing to comply with site planning or design principles contained in the TRPA Code.

METHODS AND ASSUMPTIONS

Visual simulations showing the proposed project (Alternative 1, including Alternatives 1A and 1B) and development alternatives (Alternatives 2 and 3) as they would appear from three viewpoint locations selected by the TRPA were prepared by the project applicant design team and peer reviewed as part of this EIS analyses. Two of the viewpoint locations depict views of the site from Lake Tahoe, including Viewpoint 1 which reflects views extending from just north of the clubhouse to a point just south of the two existing residences on the site, and Viewpoint 2 which reflects views extending from just north of the Edgewood Creek outfall to an area in the northern part of the project site. Viewpoint 3 depicts views towards Lake Tahoe from U.S. 50 near Lake Parkway. Appendix D includes a memorandum that describes the methodologies used to prepare the visual simulations for the project.

Because of their size and for ease of reading, these exhibits (Exhibits 5.3-4 through 5.3-6), which include photographs of existing conditions for direct comparison, are included at the end of this section. Exhibits 5.3-4a

through 5.3-4f reflect development associated with Alternative 1 (including Alternative 1A, which includes the proposed height amendment, and Alternative 1B, the code compliant variation of the proposed project), Exhibits 5.3-5a and 5.3-5b reflect development associated with Alternative 2, and Exhibits 5.3-6a and 5.3-6b reflect development associated with Alternative 3. Simulations from Viewpoint 2 (north of the clubhouse) are not included for Alternatives 1B, 2, and 3, because the proposed development north of the clubhouse would be the same under these alternatives as with Alternative 1A (Exhibit 5.3-4c). For Alternative 1, the project applicant design team also prepared renderings that compare the proposed project with (Alternative 1A) and without (Alternative 1B) the height amendment for the main lodge building; these renderings and a simulation showing the proposed height amendment from Viewpoint 1 are shown in Exhibits 5.3-4a and 5.3-4b.

The building materials, exterior colors, and vegetative screening shown in the visual simulations represent the applicant's proposed design. The simulated images were used as an aid in analyzing the project's potential scenic impacts. To ensure compliance with the simulations, permit conditions would be imposed by TRPA for the development alternatives to ensure vegetative screening complies with the simulations. These conditions would include construction monitoring, post-construction monitoring for 5 years, and posting a security deposit to ensure additional vegetative screening or other measures are implemented in the event the screening depicted in the approved simulations is not achieved after the 5-year post-construction monitoring period.

The impact conclusions herein are based on the appearance of the development alternatives in the photo simulations and the permit conditions described above.

IMPACTS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194-UNITS)

Impact 5.3.1-1	**Effects on SR-1, Travel Route Ratings**. Structures proposed under Alternative 1 (both Alternatives 1A and 1B), including the clubhouse expansion, main lodge, and related buildings, would not be visible from Roadway Travel Unit 32 – Casino Area and no visual impacts would occur to this unit. The proposed structures would, however, be visible to varying degrees from Lake Tahoe within Shoreline Travel Unit 30 – Edgewood. The majority of the proposed new development would be located within an existing grove of conifer trees that would partially screen the structures. Additional screening vegetation would be planted and the building exteriors would feature wood and stone materials and would be finished with dark colors. The visual impact on SR-1, Travel Route Ratings would be **less than significant**.

Roadway Travel Unit 32 – Casino Area

Based on the 2006 Threshold Evaluation, Roadway Travel Unit 32 – Casino Area is not in attainment of scenic thresholds (TRPA 2006). The proposed project would include improvements to Friday's Station pond and dam located on the east side of U.S. 50 across from the Edgewood Tahoe Golf Course. The pond and dam are set back about 350 feet from the east shoulder of the highway within a stand of trees and riparian vegetation; they are not in view from U.S. 50. Threshold Improvement Project D, an element of the proposed project, includes improvements to the pond's outlet structure, increasing the size of the pond's emergency spillway, dredging the pond, and stabilization of Edgewood Creek below the pond on its western side. The proposed improvements at this location would not change the existing visual conditions within Roadway Travel Unit 32 – Casino Area, because the nature of the improvements themselves would not alter the visual character of this area nor would they be visible from U.S. 50 at any location.

The buildings associated with the lodge complex and clubhouse expansion would not be visible from U.S. 50. Exhibits 5.3-4d and 5.3-4f show the lodge complex and clubhouse expansion as being completely obscured by existing trees and intervening topography; there is no discernible difference between Alternatives 1A and 1B in

views from U.S. 50. According to these exhibits, the proposed structures would not extend above the existing forest canopy and would not interrupt views from U.S. 50.

The proposed project does not include development of residences on the relocated lots; however, it is expected that development of the lots could occur in the future. For the purposes of this EIS, conceptual locations for the future residences have been illustrated on the project site plan (Exhibit 3-7, in Chapter 3, "Project Description"). It is assumed that future residential structures would be two stories. The development of the residential parcels and associated parking would be subject to subsequent TRPA environmental review and permitting. Given that this portion of the project area is completely screened from views from U.S. 50 by existing vegetation and a large earthen berm, the future construction of residences on the relocated lots would not be visible from any TRPA roadway travel unit.

For these reasons, the proposed project would have no impact on Roadway Travel Unit 32 – Casino Area.

Shoreline Travel Unit 30 – Edgewood

Shoreline Travel Unit 30 – Edgewood extends from Elk Point southward to the California-Nevada state line, a distance of about 1.6 miles. In 1982, the initial threshold composite score for this unit was determined to be 11 and became the threshold standard (TRPA 1982). From 1982 through 1991, the composite score remained at 11 and the unit was in attainment of the threshold standard (TRPA 1991). During the 1996 Threshold Evaluation, the composite score decreased to 10.5 due to new development outside the Edgewood project site, which caused the unit to fall to non-attainment status, a condition that exists today (TRPA 1996). The composite score is comprised of three subcomponent scores; that for Manmade Features, for General Landscape Views, and for Variety of Scenery. In 1996, the score for Manmade Features decreased from 4 (out of a possible 5) to 3.5 due to the construction of new, unscreened structures close to the water's edge including KGID's concrete block pump station just south of Nevada Beach and a private residence near the north end of Nevada Beach (TRPA 1996). The 2001 Threshold Evaluation noted that two more residences had been built just beyond the north end of Nevada Beach and that both are visible from the lake (TRPA 2001a). The 2006 Threshold Evaluation found that these buildings remain largely unscreened in views from the lake and that the unit remains in non-attainment status with a composite score of 10.5 (TRPA 2007).

Subsection 66.1.4 of the TRPA Code states that a project shall not cause a decrease in the 1982 shoreline travel route rating. It further states that for projects in the shoreland, TRPA Code Section 66.3 shall be used to determine if the project would contribute to a decrease in the numerical rating for a shoreline travel route rating. The shoreland consists of the area within 300 feet of the shore of Lake Tahoe as measured from the high water line.

Aspects of the proposed project that would be at least partially visible from Lake Tahoe and would thus have a potential negative effect on the rating for Shoreline Travel Unit 30 – Edgewood include the proposed clubhouse expansion, the lodge complex and pool terrace, the remodeled pump house, the pedestrian bridge over Edgewood Creek, stream channel stabilization features at the mouth of Edgewood Creek, and the relocated pier. The lodge complex, which is by far the largest structural component of the project, would be directly adjacent to but outside the 300-foot shoreland area with the exception of the pool terrace that would extend partially within the shoreland (Exhibit 3-8, in Chapter 3, "Project Description").

The proposed relocation of the shoreline parking lot to an area not in view from the lake and removal of the two existing lakefront residences would have a positive influence on the shoreline travel route rating. The two residences would be demolished and the boundaries of the lots would be relocated within the golf course property among a grove of conifer trees set back approximately 600 feet from the shoreline and in the general vicinity of the existing maintenance facility. While the trees provide screening, based on a site reconnaissance of the relocated lots some portions of the lake are visible from locations on the two relocated lots and, as such, it is possible that the future residences could be visible from the lake depending on their placement on the lots, their heights, the colors and materials used in their design, and landscape screening. Development of either lot is not

proposed as part of this project but could occur in the future and these developments would be subject to separate TRPA environmental review. If scenic impacts were identified at that time, mitigation measures would be required.

The proposal to place approximately 1,400 linear feet of existing overhead utility lines underground north of the clubhouse as part of the clubhouse expansion and approximately 740 linear feet of existing overhead utility lines south of the existing pump house would partially implement EIP Project 506, but only within the boundaries of the Edgewood Tahoe Golf Course property. This would have a positive influence on the shoreline travel route rating. The proposed clubhouse expansion would be designed to replicate the architecture and appearance of the existing clubhouse such that the expanded portion would appear as though it was part of the original building. The clubhouse expansion, pool terrace, remodeled pump house, stream channel stabilization features, and pedestrian bridge over Edgewood Creek would all be located within the 300-foot shoreland area (i.e., within 300 linear feet of the lake's high water line).

A contrast rating analysis of these structures was conducted by the project applicant by applying the contrast rating system described in *Appendix H, Visual Assessment Tool for the Review of Projects Located within the Shoreland*, of the TRPA Design Review Guidelines as specified in Section 66.3 of the TRPA Code. The contrast rating analysis was peer reviewed as part of this EIS. The lakefront façades of each structure within the shoreland area was analyzed using elevation drawings of the buildings and other structures. The surface area (square feet) of each exterior material was calculated along with the percentage of each differing surface in relation to the overall square footage of the lakefront façade. Appendix D includes the contrast rating analyses prepared for the baseline (existing) and project conditions.

Each surface material was given a color score based on its Munsell color as specified by the project applicant and represented on material boards submitted to TRPA. Glass surfaces were scored according to percent reflectance. TRPA-approved colors would be used on all façade surfaces except glass. A weighted average color score for each surface was calculated. Likewise, a surface plane/texture score was given to each surface based on the number of differing plane surfaces that make up the lakefront façade and the surface pattern (texture) of each material. Weighted averages for each material were calculated. Lastly the percentage of the perimeter of each lakefront façade was measured off drawings that show the intended amount and placement of vegetative and other screening to obtain a perimeter score. Proposed screening is depicted in the visual simulations in Exhibits 5.3-4b and 4e.

The total weighted average color score, total weighted average surface plane/texture score, and perimeter score were added to obtain the contrast rating for each structure. A composite contrast rating score representing all proposed shoreland structures was then calculated. The analysis produced a composite contrast rating score of 20 (Appendix D), a reduction of one point from the baseline contrast rating score of 21 (Appendix D).

TRPA Code Section 66.3 allows a maximum visible lakefront façade area (measured in square feet) based on a project's composite contrast rating, plus an additional amount based on the linear distance of the parcel's lake frontage. An additional 7.5 percent is allowed for every 10 linear feet of lake frontage greater than 100 feet.

According to Appendix H of the Design Review Guidelines, shoreland projects with a composite contrast rating of 20 are allowed 595 square feet of visible lakefront façade plus an additional 44.6 square feet (7.5 percent of 595 square feet) for each 10 feet of lake frontage beyond 100 feet.

The lake frontage of the Edgewood Tahoe Golf Course property is 3,610 linear feet. Using the calculation described above, an additional 15,663 square feet of visible lakefront façade would be allowed (i.e., [3,510 divided by 10] X 44.6). Total visible lakefront façade that would be allowed under TRPA Code is 16,258 square feet (i.e., 595 square feet plus 15,663 square feet). As part of the contrast rating analysis conducted for the project, the applicant has calculated that the proposed total visible lakefront façade area for all the project's

shoreland structures (existing and proposed) would be 6,459 square feet, substantially less than that allowed under Section 66.3 of the TRPA Code and therefore in compliance with the Code.

Proposed pier improvements would involve replacing the existing 91-foot long pier that is in the shorezone in front of one of the two existing residential structures with a new 123-foot long multiple-use pier in front of the clubhouse. The proposed pier would be comprised of two sections; an adjustable-height fixed section with a ramped central segment, and a floating section that includes a transition ramp where the two sections join (Exhibit 3-11, in Chapter 3, "Project Description"). The pier would be 10 feet wide, except for the final 16 feet at the lake end which would be 30 feet wide.

Strategies for scenic mitigation of proposed shorezone projects involve seeking opportunities to apply mitigation to existing shorezone structures if present. For the proposed project, scenic mitigation required for the pier would involve screening of visible on-shore structures since there are no other existing shorezone structures in the immediate area with the exception of the existing pier that would be removed. The amount of screening required is equal to the total visible surface area of one side and the end of the proposed pier. In shoreline travel units that are in non-attainment of scenic thresholds, the amount required is 1.5 times this area. The side and end surface areas consist of the vertical face of the pier deck and the above-water portion of all posts or columns. The area of the proposed pier, based on its current design, was calculated at 167 square feet. Credit is given for the surface area of the existing pier that would be removed. The scenic mitigation requirement for this design would be a maximum of 250.5 square feet (167 square feet X 1.5 = 250.5 square feet). The applicant proposes to remove the two lakefront residences with a combined visible façade of 1,644.7 square feet (Appendix D) that would meet the scenic mitigation requirement of 250.5 square feet or more if needed for any refinements in pier design in latter phases of design.

The proposed lodge complex would be located outside the shoreland area among a grove of conifer trees south and east of the existing clubhouse. Because it is greater than 300 feet from the high water line of the lake and therefore outside the shoreland, it is not subject to Section 66.3 of the TRPA Code and does not require a contrast rating analysis. However, the lakeside edge of the main lodge portion of the lodge complex would extend up to the 300-foot shoreland boundary. The pool terrace, located within the shoreland, would adjoin the main lodge. The south wing of the main lodge would be between roughly 75 feet and 220 feet back from the shoreland boundary. So, while outside the shoreland, the lakefront façades (west elevations) of the main lodge and the south wing would be located at or near the shoreland boundary. All proposed project structures located within the shoreland must be included in the contrast rating analysis submitted to TRPA in conjunction with the project application.

Appendix B to this EIS contains elevation drawings of the various buildings that comprise the lodge complex associated with Alternatives 1A and 1B, illustrating the proposed building architecture and materials. The buildings included in the proposed project and the project alternatives are designed to blend with the natural environment and to reflect Tahoe-style design. The exterior colors and building materials, including natural stone and wood, are intended to blend the buildings with natural surroundings. Additional vegetative screening would be implemented as part of the landscape plan to further reduce the appearance of the buildings in relation to their surroundings. Proposed exterior colors and building materials would comply with TRPA design guidelines.

The appearance of the proposed project when viewed from the lake is demonstrated in Exhibits 5.3-4b and 5.3-4c for Alternative 1A, and Exhibit 5.3-4e for Alternative 1B. The simulated images show the existing shoreline parking removed as well as removal of the two existing shoreline residences south of the parking area. The expansion of the clubhouse is shown with proposed screening vegetation added. The reconstructed pier is shown in front of the clubhouse. The pool terrace is shown to the right (south) of the expanded clubhouse and is barely perceptible except for some low stone walls. The main lodge building is shown behind the pool terrace. The green for golf hole 9, marked by a white flag, is shown to the right of the pool terrace. The remodeled pump

house is directly behind the green. The appearance of the proposed pier in the simulated images reflects the design at the time the images were prepared.

Plans submitted by the applicant show there are currently more than 100 trees in the area between the lake and the proposed lodge complex. The tree removal plan shows that about 25 of these trees would be removed while the remainder would be retained. Of the 25 trees to be removed, six are greater than 24 inches dbh. Of the trees to be retained in this area, 36 are greater than 24 inches dbh. The applicant's proposed landscape plan shows that a total of 40 pine trees 10 to 18 feet tall would be planted in the area between the lake and the lodge complex. The trees would help screen the project from view. They would include Jeffrey and ponderosa pines. Also, 11 aspen trees would be planted in front of the main lodge building along the edge of the pool deck. The addition of new trees in this area would result in a net gain in terms of the total number of trees (25 to be removed, 51 to be planted). The tree removal plan also shows that about 167 trees within and near the footprint of the lodge complex buildings and all hard surfaces including the pool terrace would be removed. Of these about 49 are greater than 24 inches dbh.

In the simulated images of Alternatives 1A and 1B(Exhibits 5.3-4b and 5.3-4e), the lodge complex located just beyond the boundary of the shoreland is shown as being mostly screened from view by trees. This is true of the main lodge and its south wing. Other parts of the lodge complex would be behind the main lodge and south wing and therefore not visible from the lake. The proposed casitas buildings are depicted as completely screened from views from the lake. Dark colors are shown on exterior surfaces of the lodge complex buildings and windows and other glass surfaces are shown as very dark and non-reflective. Articulation of the lakefront façade of the lodge complex buildings is depicted. These features help the buildings to blend with the surrounding trees. The trees shown in front of the pool terrace and lodge complex provide visual breaks as recommended in the TRPA design guidelines. The lodge complex, including the tallest part allowed under the height amendment proposed by TRPA (Alternative 1A), would not extend above the forest canopy or any ridgeline.

Removal of the two shoreline residences would eliminate 1,644 square feet of visible façade area from the shoreland. At the same time, the clubhouse expansion and pool terrace, both located in the shoreland, would add 2,739 square feet of visible façade area resulting in a net increase of 1,095 square feet of visible façade area in the shoreland. Based on a visual comparison of the photo of existing conditions and the simulated view from the lake of the completed project, the proposed project appears to reduce the evidence of manmade features within this view for both Alternatives 1A and 1B. This is due to removal of the surface parking lot in the shoreland and two shoreline residences, addition of landscape screening on the lake side of the existing and expanded clubhouse, setback and screening of the lodge complex, use of dark colors on exterior building surfaces, and use of dark, non-reflective materials. Under these circumstances the project would not cause a decrease in the travel route rating for Shoreline Travel Unit 30 – Edgewood. It would instead contribute toward a potential increase in the rating because of the apparent reduction of manmade features. A future increase in the rating would place the unit in attainment of the scenic threshold.

For these reasons, the impact on the travel route rating of Shoreline Travel Unit 30 – Edgewood is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.3.1-2	**Effects on SR-2, Scenic Quality Ratings.** The proposed development associated with Alternative 1 (both Alternatives 1A and 1B) would be seen within the same visual context as a single identified and mapped TRPA Scenic Resource (SR 30.5), which is visible from Shoreline Travel Unit 30 – Edgewood. It appears in the photo simulations that the project would result in a decrease in existing manmade features within the project area in view from the lake even though there would be an increase in manmade structures in the shoreland. As a result, the scenic quality rating of SR 30.5 would be maintained. Therefore, the visual effect of the project on this TRPA-regulated scenic resource would be **a less-than-significant** impact.

Identified and mapped scenic resources associated with shoreline travel units include views of the shoreline, visual features, and backdrop views. Beginning in 1982, these views have been rated for scenic quality. Subcomponents of the scenic quality ratings are unity, vividness, variety, and intactness. Of the mapped scenic resources in Shoreline Travel Unit 30 – Edgewood, only SR 30.5, "Shoreline View," could be affected by the proposed project, as the other scenic resources are outside the visual context of the project site.

SR 30.5 consists of the view of the Edgewood Tahoe Golf Course property as seen from the Lake. In 1982, the composite rating for SR 30.5 was 10. The rating has not changed in any of the thresholds evaluations that have occurred since then. In prior threshold reviews, the golf course is described as having a mostly natural appearance, except for the clubhouse, and a meadow appearance is provided by vistas through the trees. The project would result in the expansion of the clubhouse and construction of new features including the pool terrace and lodge complex south of the clubhouse. The existing fixed-height pier at the southern end of the property would be demolished and a new pier with a floating section would be constructed in front of the clubhouse. The existing shoreline parking and two private residences would be removed. The net effect of these changes is depicted in visual simulations prepared by the project applicant for Alternatives 1A and 1B (Exhibits 5.3-4b and 5.4-4e), which show an apparent decrease in existing manmade features in the view of the project area from the lake. This is due largely to the removal of the existing parking lot and two shoreline residences, screening of existing and proposed project features, and the use of dark, non-reflective materials for exterior building surfaces. The proposed project as depicted in the visual simulations would appear to reduce the visibility of manmade features along the shoreline as viewed from the lake even though the clubhouse expansion and new pool terrace would be added to the scene. For purposes of this analysis, the impact on the scenic quality rating of SR 30.5 is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.3.1-3	**Effects on SR-3, Public Recreation Areas and Bike Trails.** Elements of Alternative 1 (the same for Alternatives 1A and 1B) would be partially visible within the context of identified TRPA Scenic Resources as viewed from TRPA Public Recreation Area No. 1 – Nevada Beach. The visual presence of elements of the project would be distant from Nevada Beach and within the context of the existing clubhouse and, as such, would not degrade views from Nevada Beach. For these reasons, this would be a **less-than-significant** impact.

The 1993 Lake Tahoe Basin Scenic Resource Evaluation established the baseline scenic quality ratings for specific views and natural features visible from bike trails and recreation areas open to the general public. Subcomponents of the scenic quality ratings are unity, vividness, variety, and intactness.

Portions of the project site are visible from TRPA Public Recreation Area No. 1 – Nevada Beach. The 1993 report states that Nevada Beach, with its dramatic mountain backdrop, provides some of the most spectacular views of the lake from any lakeside area in the Tahoe Basin. It also notes that development at either end of the beach greatly detracts from the quality of the views, and that overhead utility lines near the south end of the

recreation area interfere with views. The specific scenic resources associated with Recreation Area No. 1 – Nevada Beach include: (1) three views from the recreation area – 1-1 (a 180 degree panorama view looking west across the lake from mid-beach), 1-2 (a view from south end of the beach looking south and west), 1-3 (a view from the southernmost campsite looking southwest), and 1-4 (a view from the beach looking west and north); and, (2) four natural features visible from the recreation area –1-5 (Round Mound), 1-6 (expansive sandy beach along the shoreline), 1-7 (conifer forest areas towards Rabe Meadow to the east), and 1-8 (specimen trees of unusual interest inland from the northern and southern ends of the beach). Of these, only View 1-2 could potentially be affected by the proposed project, as the other scenic resources are outside the visual context of the project site.

This scenic resource (View 1-2) consists of the view from the south end of Nevada Beach looking south along the shore and west across the open water to the mountains beyond. It has a scenic quality rating of 18. The portion of the view looking directly out over the lake is predominantly natural in character. Looking south along the shore, the view encompasses Stateline, the City of South Lake Tahoe, and various types of urban development in the background. The distance to the Edgewood clubhouse from the south end of Nevada Beach is approximately 3,400 feet. From this location, the edge of the golf course near the lake is visible. Also, portions of the existing clubhouse and portions of the two private residences south of the clubhouse are visible among coniferous trees.

Alternative 1 (Alternatives 1A and 1B) would expand the clubhouse and construct new structures, including the pool terrace and lodge complex, south of the clubhouse. A new pier to replace the existing pier that would be demolished would be constructed in front of the clubhouse. The existing surface parking lot and two private residences in the shoreland would be removed. From this vantage point it is unlikely the clubhouse expansion would be perceptible due to the distance, topography, and intervening conifer trees. Removal of the two shoreline residences would constitute a visible beneficial change but may not be recognizable at this distance. Portions of the roofs of the new lodge complex buildings would likely appear behind and adjacent to the clubhouse in this view. The new structures would be situated among the surrounding conifer trees. The existing pier is almost imperceptible in this view; the reconstructed pier still at some distance from Nevada Beach would be a minor visual feature at most.

Alternative 1 (the same for Alternatives 1A and 1B) would not cause a decrease in the scenic quality rating of View 1-2 because project features would be only partially visible, would have similar visibility as existing structures, and would be seen in the same context as the existing clubhouse at nearly 0.75 mile away. This is a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.3.1-4a	**Effects on SR-4, Community Design.** The proposed lodge building in Alternative 1A would exceed the maximum allowable height in Chapter 37 of the TRPA Code. However, the project would comply with all other relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program. In addition, TRPA-staff are proposing a TRPA Code amendment that would allow the proposed maximum height. The extra height is considered necessary to create an articulated roofline that would improve the aesthetics of the lodge building. The maximum height allowable under the proposed amendment would apply to no more than 5 percent of the total roof area. The highest point of the roofline would be 60 feet or three-quarters of the height of the tallest nearby trees, whichever is less. The highest point of the roof would not extend above the forest canopy and the majority of the roof surface would be screened by existing trees when viewed from Lake Tahoe. Although building height has been a noted concern for Shoreline Travel Unit – 30 Edgewood, Alternative 1A would have a **less-than-significant** impact on the TRPA Community Design Threshold because the buildings would be mostly screened from the lake while the extra height would give variety and distinctiveness to the design. Alternative 1A would help achieve the Community Design Threshold through the use of natural wood and stone materials, TRPA-approved colors, and rustic alpine styling for the lodge complex buildings.

The community design threshold is a policy statement that applies to the built environment. Design standards and guidelines found in the TRPA Code, the Scenic Quality Improvement Program, and in adopted Community Plans, where applicable, provide specific implementation direction. There are no specific design standards and guidelines in Plan Area Statement 070A (Edgewood). To secure threshold attainment, design standards and guidelines must be widely implemented to improve travel route ratings and produce built environments compatible with the natural, scenic, and recreational values of the region. Resolution No. 82-11 contains a policy statement that says the height, bulk, and other design elements of new buildings shall be compatible with scenic values.

The TRPA 2001 Threshold Evaluation (TRPA 2001a) states that aspects of design that produce the most serious concerns in Shoreline Travel Unit 30 – Edgewood include structure height, structure mass, structure materials and colors, inadequate screening, loss/lack of native vegetative screening, setbacks, and shorezone structures. The report notes that past failure to implement limitations on the size of new buildings, among other design-related concerns, has contributed to a decline in scenic quality in Shoreline Travel Unit 30 – Edgewood.

The maximum height of the lodge building in Alternative 1A, the proposed project, would exceed the maximum height allowable. The proposed design would require a maximum building height of 60 feet, which would exceed by 18 feet the maximum allowable height under Chapter 37 of the TRPA Code. As described in Chapter 3, "Project Description," TRPA staff have proposed new language with which to amend Chapter 37 of the TRPA Code to accommodate the proposed building height and effect consistency. The amendment would allow extension and articulation of roof forms above the current maximum allowable height of 42 feet up to a maximum height of 46 feet. It would allow roof forms with a pitch of 6:12 or greater that comprise no more than 15 percent of the total roof area to extend up to a maximum of 52 feet. It would allow roof forms with a pitch of 6:12 or greater that comprise no more than 5 percent of the total roof area to extend up to a maximum of 60 feet. These aspects would provide variation in the roofline of the building and a consistency with traditional alpine architecture that could not be achieved with a rectilinear roofline and rectangular building form such as that provided in Alternative 1B (Exhibits 5.3-4a and 5.3-4b). The architectural design of the lodge complex buildings would be rustic alpine styling. Elements would include pitched roofs and exposed wood and stone exteriors (Appendix B). This style is consistent with other projects recently constructed in the Tahoe Basin that are recognized as improvements to community character. TRPA-approved muted colors would be used on exterior surfaces. The clubhouse expansion would be designed to match the existing clubhouse. General landscaping of the grounds would be accomplished using native plant species.

The proposed lodge building would be set back 300 feet from the shore. It would not be fully exposed in views from Lake Tahoe but would instead be mostly screened by existing trees. The building would only be fully visible from within the grounds of the golf course. The highest point of the roof would be 60 feet or three-quarters of the height of the tallest nearby trees, whichever is less. The building would not result in a net loss of views from Lake Tahoe to any identified scenic resources. It would not cause a decrease in the numerical ratings assigned to roadway or shoreline travel units or to individual scenic resources within the travel units. The existing and proposed expanded clubhouse is the only nearby building viewed within the same context as the proposed lodge. Alternative 1A would require a TRPA Code amendment for the proposed building height, but would comply with all other relevant aspects of the TRPA design standards and guidelines.

The lighting plan for the proposed project includes lighting for primary public vehicular access ways with lights mounted on 16-foot poles and lighting of secondary vehicular access ways and parking areas with lights on 12-foot poles. Lighting of primary pedestrian walkways would feature lights less than 24 inches high. Recessed wall lighting would be used on buildings. Landscape down lighting would be attached to walls, posts, etc. at heights of 24 inches or less and at 20-foot spacing. Appendix D includes the proposed lighting plan and lighting specifications for the proposed project. All exterior lighting would comply with Section 36.8, "Exterior Lighting Standards," of the TRPA Code and Douglas County building code related to lighting (County Code Section 26.690.030), which requires exterior lights to be shielded or recessed so as to contain glare and reflection within the boundaries of the parcel, and directed downward and away from adjoining properties and public rights-of-way.

For the reasons described above, Alternative 1A would have a **less-than-significant impact** on the SR-4, Community Design threshold.

Mitigation Measure

No mitigation is required.

Impact 5.3.1-4b	Effects on SR-4, Community Design. Alternative 1B would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program, including maximum allowable building height. Therefore, Alternative 1B would have no impact on the TRPA Community Design Threshold. Instead, Alternative 1B would help achieve this threshold through the use of natural wood and stone materials, TRPA-approved colors, and rustic alpine styling for the lodge complex buildings.

All proposed buildings in Alternative 1B would comply with TRPA building height standards, with maximum building heights of up to 42 feet (Table 3-3 in Chapter 3, "Project Description." For context, this is the same maximum height as the existing clubhouse. The height of proposed buildings would, therefore, be consistent with the height of existing and nearby uses on the project site. Roof heights of the main lodge, north wing, and south wing would be a consistent 42 feet and would form a straight line yielding a rectangular building form, unlike Alternative 1A, which would provide enhanced vertical and horizontal articulation of the roof line in furtherance of the community design threshold related to visual variety and distinctiveness. Proposed buildings would not be fully exposed in views from Lake Tahoe and would not result in the net loss of views from Lake Tahoe to any identified scenic resources. The architectural design of the lodge complex building facades would be rustic alpine styling and would include exposed wood and stone exteriors (Appendix B). This style is consistent with other projects recently constructed in the Tahoe Basin that are recognized as improvements to community character. TRPA-approved muted colors would be used on exterior surfaces. The clubhouse expansion would be designed to match the existing clubhouse. General landscaping of the grounds would be accomplished using native plant species.

Alternative 1B would comply with all relevant aspects of the TRPA design standards and guidelines and would have **no impact** on the SR-4, Community Design threshold.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.3.2-1	Effects on SR-1, Travel Route Ratings. Alternative 2 would be located in the same area of the project site as Alternative 1; however, Alternative 2 proposes a 230-unit lodge complex rather than the 194-unit lodge. Alternative 2, including the lodge building, the annex building, and related buildings would not be visible from Roadway Travel Unit 32 – Casino Area. The pier would be located further south on the property (in the location of the existing pier), but this element alone would not alter the contrast rating analysis or visual effect of Alternative 2 relative to Alternative 1. The buildings in Alternative 2 would be visible to varying degrees from Lake Tahoe within Shoreline Travel Unit 30 – Edgewood. The majority of the proposed new development would be located among an existing grove of conifer trees and would, therefore, be partially screened. The visual impact on SR-1 TRPA Travel Route Threshold Ratings would be less than significant.

Roadway Travel Unit 32 – Casino Area

As with Alternative 1, proposed improvements east of U.S. 50 would not change the existing visual conditions within Roadway Travel Unit 32 – Casino Area (Exhibit 5.3-5b). Also, none of the new development associated with the clubhouse or lodge complex would be seen from any TRPA roadway travel unit.

Shoreline Travel Unit 30 – Edgewood

The 230-unit lodge complex would be located in the same area of the project site as Alternative 1, but would be configured differently. The main lodge building would be near the 300-foot shoreland boundary. The south wing would face south, not west. An annex building would be located east of the main lodge, forming a somewhat enclosed central space between them. The casitas and a small lodge would be located immediately south of the main lodge and annex building. All of these buildings would be among the grove of conifer trees and would be visible from Lake Tahoe to some degree. The clubhouse expansion and pool terrace located within the shoreland as described in Alternative 1 would be part of Alternative 2. The appearance of Alternative 2 as seen from the lake is shown in Exhibit 5.3-5a.

As with Alternative 1, Alternative 2 would reduce the evidence of manmade features in the project area as seen from the lake even though there would be a net increase of visible façade area in the shoreland. Under these circumstances Alternative 2 would not cause a decrease in the travel route rating for Shoreline Travel Unit 30 – Edgewood. It would instead contribute toward a potential increase in the rating because of the apparent reduction of manmade features. A future increase in the rating would place the unit in attainment of the scenic threshold. For these reasons, the impact on the travel route rating of Shoreline Travel Unit 30 – Edgewood is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.3.2-2	**Effects on SR-2, Scenic Quality Ratings**. As with Alternative 1, Alternative 2 would be seen within the same visual context as a single identified and mapped TRPA Scenic Resource (SR 30.5), which is visible from Shoreline Travel Unit 30 – Edgewood. Alternative 2 would result in a decrease in existing manmade features within the project area in view from the lake even though there would be an increase in manmade structures in the shoreland. As a result, the scenic quality rating of SR 30.5 would be maintained. Therefore, the visual effect of the project on this TRPA-regulated scenic resource would be **a less-than-significant** impact.

Alternative 2 would be located in the same area of the project site as Alternative 1, but would be configured differently. The existing pier at the southern end of the property would be demolished and a new pier would be reconstructed in the same location. The existing shoreline parking lot and two private residences would be removed. The net effect of these changes is depicted in visual simulations prepared by the project applicant (Exhibit 5.3-5a), which show an apparent decrease in manmade features in the view of the project area from the lake. This is due largely to the removal of the existing parking lot and two shoreline residences, screening of existing and proposed project features, and the use of dark, non-reflective materials for exterior building surfaces. Alternative 2 as depicted in the visual simulations would appear to reduce the visibility of manmade features along the shoreline as viewed from the lake even though the clubhouse expansion and new pool terrace would be added to the scene. Under these circumstances, the impact of Alternative 2 on SR 30.5 is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.3.2-3	**Effects on SR-3, Public Recreation Areas and Bike Trails**. Elements of Alternative 2 would be partially visible within the context of identified TRPA Scenic Resources as viewed from TRPA Public Recreation Area No. 1 – Nevada Beach. As with Alternative 1, the visual presence of elements of Alternative 2 would be distant from Nevada Beach and within the context of the existing clubhouse and, as such, would not degrade views from Nevada Beach. For these reasons, this would be a **less-than-significant** impact.

Alternative 2 would be located in the same area of the project site as Alternative 1, but would be configured differently. The existing pier at the southern end of the property would be demolished and a new pier would be reconstructed in the same location. The existing shoreline parking lot and two private residences would be removed. From the south end of Nevada Beach looking south along the shore, it is unlikely the clubhouse expansion would be perceptible due to the distance, topography, and intervening conifer trees. Removal of the two shoreline residences would constitute a visible beneficial change but may not be recognizable at this distance. Portions of the roofs of the new lodge complex buildings would likely appear behind and adjacent to the clubhouse in this view. The new structures would be situated among the surrounding conifer trees. The existing pier is almost imperceptible in this view; the reconstructed pier (in the same location as the existing pier) would be a minor visual feature at most.

Alternative 2 would not cause a decrease in the scenic quality rating of View 1-2 because project features would be only partially visible, would have similar visibility as existing structures, and would be seen in the same context as the existing clubhouse at nearly 0.75 mile away. This is a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.3.2-4	**Effects on SR-4, Community Design**. Alternative 2 would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program. Therefore, Alternative 2 would have **no impact** on TRPA Community Design Threshold. Instead, Alternative 2 would help achieve this threshold through the use of natural wood and stone materials, TRPA-approved colors, and use of rustic alpine styling for the lodge complex buildings.

All proposed buildings in Alternative 2 would comply with TRPA building height standards. The clubhouse expansion would be designed to match the design and scale of the existing clubhouse. Roof heights of the lodge buildings would be a consistent 42 feet and would form a straight line yielding a rectangular building form. The architectural design of the lodge complex buildings would be the same style as described for Alternative 1B. TRPA-approved muted colors would be used on exterior surfaces. General landscaping of the grounds would be accomplished using native plant species. Alternative 2 would comply with all relevant aspects of the TRPA design standards and guidelines and would have **no impact** on the SR-4, Community Design threshold.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.3.3-1	**Effects on SR-1, Travel Route Ratings**. Alternative 3 would be located in the same area of the project site as Alternative 1; however, Alternative 3 proposes a 250-unit lodge complex rather than the 194-unit lodge. Alternative 3, including the lodge building, the annex building, and related buildings would not be visible from Roadway Travel Unit 32 – Casino Area. The pier would be located further south on the property (midway between the southern end of the clubhouse and the southern property boundary) than with Alternative 1, but this element alone would not alter the contrast rating analysis or visual effect of Alternative 3 relative to Alternative 1. The buildings in Alternative 3 would be visible to varying degrees from Lake Tahoe within Shoreline Travel Unit 30 – Edgewood. The majority of the proposed new development would be located among an existing grove of conifer trees and would be partially screened. The visual impact on SR-1, Travel Route Ratings would be **less than significant**.

Roadway Travel Unit 32 – Casino Area

As with Alternative 1, proposed improvements east of U.S. 50 would not change the existing visual conditions within Roadway Travel Unit 32 – Casino Area (Exhibit 5.3-6b). Also, none of the new development associated with the clubhouse or lodge complex would be seen from any TRPA roadway travel unit.

Shoreline Travel Unit 30 – Edgewood

The 250-unit lodge complex would be located in the same area of the project site as Alternative 1, but would be configured differently. The footprint would be the same as with Alternative 2, except that the small lodge would be slightly larger on its southern end. The main lodge would be near the 300-foot shoreland boundary and the south wing would face south, not west. An annex building would be located east of the main lodge. All of these buildings would be among the grove of conifer trees and would be visible from Lake Tahoe to some degree. The clubhouse expansion and pool terrace located within the shoreland as described in Alternative 1 would be part of Alternative 3. The appearance of Alternative 3 from the lake is shown in Exhibit 5.3-6a.

As with Alternative 1, Alternative 3 would reduce the evidence of manmade features in the project area as seen from the lake even though there would be a net increase of visible façade area in the shoreland. Under these circumstances Alternative 3 would not cause a decrease in the travel route rating for Shoreline Travel Unit 30 –

Edgewood. It would instead contribute toward a potential increase in the rating because of the apparent reduction of manmade features. A future increase in the rating would place the unit in attainment of the scenic threshold. For these reasons, the impact on the travel route rating of Shoreline Travel Unit 30 – Edgewood is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.3.3-2	Effects on SR-2, Scenic Quality Ratings. As with Alternative 1, Alternative 3 would be seen within the same visual context as a single identified and mapped TRPA Scenic Resource (SR 30.5), which is visible from Shoreline Travel Unit 30 – Edgewood. Alternative 3 would result in a decrease in existing manmade features within the project area in view from the lake even though there would be an increase in manmade structures in the shoreland. As a result, the scenic quality rating of SR 30.5 would be maintained. Therefore, the visual effect of the project on this TRPA-regulated scenic resource would be a less-than-significant impact.

Alternative 3 would be located in the same area of the project site as Alternative 1, but would be configured differently. The existing pier at the southern end of the property would be demolished and a new pier would be reconstructed at a location approximately 236 feet north of the location of the existing pier. The existing shoreline parking lot and two private residences would be removed. The net effect of these changes is depicted in visual simulations prepared by the project applicant (Exhibit 5.3-6a), which show an apparent decrease in manmade features in the view of the project area from the lake. This is due largely to the removal of the existing parking lot and two shoreline residences, screening of existing and proposed project features and the use of dark, non-reflective materials for exterior building surfaces. Alternative 3 as depicted in the visual simulations would appear to reduce the visibility of manmade features along the shoreline as viewed from the lake even though the clubhouse expansion and new pool terrace would be added to the scene. Under these circumstances, the impact of Alternative 3 on SR 30.5 is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.3.3-3	Effects on SR-3, Public Recreation Areas and Bike Trails. Elements of Alternative 3 would be partially visible within the context of identified TRPA Scenic Resources as viewed from TRPA Public Recreation Area No. 1 – Nevada Beach. As with Alternative 1, the visual presence of elements of Alternative 3 would be distant from Nevada Beach and within the context of the existing clubhouse and, as such, would not degrade views from Nevada Beach. For these reasons, this would be a less-than-significant impact.

Alternative 3 would be located in the same area of the project site as Alternative 1, but would be configured differently. The existing pier at the southern end of the property would be demolished and a new pier would be reconstructed at a location approximately 236 feet north of the location of the existing pier. The existing shoreline parking lot and two private residences would be removed. From the south end of Nevada Beach looking south along the shore, it is unlikely the clubhouse expansion would be perceptible due to the distance, topography, and intervening conifer trees. Removal of the two shoreline residences would constitute a visible beneficial change but may not be recognizable at this distance. Portions of the roofs of the new lodge complex buildings would likely appear behind and adjacent to the clubhouse in this view. The new structures would be situated among the surrounding conifer trees. The existing pier is almost imperceptible in this view; the reconstructed pier would be a minor visual feature at most.

Alternative 3 would not cause a decrease in the scenic quality rating of View 1-2 because project features would be only partially visible, would have similar visibility as existing structures, and would be seen in the same context as the existing clubhouse at nearly 0.75 mile away. This is a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.3.3-4	Effects on SR-4, Community Design. Alternative 3 would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code and Scenic Quality Improvement Program. Therefore, Alternative 3 would have no impact on TRPA Community Design Threshold. Instead, Alternative 3 would help achieve this threshold through the use of natural wood and stone materials, TRPA-approved colors, and use of rustic alpine styling for the lodge complex buildings.

All proposed buildings in Alternative 3 would comply with TRPA building height standards. The clubhouse expansion would be designed to match the existing clubhouse. Roof heights of the lodge buildings would be a consistent 42 feet and would form a straight line yielding a rectangular building form. The architectural design of the lodge complex buildings would be the same style as described for Alternative 1B. TRPA-approved muted colors would be used on exterior surfaces. General landscaping of the grounds would be accomplished using native plant species. Alternative 3 would comply with all relevant aspects of the TRPA design standards and guidelines and would have **no impact** on SR-4, Community Design.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 4: NO PROJECT

Alternative 4 would result in little or no change in existing views from important surrounding viewpoints including U.S. 50, Lake Tahoe, and Nevada Beach. It would have **no impact** on TRPA scenic thresholds SR-1, Travel Route; SR-2, Scenic Quality Ratings; and SR-3, Public Recreation Areas and Bike Trails. Since there would be no new development at the site under Alternative 4, it would not impact SR-4, Community Design. However, the following potential beneficial impacts associated with the project development alternatives would not occur: relocating the shoreline parking lot to an area not in view from the lake; removal of the two existing lakefront residences; undergrounding overhead utility lines; and replacement of the fixed pier with a floating pier.

5.3.4 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

Because this section uses the established scenic resource thresholds as significance criteria and the analysis contained in the impacts and mitigation measures section above already discusses TRPA scenic threshold effects, a discussion of thresholds is not repeated here. Cross-references to the appropriate impact discussions for each of the scenic thresholds are provided below.

- SR-1, Travel Route Rating – see Impacts 5.3.1-1, 5.3.2-1, and 5.3.3-1
- SR-2, Scenic Quality Rating – see Impacts 5.3.1-2, 5.3.2-2, and 5.3.3-2
- SR-3, Public Recreation Areas and Bike Trails – see Impacts 5.3.1-3, 5.3.2-3, and 5.3.3-3
- SR-4, Community Design – see Impacts 5.3.1-4a, 5.3.1-4b, 5.3.2-4, and 5.3.3-4

2 - LODGE ARRIVAL PERSPECTIVE (WITH HEIGHT AMENDMENT)

1 - LODGE ARRIVAL PERSPECTIVE

X10010039 01 038

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-4a. Comparison of Alternative 1A (Height Amendment) and Alternative 1B (Code Compliant) Renderings

ASCENT ENVIRONMENTAL

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3 - VIEW FROM CLUBHOUSE LAWN

2 - VIEW FROM CLUBHOUSE LAWN (WITH HEIGHT AMENDMENT)

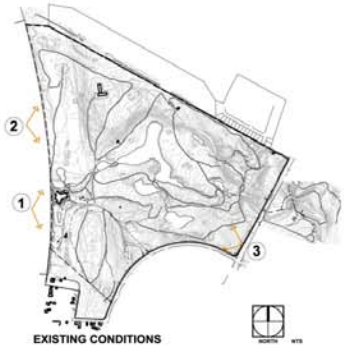
1 - VIEW SIMULATION FROM LAKE (WITH HEIGHT AMENDMENT)

X10010039 01 039

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-4b.

Comparison of Alternatives 1A (right) and 1B (left) as Viewed from the Proposed Event Lawn; Simulated View of Alternative 1A from Lake Tahoe, Viewpoint 1 (South of Existing Clubhouse)

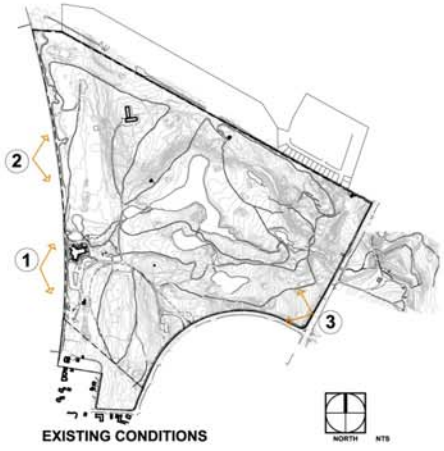


2 **EXISTING CONDITIONS**
View from Lake Tahoe at Visual Simulation Point 2

X10010039 01 036

Source: Design Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-4c. **Existing and Simulated View of Alternative 1A from Lake Tahoe, Viewpoint 2 (North of Existing Clubhouse)**



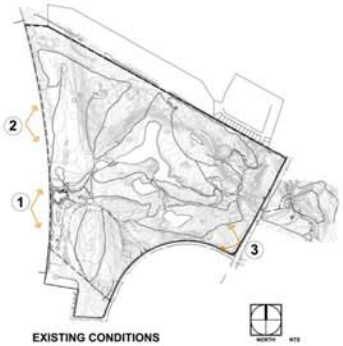
3 **EXISTING CONDITIONS**
View from US 50 at Visual Simulation Point 3

3 **PROPOSED LODGE**
View from US 50 at Visual Simulation Point 3

X10010039 01 062

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-4d. **Existing and Simulated View of Alternative 1A from U.S. 50, Viewpoint 3**

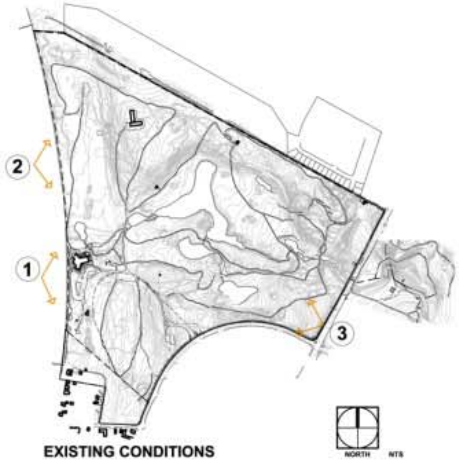


1 **EXISTING CONDITIONS**
View from Lake Tahoe at Visual Simulation Point 1

X10010039 01 035

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-4e. **Existing and Simulated View of Alternative 1B from Lake Tahoe, Viewpoint 1 (South of Existing Clubhouse)**



EXISTING CONDITIONS

PROPOSED SITE PLAN

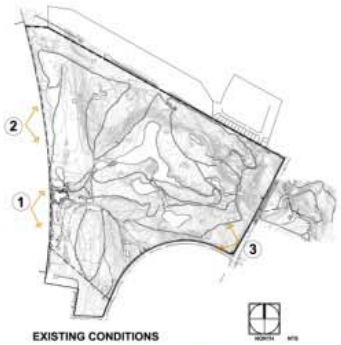
3 **EXISTING CONDITIONS**
View from US 50 at Visual Simulation Point 3

3 **PROPOSED LODGE**
View from US 50 at Visual Simulation Point 3

X10010039 01 037

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-4f. **Existing and Simulated View of Alternative 1B from U.S. 50, Viewpoint 3**

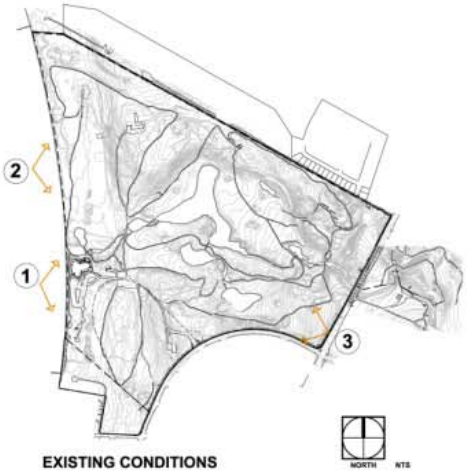


1 EXISTING CONDITIONS
View from Lake Tahoe at Visual Simulation Point 1

X10010039 01 040

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-5a. **Existing and Simulated View of Alternative 2 from Lake Tahoe, Viewpoint 1 (South of Existing Clubhouse)**



EXISTING CONDITIONS

PROPOSED SITE PLAN

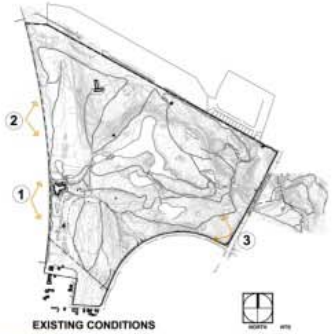
3 **EXISTING CONDITIONS**
View from US 50 at Visual Simulation Point 3

3 **PROPOSED LODGE**
View from US 50 at Visual Simulation Point 3

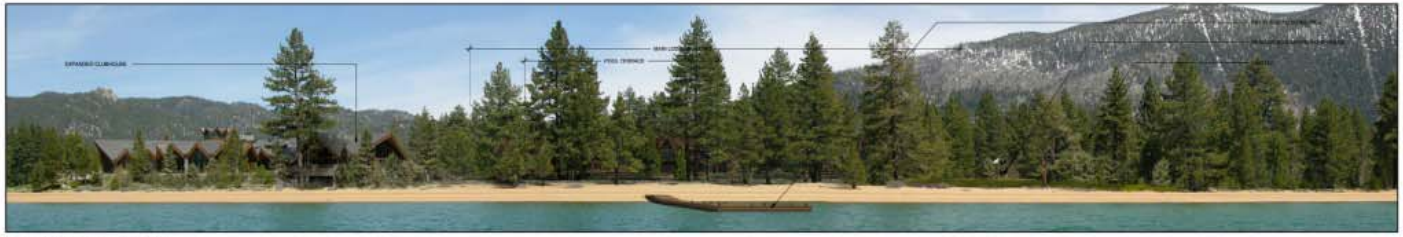
X10010039 01 042

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-5b. **Existing and Simulated View of Alternative 2 from U.S. 50, Viewpoint 3**



1 EXISTING CONDITIONS
View from Lake Tahoe at Visual Simulation Point 1

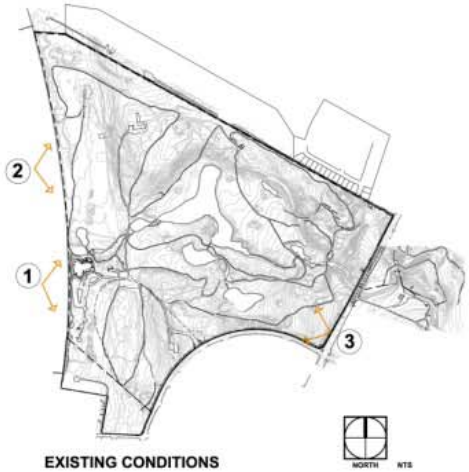


1 PROPOSED LODGE
View from Lake Tahoe at Visual Assement Point 1

X10010039 01 043

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-6a. **Existing and Simulated View of Alternative 3 from Lake Tahoe, Viewpoint 1 (South of Existing Clubhouse)**



EXISTING CONDITIONS

PROPOSED SITE PLAN

3 **EXISTING CONDITIONS**
View from US 50 at Visual Simulation Point 3

3 **PROPOSED LODGE**
View from US 50 at Visual Simulation Point 3

X10010039 01 042

Source: Design Workshop, CCY Architects, Nichols Consulting Engineers, 2011

Exhibit 5.3-6b. **Existing and Simulated View of Alternative 3 from U.S. 50, Viewpoint 3**

5.4 RECREATION AND PUBLIC ACCESS

This chapter provides a summary of the regulatory and planning processes that address recreation in the Lake Tahoe Basin, describes existing recreational facilities in the vicinity of the project area, presents an analysis of potential impacts resulting from Alternatives 1 through 4, and identifies mitigation measures for those impacts determined to be significant.

5.4.1 REGULATORY BACKGROUND

TAHOE REGIONAL PLANNING AGENCY

The provision of recreation facilities in the Lake Tahoe Basin is governed primarily by TRPA, which provides basin-wide planning and policy direction related to recreation through its Regional Plan and related implementing ordinances and regulations.

REGIONAL PLAN

TRPA implements its authority to regulate growth and development, including development of recreation facilities, in the Lake Tahoe region through the Regional Plan for the Lake Tahoe Basin (Regional Plan). The Regional Plan, initially adopted in 1987, includes several relevant documents including the Goals and Policies, Code of Ordinances, Environmental Threshold Carrying Capacities, Plan Area Statements, and Community Plans. Each addresses policies, regulations, and standards relative to recreation as described below.

Goals and Policies

The Goals and Policies of the Regional Plan establish an overall framework for development and environmental conservation in the Lake Tahoe region. This framework allows development of master plans to refine and implement Regional Plan policies appropriate to specific uses (i.e., marinas and ski areas). Chapter 5, “Recreation Element,” of the Goals and Policies considers dispersed recreational activities, urban recreational facilities, and developed recreational facilities. Goals for developed recreation include the provision of a fair share of the total basin capacity for outdoor recreation (Goal #1), and the provision of efficiently utilized outdoor recreation resources (Goal #4). The consistency of the Edgewood Project with the Goals and Policies of the recreation element relevant to the proposed project are evaluated in Section 5.2, “Land Use.”

Code of Ordinances/PAOT System

Chapter 50, “Allocation of Development,” of the TRPA Code of Ordinances addresses, among other things, the regulation of additional recreational facilities. As described in Chapter 50, TRPA regulates the expansion of recreational use in the Lake Tahoe region by identifying targets for recreational use and regulating development to maintain them.

TRPA has identified targets for developed outdoor recreation measured in “persons at one time,” (PAOTs), for overnight facilities, winter day-use facilities, and summer day-use facilities. The PAOT allocation process allows TRPA to regulate the rate and distribution of expanding recreational uses in the Lake Tahoe Basin. TRPA’s target for summer day-use in the basin is 6,761 people-at-one-time, meaning that at any one time, up to 6,761 people could be recreating in the Tahoe Basin consistent with the management goals and capacity of recreation amenities. Among those uses subject to summer day-use PAOT allocations are: golf courses, recreation centers, beach recreation, day-use areas, and water-oriented outdoor recreation concessions. Recreational amenities that are accessory uses are not allocated PAOTs.

TRPA allocates PAOTs to plan area statements (PAS) and community plans and to a pool where PAOTs are held in reserve. If a proposed new or expanded recreational facility meets TRPA's criteria and the project is approved, then the number of PAOTs necessary to accommodate the increased level of activity associated with the project would be assigned or allocated to the project from the relevant PAS, community plan or reserve pool. As of September 2007, there were a total of 6,761 summer day-use PAOT allocations, with 1,415 PAOTs allocated to PAS or community plans, 2,000 PAOTs reserved for marina/boat launching facility expansions, and 3,346 PAOTs allocated to the reserve pool (TRPA 2007). According to TRPA staff, as of February 2012, 4,484 (66 percent) of the post-1987 PAOTs (529 PAS or community plan, 1,801 marina/boat launch facility, and 2,154 reserve pool PAOTs) remain unassigned. These post-1987 allocations remain far below TRPA's 20-year, 6,761 PAOT allocation target.

Environmental Threshold Carrying Capacities

TRPA has established environmental thresholds for nine resources, including recreation. There are two recreation threshold indicators; these correspond to two policy statements in the Recreation Element of the TRPA Goals and Policies document (TRPA 2007):

- **R-1, Quality Experience and Additional Access**. It shall be the policy of the TRPA Governing Body in development of the Regional Plan to preserve and enhance the high-quality recreational experience including preservation of high-quality undeveloped shorezone and other natural areas. In developing the Regional Plan, the staff and Governing Body shall consider provisions for additional access, where lawful and feasible, to the shorezone and high-quality undeveloped areas for low density recreational uses.
- **R-2, Fair Share of Resource Capacity**. It shall be the policy of the TRPA Governing Body in development of the Regional Plan to establish and ensure a fair share of the total Basin capacity for outdoor recreation is available to the general public.

Based on the most recent Threshold Evaluation Report completed in 2006, both recreation threshold indicators are in attainment (TRPA 2007).

The R-1 threshold consists of two parts: (1) preservation and enhancement of a high-quality recreation experience and (2) the provision of additional high-quality, undeveloped lands for recreation, including lake access. To determine attainment of the first part of R-1, TRPA has relied on various numerical indicators and surveys to determine whether the standard is being met. Numerical indicators include quantities such as linear feet of shoreline available to the public, or miles of bicycle trails in the Tahoe Basin. Though these quantifiable features do not express the quality of the recreation experience, or provide an exact determination related to access to the shorezone or other undeveloped lands, collectively they provide insight on threshold status (TRPA 2007). TRPA and other recreation providers have also conducted surveys to measure the quality of recreation experience. Such surveys compare the importance of an identified recreation attribute, such as recreation facilities and conditions, with the experience that the recreationists perceive. Based on user perception surveys, the 2006 threshold evaluation determined that recreational expectations of visitors and residents are being met. To determine attainment of the second part of R-1, TRPA considers the number, success, and type of public land acquisition programs and the number, type and quality of planned additional trails and trailheads.

The R-2 threshold is intended to ensure that a fair share of the region's outdoor recreation capacity is available to the general public. The threshold indicators for the R-2 threshold are more quantifiable than for R-1. Three indicators provide a mechanism for evaluation: cumulative accounts of PAOT allocations, when applicable; facilities development for recreation projects that do not require PAOT allocations; and land acquisition of new public lands that support recreation purposes. Overall, the TRPA 2001 and 2006 Threshold Evaluation Reports

concluded that an appropriate level of outdoor recreation facility development that is controlled by the PAOT capacity system has been planned (TRPA 2002, 2007).

Recreation Assessment

TRPA completed a recreation assessment in 2005 (TRPA 2005) which introduced a planning concept for estimating the maximum capacity of people a recreation area could accommodate without detracting from the desired user experience. While the 2005 Recreation Assessment was prepared to inform the Regional Plan Update, it was never formally adopted and is not incorporated in to the TRPA Code of Ordinances or any other official policy document. For an urban public beach, such as that proposed as part of the proposed project, the plan suggests allocating 50 square feet of beach space per person to determine the beach's maximum capacity (TRPA 2005).

PAS 070A – Edgewood

The portion of the project area west of U.S. 50 is located in the Edgewood PAS 070A, which includes the Edgewood Tahoe Golf Course, the 4-H Camp to the north, and miscellaneous private uses. The land use classification for PAS 070A is recreation and the planning statement calls for providing a range of outdoor oriented recreation that serves both visitors and locals and is integrated with the existing and planned improvements within the urban Stateline casino corridor.

Recreational facilities allowed in PAS 070A include eating and drinking places, beach recreation, day use areas, participant sports facilities, outdoor recreation concessions, and group facilities. There is also a Special Area within 070A, Special Area #1 (Tourist Area). Permissible recreational uses allowed in Special Area #1 include developed campgrounds, recreation vehicle park, riding and hiking trails and the same resource management uses as allowed throughout the whole of PAS 070A. Special policies relevant to recreation within the project area include PAS 070A special policies 7 and 8.

Special policy 7 encourages tourist accommodations and recreation uses in Special Area #1 specifying that such accommodations are not to exceed 250 tourist units. The policy also states that the construction of a hotel or conference center in Special Area #1 is conditioned on the developer making an irrevocable commitment to improve access, capacity and/or the range and quality of lakefront experiences available to the public in the California/Nevada state line area. Additional lakefront opportunities in the target area will be sufficient to accommodate the same number of people as there are tourist accommodation units (TAUs) built in Special Area #1. For instance, any lakefront/recreational improvement to the area must be able to accommodate a minimum of 250 people if the maximum 250 TAUs are constructed. Special policy 7 also states that in addition to lake access provided for the hotel/conference center constructed, such access shall include the beach improvement and access policies presented in the Stateline Community Plan.

Special Policy 8 states that PAS 070A is within the influence of the Stateline Community Plan and that where applicable, any projects proposed within PAS 070A shall be consistent with the planning direction provided in Chapter 1 of the Stateline Community Plan.

There are no PAOTs assigned to PAS 070A (TRPA 2007).

PAS 080 – Kingsbury Drainage

The portion of the project area east of U.S. 50 is located in the Kingsbury Drainage PAS 080. The land use classification for PAS 080 is conservation and the planning statement calls for the area to be rehabilitated to

provide watershed restoration to enhance the area's natural features and qualities. A variety of recreation uses are allowed within the PAS; however, because the elements of the project that are proposed for this area focus only on water quality improvements this PAS is not discussed further herein.

There are no PAOTs assigned to PAS 080 (TRPA 2007).

STATELINE COMMUNITY PLAN

As described above, projects within PAS 070A are subject to the planning direction of the Stateline Community Plan (CP). The Stateline CP is a guide for the enhancement of Stateline and surrounding lands as a major destination resort. The Stateline CP calls for the area to continue as a gaming area with associated support facilities; to become better integrated with the surrounding natural environment; and to offer improved access to the lake and the mountains. Because the land use classification of 070A is recreation, Stateline CP goals and policies related to recreation are especially pertinent.

The Stateline CP's goal for recreation is: "Preserve and enhance the high quality recreational experience of Stateline and the Region."

Chapter V, "Recreation Element" of the Stateline CP identifies specific objectives and policies to implement this desired goal. Table 5.2.3-3 in Section 5.2, "Land Use," of this document reviews the consistency of the proposed project with the Stateline CP's recreation goals and policies. The following objectives and policies are applicable to the proposed project:

- **Objective 4.** Improve access to nearby public recreation areas, including public beaches and parks.
  - **Policy a:** Develop a pedestrian system that links the casino core with: 1) the potential Nevada State Park facility on the Van Sickle property; 2) the 4-H beach facility; 3) the proposed County park in the Kingsbury Community Plan area (see above); and 4) planned new development in Special Areas #1 and #2 of PAS 070A.
- **Objective 5.** Increase public access to Lake Tahoe.
  - **Policy a:** TRPA, state and local government agencies, the Casinos, Park Cattle Company and other private parties should work together to improve the accessibility, variety and quality of lakefront recreational opportunities available in the Stateline Area. Improvement plans should focus on providing opportunities for visitors staying overnight in the Stateline area. A range of lakefront experiences should be provided, including those listed below:
    - **Active Recreation/Beach Park:** Active, water-oriented recreation open to the general public. Possible facilities: swimming beach, natural areas and open space, pedestrian and auto access with parking, restrooms, picnicking and perhaps camping. The USFS operated Nevada Beach provides this type of experience.
    - **Beach Front Developed Recreation:** Active, developed recreation in a beach front location. Possible facilities: swimming beach, restrooms, concessions (e.g., boat rentals), restaurants, boardwalk/plaza, children's park, sports facilities (e.g., tennis or roller skating), informal outdoor performing arts space, pedestrian and/or auto access, docking facilities for Lake tour boats.
    - **Passive Beach Front:** Passive enjoyment of views of lake and lake shore. Possible facilities: viewing decks, high quality views, food and beverage service, pedestrian and/or auto access, boat mooring facilities.
- **Objective 7.** The Stateline Community Plan target for outdoor recreation is an overall increase of 900 design capacity for people (DCP). Included in the increase in capacity is 500 DCP for improved lake access. DCP is a method for estimating the maximum number of people a recreation facility can accommodate consistent

with the purpose of the facility. For instance, using the guidance of the 2005 TRPA Recreation Assessment, the DCP for an urban beach recreation area would be 50 square feet of beach per person (TRPA 2005).

Chapter 1 "Introduction" of the Stateline CP includes an illustrative plan that summarizes the plan's goals, objectives and elements. Applicable to the proposed project is the following summary of desired recreational improvements:

- **Trails and Sidewalks** – New routes for strolling, hiking and biking are planned throughout the area including pedestrian improvements along the U.S. 50 promenade, within the planned Mountain Lake Park, along the mountain and lake sides of the Loop Road, and connecting to adjacent retail, housing, and lodging.
- **Public Access** – The plan, coupled with projects in adjoining PASs, will lead to improved access to public recreational areas along the Lake Tahoe shoreline and at the newly established Van Sickle State Park.

DOUGLAS COUNTY

The 2006 Douglas County Master Plan (DCMP) (Douglas County 2007) provides long-range guidance for numerous programs related to planning activities in the county including recreation and capital improvement planning. DCMP elements apply to the Lake Tahoe area to the extent that they do not conflict with the provisions of plans or regulations adopted by TRPA.

Relevant recreation goals and policies from the DCMP include:

- **Policy 12.08.02:** To continue to make available to county residents and visitors alike a variety of active and passive park facilities and recreation programs that satisfy their needs and enhance their basic quality of life.
- **Policy 12.08.03:** To provide recreation opportunities that enhance the physical and mental well-being of the community, which are deemed of critical importance.

A draft update of the DCMP was released in November 2011, and approved at the January 5, 2012 County Board of Supervisors (Board) meeting. However, the DCMP has not been finalized to reflect the requested changes of the Board. It may be several months before the update is finalized. Because the DCMP update has not yet been finalized, the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

5.4.2 AFFECTED ENVIRONMENT

Outdoor recreational opportunities in the Lake Tahoe Basin are abundant and diverse, with activities generally associated with the lake's open water (e.g., swimming, boating, personal watercraft use, and fishing), shoreline (e.g., sunbathing, camping, bicycling, and sightseeing), and the terrain surrounding the lake (e.g., hiking, mountain biking, skiing, and snowboarding). This section describes outdoor recreational opportunities available within and in the vicinity of the project area.

PROJECT AREA

The project area includes a private golf course, driving range, associated clubhouse and restaurant, and banquet/event center. It also includes two lakefront residences, golf course maintenance facilities, Edgewood Creek, and Friday's Station pond and dam. The primary outdoor recreation opportunity within the project area is golf, although the Edgewood Tahoe Golf Course property includes an approximately 3,600-foot long beach. Currently, the portion of the beach north of the clubhouse is in the path of golf play. Usable portions of the beach south of the clubhouse are not currently open for public use and are only occasionally used by guests at

one of the two lakefront vacation rental properties and by attendees of limited special events (such as weddings and conferences) (TRPA and Douglas County 1993). An existing pier extends lakeward from the northernmost of the two residences. The golf course is only open during the summer season. The restaurant, banquet rooms, and vacation rental properties are open year round. During wintertime, snowmobiling operations occur on a portion of the golf course leased from Edgewood Companies to a private vendor.

The Edgewood Tahoe Golf Course is an 18-hole golf course (privately owned but open to the general public) with four sets of tees for each golf hole. It opened in 1968 and has since played host to a variety of major golf events including the 1980 U.S. Public Links Championship and the 1985 U.S. Senior Open Championship. For the past 20 years, the golf course has been the home of the American Century Celebrity Golf Championship, a televised tournament and significant tourist attraction featuring celebrities in sports, entertainment, and politics.

STATELINE AREA AND VICINITY

The various developed outdoor recreational facilities that exist within the vicinity of the project area are described below.

PARKS, BEACHES, AND CAMPGROUNDS

The majority of land adjacent to the project area is privately owned and there are no beaches designated for public use between the beach at Ski Run Marina in South Lake Tahoe, approximately 1 mile south of the project area, and Nevada Beach, which is less than 1,000 feet from the northern boundary of the project area. Lakeside Beach, approximately 1,200 feet south of the site, is a quasi-public beach.

Nevada Beach is the closest public beach to the project area. The beach includes approximately 0.5 mile of wide sandy shoreline access, and is part of the Nevada Beach Campground and Day-Use Area, located at the west end of Elks Point Road, with Rabe Meadow to the east. Nevada Beach Campground and Day-Use Area is 125 acres on National Forest System (NFS) land managed by the U.S. Forest Service, Lake Tahoe Basin Management Unit (USFS, LTBMU). In addition to the beach, the area contains 54 camping sites and 25 picnic sites. The campground facilities include barbeque grills, running water, flush toilets, and public phones. The campground is operated by a private concessionaire and is open annually from May 15th to October 15th. Users are charged a $7.00 fee for day-use parking. According to the USFS, the design capacity of the campground and day-use area is 270 and 1,485 PAOTs, respectively (Becker, pers. comm., 2010). Approximately 15,000 people use the campground on an annual basis and estimated annual day use is 120,000 people. This total includes 15,000 people who visit the beach on the 4th of July for an annual fireworks show and approximately 18,000 people who visit the site during the winter months (Becker, pers. comm., 2010).

There are two public parks near to the project area, Kahle Park and Community Recreation Center, and Van Sickle Bi-State Park. Kahle Park and Community Recreation Center is located east of the project area across US 50. It is a 19-acre park owned and operated by Douglas County. Park amenities include a recreation center (with multi-purpose gym, kitchen and meeting rooms), baseball/softball field, two soccer fields, two playground areas, outdoor basketball hoops, a pedestrian/bicycle path, and a concession/restroom building.

The other park near the project area is Van Sickle Bi-State Park, a new park on Nevada and California state lands approximately 700 acres in size. The park was created as an interagency collaborative effort between Nevada State Parks and the California Tahoe Conservancy. The park is located within a few minutes' walk east from the Stateline casino corridor area. The park opened to the public in the summer of 2011, though only phase one of four anticipated construction phases has been completed. Existing park amenities include a paved entrance road and parking, day-use areas, restoration work and some interpretive historical signage. The Master Plan for the

park describes build-out with expanded day-use picnic areas, an equestrian trailhead, connecting trails to the Tahoe Rim Trail, interpretive trails and signage highlighting the history of the land, a campground, and potential RV campground.

OPEN SPACE AND TRAILS

Rabe Meadow lies to the north of the project area. The meadow includes several unpaved pedestrian/bicycle paths including the Lam Watah interpretive trail. Rabe Meadow extends from Kahle Drive west to the border of Nevada Beach Campground and from U.S. 50 to the shoreline.

There is also NFS land northeast of the project area across U.S. 50 and just north of Kahle Park. The land is accessible by several unmapped, unpaved pedestrian trails. A TRPA-defined Class I bicycle trail (a small portion is classified by TRPA as Class II) also runs through this USFS land. This trail begins east of the Kahle Park and Community Center at Pine Ridge Road, the end of a street in the lower Kingsbury Subdivision, and links Kingsbury Grade to Elks Point Road, the Round Hill Shopping Center and Nevada Beach.

The Nevada Stateline-to-Stateline Bikeway project is a proposal to build an approximately 30-mile shared-use path along the east shore of Lake Tahoe from the California/Nevada border in the south shore casino area to the California/Nevada border in Crystal Bay. The South Demonstration Project is an approximately 3-mile segment of the Nevada Stateline-to-Stateline Bikeway, and would connect the Stateline community and the casino corridor to Nevada and Round Hill Pines Beach. Construction of the first phase of the South Demonstration Project is expected to commence in the summer of 2012. The planned southern terminus of the South Demonstration Project would run along the boundary of the Edgewood Tahoe Golf Course from the 4-H Camp Road, along U.S. 50 and Lake Parkway, terminating at the California state line. This portion of the shared-use path would require a deed-restricted easement from Edgewood Companies.

The Greenway Shared-Use Trail is a shared-use path that would connect Sierra Tract with Van Sickle Bi-State Park and the Stateline casino corridor. The project has received the required approvals and could proceed to construction as early as the summer of 2013.

The Daggett Summit Trail is an unpaved mountain bike trail that includes a loop connection between the Tahoe Rim Trail and Van Sickle Bi-State Park. Most of this trail has already been constructed and is available for use.

OTHER RECREATION

Nevada State 4-H Camp, located on Nevada State Lands, encompasses 33 acres and is located immediately adjacent to the northern boundary of the project area. This facility is a quasi-public facility in that access is restricted to state affiliates and large group events.

The Stateline casino corridor is located to the immediate south and east of the project area. There are no developed outdoor recreation amenities within the casino corridor, however, just south of the casino corridor Heavenly Village and the Heavenly Lake Tahoe Gondola serve as a popular access point to Heavenly Mountain Resort. Heavenly Mountain Resort offers outdoor recreational activities year round including skiing/boarding during the winter and sightseeing and hiking during the summer.

5.4.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Based on the TRPA Initial Environmental Checklist form, a project would result in a significant recreation impact if it would:

- create substantial, unmet additional demand for recreation facilities;
- result in conflicts between recreation uses, either existing or proposed;
- result in a decrease or loss of public access to any lake, waterway, or public lands; or
- result in a reduction of public access to public recreation areas or public recreation opportunities.

A recreation impact may also be considered significant if implementation of a project would be inconsistent with those goals and policies pertaining to recreation in TRPA's goals and policies document, PAS 070A, or the Stateline CP. Section 5.2, "Land Use," of this document reviews the consistency of the proposed project with those TRPA Regional Plan Recreation Element goals and policies relevant to the proposed project, as well as with those policies pertaining to recreation in PAS 070A and in the Stateline CP.

The effects on TRPA recreation thresholds (R-1, "Quality Experience and Additional Access", and R-2, "Fair Share of Resource Capacity") are discussed separately at the end of this section.

METHODS AND ASSUMPTIONS

This analysis assumes TRPA would assign person-at-one-time (PAOT) allocations according to the planning concept for an urban beach recreation area described in the Recreation Assessment for TRPA published in 2005. The urban beach designation is appropriate for the public beach at Edgewood given the site's proximity to the adjacent casino corridor and the use of this designation for other beaches in similar proximity to urban areas (e.g., Lakeside Beach and Commons Beach). The planning concept in this Recreation Assessment proposes that the appropriate capacity for an urban beach recreation area is 50 square feet of beach space per person. Therefore the PAOTs allocated from the reserve pool to the project area would be based on the maximum capacity of people the proposed public beach could accommodate assuming beach goers are allowed 50 square feet of beach space.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.4.1-1	**Create the Need for New or Expanded Recreation Facilities.** Implementation of Alternative 1 would relocate 194 TAUs to the project site from other south shore locations. Alternative 1 also includes new on-site lakefront recreational amenities as part of the lodge complex, including a spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayak and bicycle rentals), restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach. The additional TAUs would increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, Alternative 1 would not create demand for additional recreation facilities because the increase in visitors would be modest, there are existing recreation facilities available in close proximity, and the proposed project itself offers

substantial new recreation capacity and lakefront recreation opportunities. Alternative 1 would increase the outdoor recreational capacity in the Stateline area available to the general public, and would therefore result in a **beneficial** recreation impact.

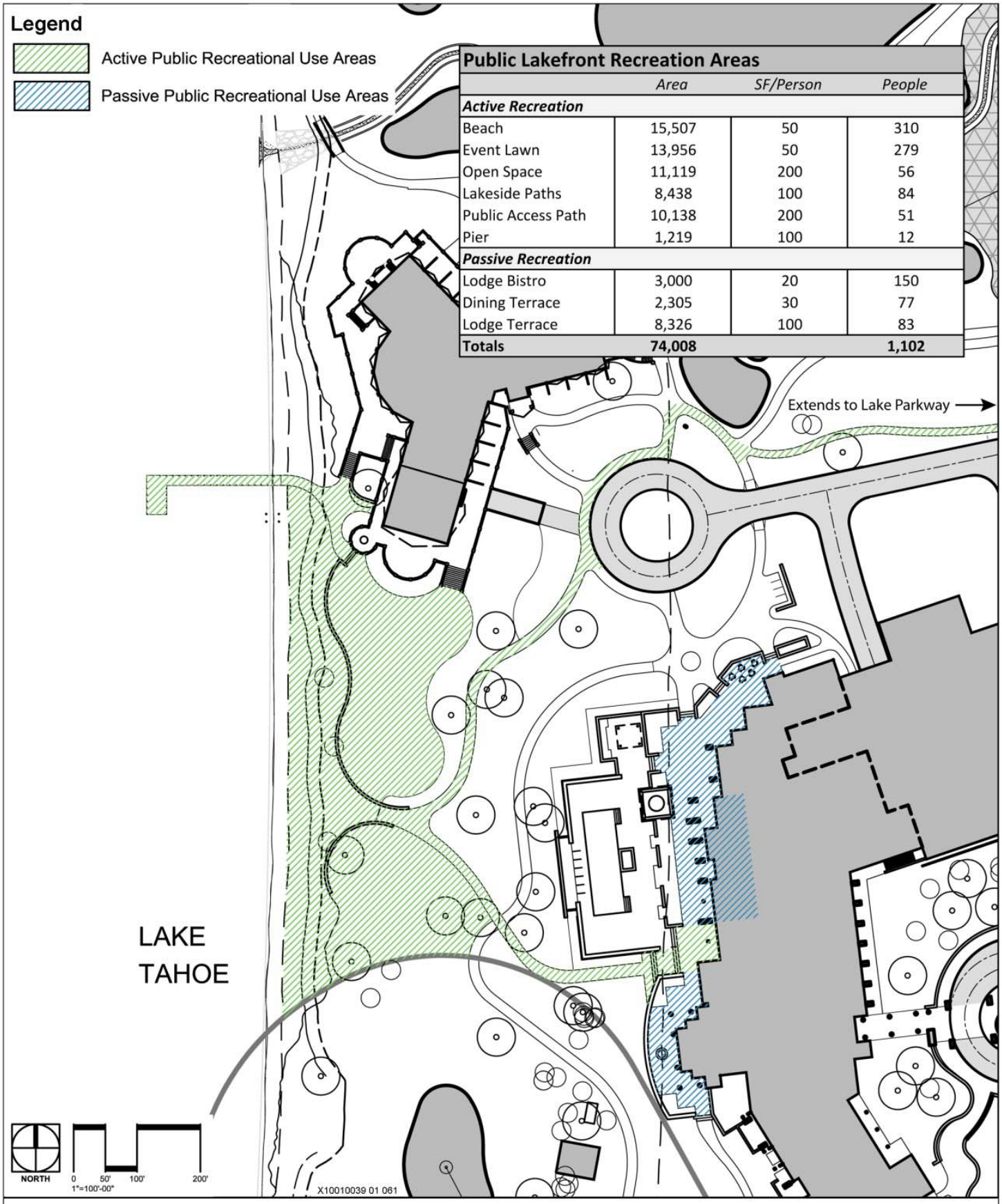
Alternative 1 would relocate 194 TAUs, with a total of 256 bedrooms, to the Stateline area. Assuming between one and two people per bedroom, the maximum occupancy of the proposed project would be between 256 and 512 guests. Lodge guests would likely use the existing numerous recreational facilities and opportunities in the project vicinity and within the south shore area as well as those amenities proposed as part of the project. In 2011, there was an average of 5,443 motel/hotel rooms (most of which are single-bedroom rooms) in the City of South Lake Tahoe (Lake Tahoe Visitors Authority 2012). The five major hotels in the Stateline area include an additional 2,357 rooms[1]. This amounts to a total of 7,800 rooms in the south shore area. As noted above, the proposed project would construct 194 TAUs rooms resulting in a modest increase in visitors to the area relative to existing conditions. Because of the number, wide variety, and proximity of recreation facilities and opportunities (e.g., parks, hiking trails, beaches, ski areas, boating facilities), the modest increase in visitors to the Stateline area resulting from implementation of the proposed project would not result in the concentration of recreation users on any single nearby recreation facility such that new or expanded facilities would be required. The increase in visitors could be accommodated by existing facilities in the project vicinity.

Consistent with Special Policies 7 and 9 of PAS 070A, the development of a hotel/conference center within Special Area #1 is conditioned on an irrevocable commitment to improve access, capacity and/or the range and quality of lakefront experiences available to the public with a focus on access for Stateline overnight visitors. The project would include public access to a variety of lakefront recreation opportunities that include a spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayaks and bicycles), natural areas, restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach (Exhibit 5.4-1). As illustrated in Exhibit 5.4-2, the proposed swimming beach component would extend south from the proposed relocated pier to the northern edge of the golf safety setback zone near realigned golf hole 9. The total public beach area from the high water line (6,229.1 feet above mean sea level [msl]) to the backshore would be 15,507 square feet (approximately 556 feet long by an average of 27 feet wide). The size of the beach would exceed 15,507 square feet in most years when Lake Tahoe is below the high water line. At the average lake elevation of 6,225 feet above msl, the size of the public swimming beach would be approximately 26,359 square feet. In connection with the newly designated public beach, the proposed project would include restroom facilities that would be accessible to beach goers on the ground floor of the proposed clubhouse expansion.

During certain special events at the clubhouse south room and event lawn, access to portions of the public beach and lakefront recreation area could be restricted. During these special events (such as weddings), which could occur regularly on weekends throughout the summer, the public swimming beach portion of the lakefront recreation area (Exhibits 5.4-1 and 5.4-2) would be reduced to an approximately 3,000 square-foot (120 feet by 25 feet) area south of the event lawn. However, other new lakefront recreation opportunities would remain available at these times.

The proposed lakefront recreation area is not intended to accommodate large numbers of people. Edgewood Companies proposes to take an adaptive management approach to public use of the lakefront recreation area through such measures as limiting access during peak periods. For example, all public lakefront recreation users would need to pass through the gate house area at the entry from Lake Parkway. To facilitate event control and security for large crowds, Edgewood Companies would need to restrict access to the lakefront recreation area to ticketed members of the public during extraordinary events such as the Celebrity Golf Event and the 4th of July.

[1] Harrah's Lake Tahoe Resort & Casino includes 512 rooms, Harvey's Resort & Casino includes 742 rooms, Horizon Casino Resort includes 539 rooms, Lakeside Inn includes 124 rooms, and MontBleu Resort Casino & Spa includes 440 rooms.

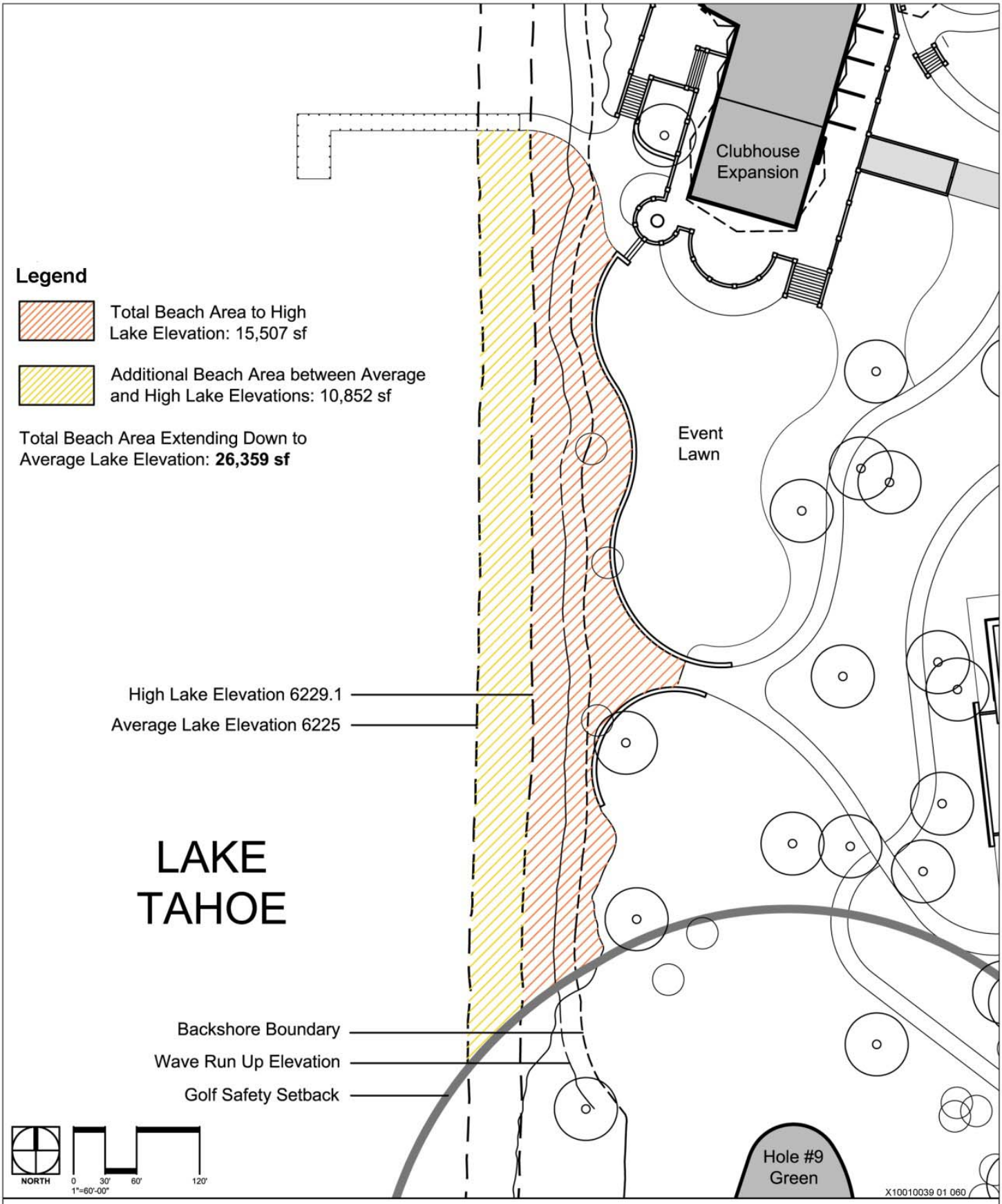


Public Lakefront Recreation Areas

	Area	*SF/Person*	*People*
Active Recreation			
Beach	15,507	50	310
Event Lawn	13,956	50	279
Open Space	11,119	200	56
Lakeside Paths	8,438	100	84
Public Access Path	10,138	200	51
Pier	1,219	100	12
Passive Recreation			
Lodge Bistro	3,000	20	150
Dining Terrace	2,305	30	77
Lodge Terrace	8,326	100	83
Totals	**74,008**		**1,102**

Source: Adapted by Ascent Environmental, Inc. in 2012

Exhibit 5.4-1. Proposed New Lakefront Recreation Facilities



Source: Adapted by Ascent Environmental, Inc. in 2012

Exhibit 5.4-2. Proposed Public Beach Area

TRPA's 2005 Recreation Assessment suggests the design capacity of an urban public beach should accommodate approximately one person per 50 square feet of beach (TRPA 2005). Based on this planning concept, the proposed beach could accommodate up to 310 people while sustaining the desired user experience associated with an urban beach recreation area. During average lake level conditions, the beach would be larger and therefore could accommodate approximately 530 people. The proposed beach would be able to accommodate beach users associated with the lodge complex, as well as a substantial number of public beach users, while sustaining the desired user experience associated with an urban public beach recreation area.

Because the project offers a range of lakefront recreation opportunities to lodge guests and the public, including a public beach in excess of the size required to accommodate lodge guests, Alternative 1 increases the outdoor recreational capacity of the Stateline area. When evaluating all active and passive lakefront recreation opportunities proposed as part of the project (Exhibit 5.4-1), the total number of persons who could be accommodated at one time would well exceed the minimum of 194 people required in PAS 070A, even on peak event days. The proposed lakefront recreation opportunities, beach, and pedestrian/bicycle path also increase public access to Lake Tahoe, a specific goal in relevant planning documents. The additional public access would also provide walkable access from the Stateline casino corridor area to the lake, an amenity that is currently unavailable. This would be a **beneficial** recreation impact.

Mitigation Measure

No mitigation required.

Impact 5.4.1-2	**Conflicts with Existing or Proposed Recreation Uses.** Implementation of Alternative 1 would not result in substantial conflicts with any existing recreation uses in the area and is consistent with and actually implements those goals pertaining to improving public access to the lake in the Stateline area as described in the Stateline Community Plan. The proposed public beach area and the shared pedestrian/bicycle path to the beach, as well as other proposed lakefront recreation opportunities, are outside of golf hazard areas. Therefore golf play is not expected to pose a danger to people using the pathway or people on the beach. Construction of the relocated and extended pier would result in temporary, localized substrate and water column disturbance, but would not impair or reduce fish habitat or otherwise impair recreational fishing activities. Because no new mooring buoys or boating facilities are proposed as part of the project, no increase in boat activity levels is expected, and little change, if any, in the opportunities and/or quality of fishing in the project area would occur. A designated swim area would be roped off at the public beach to protect swimmers from boating activities associated with the relocated pier. For these reasons, this would be **less-than-significant** impact.

Alternative 1 would not directly affect or conflict with any existing off-site recreation uses, because none exist today in the area immediately adjacent to the project site. The South Demonstration Project, a planned shared-use path, could extend adjacent to the project site along Lake Parkway and U.S. 50. The environmental review for this portion of the facility has been completed, but easement discussions with Edgewood Companies, Douglas County, and NDOT are still underway. The potential future shared-use path along Lake Parkway would be outside the existing golf course fence and in the general location of the existing sidewalk, and along U.S. 50 would be in the general location of the existing sidewalk in an area where golf play would be directed away from the path. The proposed project would not include any new uses nor would it alter golf play in these areas such that the project would create a conflict between existing golf play and future path users.

Similarly, the proposed project is not expected to create conflicts between the existing golf course and proposed on-site uses. The project would open a formerly private beach to public use and would include a shared

pedestrian/bicycle public pathway to the beach that parallels the main entry road from Lake Parkway. Both of these improvements, as well as other proposed lakefront recreation opportunities, implement the goals pertaining to improving lake access described in the Stateline Community Plan.

Golf safety has been a primary consideration of the project design team. Golf hazard areas have been established around each golf hole to minimize potential liabilities and conflicts between existing and proposed on-site uses. According to the project applicant, golf hazard areas were determined by the golf course architect, Tom Fazio, based on each hole's design and safety zone needs. The beach area north of the clubhouse is in the path of golf play, and is not identified as part of the public beach. The proposed public beach area south of the clubhouse would not be in the path of golf play (specifically, it would be outside the golf hazard area for relocated golf hole 9), nor is any part of the proposed lodge complex or other amenities used by non golfers within the complex. The public beach area would be designated by signs, including a warning sign at the edge of the golf hazard safety zone at the southern end of the public beach alerting beach goers of potential golf hazards beyond the public beach boundary.

The proposed relocated and extended pier is not expected to change boating activity in the project area, because no new mooring buoys or new boating facilities are proposed. The relocated pier would be adjacent to the clubhouse and extend from the public beach area. A swimming area would be roped off along the shore within the limits of the public beach area to protect swimmers from boating activities associated with the pier.

As discussed in Sections 5.6, "Hydrology and Water Quality," and 5.7, "Biological Resources," the relocation and extension of the existing pier would not be a significant direct source of water pollution and would not result in significant impacts to fisheries habitat. The boating activity levels are expected to be similar to existing levels because the project would not provide new mooring buoys nor any public parking, boat launch, or marina facilities. Because there would be no substantial change in boating activity, the project would not significantly reduce the opportunities for and/or quality of fishing in the project area.

The areas surrounding both the existing and the proposed relocated pier are not located in prime fish habitat. The nearest fishing hole in Lake Tahoe is Hobart's Hole, which is located approximately 800 feet from the high water line north of the project site (TRPA 2009). Because the relocated pier would be 125 feet long, it would not affect the aquatic habitat that supports the local recreational fishery nor otherwise interfere with the fishing experience at Hobart's Hole. Furthermore, because boating activity is not anticipated to increase substantially, fishing pressure would not increase significantly and the quality of fishing activities at this location would not be impaired.

For these reasons, the proposed project would not create substantial conflicts with any existing or planned recreation uses in the area. The impact would be **less than significant**.

Mitigation Measure

No mitigation required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.4.2-1	**Create the Need for New or Expanded Recreational Facilities.** Implementation of Alternative 2 would relocate 230 TAUs to the project site from other locations in the south shore area. Similar to Alternative 1, Alternative 2 also includes new on-site lakefront recreational amenities as part of the lodge complex, including a spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayak and bicycle rentals), natural areas, restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach. The additional TAUs would increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, Alternative 2 would not create demand for additional recreation facilities because the increase in visitors would be modest; there are existing recreation facilities available in close proximity; and the proposed project itself offers substantial new recreation capacity and opportunities. Alternative 2 would increase the outdoor recreational capacity in the Stateline area available to the general public, and would therefore result in a **beneficial** recreation impact.

This impact would be similar to the Impact 5.4.1-1 described above for Alternative 1; however Alternative 2 would relocate 230 TAUs, with a total of 356 rooms, to the Stateline area. Assuming between one and two people per bedroom, the maximum occupancy of Alternative 2 would be between 356 and 712 people. As noted above, Alternative 2 would construct 230 TAUs (356 rooms), resulting in a modest increase in visitors to the area. Similar to Alternative 1, the increase in visitors associated with Alternative 2 could be accommodated by existing facilities in the project vicinity.

The recreation amenities associated with Alternative 2 would be the same as Alternative 1 except that the pier would be reconstructed and extended in a different location (with Alternative 2, the pier would be located in its existing location). The public beach location and size would be the same as with Alternative 1. The proposed beach would be able to accommodate beach users associated with the lodge complex, as well as a substantial number of public beach users, while sustaining the desired user experience associated with an urban public beach recreation area.

Because Alternative 2 would offer a range of lakefront recreation opportunities to lodge guests and the public, including a public beach in excess of the size required to accommodate lodge guests, Alternative 2 increases the outdoor recreational capacity of the Stateline area. When evaluating all active and passive lakefront recreation opportunities proposed as part of Alternative 2, the total number of persons who could be accommodated at one time would well exceed the minimum of 230 people required (equivalent to the number of TAUs under Alternative 2) in PAS 070A, even on peak event days. This would be a **beneficial** recreation impact.

Mitigation Measure

No mitigation required.

Impact 5.4.2-2	**Conflicts with Existing or Proposed Recreation Uses.** This impact would be the same as that described for Alternative 1. Implementation of Alternative 2 would not result in substantial conflicts with any existing recreation uses in the area and is consistent with and actually implements those goals pertaining to improving public access to the lake in the Stateline area as described in the Stateline Community Plan. The proposed public beach area and the shared pedestrian/bicycle path to the beach, as well as other proposed lakefront recreation opportunities, are outside of golf hazard areas. Therefore golf play should not pose a danger to people using the pathway or people on the beach. Construction of the relocated and extended pier would result in temporary, localized substrate and water column disturbance, but would not impair or reduce fish habitat or otherwise impair recreational fishing activities. Alternative 2 is not expected to cause an increase in boat activity levels. No new mooring buoys or boating facilities would be provided. Because boat activity levels are not expected to noticeably increase, there would be little change to the opportunities and/or quality of fishing in the project area. A designated swim area would be roped off at the public beach to protect swimmers from boating activities associated with the relocated pier. For these reasons, this would be **less-than-significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.4.1-2.

Mitigation Measure

No mitigation required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.4.3-1	**Create the Need for New or Expanded Recreational Facilities.** Implementation of Alternative 3 would relocate 250 TAUs to the project site from other locations in the south shore area. Similar to Alternative 1, Alternative 3 also includes new on-site lakefront recreational amenities as part of the lodge complex, including a spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayak and bicycle rentals), natural areas, restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach. The additional TAUs would increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, Alternative 3 would not create demand for additional recreation facilities because the increase in visitors would be modest; there are existing recreation facilities available in close proximity; and the proposed project itself offers substantial new recreation capacity and opportunities. Alternative 3 would increase the outdoor recreational capacity in the Stateline area available to the general public, and would therefore result in a **beneficial** recreation impact.

This impact would be similar to the Impact 5.4.1-1 described above for Alternative 1; however Alternative 3 would relocate 250 TAUs, with a total of 385 rooms, to the Stateline area. Assuming between one and two people per bedroom, the maximum occupancy of Alternative 3 would be between 385 and 770 people. As noted above, Alternative 3 would construct 250 TAUs (385 rooms), resulting in a modest increase in visitors to the area. Similar to Alternative 1, the increase in visitors associated with Alternative 3 could be accommodated by existing facilities in the project vicinity.

The recreation amenities associated with Alternative 3 would be the same as Alternative 1 except that the pier would be reconstructed and extended in a different location (with Alternative 3 the pier would be located midway between the expanded clubhouse and the southern boundary of the project area). The public beach location and size would be the same as with Alternative 1. T proposed beach would be able to accommodate beach users associated with the lodge complex, as well as a substantial number of public beach users, while sustaining the desired user experience associated with an urban public beach recreation area.

Because Alternative 3 would offer a range of lakefront recreation opportunities to lodge guests and the public, including a public beach in excess of the size required to accommodate lodge guests, Alternative 3 increases the outdoor recreational capacity of the Stateline area. When evaluating all active and passive lakefront recreation opportunities proposed as part of Alternative 3, the total number of persons who could be accommodated at one time would well exceed the minimum of 250 people required (equivalent to the number of TAUs under Alternative 3) in PAS 070A, even on peak event days. This would be a **beneficial** recreation impact.

Mitigation Measure

No mitigation required.

Impact 5.4.3-2	**Conflict with Existing or Proposed Recreation Uses.** This impact would be the same as that described for Alternative 1. Implementation of Alternative 3 would not result in substantial conflicts with any existing recreation uses in the area and is consistent with and actually implements those goals pertaining to improving public access to the lake in the Stateline area as described in the Stateline Community Plan. The proposed public beach area and the shared pedestrian/bicycle path to the beach, as well as other proposed lakefront recreation opportunities, are outside of golf hazard areas. Therefore golf play should not pose a danger to people using the pathway or people on the beach. Construction of the relocated and extended pier would result in temporary, localized substrate and water column disturbance, but would not impair or reduce fish habitat or otherwise impair recreational fishing activities. Alternative 3 is not expected to cause an increase in boat activity levels. No new mooring buoys or boating facilities would be provided. Because boat activity levels are not expected to noticeably increase, there would be little change to the opportunities and/or quality of fishing in the project area. A designated swim area would be roped off at the public beach to protect swimmers from boating activities associated with the relocated pier. For these reasons, this would be **less-than-significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.4.1-2.

Mitigation Measure

No mitigation required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the project area would remain in its current state and existing operation of the golf course, clubhouse and restaurant, snowmobile operations, lakefront residences, and pier would be projected into the future. Therefore, there would be no impacts related to increase in use of parks or other recreation opportunities, and there would be no conflicts with existing or planned recreation uses.

5.4.4 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

This section summarizes the effects of implementing the proposed project on the environmental threshold carrying capacity established by TRPA for recreation. As described under the heading "Regulatory Background" above, there are two recreation threshold indicators:

- R-1, Quality Experience and Additional Access
- R-2, Fair share of resource capacity

Both recreation threshold indicators are in attainment (TRPA 2007). Implementation of Alternatives 1, 2, and 3 would include a similar level of development and the same extent of proposed on-site recreation amenities. Because Alternatives 1, 2, and 3 would have the same effect on TRPA environmental thresholds, the analysis below references the proposed project but would also be applicable to Alternatives 2 and 3. Alternative 4 is the no project alternative and would not affect TRPA environmental thresholds for recreation.

R-1, Quality Experience and Additional Access

Each of the three development alternatives (Alternative 1, 2, and 3) would contribute to the continued attainment of the R-1 threshold indicator. Providing public access to the lakeshore is a required condition for the development of the lodge complex as stated in the special policies of the PAS 070A (Edgewood), and improving the quality of the lakefront experience for the public in the California/Nevada Stateline area is a guiding planning concept described in Chapter 1 of the Stateline CP. Opening a minimum of 15,507 square feet of beach area associated with the proposed project would increase the linear feet of shoreline available to the public, expand additional beach access, and potentially reduce crowds at other nearby beaches in the south shore area. The new public beach and other lakefront recreation opportunities associated with the project would contribute to the continued attainment of R-1.

R-2, Fair Share of Resource Capacity

Each of the three development alternatives (Alternative 1, 2 and 3) would contribute to the continued attainment of R-2 threshold indicator. The proposed public beach facility meets TRPA's criterion for a public beach recreation area and therefore PAOTs would be allocated to the proposed public beach from the reserved pool of PAOTs. PAOTs would be allocated according to the Design Capacity for People (DCP) concept described in TRPA's 2005 Regional Recreation Plan Recreation Assessment for Lake Tahoe. As outlined in the Recreation Assessment, there are three possible facility/area classifications for a recreation area (urban, developed and dispersed). The proposed public beach qualifies as an urban beach because it includes developed recreational facilities, including restrooms and concessions (the clubhouse's bar and restaurant) and its proximity to urban areas.

Using the planning concept outlined in the 2005 Recreation Assessment, the recommended design capacity for an urban beach is 50 square feet of beach space per person. The proposed public beach would be 15,507 square feet. At 50 square feet per person, this would make the optimal maximum utilization of the public beach to be approximately 310 persons at one time. Therefore, up to 310 PAOTs from the reserve pool may be allocated to the proposed public beach. Allocation of these PAOTs would assist with implementation of the outdoor recreation facility development envisioned by the PAOT capacity system. Other proposed lakefront recreation opportunities, while not requiring PAOT allocations, would similarly enhance the range of lakefront recreation activities available to lodge guests and the public in the Stateline area. Collectively, these improvements would contribute to the continued attainment of R-2.

All development alternatives (1, 2 and 3) contribute to the continued attainment of the R-1 and R-2 thresholds. Improving public access to a sandy beach with restroom amenities provides an additional high-quality, developed recreation opportunity. The proposed project's public beach also increases that share of the region's lakefront available to the general public, resulting in the distribution of summer day-use PAOTs.

5.5 GEOLOGY, SOILS, AND LAND CAPABILITY AND COVERAGE

This section describes the existing geologic and soil conditions of the proposed alternatives and provides an analysis of the potential geologic hazards and soils impacts associated with project implementation. The analysis includes a description of existing conditions, a discussion of any changes in or to geologic conditions, relevant soil properties, and associated elements of land capability and coverage. Potential environmental effects related to water quality resulting from soil erosion and other stormwater effects, as well as effects on littoral processes, are addressed in Section 5.6, "Hydrology and Water Quality."

5.5.1 REGULATORY SETTING

FEDERAL

FEDERAL EARTHQUAKE HAZARDS REDUCTION ACT

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 to define the description of agency responsibilities, program goals, and objectives. The NEHRP periodically undergoes review and reauthorization by the U.S. Congress, most recently in 2004.

The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and, accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRP agencies include the National Institute of Standards and Technology, the National Science Foundation, and the U.S. Geological Survey.

BUILDING STANDARDS CODE

The International Code Council (ICC) is responsible for developing building codes that must be complied with when constructing residential or commercial buildings throughout the United States. Building codes developed by the ICC include the International Building Code (IBC), the Uniform Building Code (UBC), and the International Residential Code (IRC), among others. Douglas County has adopted the building codes set forth in the 2006 IBC and 2006 IRC.

STATE

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

The Bureau of Water Quality Planning (BWQP) is part of the Nevada Division of Environmental Protection (NDEP) and is responsible for several water quality protection functions in the state. These include collecting and analyzing water data, developing standards for surface waters, publishing informational reports, providing water quality education, and implementing programs to address surface water quality. The BWQP is also responsible for two certification programs. BWQP is divided into three branches: water quality standards, monitoring and nonpoint sources, and ground water protection. (See Section 5.6, "Hydrology and Water Quality," for more information about the BWQP.)

TAHOE REGIONAL PLANNING AGENCY

REGIONAL PLAN

In 1987, TRPA adopted the Regional Plan for the Lake Tahoe Basin (Regional Plan) to address growth and development and provide a policy guide for decision making. The Regional Plan and implementing ordinances are contained in several documents: Goals and Policies, Code of Ordinances, Water Quality Management Plan, Plan Area Statements, Community Plans, and others.

The 1987 Regional Plan is in the process of being reviewed and updated. The Regional Plan update will guide the development and growth in the Lake Tahoe Basin for the next 20 years, and is expected to be adopted in 2012.

Goals and Policies

The Regional Plan's Goals and Policies document presents the specific goals and policies to achieve and maintain environmental thresholds. The goals and policies are implemented through the TRPA Code of Ordinances (TRPA Code). Goals and policies of the Regional Plan for the Basin that are applicable to the proposed action are as follows:

Land Use Element

Natural Hazards

- **Goal 1**: Risks from natural hazards (e.g., flood, fire, avalanche, and earthquake) will be minimized.
  - **Policy 2.** Prohibit construction, grading, and filling of lands within the 100-year floodplain and in the area of wave run-up except as necessary to implement the goals and policies of the plan. Require all public utilities, transportation facilities, and other necessary public uses located in the 100-year floodplain and area of wave run-up to be constructed or maintained to prevent damage from flooding and to not cause flooding.

Water Quality

- **Goal 1**: Reduce loads of sediment and algal nutrients to Lake Tahoe; meet sediment and nutrient objectives for tributary streams, surface runoff, and sub-surface runoff, and restore 80 percent of the disturbed lands.
  - **Policy 3**. Application of best management practices (BMPs) to projects shall be required as a condition of approval for all projects.

Conservation Element

Soils

- **Goal 1:** Minimize soil erosion and the loss of soil productivity.
  - **Policy 1.** Allowable impervious land coverage shall be consistent with the threshold for impervious land coverage.
  - **Policy 2.** No new land coverage or other permanent disturbance shall be permitted in land capability districts 1-3 except for those uses as noted in a, b, and c below:
    - a) Single family dwellings may be permitted in land capability districts 1-3 when reviewed and approved pursuant to the individual parcel evaluation system (IPES). (See Goal #1, Policy 2, Development and Implementation Sub-element).
    - b) Public outdoor recreation facilities may be permitted in land capability districts 1-3 if:
      1) The project is a necessary part of a public agency's long range plans for public outdoor recreation;
      2) The project is consistent with the recreation element of the Regional Plan;

3) The project by its very nature must be sited in land capability districts 1-3;
4) There is no feasible alternative which avoids or reduces the extent of encroachment in land capability districts 1-3;
5) The impacts are fully mitigated; and
6) Land capability districts 1-3 lands are restored in the amount of 1.5 times the area of land capability districts 1-3 which is disturbed or developed beyond that permitted by the Bailey coefficients.

c) Public service facilities are permissible uses in land capability districts 1-3 if:
1) The project is necessary for public health, safety or environmental protection;
2) There is no reasonable alternative that avoids or reduces the extent of encroachment in land capability districts 1-3;
3) The impacts are fully mitigated; and
4) Land capability districts 1-3 lands are restored in the amount of 1.5 times the area of land capability districts 1-3 which is disturbed or developed beyond that permitted by the Bailey coefficients.

- **Policy 6.** Grading, filling, clearing of vegetation (which disturbs soil), or other disturbances of the soil are prohibited during inclement weather and for the resulting period of time when the site is covered with snow or is in a saturated, muddy, or unstable condition. Special regulations and construction techniques will apply to all construction activities occurring between October 15 and May 1.

Code of Ordinances

The TRPA Code consists of ordinances that implement the Goals and Policies. The following ordinances are most relevant to the geology, soils, and land capability and coverage aspects of the project:

- Section IV, Site Development Provisions: this section contains information on land coverage standards (Chapter 30), BMP requirements (Chapter 60), and natural hazard standards (Chapter 35).
- Section VII, Grading and Construction Provisions: this section contains information on grading and construction schedules, grading standards, and vegetation protection during construction (Chapter 33).
- Section IX, Resource Management Provisions: this section has information on vegetation protection and management (Chapter 61).
- Section X, Water Quality Provisions: This section contains information on water quality control and water quality mitigation (Chapter 60).

Land Capability Districts

Land capability districts (LCDs) have been determined for all areas within the Tahoe Basin. Land capability is defined as “the level of use an area can tolerate without sustaining permanent damage through erosion and other causes” (Bailey 1974). The Bailey system uses LCD ratings that range from 1 to 7, which rank the LCDs in terms of their tolerance for use based on slope, relative erosion and runoff potential, and potential for hazards (Table 5.5-1). Table 5.5-2 summarizes the characteristics and intensity of uses for each LCD (also known as land capability level, or class).

To establish limitations on land surface modification for each LCD, each class is assigned a numerical value representing the percentage of each area that can be used for impervious cover if environmental balance is to be maintained. Chapter 90 of the TRPA Code generally defines land coverage as 1) a man-made structure, improvement or covering, that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement, or covering (“hard coverage”) and 2) lands used for such things as parking of cars and heavy and repeated pedestrian traffic such that the soil is compacted so as to prevent

Table 5.5-1. Land Capability Districts for Lake Tahoe Basin Lands

Capability Levels	Tolerance for Use	Slope Percent	Relative Erosion Potential	Runoff Potential	Disturbance Hazards
7	Most	0-5	Slight	Low to moderately low	Low hazard
6		0-16			
5		0-16		Moderately high to high	
4		9-30	Moderate	Low to moderately low	Moderate hazard lands
3		9-30		Moderately high to high	
2		30-50	High	Low to moderately low	High hazard lands
1a	Least	30+		Moderately high to high	
1b		Poor natural drainage			
1c		Fragile flora and fauna			

Source: Bailey 1974

Table 5.5-2. Characteristics of Lands by Land Capability Class and Suitable Uses Based on Relative Tolerance Levels

Land Capability Class	General Characteristics	Intensity of Uses
Low hazard lands (Classes 5-7)	Areas of gently sloping foothills and plains with deep soils.	Generally suited for various development activities as well as for concentrated public occupancy. Access should be high-standard roads and trails. May support most kinds of intensive or mass recreational uses. Facilities include campgrounds, recreation residences, hotels, and resorts or other commercial services where it does not destroy other values.
Moderate hazard lands (Classes 3 and 4)	Characterized by moderately steep mountain slopes. Often provide visual backdrops for low hazard areas.	Recreation use may be varied and concentrated, including campgrounds, picnic areas, and winter sport sites. Access should be by low standard roads and trails. Low-density housing may be permitted, as well as limited forestry.
High hazard (Class 2)	Characterized by steep slopes and a fragile environmental balance with unique plants and animals. Also provide backdrops and foregrounds for surrounding areas.	Suited for limited recreation, restricted grazing, and selective timber harvest due to erosion hazard or very steep slopes. Should remain generally in their natural condition. Access facilities should be restricted to foot and horse trails. Recreation use should be dispersed and limited to hiking, backcountry camping, and fishing. These lands should not be managed for intensive commercial resource use.
High hazard land (Class 1)	Includes mountain tops with little to no soil mantle, and very steep slopes with shallow soils. Subclasses (i.e., 1a, 1b, 1c) include marshes, flood plains, meadows, and beaches.	Some of the uses under Class 2 apply to Class 1 as well. However, Class 1 areas are not suitable for development, grazing, or forestry. Class 1 areas have value for wildlife, recreation, and protected of water supplies.

Source: Data compiled by Ascent from Bailey 1974

Table 5.5-3. Tahoe Regional Planning Agency Base Land Coverage Requirements	
Land Capability District	Base Allowable Coverage (%)
6, 7	30
5	25
4	20
3	5[1]
2	1[1]
1a, 1b, 1c	1[1]

[1] No additional land coverage or other permanent land disturbance shall be permitted in Land Capability Districts 1a, 1b (SEZ), 1c, 2, and 3 and except as defined in Chapter 30 of the TRPA Code.
Source: TRPA Code, Chapter 30, 2012

Water Quality Management Plan for the Lake Tahoe Region

The Handbook of Best Management Practices was adopted in January 1978 as part of the Water Quality Management Plan for the Lake Tahoe Region (commonly known as the "208 Plan") (TRPA 1998) in order to provide technical guidance and assistance to engineers, architects, consultants, builders, homeowners, and other agencies who are proposing a project in the Tahoe Basin which may affect water quality. It identifies and recommends BMPs for various situations. For further information on the Water Quality Management Plan for the Lake Tahoe Region see Section 5.6, "Hydrology and Water Quality."

Plan Area Statements and Community Plan

Plan Area Statements (PAS) and Community Plans outline the land uses, special policies, planning considerations, permissible uses, and maximum allowances for specified portions of the Tahoe Basin.

The project area extends across two PASs and is adjacent to the Stateline Community Plan. The project area west of U.S. 50 is located entirely within the Edgewood PAS 070A – most of the lodge complex is concentrated in Special Area #1. The portion of the project area east of U.S. 50 is located within Special Area #2 in the Kingsbury Drainage PAS 080.

There are no goals and objectives, special policies, programs, or strategies in PAS 070A, PAS080, or the Stateline Community Plan that are directly relevant to geology, soils, and land capability and coverage. Relevant shorezone tolerance district use regulations are discussed in Section 5.2, "Land Use."

Environmental Threshold Carrying Capacities

TRPA adopted environmental threshold carrying capacities (thresholds) to improve and maintain the various resources and values of the Lake Tahoe Basin. Thresholds are standards or environmental quality targets to be achieved in the Tahoe Basin. TRPA conducts a comprehensive evaluation of all thresholds every five years. The most recent evaluation was completed in 2006 (TRPA 2007) and a 2011/2012 evaluation is underway.

TRPA has two soil conservation threshold standards as follows:

- SC-1, land coverage (impervious cover) threshold to attain allowable land coverage in compliance with the Land Capability Classification of the Lake Tahoe Basin.
- SC-2, stream environment zone (SEZ) threshold to restore 25 percent of the SEZ lands that have been identified as disturbed, developed or subdivided to attain a 5 percent increase in the area of naturally functioning SEZ lands.

The Tahoe Basin's status in 2006 was "non-attainment, but near attainment" for both SC-1 and SC-2.

DOUGLAS COUNTY

DOUGLAS COUNTY MASTER PLAN

The Douglas County Master Plan (DCMP) (2007), Conservation Element, contains the following goals and policies relevant to geology, soils, and seismicity.

Geology/Seismic

- **Goal 5.01**: To minimize danger and damage to county residents from natural hazards due to seismic activity, liquefaction, and other geologic hazards.
  - **Policy 5.01.03**. Require site specific soils and geologic studies to assess natural and graded slope stability for development proposed in areas which may have moderate to high potential for landsliding, erosion, or other soil or geologic instability and require mitigation through setbacks, special foundation design, etc.

Slopes – Hillsides and Ridgelines

- **Goal 5.02**: To minimize hillside development densities, locations, and project designs in order to minimize impacts on the county's natural resources and aesthetic character, and to protect future residents from safety hazards.

  Policy 5.02.06. Erosion control and slope stability measures shall be included within development guidelines and shall consider such things as lifecycle maintenance costs.

A draft update of the DCMP was released in November 2011 and approved on January 5, 2012 by the Douglas County Board of Commissioners (Board) but has not been finalized to reflect the requested changes of the Board. Therefore, the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

DOUGLAS COUNTY BUILDING AND DEVELOPMENT ORDINANCES

Douglas County Consolidated Development Code Title 20, Chapter 20.690, "Property Development Standards," contains provisions related to grading activities in hillside areas with slopes of 15 percent or greater and having a minimum vertical rise of at least 30 feet. Chapter 20.690, Section K(4) requires that a slope analysis and a grading plan, prepared by a Nevada registered professional engineer, be submitted to the Community Development Department for review and approval. The grading plan must include data on proposed slopes, drainage patterns, stormwater detention, and cross-section exhibits showing preliminary cut-and-fill areas. An applicant must also submit an erosion control and re-vegetation plan prepared by a Nevada licensed landscape architect, registered forester, or civil engineer. Chapter 20.690, Section K(6) set forth Douglas County grading standards that apply in hillside areas.

5.5.2 AFFECTED ENVIRONMENT

GEOLOGY

The project area is located in the Sierra Nevada geomorphic province. The Sierra Nevada is a tilted fault block with a gentle western slope and a steep, rugged eastern escarpment. It runs through eastern California and a small portion of western Nevada, from the Mojave Desert in the south to the Cascade Range and Modoc Plateau on the north, for more than 400 miles and averages 50 to 80 miles wide. The Sierra Nevada geomorphic

province is primarily composed of massive granitic bedrock and remnants of metavolcanic and metasedimentary rocks (volcanic and sedimentary rocks subsequently subjected to substantial heat and pressure), and more recent volcanic and sedimentary rocks. It is bounded on the west by sedimentary rocks of the Great Valley geomorphic province and on the north by volcanic sheets extending south from the Cascade Range (California Department of Conservation, California Geological Survey [CGS] 2002).

The Lake Tahoe Basin is located in the northern Sierra Nevada, between the Sierra crest to the west and the Carson Range to the east, and is one of the most prominent mountain ranges in California. Faulting and volcanism created the Lake Tahoe Basin over 2 million years ago, and as a result, the basin contains granitic, metamorphic, and volcanic rock (CGS 2005a).

A review of the *Geologic Map of the Lake Tahoe Basin* (CGS 2005a) indicates that the project site is located on four geologic formations. A portion of the site is located on Holocene (10,000 years ago to present) deposits, which include beach deposits (Qb) of moderately sorted fine- to very coarse-grained to gravelly arkosic sand located along the project site's shoreline and floodplain deposits (Qfp) of gravelly to silty sand and sandy to clayey silt located inland of the beach. The inland portion of the project site is located on Pleistocene era (1.8 million to 10,000 years ago) beach deposits of moderately sorted gravelly, coarse arkosic sand and lacustrine terrace deposits (Qlt), which are poorly to moderately sorted silt, sand, and gravel forming low terraces 5 to10 meters above lake level.

TOPOGRAPHY

Slope of the land is an important consideration in development planning. Slopes, in conjunction with soil types, geological and seismic hazards, and scenic vistas, are potential limitations to development. In terms of construction and service costs, land with 0 to 5 percent slope is generally most suitable for development. Development on steep slopes, hillsides, and ridgelines have greater potential for erosion problems, have lower rates of re-vegetation, can degrade the aesthetic value of the natural environment and can also represent hazards to the land itself.

The project site is located on the South Lake Tahoe, California 7.5 minute U.S. Geologic Survey (USGS) quadrangle. The topography of the project site gently slopes towards the east. Elevations range from approximately 5,971 to 6,302 feet above mean sea level (msl). Site slopes typically range from 0 to 16 percent.

SEISMICITY

The potential for seismic activity is related to the proximity of faults, which are fractures or zones of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side. Most faults are the result of repeated displacement that may have taken place suddenly and/or by slow creep (Bryant and Hart 2007: p. 3).

The project area is located in a seismically active region of the United States. Lake Tahoe lies within a tectonically active, asymmetric half-graben (down-dropped fault block). Evidence shows that pre-historic earthquakes of a magnitude of 7.0 have occurred on Tahoe Basin faults within the past 10,000 years. However, scientists believe that large quakes are "rare events" in the Tahoe Basin, meaning quakes of magnitude 6.5 or greater occur on individual faults about every 3,000 to 4,000 years (Segale and Cobourn 2005: p. 1).

The North Tahoe Fault, located beneath Lake Tahoe, is a northeast-southwest trending fault, approximately 15 miles long. The most recent surface-rupturing or surface deforming earthquake on the North Tahoe Fault occurred during the Latest Quaternary (<15 million years ago) time period (Sawyer and Haller 2000).

The East Tahoe Fault borders the east side of the Tahoe Basin, within 1 mile of the project site, crossing through Douglas County, and is approximately 22 miles long. The most recent surface-rupturing or surface deforming earthquake on the East Tahoe Fault occurred during the Quaternary (<1.6 million years ago) time period (Saywer 1999).

The Genoa Fault is a long and continuous range-front fault that runs along the east front of the Carson Range approximately 5 miles east of the project site. The most recent surface-rupturing or surface deforming earthquake on the Genoa Fault occurred during the Latest Quaternary (<15 million years ago) time period (Sawyer, Adams, and Haller 1999).

SOILS

Soils are a critical element in land-use planning in the Lake Tahoe Basin because the LCDs are determined based on soil types, as described above. The Land Capability Verification Report (Resource Concepts 1990) and Land Capability Challenge (TRPA 1990) for the project site identified eight different soil types on the project site. The following are qualitative summaries of these soils, based on the Soil Survey for the Lake Tahoe Basin Area (Natural Resources Conservation Service [NRCS] 1974)[1]:

- Beaches (Be)
- Cagwin-Rock outcrop complex, 5-15 percent slopes (CaD)
- Elmira gravelly loamy coarse sands, 0-9 percent slopes (EbC)
- Elmira-Gefo loamy coarse sands, 0-5 percent slopes (EfB)
- Elmira loamy coarse sand, wet variant (Ev)
- Jabu coarse sandy loam, 0-9 percent slopes (JaC)
- Jabu coarse sandy loam, seeped, 2-15 percent slopes (JbD)
- Loamy alluvial land (Lo)

Beaches—this classification is a miscellaneous map unit that is adjacent to the lake shore. It is coarse sand derived from granitic alluvium.

Cagwin-Rock outcrop complex—this complex consists of rolling soils on foot slopes along the fringe of the granitic uplands. The Cagwin soil series consists of loamy coarse sand underlain by coarse sand, which overlies weathered granitic rock. During dry periods (summer months) the surface layer of Cagwin soil may not absorb water readily. In disturbed areas runoff is typically rapid and the erosion hazard is moderate. Rock outcrop has a very rapid runoff, but the erosion hazard is slight.

Elmira gravelly loamy coarse sands—this soil is typically found on morainal (glacial debris) crests. They are excessively drained soils that are underlain by sandy granitic alluvium. Permeability is rapid, even if the soil is bare of vegetation, surface runoff is very slow to slow and the erosion hazard is slight to moderate.

Elmira-Gefo loamy coarse sands—this soil is formed in granitic material on alluvial outwash fans and moraines. The Gefo soil is somewhat excessively drained and has very rapid permeability, runoff is slow and the erosion hazard is slight. The Elmira soil is somewhat excessively drained and has rapid permeability.

Elmira loamy coarse sand, wet variant—this soil formed in sandy alluvium from mixed sources but dominantly from granitic sources. This soil is found in the drainage ways of glacial outwash fans. The surface and subsurface

[1] The *Soil Survey of the Tahoe Basin Area* issued in 2007 by NRCS has not yet been adopted by TRPA.

layers consist of loamy coarse sand to a depth of approximately 44 inches, which overlie stratified alluvium. This soil is subject to flooding, is naturally poorly drained, has a very slow or slow runoff, and moderately rapid permeability above the substratum and slow in the substratum. These soils are correlated as Marla soils outside of the Tahoe Basin Area soil survey.

Jabu coarse sandy load—this soil is typically found on glacial outwash terraces and derived from granitic alluvium. The soil profile consists of a surface layer of coarse sandy loam underlain by gravelly coarse sandy loam, which overlies highly weathered compacted till or lake sediments. The soil is well drained, surface runoff is slow, and the erosion hazard is slight.

Loamy alluvial land—this soil consists of recent alluvium adjacent to stream channels and in meadows. It is somewhat poorly drained to poorly drained. Permeability and the available water capacity vary. Runoff is very slow, and the erosion hazard is slight.

SUBSURFACE CONDITIONS

At the time of this EIS preparation, three separate preliminary geotechnical investigations have been conducted at the site to support design of the proposed project as documented in reports produced by Kleinfelder (2007, 2008) and GeoCon Consultants (2012). Twenty-six test pits and borings with associated boring logs were produced to characterize soils underlying the proposed project site and the depth to seasonally high groundwater. At all the test pit locations, subsurface conditions consisted of silty and gravelly sand. Based on the results of the test pits, groundwater depth levels range from 2.5 feet to 12 feet below ground surface (bgs). Depth to seasonally high groundwater, based on observations of soil mottling in test pits and borings, ranged from 0.8 to 6.0 feet below ground surface. Test pit observations indicate that seasonal high groundwater levels range from 6,228 feet to 6,231 feet above msl (Kleinfelder 2008).

LAND CAPABILITY

The portion of the project site west of U.S. 50 has been verified as having the following LCDs: 1b (including backshore), 3, 4, 5, 6, and 7. The portion of the project area east of U.S. 50 has been verified to include lands classified as LCD 1b. Exhibits 3-5a and 3-5b in Chapter 3, “Project Description,” show the verified LCD boundaries within the project area. Table 3-4 provides details on the total project area within each LCD, the base allowable land coverage, existing land coverage, including both physical and banked coverage, and the amount of existing coverage as a percentage by LCD. (Note: TRPA considers coverage “existing” whether it remains on the ground or is banked. For additional clarity, this EIS differentiates between the two using the term “physical” [still remaining on the ground] and “banked” [previously removed, but still belonging to the project site]. The reader is referred to Chapter 30 of the TRPA Code for a complete description of TRPA regulations with regard to coverage.)

By applying the Bailey coefficients (Table 5.5-3) to the verified LCDs, the total base allowable coverage for the project area is 1,537,694 square feet (Table 3-4). However, because a parcel or project area is entitled to the greater of its base allowable coverage or its legally existing (pre-1972) coverage, the permissible coverage for the project area is 1,719,311 square feet. The difference in base allowable coverage and permissible coverage (181,616 square feet) is attributable to the total existing coverage in LCDs 1b and 3 that is above the base allowable (LCD 1b: 224,151 square feet – 42,662 square feet = 181,489 square feet; LCD 3: 2,225 square feet – 2,098 square feet = 127 square feet). The existing coverage in all other LCDs within the project area is less than the base allowable coverage amount.

5.5.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Based on TRPA's Initial Environmental Checklist, the proposed project would result in a significant impact to geology and soils if it would:

- compact or cover soil beyond the limits allowed in the land capability districts;
- result in a change in the topographic features or ground surface relief features of the site inconsistent with the natural surrounding conditions;
- result in unstable soil conditions during or after completion of the project;
- change the undisturbed soil or native geologic substructures or grading in excess of 5 feet;
- continue or increase wind or water erosion of soils, either on or off the site; or
- expose people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards.

TRPA has established environmental thresholds, goals, and policies for geology, soils, and land coverage in several categories: natural hazards, water quality, soils, and stream environment zones. The goals and policies are designed to achieve and maintain adopted environmental threshold carrying capacities, and are implemented through the TRPA Code. Those relevant to assess project impacts are discussed in "Regulatory Background," above. A conflict with these goals, policies, and ordinances would be a significant impact. The effects of the proposed project on thresholds are assessed separately in "Consequences for TRPA Environmental Threshold Carrying Capacities" at the end of this section.

METHODS AND ASSUMPTIONS

Evaluation of potential geologic and soils impacts was based on a review of documents pertaining to the project site, including the DCMP, the NRCS Soil Survey of Tahoe Basin Area, California and Nevada, environmental impact reports prepared for projects in the vicinity, TRPA regulations and planning documents, and published and unpublished geologic literature. The TRPA land classification system (Tables 5.5-1 through 5.5-3) was used to analyze potential impacts to sensitive slopes, soils, and drainage conditions. The information obtained from these sources was reviewed and summarized to establish existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that the proposed project would comply with relevant federal, state, and local ordinances and regulations.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.5.1-1	**Land Coverage.** Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking areas, relocated residences, public path, and the expanded clubhouse associated with Alternative 1. No coverage transfer would be required. Alternative 1 would require relocation of a substantial amount of existing coverage within the project area. Because coverage would be relocated in accordance with Subsection 30.4.5 of the Code, any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement in accordance with Section 30.6 of the Code, and Alternative 1 would not require coverage in excess of that allowed by the TRPA land classification system and coverage requirements, this would be **a less-than-significant** impact.

Alternative 1 would create new coverage and remove, restore, relocate, and retire existing physical coverage. As shown in Table 3-4 in Chapter 3, "Project Description," Alternative 1 would result in a net increase of approximately 134,217 square feet (3.1 acres) of physical coverage within the project area as compared to existing conditions, but would result in a net reduction of 35,988 square feet (0.8 acres) of coverage considering the site's existing banked coverage. Alternative 1 would result in a net reduction in physical coverage in LCDs 1b, 5, and 6 primarily related to removal of the lakeside surface parking lot, lakefront residences, small structures on the site, and unused golf cart path areas. Proposed development would be concentrated on higher capability lands and would result in new coverage in LCD 7. As described in Chapter 3, "Project Description," 307,539 square feet (7.1 acres) of LCD 5 coverage would be permanently retired in association with the proposed building heights, which would incrementally reduce the amount of base allowable coverage available at the site. Even with this reduction, the total coverage within the project area would be well within the resultant 1,230,156 square feet (28.2 acres) of base allowable coverage, and the 1,411,772 square feet (32.4 acres) of permissible coverage. Existing excess coverage would be banked by the project applicant. Table 3-4 shows the coverage by land capability class required for Alternative 1, including banked coverage. While included in the project area totals in Table 3-4, the proposed improvements within that portion of the project area east of U.S. 50 (Threshold Improvement Project D) would not affect coverage, because the proposed emergency overflow channel proposed for that area would be a pervious erosion control structure that would not count as coverage.

Alternative 1 would require substantial relocation of existing coverage within the project area as shown in Exhibit 5.5-1. A total of 155,287 square feet of existing banked coverage from LCD 5 would be relocated and transferred to higher capability land in LCD 7 (Table 3-4). The proposed relocation would result in a 155,287-square foot reduction in banked and base allowable coverage in LCD 5 and a commensurate increase in permissible coverage within LCD 7 over the base allowable amount of 255,065 square feet. As a result of the relocation, the permissible coverage in LCD 7 would be 410,352 square feet, and the legally permissible coverage expressed as a percentage of the total LCD 7 area would increase from 30 percent to 48.3 percent. In exchange, the permissible coverage in LCD 5 would decrease to 965,775 square feet, which expressed as a percentage of total LCD 5 area would decrease from 25 percent to 21.5 percent. The total permissible coverage of 1,411,772 square feet would be unaffected by the proposed inter-LCD relocation. Other coverage relocations would occur within the same LCD rather than crossing LCD boundaries.

Subsection 30.4.5 of the TRPA Code describes the conditions under which TRPA-verified existing land coverage may be relocated on the same parcel or project area. Table 5.5-4 shows the coverage relocation findings that must be made by TRPA in accordance with Subsection 30.4.5 of the Code and provides a discussion of the relevant project details that support those findings.

Table 5.5-4. Coverage Relocation Findings for Alternative 1	
Subsection 30.4.5 Required Findings for Coverage Relocation	**Supporting Information**
A. The relocation is to an equal or superior portion of the parcel or project area, as determined by reference to the following factors:	
1. Whether the area of relocation already has been disturbed;	The priority for relocated coverage is to locate it on previously disturbed land. The proposed project would result in 797,857 square feet (18.3 acres) of physical coverage. There would be no change to coverage in LCDs 3 and 4. Physical coverage in LCDs 1b, 5, and 6 would be reduced as compared to existing conditions. The majority of new physical coverage would be in LCD 7. The removal of physical coverage in LCD 1b is an important project benefit and moves the region toward attainment with respect to the soil conservation thresholds (see discussion at this end of this section). In LCD 7, areas of previous disturbance would be the priority receiving areas for relocated coverage. The primary area would be existing golf hole 9 (Exhibit 3-4). Much of the proposed lodge building would be constructed in this previously disturbed area. The remainder of the relocated coverage that would be placed on undisturbed land would come from banked LCD 5 coverage. All new coverage for LCD 7 would be located either on golf hole 9 or in the wooded area between the existing golf holes 8 and 9. For the planned clubhouse expansion in LCD 6, the receiving area for relocated coverage (or where coverage is to remain) includes the LCD 6 man-modified area, which includes a portion of the lakefront parking lot adjacent to the existing clubhouse. By definition, all of the LCD 6 man-modified area has been previously disturbed. Similarly, coverage relocation in LCDs 1b and 5 would prioritize previously disturbed land as receiving areas. With the exception of the wooded area north of the clubhouse where the residential lots would be relocated, an area near the entrance from Lake Parkway, and the area between golf holes 8 and 9, most of the Edgewood Tahoe Golf Course property has been previously disturbed. Relocated coverage in the wooded areas would primarily be on undisturbed land.
2. The slope of and natural vegetation on the area of relocation;	The Edgewood Tahoe Golf Course property is relatively flat to gently sloping. The slopes of the areas from which and to which the coverage would be relocated are the same or similar. The natural vegetation of the proposed coverage relocation receiving areas primarily includes trees in wooded areas (predominantly Jeffery pines and upland vegetation). Coverage relocation outside of the wooded areas primarily would occur in previously disturbed turf areas. Tree removal is discussed in Section 5.7, “Biological Resources (Vegetation, Wildlife, and Fisheries).”
3. The fragility of the soil on the area of relocation;	Coverage relocation within higher capability lands (LCDs 5, 6, and 7) would occur in low hazard areas (Table 5.5-2). Lands in these LCDs exhibit the gentlest slopes and lowest erosion and runoff potential (Table 5.5-1). Within LCD 1b, coverage would generally be relocated farther away from Lake Tahoe, Edgewood Creek, and golf course ponds.

Table 5.5-4. Coverage Relocation Findings for Alternative 1	
Subsection 30.4.5 Required Findings for Coverage Relocation	**Supporting Information**
4. Whether the area of relocation appropriately fits the scheme of use of the property;	The land uses associated with the relocated coverage (e.g., lodge complex, expanded clubhouse, cart path relocations, parking lots) are consistent with the permissible uses within PAS 070A, including Special Area #1, and thus appropriately fit the recreation and tourist accommodation scheme of the property. (See Section 5.2, "Land Use," for a more detailed discussion of permissible uses.)
5. The relocation does not further encroach into a stream environment zone, backshore, or the setbacks established in the TRPA Code for the protection of stream environment zones or backshore;	With respect to LCD 1b (SEZ), the coverage relocation mostly results in existing coverage being moved away from sensitive receiving waters (i.e., Lake Tahoe, Edgewood Creek, and golf course ponds). In the case of the lodge complex, much of the coverage would come from the existing lakeside paved parking lot and lakefront residences. While a significant amount of the existing LCD 1b coverage would be removed and banked, the bulk of the remaining coverage would be relocated more than 200 feet from the shoreline. Some of the existing coverage where the parking lot is today would be converted to pedestrian and golf cart pathways. Additionally, an ADA compliant handicapped access path to the relocated pier would be constructed. This ADA path would encroach into the beach area (backshore). Public health and safety facilities, such as the ADA access path, are exempted in Section 30.5 of the TRPA Code from the prohibition of relocated coverage in the backshore.
6. The project otherwise complies with the land coverage mitigation program set forth in Section 30.6; and	Prior to TRPA permit acknowledgement, Edgewood Companies would be required to provide mitigation for any existing excess land coverage at the site in accordance with Section 30.6 of the TRPA Code.
B. The area from which the land coverage was removed for relocation is restored in accordance with Subsection 30.5.3.	As required by TRPA Code, the area from which the land coverage is proposed for removal for relocation would be restored in accordance with Subsection 30.5.3 and in accordance with the proposed landscaping plans submitted to TRPA as part of the project application. A majority of areas where coverage would be removed and banked would be restored to native beach, beach vegetation community or riparian vegetation community depending on the location of restoration and adjacent undisturbed areas. The primary SEZ benefit would be the removal of impervious surfaces and the associated stormwater runoff from the area. The removal would also provide the opportunity to reestablish functioning SEZ soils, vegetation and habitat in the area.
C. The relocation is not to LCDs 1a, 1b, 1c, 2 or 3, from any higher numbered LCD.	The only inter-LCD coverage relocation would include using banked coverage from LCD 5 and transferring it to LCD 7, a higher LCD designation.
D. If the relocation is from one portion of a stream environment zone to another portion, there is a net environmental benefit to the stream environment zone. Net environmental benefit to a stream environment zone is defined as an improvement in the functioning of the stream environment zone and includes, but is not limited to:	
(c) for projects involving the relocation of more than 1,000 square feet of land coverage within a stream environment zone, a finding, based on a report prepared by a qualified professional, that the relocation will improve the functioning of the stream environment zone and will not negatively affect	The proposed project would remove and bank 59,466 square feet of physical coverage within LCD 1b. A majority of areas where coverage would be removed and banked would be restored to native beach, beach vegetation community or riparian vegetation community depending on the location of restoration and adjacent undisturbed areas. The primary SEZ benefit would be the removal of impervious surfaces and the associated stormwater runoff from the area. The removal would also provide the opportunity to reestablish functioning SEZ soils, vegetation and habitat in the area. It is expected that with the proposed reduction and relocation of LCD 1b coverage combined with the proposed SEZ restoration that there would be a net environmental benefit to the function of the SEZ. Consistent with Subsection 30.4.5(D)(c) of the TRPA

Table 5.5-4. Coverage Relocation Findings for Alternative 1	
Subsection 30.4.5 Required Findings for Coverage Relocation	**Supporting Information**
the quality of existing habitats.	Code, a SEZ Coverage Relocation Report was prepared for the project (Nichols Consulting Engineers 2011). The report makes the following findings. Much of the existing LCD 1b that would be relocated (e.g., paved lakefront parking lot and lakeside residences) does not include functioning SEZ and does not support biological resources associated with functioning stream environments. In addition to removing LCD 1b coverage, the proposed project would relocate 52,824 square feet of existing LCD 1b coverage to a location farther from Lake Tahoe and closer to existing disturbed upland. Currently, the majority of the existing SEZ disturbance is located close to the high water line at distances of less than 50 feet away. The proposed relocated LCD 1b coverage would be located more than 200 feet from the high water line, except as it relates to the pier's ADA ramp. The benefit of relocating existing LCD 1b coverage farther away from Lake Tahoe would be that it provides additional opportunities to capture and treat stormwater runoff prior to discharging to SEZs and Lake Tahoe. The proposed project includes a comprehensive Stormwater Management Plan (Threshold Improvement Project A) and would restore Golf Course Creek to a more functioning stream environment. The relocation of coverage within LCD 1b would not have any adverse impacts on existing habitats as the receiving areas are already disturbed. Threshold Improvement Project A includes stormwater treatment facilities that would be installed to capture and treat runoff from the impervious areas associated with the proposed project. These multi-phase treatment facilities would substantially reduce the amount of sediment and nutrients reaching SEZs on the property and Lake Tahoe (Section 5.6, "Hydrology and Water Quality"). Section 5.6, "Hydrology and Water Quality," discusses the water quality effects of the conversion of portions of the lakefront parking lot and residences to turf areas associated with realigned golf hole 9 and the proposed event lawn. While turf areas are not considered coverage in TRPA Code, it is important to note that some of the areas from which coverage would be removed and relocated would not be restored to their natural state.
Source: Sweet, pers. comm., 2008; Edgewood Companies 2011; NCE 2011; data compiled by Ascent Environmental, Inc. in 2012	

As described above, the coverage required for LCD 7 above the base allowable would be relocated from banked LCD 5 coverage; coverage within LCDs 1b, 5, 6, and 7 would be relocated in compliance with Subsection 30.4.5 of the TRPA Code; any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement; and Alternative 1 would not exceed the coverage allowed on site per the TRPA land classification system and coverage requirements. For these reasons, this would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Source: Edgewood Companies 2011

Exhibit 5.5-1. **Land Coverage Relocation Diagram**

Impact 5.5.1-2	**Site Topography, Grading, and Soil Erosion.** Implementation of Alternative 1 would change the site topography, could expose soils and SEZ areas to adverse effects from erosion during construction activities, and would result in grading in excess of 5 feet below ground surface (bgs) and in locations of potential shallow groundwater, requiring findings pursuant to Code Subsection 33.3.6. This impact would be **potentially significant**.

The proposed lodge complex and its subcomponents would generally follow the natural contours of the site and would not change the topographic features such that it would be inconsistent with the natural surrounding conditions. However, the proposed development would require excavation and grading and involve cut and fill.

Alternative 1 and its associated construction would generate approximately 141,735 cubic yards (CY) of cut material, of which approximately 106,722 CY would be used for on-site fill. The applicant has proposed that the approximately 35,013 CY of remaining material be used on-site for elevating existing golf fairways and enhancing landscape features of the golf course.

Project implementation would require several excavations in excess of 5 feet bgs, including cut and fill, revegetation, underground utilities, and building foundations (Appendix E). Given the proximity to the lake, excavations at shallower depths in other locations within the project area have the potential to encounter groundwater. As part of the soils/hydrologic evaluations conducted at the site (Kleinfelder 2007, 2008; and GeoCon Consultants 2012), 26 test pits and borings were produced to characterize soils underlying the project site and the depth to seasonally high groundwater. Seasonal high groundwater ranges from an elevation of 6,228 feet to 6,331 feet above msl. As discussed in detail in Section 5.6, “Hydrology and Water Quality,” TRPA Code provisions prohibit excavations deeper than 5 feet or where there exists a reasonable possibility of interference or interception of groundwater, except under certain defined and permitted conditions (see Section 5.6, “Hydrology and Water Quality,” for the list of conditions that allow exceptions). Based on information presented in the Soils/Hydrologic Report completed in 2008, TRPA approved excavation depths of 6,231.5 feet and 6,233 feet in proximity to specified soil sample locations (Sweet, pers. comm., 2008). However, because of potential shallow groundwater conditions at the site and possible variations in groundwater conditions as well as variations in rainfall, snowfall, temperature, regional water usage and other factors, TRPA will require approval of all excavations for the proposed project, even if less than 5 feet bgs. Furthermore, because of the proximity to Lake Tahoe, a minimum of 2 feet of separation from the bottom of building footings and a minimum of 1 foot of separation from the bottom of any infiltrating areas to seasonal high groundwater is required by TRPA. To achieve this separation, fill material would be needed. Variable subsurface conditions may be present, and excavation activities could still encounter seasonal groundwater, which could result in significant water quality impacts during construction (Section 5.6, “Hydrology and Water Quality”).

Construction activities would result in the temporary disturbance of soil and could expose disturbed areas to winter storm events. Rain of sufficient intensity and duration could dislodge soil particles from the soil surface resulting in localized erosion. In addition, soil disturbance during the summer months could result in loss of topsoil because of wind erosion. Because implementation of Alternative 1 could result in increased soil erosion that could adversely affect SEZ areas and would require grading and excavation in excess of 5 feet bgs and at depths less than 5 feet that could encounter shallow groundwater, this impact is considered **potentially significant**.

Mitigation Measure 5.5.1-2a: Submit Geotechnical Engineering Report and Comply with all TRPA Codes and Douglas County Regulations.

As part of the latter phases of project design, the project applicant shall submit to TRPA and Douglas County for review and approval, a final geotechnical engineering report produced by a Registered Civil Engineer or Geotechnical Engineer. The report shall address and make final recommendations on the following: (1) road, pavement, and parking area design; (2) structural foundations, including retaining wall design (if applicable); (3) stormwater treatment system, water quality improvements, and BMP designs (regarding infiltrating areas); (4) grading practices; (5) erosion/winterization; (6) special problems discovered on-site (i.e., groundwater, expansive/unstable soils); and (7) slope stability. Furthermore, the report shall demonstrate a minimum of 2 feet of separation from the bottom of building footings and a minimum of 1 foot of separation from the bottom of any infiltrating areas to seasonal high groundwater. All feasible recommendations made by the engineer shall be implemented by the project applicant. It is the responsibility of the project applicant to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

The applicant shall obtain all necessary TRPA permits and approvals and shall follow all required TRPA Code provisions and procedures with respect to grading and excavation, including but not limited to the following:

The applicant shall comply with the requirements of Chapter 33 of the TRPA Code, including grading requirements, and the requirement that proper erosion control measures shall be applied where soil stockpiling or borrow areas are to remain for more than one construction season;

- *the applicant shall comply with the pre-construction requirements of Chapter 33 of the TRPA Code;*
- *the applicant shall comply with the revegetation requirements of Chapters 30 and 61 of the TRPA Code; and*
- *the applicant shall submit a winterization plan to TRPA that shall comply with the requirements of Chapters 33, and 60 of the TRPA Code.*

The applicant shall obtain all necessary Douglas County permits and approvals (including a Site Improvement Permit) and shall follow all required County laws, regulations, and procedures with respect to the proposed project, in preparation of the Improvement Plans, which shall:

- *list specific conditions for the project;*
- *demonstrate that the work shall conform to provisions of the County Grading Ordinance in effect at the time of submittal;*
- *provide erosion control measures where roadside drainage is off the pavement; and*
- *specify monitoring by a geotechnical engineer during all excavation activities, placement of fill, and disposal of materials removed from and deposited on the project site.*

Mitigation Measure 5.5.1-2b: Implement Temporary Best Management Practices as Part of Mitigation Measure 5.6.1-1.

The Storm Water Pollution Prevention Plan (SWPPP) developed and implemented as part of Mitigation Measure 5.6.1-1 (Section 5.6, "Hydrology and Water Quality") shall include water quality controls consistent with TRPA and NDEP requirements, shall ensure that runoff quality meets TRPA water quality requirements

specified in the TRPA Code, and shall ensure that beneficial uses of Lake Tahoe, as defined by the Nevada Administrative Code NAC 445A.191, are maintained.

Mitigation Measure 5.5.1-2c: Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.6.1-5.

See Mitigation Measure 5.6.1-5 (Section 5.6, "Hydrology and Water Quality") described for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measures 5.5.1-2a, 5.5.1-2b, and 5.5.1-2c would reduce the potential impacts from grading and soil erosion under Alternative 1 to **less-than-significant** levels because grading would conform to TRPA and County requirements, under which (i) they would be approved by County/TRPA staff prior to implementation, (ii) a grading permit would be obtained, (iii) temporary BMPs specifically designed to reduce erosion during construction would be implemented, (iv) earthwork would be monitored by a geotechnical engineer, and (iv) excess excavated materials not needed for fill would be exported off-site to a TRPA-approved fill location.

Impact 5.5.1-3	Seismic Hazards. There are active faults in the Lake Tahoe Basin, which could be sources of ground shaking at the project site during a seismic event. Seismic events could also result in tsunami or seiche within Lake Tahoe, potentially effecting low-lying lakeside areas, including the project area. Structures proposed as part of Alternative 1 would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3. Therefore, there would be no substantial increased risk of loss, injury, or death or property damage from strong ground shaking alone. Given the proximity of the development proposed as part of Alternative 1 to the shores of Lake Tahoe, there is a risk of inundation from a tsunami or seiche triggered by a seismic event, particularly for visitors recreating outdoors and unaware of the risk. Therefore, this is considered a **potentially significant** impact.

Lake Tahoe lies in an intermontane basin bounded by normal faults. Active faults in the project vicinity include the North Tahoe-Incline Village Fault, the West Tahoe-Dollar Point Fault, the East Tahoe Fault, and the Genoa Fault. According to the Earthquake Potential Map for Portions of Eastern California and Western Nevada (CGS 2005a,b), the South Tahoe area is considered to have a moderate potential for shaking caused by seismic-related activity. Proposed project structures would be designed and constructed in accordance with the current design requirements of UBS Seismic Zone 3. Compliance with these design and construction standards would provide adequate assurance that the effects of seismic ground shaking on developed structures would not produce undue risk.

Other potential seismic hazards include tsunami or seiche. A tsunami is a wave or series of waves that may result from a major seismic event that involves the displacement of a large volume of water and can occur in any large body of water. A seiche is a periodic oscillation of an enclosed or restricted water body, typically a lake or reservoir, produced by seismic shaking, and can produce potentially damaging waves. A seiche (wave) may occur in periods that differ from a tsunami; however, should the period of wave propagation occur simultaneously with a tsunami, it could result in cumulative seismic-related wave effects.

Ichinose et al. (2000) investigated the potential of local earthquakes to generate tsunamis and seiches within Lake Tahoe. The probability of an earthquake strong enough to cause a seiche in Lake Tahoe is estimated to be 3-4 percent in 50 years (Ichinose et al. 2000). The risk of exposure to a seiche is also recognized in the most recent preliminary geotechnical study prepared for the project (GeoCon 2012). Based on modeled wave simulations for large earthquake (magnitude >7) scenarios for faults within the Lake Tahoe Basin (North Tahoe-

Incline Village Fault and the West Tahoe-Dollar Point Fault), a potential exists for tsunami and seiche-related waves between 10 and 30 feet in height to occur along the shore of Lake Tahoe, potentially threatening low-lying lakeside communities. Evidence of a similar event was reported in a 2006 USGS study that found that a giant landslide in McKinney Bay on Tahoe's west shore between 7,000 and 15,000 years ago dropped several cubic miles of the West Shore 1,500 feet to the bottom of the lake and likely generated enormous sheet waves; a video depicting this event and related inundation areas was also developed by USGS. While earthquakes last several seconds, a tsunami wave could take up to 15 minutes to reach Lake Tahoe's shore (Brown 2000). While experts have characterized the risk as far less than the risk of an approaching wildfire in the Tahoe Basin, they have called for the risk of inundation to be factored into emergency plans for the region (Wikipedia 2012; Kaye 2011).

Given the proximity of the development proposed as part of Alternative 1 to the shores of Lake Tahoe, there is a risk of inundation from a lake tsunami or seiche triggered by a seismic event, particularly for visitors recreating outdoors and unaware of the risk. Therefore, this impact is considered **potentially significant**.

Mitigation Measure 5.5.1-3: Prepare Emergency Response and Evacuation Plan.

Prior to TRPA permit acknowledgement, the project applicant shall prepare and submit an emergency response and evacuation plan to TRPA, the Douglas County Emergency Response Council, and the Tahoe Douglas Fire Protection District that for review and approval. The plan shall include detailed descriptions of how emergency response and evacuation will occur in the case of a large earthquake and tsunami or seiche event. Emergency response and evacuation measures shall identify steps that help avoid, reduce, alleviate, and mitigate disaster damage and potential loss of life.

The project area cannot be relocated out of the potential inundation area of a tsunami or seiche from Lake Tahoe, but the risk of inundation, injury, or death from a tsunami or seiche can be minimized through the proper and timely execution of an Emergency Response and Evacuation Plan. Therefore, implementation of Mitigation Measure 5.5.1-3 would reduce this impact to a **less-than-significant** level.

Impact 5.5.1-4	Other Geologic Hazards. The project site is relatively level and is not subject to landslides or mudslides. However the Preliminary Soils/Hydrologic Evaluation conducted for the project found loose to dense, moist to wet, granular soils in the upper 8 feet of the project site within which, if structural footings were to be founded, could cause excessive settlement. This is a potentially significant impact.

Structures proposed under Alternative 1 would be constructed on a relatively level project site which is not subject to landslides or mudslides. Approximately 141,735 CY of cut and 106,722 CY of fill would be required for Alternative 1. This estimate is based on the preliminary grading plan and does not consider the shrink/swell potential of the soil. More refined volumes would be determined with more detailed design, but volumes are not expected to change substantially.

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material and may often be associated with liquefaction. Soils most susceptible to liquefaction are loose, clean, saturated, uniformly graded, fine-grained sands. Silty sands may also be susceptible to liquefaction. Alternative 1 would have **potentially significant** impacts related to other geologic hazards.

Mitigation 5.5.1-4: Implement Geotechnical Engineering Recommendations Required as Part of Mitigation Measure 5.5.1-2a.

The geotechnical report developed as part of Mitigation Measure 5.5.1-2a shall address and identify any required measures with regard to the following: (1) road, pavement, and parking area design; (2) structural foundations, including retaining wall design (if applicable); (3) stormwater treatment system, water quality improvements, and BMP designs (regarding infiltrating areas); (4) grading practices; (5) erosion/winterization; (6) special problems discovered on-site (i.e., groundwater, expansive/unstable soils); and (7) slope stability. All requirements identified by the engineer shall be incorporated into the latter phases of project design and implemented by the project applicant.

Implementation of Mitigation Measure 5.5.1-4 would require construction features for the proposed project that would ensure no adverse impacts from landsliding, lateral spreading, subsidence, liquefaction, or collapse and would reduce Impact 5.5.1-4 to a **less-than-significant** level.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.5.2-1	Land Coverage. Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking, relocated residences, and the expanded clubhouse associated with Alternative 2. No coverage transfer would be required. Alternative 2 would require relocation of a substantial amount of existing coverage within the project area. Because coverage would be relocated in accordance with Subsection 30.4.5 of the Code, any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgment in accordance with Section 30.6 of the Code, and Alternative 2 would not require coverage in excess of that allowed by the TRPA land classification system and coverage requirements, this would be a less-than-significant impact.

This impact would be similar to Impact 5.5.1-1 above for Alternative 1. Alternative 2 would create new coverage and remove, restore, relocate, and retire existing coverage. As shown in Table 4-8 in Chapter 4, "Alternatives," Alternative 2 would result in a net increase of approximately 200,703 square feet (4.6 acres) of physical coverage within the project area as compared to existing conditions, but would result in a net increase in coverage at the site of 30,499 square feet (0.7 acres) of coverage considering the site's existing banked coverage. Alternative 2 would result in a net reduction in physical coverage in LCDs 1b and 5 primarily related to removal of the lakeside surface parking lot, lakefront residences, small structures on the site, and unused golf cart path areas. Development associated with Alternative 2 would be concentrated on higher capability lands and would result in new coverage in LCDs 6 and 7. As with Alternative 1, 307,539 square feet (7.1 acres) of LCD 5 coverage would be permanently retired in association with the proposed building heights, which would incrementally reduce the amount of base allowable coverage available at the site. Even with this reduction, the total coverage associated with Alternative 2 would be well within the resultant 1,230,156 square feet (28.2 acres) of base allowable coverage, and the 1,411,772 square feet (32.4 acres) of permissible coverage. Existing excess coverage would be banked by the project applicant. Table 4-8 shows the coverage by land capability class required for Alternative 2, including banked coverage.

As with Alternative 1, Alternative 2 would require that a substantial amount of existing coverage be relocated within the project area and 155,287 square feet of existing banked coverage from LCD 5 would be relocated and transferred to higher capability land in LCD 7. Other coverage relocations would occur within the same LCD rather than crossing LCD boundaries.

The rationale for the Subsection 30.4.5 findings presented in Table 5.5-4 for Alternative 1 would be similar for Alternative 2. Alternative 2 would create additional coverage in LCD 6 that would not occur as part of Alternative 1. The amount of relocated coverage in LCD 1b would be 85,811 square feet.

With Alternative 2, the coverage required for LCD 7 above the base allowable would be relocated from banked LCD 5 coverage; coverage within LCDs 1b, 5, 6, and 7 would be relocated in compliance with Subsection 30.4.5 of the TRPA Code; any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement; and Alternative 2 would not exceed the coverage allowed on site per the TRPA land classification system and coverage requirements. For these reasons, this would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.5.2-2	Site Topography, Grading, and Soil Erosion. As with Alternative 1, implementation of Alternative 2 would change the site topography, could expose soils and SEZ areas to adverse effects from erosion during construction activities, and would result in grading in excess of 5 feet below ground surface (bgs) and in locations of potential shallow groundwater, requiring findings pursuant to Code Subsection 33.3.6. This impact would be potentially significant.

Alternative 2 would have similar effects as described in Impact 5.5.1-2 above for Alternative 1, including grading, that would result in a potentially significant impact from soil erosion, including sediment transport. However, Alternative 2 would have a slightly larger footprint (an additional 1.5 acres) and would potentially result in a larger area of soil disturbance. See full discussion above.

As discussed in detail in Section 5.6, “Hydrology and Water Quality”, TRPA Code Subsection 33.3.6 prohibits excavation in excess of 5 feet bgs and elsewhere within the project area at shallower depths, because of the potential for groundwater interception or interference, except under certain defined and permitted conditions (see Section 5.6, “Hydrology and Water Quality,” for the list of conditions that allow exceptions). Based on information presented in the Soils/Hydrologic Report completed in 2008, TRPA approved excavation depths of 6,231.5 feet and 6,233 feet in proximity to specified soil sample locations (Sweet, pers. comm., 2008). However, because of potential shallow groundwater conditions at the site and possible variations in groundwater conditions as well as variations in rainfall, snowfall, temperature, regional water usage and other factors, TRPA will require approval of all excavations for the proposed project, even if less than 5 feet bgs. Furthermore, because of the proximity to Lake Tahoe, a minimum of 2 feet of separation from the bottom of building footings and a minimum of 1 foot of separation from the bottom of any infiltrating areas to the seasonal high groundwater is required by TRPA. To achieve this separation, fill material would be needed. Variable subsurface conditions may be present, and excavation activities could still encounter seasonal groundwater, which could result in significant water quality impacts during construction.

Because implementation of Alternative 2 could result in increased soil erosion that could adversely affect SEZ areas and would require grading and excavation in excess of 5 feet bgs and at depths less than 5 feet that could encounter shallow groundwater, this impact is considered **potentially significant**.

Mitigation Measure 5.5.2-2a: Submit Geotechnical Engineering Report and Comply with all TRPA Codes and Douglas County Regulations.

See Mitigation Measure 5.5.1-2a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.5.2-2b: Implement Best Management Practices as Part of Mitigation Measure 5.6.2-1.

See Mitigation Measure 5.5.1-2b described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.5.2-2c: Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.6.2-5.

See Mitigation Measure 5.5.1-2c described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measures 5.5.2-2a, 5.5.2-2b, and 5.5.2-2c would reduce the potential impacts from grading and soil erosion under Alternative 2 to **less-than-significant** levels because grading would conform to TRPA and County requirements, under which (i) they would be approved by County/TRPA staff prior to implementation, (ii) a grading permit would be obtained, (iii) temporary BMPs specifically designed to reduce erosion during construction would be implemented, (iv) earthwork would be monitored by a geotechnical engineer, and (iv) excess excavated materials not needed for fill would be exported off-site to a TRPA-approved fill location.

Impact 5.5.2-3	Seismic Hazards. Because Alternative 2 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-3 described above. There are active faults in the Lake Tahoe Basin, which could be sources of ground shaking at the project site during a seismic event. Seismic events could also result in tsunami or seiche within Lake Tahoe, potentially effecting low-lying lakeside areas, including the project area. Structures proposed as part of Alternative 2 would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3. Therefore, there would be no substantial increased risk of loss, injury, or death or property damage from strong ground shaking alone. Given the proximity of the development proposed as part of Alternative 2 to the shores of Lake Tahoe, there is a risk of inundation from a tsunami or seiche triggered by a seismic event, particularly for visitors recreating outdoors and unaware of the risk. Therefore, this is considered a **potentially significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.5.1-3.

Mitigation Measure 5.5.2-3: Prepare Emergency Response and Evacuation Plan.

See Mitigation Measure 5.5.1-3 described above for Alternative 1. The same mitigation measure would apply.

The project area cannot be relocated out of the potential inundation area of a seiche from Lake Tahoe, but the risk of inundation, injury, or death from a tsunami or seiche can be minimized through the proper and timely execution of an Emergency Response and Evacuation Plan. Therefore, implementation of Mitigation Measure 5.5.2-3 would reduce this impact to a **less-than-significant** level.

Impact 5.5.2-4	Other Geologic Hazards. Because Alternative 2 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-4 described above. The project site is relatively level and is not subject to landslides or mudslides. However the Preliminary Soils/Hydrologic Evaluation conducted for the project found loose to dense, moist to wet, granular soils in the upper 8 feet of the project site within which, if structural footings were to

	be founded, could cause excessive settlement. This is a **potentially significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.5.1-4.

Mitigation 5.5.2-4: Implement Geotechnical Engineering Recommendations Required as Part of Mitigation Measure 5.5.2-2a.

See Mitigation Measure 5.5.1-4 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.5.2-4 would require construction features for Alternative 2 that would ensure no adverse impacts from landsliding, lateral spreading, subsidence, liquefaction, or collapse and would reduce Impact 5.5.2-4 to a **less-than-significant** level.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.5.3-1	**Land Coverage.** Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking, relocated residences, and the expanded clubhouse associated with Alternative 3. No coverage transfer would be required. Alternative 3 would require relocation of a substantial amount of existing coverage within the project area. Because coverage would be relocated in accordance with Subsection 30.4.5 of the Code, any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement in accordance with Section 30.6 of the Code, and Alternative 3 would not require coverage in excess of that allowed by the TRPA land classification system and coverage requirements, this would be **a less-than-significant** impact.

This impact would be similar to Impact 5.5.1-1 above for Alternative 1. Alternative 3 would create new coverage and remove, restore, relocate, and retire existing coverage. As shown in Table 4-8 in Chapter 4, "Alternatives," Alternative 3 would result in a net increase of approximately 201,906 square feet (4.6 acres) of physical coverage within the project area as compared to existing conditions, but would result in a net increase in coverage at the site of 31,702 square feet (0.7 acres) of coverage considering the site's existing banked coverage. Alternative 3 would result in a net reduction in physical coverage in LCDs 1b and 5 primarily related to removal of the lakeside surface parking lot, lakefront residences, small structures on the site, and unused golf cart path areas. Development associated with Alternative 3 would be concentrated on higher capability lands and would result in new coverage in LCDs 6 and 7. As with Alternative 1, 307,539 square feet (7.1 acres) of LCD 5 coverage would be permanently retired in association with the proposed building heights, which would incrementally reduce the amount of base allowable coverage available at the site. Even with this reduction, the total coverage associated with Alternative 3 would be well within the 1,230,156 square feet (28.2 acres) of base allowable coverage, and the 1,411,772 square feet (32.4 acres) of permissible coverage. Existing excess coverage would be banked by the project applicant. Table 4-8 shows the coverage by land capability class required for Alternative 3, including banked coverage.

As with Alternative 1, Alternative 3 would require that a substantial amount of existing coverage be relocated within the project area and 155,287 square feet of existing banked coverage from LCD 5 would be relocated and transferred to higher capability land in LCD 7. Other coverage relocations would occur within the same LCD rather than crossing LCD boundaries.

The rationale for the Subsection 30.4.5 findings presented in Table 5.5-4 for Alternative 1 would be similar for Alternative 3. Alternative 3 would create additional coverage in LCD 6 that would not occur as part of Alternative 1. The amount of relocated coverage in LCD 1b would be 89,751 square feet.

With Alternative 3, the coverage required for LCD 7 above the base allowable would be relocated from banked LCD 5 coverage; coverage within LCDs 1b, 5, 6, and 7 would be relocated in compliance with Subsection 30.4.5 of the TRPA Code; any excess coverage mitigation requirements would be resolved prior to TRPA permit acknowledgement; and Alternative 3 would not exceed the coverage allowed on site per the TRPA land classification system and coverage requirements. For these reasons, this would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.5.3-2	Site Topography, Grading, and Soil Erosion. As with Alternative 1,implementation of Alternative 3 would change the site topography, could expose soils and SEZ areas to adverse effects from erosion during construction activities, and would result in grading in excess of 5 feet below ground surface (bgs) and in locations of potential shallow groundwater, requiring findings pursuant to Code Subsection 33.3.6. This impact would be potentially significant.

Alternative 3 would have similar effects as described in Impact 5.5.1-2 above for Alternative 1, including grading, that would result in a potentially significant impact from soil erosion, including sediment transport. However, Alternative 3 would have a slightly larger footprint (an additional 1.6 acres) and would potentially result in a larger area of soil disturbance. See full discussion above.

As discussed in detail in Section 5.6, “Hydrology and Water Quality”, TRPA Code Subsection 33.3.6 prohibits excavation in excess of 5 feet bgs and elsewhere within the project area at shallower depths, because of the potential for groundwater interception or interference, except under certain defined and permitted conditions (see Section 5.6, “Hydrology and Water Quality,” for the list of conditions that allow exceptions). Based on information presented in the Soils/Hydrologic Report completed in 2008, TRPA approved excavation depths of 6,231.5 feet and 6,233 feet in proximity to specified soil sample locations (Sweet, pers. comm., 2008). However, because of potential shallow groundwater conditions at the site and possible variations in groundwater conditions as well as variations in rainfall, snowfall, temperature, regional water usage and other factors, TRPA will require approval of all excavations for the proposed project, even if less than 5 feet bgs. Furthermore, because of the proximity to Lake Tahoe, a minimum of 2 feet of separation from the bottom of building footings and a minimum of 1 foot of separation from the bottom of any infiltrating areas to the seasonal high groundwater is required by TRPA. To achieve this separation, fill material would be needed. Variable subsurface conditions may be present, and excavation activities could still encounter seasonal groundwater, which could result in significant water quality impacts during construction.

Because implementation of Alternative 3 could result in increased soil erosion that could adversely affect an SEZ and would require grading and excavation in excess of 5 feet bgs and at depths less than 5 feet that could encounter shallow groundwater, this impact is considered **potentially significant**.

Mitigation Measure 5.5.3-2a: Submit Geotechnical Engineering Report and Comply with all TRPA Codes and Douglas County Regulations.

See Mitigation Measure 5.5.1-2a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.5.3-2b: Implement Best Management Practices as Part of Mitigation Measure 5.6.3-1.

See Mitigation Measure 5.5.1-2b described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.5.3-2c: Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.6.3-5.

See Mitigation Measure 5.5.1-2c described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measures 5.5.3-2a, 5.5.3-2b, and 5.5.3-2c would reduce the potential impacts from grading and soil erosion under Alternative 3 to **less-than-significant** levels because grading would conform to TRPA and County requirements, under which (i) they would be approved by County/TRPA staff prior to implementation, (ii) a grading permit would be obtained, (iii) temporary BMPs specifically designed to reduce erosion during construction would be implemented, (iv) earthwork would be monitored by a geotechnical engineer, and (iv) excess excavated materials not needed for fill would be exported off-site to a TRPA-approved fill location.

Impact 5.5.3-3	Seismic Hazards. Because Alternative 3 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-3 described above. There are active faults in the Lake Tahoe Basin, which could be sources of ground shaking at the project site during a seismic event. Seismic events could also result in tsunami or seiche within Lake Tahoe, potentially effecting low-lying lakeside areas, including the project area. Structures proposed as part of Alternative 3 would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3. Therefore, there would be no substantial increased risk of loss, injury, or death or property damage from strong ground shaking alone. Given the proximity of the development proposed as part of Alternative 3 to the shores of Lake Tahoe, there is a risk of inundation from a tsunami or seiche triggered by a seismic event, particularly for visitors recreating outdoors and unaware of the risk. Therefore, this is considered a **potentially significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.5.1-3.

Mitigation Measure 5.5.3-3: Prepare Emergency Response and Evacuation Plan.

See Mitigation Measure 5.5.1-3 described above for Alternative 1. The same mitigation measure would apply.

The project area cannot be relocated out of the potential inundation area of a seiche from Lake Tahoe, but the risk of inundation, injury, or death from a tsunami or seiche can be minimized through the proper and timely execution of an Emergency Response and Evacuation Plan. Therefore, implementation of Mitigation Measure 5.5.3-3 would reduce this impact to a **less-than-significant** level.

Impact 5.5.3-4	**Other Geologic Hazards.** Because Alternative 3 would be located on the same site as Alternative 1, this impact is the same as Impact 5.5.1-4 described above. The project site is relatively level and is not subject to landslides or mudslides. However the Preliminary Soils/Hydrologic Evaluation conducted for the project found loose to dense, moist to wet, granular soils in the upper 8 feet of the project site within which, if structural footings were to be founded, could cause excessive settlement. This is a **potentially significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.5.1-4.

Mitigation 5.5.3-4: Implement Geotechnical Engineering Recommendations Required as Part of Mitigation Measure 5.5.3-2a.

See Mitigation Measure 5.5.1-4 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.5.3-4 would require construction features of the proposed project to ensure no adverse impacts from landsliding, lateral spreading, subsidence, liquefaction, or collapse and would reduce Impact 5.5.3-4 to a **less-than-significant** level.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the proposed project would not be implemented and there would be no change to existing conditions on the project site. Land alteration would not take place, and no additional people or structures would be exposed to geologic hazards. Because no grading would occur, Alternative 4 would not result in substantial soil erosion of loss of topsoil. Land coverage reductions in LCD 1b and newly created and enhanced stream environment zones resulting from threshold improvement project implementation associated with the three action alternatives would not occur, and as a result this benefit that would aid in moving the region toward attainment with respect to TRPA's soil conservation thresholds would not occur at the project site. There would be **no impacts** related to geology, soils, and land capability and coverage.

5.5.4 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

This section summarizes the effects of implementing Alternatives 1, 2, and 3 on the environmental thresholds established by TRPA for soil conservation. Alternative 4 is the no project alternative and would not affect these thresholds. The following soil conservation thresholds have been established by TRPA and are applicable to the project:

- SC-1, Land Coverage (Impervious Cover)
- SC-2, Stream Environmental Zone (SEZ)

Both soil conservation thresholds are in non-attainment (TRPA 2007).

SC-1

Alternatives 1, 2, and 3 would decrease coverage in the most sensitive lands (LCD 1b) on the project site. As of 2006, threshold SC-1 was near attainment. On a basin-wide basis, Bailey land capability classes in compliance

are LCD 1a, 1c, 3, 4, 5, and 6. Only LCDs 1b, 2, and 7 are not in attainment (TRPA 2007:4-15), because existing coverage is in excess of the base allowable for these LCDs.

Within the project area, only LCDs 1b and 3 have excess coverage. Alternatives 1, 2, and 3 would all create new coverage in LCD 7, and Alternatives 2 and 3 would also create new coverage in LCD 6. Because implementation of Alternative 1, 2, or 3 would either contribute to attainment of the threshold by decreasing land coverage in LCD 1b or propose coverage consistent with the TRPA land classification system and coverage requirements (see Impacts 5.5.1-1, 5.5.2-1, and 5.5.3-1), these alternatives would not hinder progress toward attainment of the threshold for impervious land coverage (see also the discussion below).

SC-2

The project includes water quality improvements intended to enhance natural resources and contribute to attainment of TRPA environmental threshold carrying capacities, including the Stream Environment Zone threshold. Implementation of the project would not adversely affect or interfere with attainment of the SEZ threshold. The threshold standard for naturally-functioning SEZs is not attainment, but recent efforts to restore disturbed SEZs shows a positive trend. The threshold standard is to restore 25 percent of the 4,400 acres of disturbed, developed, or subdivided stream environment zones. Progress is being made in restoration efforts throughout the Basin through implementation of the environmental improvement program (EIP) (TRPA 2007). As described in Chapter 3, “Project Description,” the proposed project would implement, at least partially, the following three EIP projects that are intended to improve threshold indicator SC-2:

- **EIP Project 412: Edgewood Creek – Stateline CP Restoration Project.** The main element of this project is to restore 0.25 acres of naturally-functioning SEZ in Edgewood Creek and nearby tributaries. This EIP project would be completed with implementation of Threshold Improvement Projects C and D.
- **EIP Project 413: Edgewood Creek – Golf Course Project.** The main element of this project is to restore 1.5 acres of the main channel of Edgewood Creek as it crosses the golf course. This EIP project would be completed with implementation of Threshold Improvement Projects C and D.
- **EIP Project 414: Edgewood Creek – Stateline Avenue SEZ Restoration Project.** The main element of this project is to restore 0.5 acre of stream channel along the fairway of golf hole 8 extending from Lake Parkway to the main branch of Edgewood Creek. This EIP project would be completed with implementation of Threshold Improvement Project A, as it relates to the restoration of Golf Course Creek.

Further, Alternatives 1, 2, and 3 would each remove physical coverage in LCD 1b ranging from 0.6 acre to over 1 acre. Implementing any of these three alternatives would also include the threshold improvement projects described in Section 3, “Project Description.” The threshold improvement projects generally include restoring Golf Course Creek, improvements to the golf course pond and wetland system, Edgewood Creek enhancements, and improvements to Friday’s Station pond and dam. These improvements would collectively result in 200,347 square feet (4.6) acres of newly created and enhanced stream environment areas (see Section 5.7, “Biological Resources [Vegetation, Wildlife, and Fisheries]”). Implementing Alternative 1, 2, or 3 would make contributions towards attaining this threshold by restoring SEZ lands.

5.6 HYDROLOGY AND WATER QUALITY

This section describes the regulatory background, existing hydrology and water quality conditions, and potential environmental impacts associated with each of the proposed alternatives related to hydrology, water quality, and flood hazards. Cumulative impacts are addressed in Section 5.15.

5.6.1 REGULATORY BACKGROUND

Numerous federal, state, and regional laws, rules, regulations, plans, and policies define the framework for regulating water quality in the Tahoe Basin. The following discussion focuses on hydrology and water quality requirements applicable to the Edgewood Lodge and Golf Course Improvement Project.

FEDERAL

CLEAN WATER ACT

The Clean Water Act (CWA) regulates discharges into waters of the United States, including a range of potential point and nonpoint sources of water-transported pollutants, and the discharge of fill into waters such as wetlands and intermittent stream channels. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters through prevention and elimination of pollution. The law requires that a CWA Section 404 permit be obtained from the U.S. Army Corps of Engineers (USACE) for any dredged or fill materials discharged into wetlands or waters of the United States.

FEDERAL ANTIDEGRADATION POLICY

The EPA has designated Lake Tahoe an Outstanding National Resource Water (ONRW). ONRWs are provided the highest level of protection under EPA's Antidegradation Policy, stipulating that states may allow some limited activities that result in temporary and short-term changes to water quality, but such changes should not adversely affect existing uses or alter the essential character or special uses for which the water was designated an ONRW. The EPA interprets this provision to mean no new or increased discharges to ONRWs and no new or increased discharge that would result in lower water quality.

FLOODPLAIN REGULATIONS

Lands within a floodplain are regulated as part of the National Flood Insurance Program (NFIP). Areas of special flood hazard are identified by the Federal Emergency Management Agency (FEMA), which issues regulatory floodplain maps (Flood Insurance Rate Maps [FIRMs]). The NFIP mandates that development cannot occur within the regulatory floodplain (typically the 100-year floodplain) if that development results in more than a 1 foot increase in base flood elevation. Any proposed project located within the regulatory floodplain must meet FEMA floodplain management requirements. In addition to these requirements, the TRPA Code of Ordinances (Code) restricts development activities in designated floodplains.

TAHOE REGIONAL PLANNING AGENCY

TRPA's Regional Plan, adopted in 1987, consists of several elements that address water quality, including the TRPA Goals and Policies, Code, and Water Quality Management Plan. The update process for the Regional Plan is currently underway and is scheduled for adoption by December of 2012. The 2012 Regional Plan Update will include revisions to the Goals and Policies of the Water Quality Sub-Element of the Land Use Element, as well as revisions to the Code related to water quality.

WATER QUALITY THRESHOLDS

TRPA adopted environmental threshold carrying capacities (thresholds) to improve and maintain the various resources of the Lake Tahoe Basin. Thresholds are standards or environmental quality targets to be achieved in the Tahoe Basin. TRPA conducts a comprehensive evaluation of all thresholds every 5 years. The most recent evaluation was completed in 2006 (TRPA 2007a) and a 2011 evaluation is underway.

The water quality thresholds relevant to the Edgewood Lodge and Golf Course Improvement Project and their current attainment status are provided in Table 5.6-1. TRPA evaluates water quality thresholds regionally, meaning that thresholds are considered to be in attainment or in non-attainment for the entire Lake Tahoe Basin. As shown in Table 5.6-1, only one water quality threshold (WQ-1) is considered to be in attainment for the Tahoe Basin. However, TRPA is currently evaluating the need to revise the standard for threshold WQ-1 because of concerns that the aesthetic quality of the nearshore area is not adequately protected by the current standard (TRPA 2007b: 6-30–6-31).

Table 5.6-1. TRPA Water Quality Thresholds Applicable to the Proposed Project

Threshold	Description	Parameter	Standard	Status
WQ-1	Nearshore (littoral zone) of Lake Tahoe	Turbidity, shallow waters of Lake Tahoe	Decrease sediment load as required to attain turbidity values not to exceed 3 NTU in littoral Lake Tahoe. In addition, turbidity shall not exceed 1 NTU in shallow waters of Lake Tahoe not directly influenced by stream discharges.	Attainment
WQ-2	Deep water (pelagic zone) of Lake Tahoe	Clarity, winter, pelagic Lake Tahoe	Average winter Secchi depth, December-March, shall not be less than 33.4 meters.	Non-Attainment
WQ-3	Deep water (pelagic zone) of Lake Tahoe	Phytoplankton primary productivity	Annual mean phytoplankton primary productivity shall not exceed 52 $gC/M^2/yr$.	Non-Attainment
WQ-4	Tributary water quality	Annual average concentrations of appropriate constituents	Concentrations of appropriate constituents in any tributary stream for which states have established standards (as mg/l); 90th percentile value suspended sediment of 60 mg/L.	Non-Attainment
WQ-5	Stormwater runoff quality	Surface discharge to surface water	Pollutant concentrations in surface runoff discharged to surface water shall not exceed the following concentrations at the 90th percentile: 〉 0.5 mg/L dissolved inorganic nitrogen as N 〉 0.1 mg/L dissolved phosphorus as P 〉 2.0 mg/L grease and oil 〉 0.5 mg/L dissolved iron 〉 250 mg/L suspended sediment	Non-Attainment
WQ-6	Stormwater runoff quality	Surface discharge to groundwater	Surface runoff infiltrated into soils shall not exceed the following concentrations at the 90th percentile: 〉 5.0 mg/L total nitrogen as N 〉 0.1 mg/L total phosphorus as P 〉 4.0 mg/L total iron 〉 40 mg/L grease and oil 〉 200 NTU turbidity Where there is a direct hydrologic connection between ground and surface waters, discharges shall meet the guidelines for surface discharges (WQ-5).	Non-Attainment

Notes: mg/l = milligrams per liter; NTU = Nephelometric Turbidity Units; $gC/M^2/yr$ = grams of carbon per square meter per year
Source: TRPA 2007a

GOALS AND POLICIES

TRPA has established a number of goals and policies related to water quality. Goals include the reduction of sediment and nutrients to Lake Tahoe and the elimination or reduction of other pollutants. Policies address a range of issues including snow removal, wastewater spill prevention, underground storage tanks, dredging, and reduction of impacts from motorized watercraft.

CODE OF ORDINANCES

The TRPA Code contains the requirements and standards intended to achieve water quality thresholds, goals, and policies. Sections 60.1 and 60.2 of the TRPA Code are directed specifically at water quality, but a number of other chapters and sections contain provisions related to design and installation of BMPs and standards for grading and excavation (Table 5.6-2).

Table 5.6-2. Water Quality Code Requirements Related to the Proposed Project

Ordinance	Requirement
Section 60.4	Runoff shall be controlled with implementation of BMPs.
Chapter 35	Regulations pertaining to recognition of natural hazards, including floodplains, prevention of damage to property, and protection of public health relating to such natural hazards.
Section 33.4	Requirements for special investigations, reports, and plans, determined to be necessary by TRPA to protect the environment against significant adverse effects from grading projects.
Section 33.5	Requirements for grading and construction schedules when grading or construction is to occur pursuant to a TRPA permit.
Chapter 33.3	Standards for grading and excavation. Grading is permitted only between May 1 and October 15.
Section 60.1	Discharge standards for runoff and discharge to surface and groundwater.
Section 60.2	For projects that result in increased impervious coverage, implementation of off-site water quality control or stream environment zone mitigation projects is required; or payments into the Water Quality Mitigation Fund.

Source: TRPA 2011a

Numerical discharge standard limitations are specified in the TRPA Code for nitrogen, phosphorus, iron, turbidity, suspended sediments, and grease and oil. Pollutant concentrations in surface runoff may not exceed the concentrations listed in Table 5.6-3 at the 90th percentile for discharge to surface waters. Surface runoff infiltrated into soils may not exceed the concentrations listed in Table 5.6-3 for discharge to groundwater. In addition to numerical discharge limits, TRPA Code also restricts the discharge of wastewater and toxic substances, sets requirements for snow removal, sets requirements for salt and abrasive use, and sets criteria for pesticide use and fertilizer control.

Table 5.6-3. TRPA Water Discharge Limits

Constituent	Units	Discharge to Surface Waters[1,2]	Discharge to Groundwater
Dissolved Inorganic Nitrogen (N)	mg/l as N	0.5	5
Dissolved Phosphate (P)	mg/l as P	0.1	1
Dissolved Iron	mg/l	0.5	4
Turbidity	NTU	–	200
Suspended Sediment	mg/l	250	–
Grease and Oil	mg/l	2.0	40

Notes: mg/l = milligrams per liter; NTU = Nephelometric Turbidity Units
[1] If the constituent levels of water entering a site from upstream areas are of a superior or equal quality to the above, those waters shall meet the quality level listed above before discharge from the site.
[2] If the constituent levels of waters entering a site do not meet the quality levels above, there shall be no increase in the concentrations of these constituents in water discharged from the site, based on a 24-hour average.
Source: TRPA 2011a

In additional to the water quality provisions of the TRPA Code described above, TRPA Code Section 35.4 regulates development in a 100-year floodplain.

POLLUTANTS OF CONCERN

Lake Tahoe is classified by limnologists as an oligotrophic lake, which means the lake has clear water, high levels of dissolved oxygen, and very low concentrations of nutrients that can support algal growth (Tahoe Environmental Research Center [TERC] 2011: 6.15). The exceptional transparency of the lake results from naturally low inputs of nutrients and sediment from the surrounding watershed. Lake Tahoe's famed transparency has declined by approximately 26 feet since monitoring began in the 1960s (TERC 2011: 6.2). The transparency decline has been attributed to land disturbance, air pollution, soil erosion, stormwater runoff, and the loss of natural landscapes capable of detaining and infiltrating rainfall runoff.

When the current TRPA Regional Plan and thresholds were developed, scientific research (Goldman 1974: 3) identified nitrogen as the primary pollutant of concern for the lake based on its ability to stimulate algal growth in the lake's nutrient poor waters. Presently, scientific research indicates that limitations on algal growth are dependent on the availability of both phosphorus and nitrogen, and in many months of the year algal growth is predominantly controlled by the availability of phosphorus (TERC 2011: 10.7).

The most recent scientific research points to inorganic fine sediment particles (particles defined as less than 16 micrometers in diameter) as the primary pollutant of concern impairing the lake's transparency. This finding is based on the ability of inorganic fine sediment particles to efficiently scatter light and decrease observed transparency. Swift et al. (2006) determined that light scattering by inorganic particles for the period between 1999 and 2002 was responsible for approximately 55 to 60 percent of measured light attenuation in the lake. Organic particles (algae) were responsible for about 25 percent of measured light attenuation primarily through adsorption of light. The remaining 15 to 20 percent of measured light attenuation was due to natural absorption of light by water molecules.

WATER QUALITY MANAGEMENT PLAN FOR THE LAKE TAHOE REGION (208 PLAN)

TRPA was designated as an area-wide regional planning agency under Section 208 of the CWA in 1974. Section 208 of the CWA (33 USC 466 et seq.) and the Code of Federal Regulations (40 CFR Part 130 and Part 35) requires the preparation of an area-wide management plan. TRPA developed a Water Quality Management Plan for the Lake Tahoe Region (208 Plan), which was most recently revised in 1988. The 208 Plan identifies water quality problems that have contributed to the degradation of Lake Tahoe and sets forth a series of control measures, including land use restrictions, wetland protection and restoration, a BMP Handbook, and a Capital Improvements Program of water quality improvements projects.

STREAM ENVIRONMENT ZONES

Stream Environment Zones (SEZs) are perennial, intermittent, and ephemeral streams, meadows, wetlands, and other areas of surface water and near-surface groundwater within the Lake Tahoe Basin. The TRPA threshold for SEZs was designed to preserve existing naturally functioning riparian communities and to restore disturbed riparian communities to a naturally functioning hydrologic condition. The threshold standard requires that 25 percent of disturbed, developed, or subdivided SEZ lands be restored to attain a 5 percent increase in the overall area of naturally functioning SEZ. Subsection 61.3.3 of the TRPA Code and TRPA Goals and Policies provides protection for SEZ vegetation by prohibiting projects or activities that convert riparian vegetation to a non-native or artificial state, or that negatively impact riparian vegetation through actions that include, but are not limited to: reducing biomass, removing vegetation, or altering vegetation composition. Removal or manipulation of riparian vegetation is allowed to improve vegetation health, enhance fish and wildlife habitat, public outdoor recreation, and to provide fire defensible space.

GROUNDWATER

TRPA Code, Chapter 33, Section 33.3, Subsection 33.3.6(A) prohibits excavations (with exceptions defined in Section 33.3.6(A)(2) that interfere with, or intercept the seasonal high water table by:

- altering the direction of groundwater,
- altering the rate of flow of groundwater,
- intercepting groundwater,
- adding or withdrawing groundwater, or
- raising or lowering the water table.

TRPA may approve exceptions to the prohibition of groundwater interception or interference if the following findings can be made:

- excavation is required by the International Building Code (IBC) or local building code for minimum depth below natural ground for above ground structures;
- it is a necessary measure for the protection or improvement of water quality; or
- there are no feasible alternatives for locating mechanical equipment, and measures are included in the project to prevent groundwater from leaving the project area as surface flow and any intercepted groundwater is rerouted in the ground water flow to avoid adverse impacts to riparian vegetation, if any would be so affected.

TRPA Code, Chapter 33, Section 33.3, Subsection 33.3.6(B) prohibits excavations in excess of 5 feet in depth unless the following findings can be made:

(1) A soils/hydrologic report prepared by a qualified professional, whose proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of groundwater will occur as a result of the excavation; and

(2) The excavation is designed such that no damage occurs to mature trees, except where tree removal is allowed pursuant to Subsection 33.6.5, including root systems, and hydrologic conditions of the soil. To ensure the protection of vegetation necessary for screening, a special vegetation protection report shall be prepared by a qualified professional identifying measures necessary to ensure damage will not occur as a result of the excavation; and

(3) Excavated material is disposed of pursuant to Subsection 33.3.4 and the project area's natural topography is maintained pursuant to Subparagraph 36.5.1(A); or if groundwater interception or interference will occur as described in the soils/hydrologic report, the excavation can be made as an exception pursuant to Subparagraph 33.3.6(A)(2) and measures are included in the project to maintain groundwater flows to avoid adverse impacts to SEZ vegetation, if any would be affected, and to prevent any groundwater or subsurface flow from leaving the project area as surface flow.

STATE

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

The Bureau of Water Quality Planning (BWQP) is part of the Nevada Division of Environmental Protection (NDEP) and is responsible for several water quality protection functions in the state. These include collecting and analyzing water data, developing standards for surface waters, publishing informational reports, providing water quality education, and implementing programs to address surface water quality. BWQP is divided into five

branches: water quality standards, monitoring, lab certification, nonpoint source pollution management, and the Lake Tahoe management program.

Nevada relies on EPA criteria when establishing numeric water quality standards for toxics. Water quality standards are contained in the Nevada Administrative Code (NAC), Chapter 445A.119-445A.225. Lake Tahoe water quality standards for Nevada are prescribed in NAC 445A.191. The beneficial uses defined in this section applicable to the proposed project are:

- recreation not involving contact with the water;
- recreation involving contact with the water;
- propagation of aquatic life, including a coldwater fishery;
- municipal or domestic supply, or both; and
- water of extraordinary ecological or aesthetic value.

LOCAL

DOUGLAS COUNTY MASTER PLAN

The *Douglas County Master Plan - Conservation Element* (2007a: 5-75–5-81) contains goals and policies related to surface water quality and hydrology that are applicable to the proposed project and are summarized in Table 5.6-4. A draft update of the Douglas County Master Plan (DCMP) was released in November 2011, and approved at the January 5, 2012 County Board of Commissioners (Board) meeting. The DCMP has not been finalized to reflect the requested changes of the Board. It may be several months before the update is finalized. Because the DCMP update has not yet been finalized, the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

In addition, certain elements of the *Douglas County Design Criteria and Improvement Standards* (2007b) and the *Douglas County Floodplain Management Ordinance* (County Code Section 20.50; Douglas County 2008) are applicable to the proposed project.

Table 5.6-4. Douglas County Master Plan Goals Related to Proposed Project

Goal	Description
Goal 5.03	Provide the residents of Douglas County sufficient level of safety from flooding
Goal 5.07	To protect surface water quality in the county from the effects of growth, urbanization, and agricultural practices
Goal 5.08	To improve existing drainage and prevent future drainage problems from occurring
Goal 5.09	To protect wetlands for their values for groundwater recharge, flood protection, sediment and pollution control, wildlife habitat, and open space
Goal 5.10	To protect potable water supplies, limit non-point source impacts on groundwater quality, and promote a regional approach to aquifer management
Goal 5.11	To identify and protect the functions and values of surface water systems, which include fish and wildlife habitat, aquifer recharge and discharge, and recreational opportunities
Goal 5.12	To prevent impacts to surface water systems, to encourage private property owners to preserve surface water systems, and to encourage preservation and to promote the utilization of stormwater best management practices

Source: Douglas County 2007a

5.6.2 AFFECTED ENVIRONMENT

Existing hydrology and water quality conditions as described below are summarized primarily from information developed in the *Edgewood Lodge and Golf Course Improvement Project – Threshold Improvement Project Quantification Report* (Nichols Consulting Engineers, et al. 2012).

EDGEWOOD CREEK WATERSHED

The project site is located within the southern portion of the Lake Tahoe Hydrologic Unit, located just east of the Nevada-California border in Douglas County, Nevada. The project site is located at the base of the 4,200 acre Edgewood Creek watershed, which is a subwatershed of the Lake Tahoe Hydrologic Unit. Edgewood Creek is one of 63 streams that drain to Lake Tahoe.

Land uses within the Edgewood Creek watershed include state and federal land, primary and secondary roads, residential neighborhoods, commercial areas, a portion of the Heavenly ski area, the Stateline casino corridor, and the Edgewood Tahoe Golf Course. The *Edgewood Creek Watershed Assessment* (Nevada Division of State Lands 2003: 5) identified existing impacts to the Edgewood Creek watershed caused by development and associated practices, which include:

- untreated stormwater discharging to Edgewood Creek from paved roadways, including:
  - delivery of road traction abrasives to the creek
  - eroding and unimproved road shoulders
- inadequate maintenance of installed treatment control measures and the need for more frequent recovery of road traction abrasives
- disturbed and eroding dirt roads and trails adjacent to Edgewood Creek
- disturbed riparian areas of Edgewood Creek
- use of SEZs for snow storage

PROJECT SITE HYDROLOGY

Edgewood Creek is a perennial stream that flows in a westerly direction through the project site. USGS Stream Gaging Station 10336760 is located at the Edgewood Creek crossing at U.S. 50. For water years 1993-2009, mean monthly flow ranged from a low of about 2.7 cubic feet per second (cfs) in July to a maximum of 7.3 cfs during the spring runoff in April. Most peak flows in Edgewood Creek do not exceed about 20 cfs, with a maximum peak flow of approximately 140 cfs recorded in 1997 (RO Anderson 2010: 1–3).

The project site encompasses approximately 231 acres. The majority of the project site is associated with the Edgewood Tahoe Golf Course to the west of U.S. 50, with a small portion of the project site located on the Friday's Station pond property to the east of U.S. 50 (Exhibit 3-2). Edgewood Creek flows through a number of ponds and water features within the project area boundaries. Edgewood Tahoe Golf Course uses a pond numbering system that identifies each pond based on its proximity to the nearest golf hole. The pond numbering system used in the descriptions below is shown on Exhibit 3-20 in Chapter 3, "Project Description."

Edgewood Creek first enters the project site on the eastern side of Friday's Station pond, which is approximately 0.75 mile east of the creek mouth at Lake Tahoe. Friday's Station pond was created by an in-stream impoundment of Edgewood Creek sometime in the 1940s to provide irrigation water for downstream pastures. Presently, Friday's Station pond is used to regulate the supply of irrigation water to the golf course. A secondary tributary to Friday's Station pond is an ephemeral and eroding channel that discharges stormwater runoff from the Kingsbury subdivision at the northeast corner of the pond. Friday's Station pond has a surface area of 1.6 acres and stores approximately 5 acre-feet of water. The existing pond is located near the base of the

embankment that creates the pond. The current outlet structure is a 24-inch reinforced concrete pipe with a few feet of 24-inch corrugated steel pipe attached at the upstream end to accommodate a gate structure used to adjust outflow during periods of low flow in Edgewood Creek (RO Anderson 2010: 4–5).

Edgewood Creek flows from the outlet of Friday's Station pond through a Nevada Department of Transportation (NDOT) culvert under U.S. 50 to the Edgewood Tahoe Golf Course where the creek flows through a number of ponds and water features prior to reaching Lake Tahoe. The existing ponds on the golf course are used to store irrigation water, function as golf course amenities, and provide water hazards for golf play. Approximately 600 feet downstream of the U.S. 50 crossing, Edgewood Creek flows into pond 12. The water surface elevation in pond 12 is controlled by a weir with removable flashboards. After discharging from pond 12, Edgewood Creek flows approximately 750 feet into pond 1, which is the primary storage facility for irrigation water for the golf course. The outflow of pond 1 is controlled by a weir with removable flashboards, as well as an overflow channel. Flow discharged from pond 1 enters pond 15, and then is conveyed approximately 850 feet to pond 18. A rock spillway controls the outflow from pond 18, which discharges into Lake Tahoe through a culvert located under the golf hole 18.

Golf Course Creek, which is a tributary of Edgewood Creek, traverses through the southern portion of the project site in a northerly direction. The combined area of the Golf Course Creek watershed and the drainage area of the Stateline Stormwater Association, which contributes runoff to the Edgewood Tahoe Golf Course, is roughly 400 acres. Golf Course Creek is piped under the Stateline casino corridor where flow in the creek commingles with stormwater runoff from the casino corridor. A diversion structure located between the Harvey's property and the Horizon property directs approximately 10 percent of the flow in the piped system to Golf Course Creek and approximately 90 percent of the flow to the Common Stormwater Treatment Facilities associated with the Stateline Stormwater Association (SSWA) treatment system, which is described in more detail below. Flows directed from the diversion structure to Golf Course Creek daylight in an earthen ditch that runs adjacent to the cart path on golf hole 8. The confluence of Golf Course Creek with Edgewood Creek is located near the existing clubhouse.

SURFACE WATER QUALITY

The project site is at the base of the Edgewood Creek watershed and therefore all surface runoff and associated pollutant loads generated within the 4,200-acre Edgewood Creek watershed pass through the project site. In the baseline condition a significant mass of pollutants, including pollutants of concern to lake clarity, are retained in the existing ponds on the Edgewood Tahoe Golf Course. The following describes the baseline surface water quality conditions for: (1) the existing clubhouse, parking lots, and ancillary facilities to the golf course; (2) ponds associated with the SSWA treatment system; and (3) ponds that are in-line with Edgewood Creek.

EXISTING CLUBHOUSE, PARKING LOTS, AND ANCILLARY FACILITIES

Existing structures and facilities on the Edgewood Tahoe Golf Course include the clubhouse, two parking lots, an access road, two residential homes, snack bar, cart paths, and a maintenance facility. In the 1990s, water quality treatment facilities were installed to address runoff from the clubhouse, two parking lots, and a portion of the access road. In the existing condition, runoff from the clubhouse and parking lots is collected and conveyed via storm drain to sediment vaults for pre-treatment prior to being conveyed to a pump house that directs flows to the wetland between ponds 6 and 10. The existing pump has a capacity of 400 gallons per minute. Storm water runoff in excess of the pump's capacity is discharged to Edgewood Creek.

SSWA TREATMENT SYSTEM

The SSWA was created to construct and operate a common stormwater treatment system to serve the Stateline casino corridor. The members of the SSWA include Mont Bleu, Harrah's, Harvey's, Horizon, Edgewood

Companies, Wells Fargo Bank, Douglas County (Lake Parkway), and NDOT (U.S. 50). The current treatment system is regulated under NDEP Permit No. NV0023051.

Runoff from the Stateline casino corridor and Golf Course Creek is routed from the diversion structure described above to a series of sediment vaults under the Horizon parking lot. Runoff that passes through the vaults is then routed to pond 6 and then pond 10 on the Edgewood Tahoe Golf Course. Pond 6 is a constructed wet basin and is the final treatment component of the SSWA treatment system. Flows from pond 6 are then discharged to pond 10, before entering pond 1, which as discussed above is an in-line pond on Edgewood Creek. Under the current NDEP permit, only Pond 6 is considered a part of the SSWA treatment system. However, the point of compliance for monitoring is the outlet of Pond 10 to Pond 1. The Desert Research Institute monitored the effectiveness of the SSWA treatment system for 2 years in the early 2000s. The final report summarized research findings as follows (Desert Research Institute 2004: iii):

- Over the 2 years of monitoring, 25 storm events were sampled. The average reduction of pollutants from the treatment vaults were: 34 percent of the total nitrogen, 23 percent of the ammonia, 31 percent of the phosphate, and 46 percent of the total suspended solids. Through chemical reactions that occurred in the treatment vaults, an increase in nitrate by 34 percent and orthophosphate by 9 percent was observed.
- The pond/constructed wet basin treatment system on the Edgewood Tahoe Golf Course (ponds 6 and 10) was sampled on a monthly basis in the spring and summer 2004. The wet basin system further reduced the nutrients and sediment due to the low-energy environment, which allows settling of fine particles and uptake by vegetation.

Additional water quality analyses of the wet basin treatment component of the SSWA treatment system (ponds 6 and 10) were conducted by the project applicant team to estimate average annual pollutant loads retained in the baseline condition. To estimate current water quality performance, the project applicant team: (1) developed a representation of the system using the Lake Tahoe Pollutant Load Reduction Model (PLRM); and (2) took physical measurements of sediment captured in the ponds. Their collective analyses estimate that the wet basin treatment system retains approximately 83,000 pounds (lbs) of total suspended sediment per year. Almost 14,000 lbs per year of the retained sediment is estimated to be fine sediment particles (Nichols Consulting Engineers et al. 2011: 26–41).

EDGEWOOD CREEK IN-LINE POND SYSTEM

The series of ponds in-line with the flow path of Edgewood Creek (Friday's Station pond, and ponds 12, 1, 15, and 18 on the Edgewood Tahoe Golf Course) are operated and maintained for the golf course to provide irrigation water and to function as golf course amenities and water hazards. While the primary purpose of these ponds is not for water quality, the project applicant team developed multiple analyses documenting the ancillary water quality benefits of the current pond system for retention of pollutants, including fine sediment particles.

If the system of ponds is viewed as a water quality treatment system, Friday's Station pond and pond 12 could be considered pre-treatment forebays that settle out coarse sediment that is transported in Edgewood Creek and in stormwater runoff discharged to the ponds from the surrounding development and road network. Friday's Station pond was drained in 2009 to sample accumulated sediments and to characterize the baseline condition of the pond. The investigation documented a significant accumulation of sediment in the pond, which was estimated to be in excess of 8,500 cubic yards (RO Anderson 2010: 5). Additionally, the investigation identified design issues with the current outlet structure of Friday's Station pond. Specifically, the current outlet structure discharges water from the bottom of the pond, causing a scour hole to form around the outlet structure that likely allows deposited sediment to resuspend and be transported out of Friday's Station pond and downstream during peak runoff events. Exhibit 5.6-1 shows an image of Friday's Station pond when drained.

Downstream of Friday's Station pond and pond 12, water from Edgewood Creek flows into pond 1, which could be considered a wet basin treatment facility that retains pollutants through settling, vegetative filtering, and vegetative nutrient uptake. The project applicant team estimated the total mass of sediment retained in the existing Edgewood Creek in-line pond system on an average annual basis by: (1) estimating the initial bathymetry of each pond; (2) estimating the year of pond construction or the most recent pond dredging event; (3) measuring the depth of sediment accumulation at various locations in each pond; (4) characterizing the source of sediment; and (5) estimating the particle size distribution of sediment from laboratory analyses to estimate the mass of fine sediment particles retained. Based on the analysis of the measurements and assumptions described above, the overall Edgewood Creek in-line pond system is estimated to retain approximately 340,000 lbs of total suspended sediment per year. Approximately 28,000 lbs per year of the retained sediment is estimated to be fine sediment particles (Nichols Consulting Engineers et al. 2011: 45–56).

Source: Nichols Consulting Engineers et al. 2011: 46

Exhibit 5.6-1. Friday's Station Pond Sediment Accumulation

GROUNDWATER

PRELIMINARY GEOTECHNICAL INVESTIGATIONS

The proposed project is adjacent to, and within a meadow environment. Groundwater levels in meadow areas are typically influenced by a combination of factors and may be quite variable seasonally and spatially. Key factors influencing groundwater levels typically include: soils, glacial and fluvial strata, and bedrock; hydraulic head from upgradient areas; proximity to main stream channels and the depth of the channels; the presence of ponds or other water bodies; and downstream surface and subsurface water levels.

At the time of this EIS preparation, three separate preliminary geotechnical investigations have been conducted at the site to support design of the proposed project as documented in reports produced by Kleinfelder (2007, 2008) and GeoCon Consultants (2012). The following summarizes the findings of the preliminary geotechnical investigations related to groundwater levels in the vicinity of the proposed project:

- twenty-six test pits and borings with associated boring logs were produced to characterize soils underlying the proposed project site and the depth to seasonally high groundwater;
- depth to groundwater ranged from 2.5 feet to greater than 12 feet below ground surface during the preliminary geotechnical investigations;
- groundwater was not encountered in borings to a depth of 12 feet in the vicinity of the proposed parking structure near Lake Parkway during the investigation conducted in November of 2011;
- depth to seasonally high groundwater, based on observations of soil mottling in test pits and borings, ranged from 0.8 to 6.0 feet below ground surface; and
- seasonal high groundwater ranges from an elevation of 6,231 feet between the fairways on golf holes 8 and 9 to 6,229 feet in the area of the fairway of golf hole 9.

FERTILIZER MANAGEMENT PLAN

Edgewood Tahoe Golf Course operates under a Fertilizer Management Plan that was prepared in accordance with Subsection 60.1.8 of the TRPA Code. The Fertilizer Management Plan defines: (1) types of fertilizer used, (2) fertilizer application rates, (3) fertilizer timing and frequency of use, (4) methods of fertilizer application, (5) watering schedules and irrigation systems used, (6) plant materials used on the golf course, (7) approaches to landscape design, (8) critical areas where the use of fertilizer should be avoided, (9) design and maintenance of drainage structures, and (10) surface and groundwater monitoring activities.

Edgewood Tahoe Golf Course characterizes turf using four basic categories: tees, fairways, greens, and roughs. Roughs include minimally maintained peripheral areas and the driving range. Fairways, tees, and greens require more management relative to roughs (e.g., mowing, fertilizer application, and pesticide treatment). Two types of fertilizers are primarily used on the golf course: liquid fertilizers for foliar applications and granular applications. Foliar applications provide nutrients to turf on an as-needed basis and are used primarily for high demand areas such as tees and greens. Granular fertilizers can be slow-release varieties that are applied occasionally during a season to areas with less demand, such as fairways and roughs.

Table 5.6-5 quantifies in the baseline condition (2008) the total fertilized acreage for the four categories of golf course turf, as well as the fertilizer application rate of nitrogen for each category (on an annual basis per 1,000 square feet). For comparative purposes the 1990 rates of fertilizer application at the Edgewood Tahoe Golf Course, which is the time period of the original fertilizer management plan, are provided in Table 5.6-5 (Nichols Consulting Engineers et al. 2011: 75). Exhibit 5.6-2 shows the areas on the Edgewood Tahoe Golf Course that received fertilizer applications in the baseline condition. The 2008 fertilizer application rates (Table 5.6-5) represent average rates used by the Edgewood Tahoe Golf Course to maintain healthy turf for the level of play the golf course receives each year. The 2008 fertilizer applications rates are not expected to significantly change in the post project condition.

Table 5.6-5. Baseline Condition Fertilizer Use

Type of Turf	Baseline (2008) Acres Fertilized	Nitrogen Application Rate (annual pounds per 1,000 square feet)	
		Baseline (2008) Rate	1990 Rate
Tees	4	2.2	4-6
Fairways	24	2.5	4-6
Greens and approaches	10	1.4	6-8
Roughs and driving range	91	2.1	1-1.5
Total	129		

Source: NCE et al. 2011: 75

100-YEAR FLOODPLAIN

FEMA Flood Insurance Rate Maps for Douglas County, Nevada dated January 20, 2010 (Map Numbers 32005C0205G and 32005C0210G) identify the project site to be within Zone A and Zone X flood hazard boundaries (Exhibits 5.6-3 and 5.6-4). Zone A defines the boundary of the 100-year floodplain delineated using approximate methodologies. Because detailed hydraulic analyses have not been performed, no base flood elevations (BFEs) or flood depths are shown within the Zone A boundary. On the project site, Zone A boundaries correspond to the floodplains of Edgewood Creek and Golf Course Creek. A shaded Zone X typically defines the boundary of areas with moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. An unshaded Zone X typically defines areas with minimal flood hazard outside the Special Flood Hazard Area.

LITTORAL PROCESSES

Littoral drift, otherwise known as longshore transport, refers to the transportation of sediments, such as sand, along the shoreline, at an angle to the shoreline. Wave and current actions near the lake shoreline can affect sediment transport and, in turn, accumulation of beach sand along the shore and sediment deposition in the nearshore area. Disruption of these actions, then, can alter natural deposition processes. This can, in turn, alter nearshore and shoreline erosion.

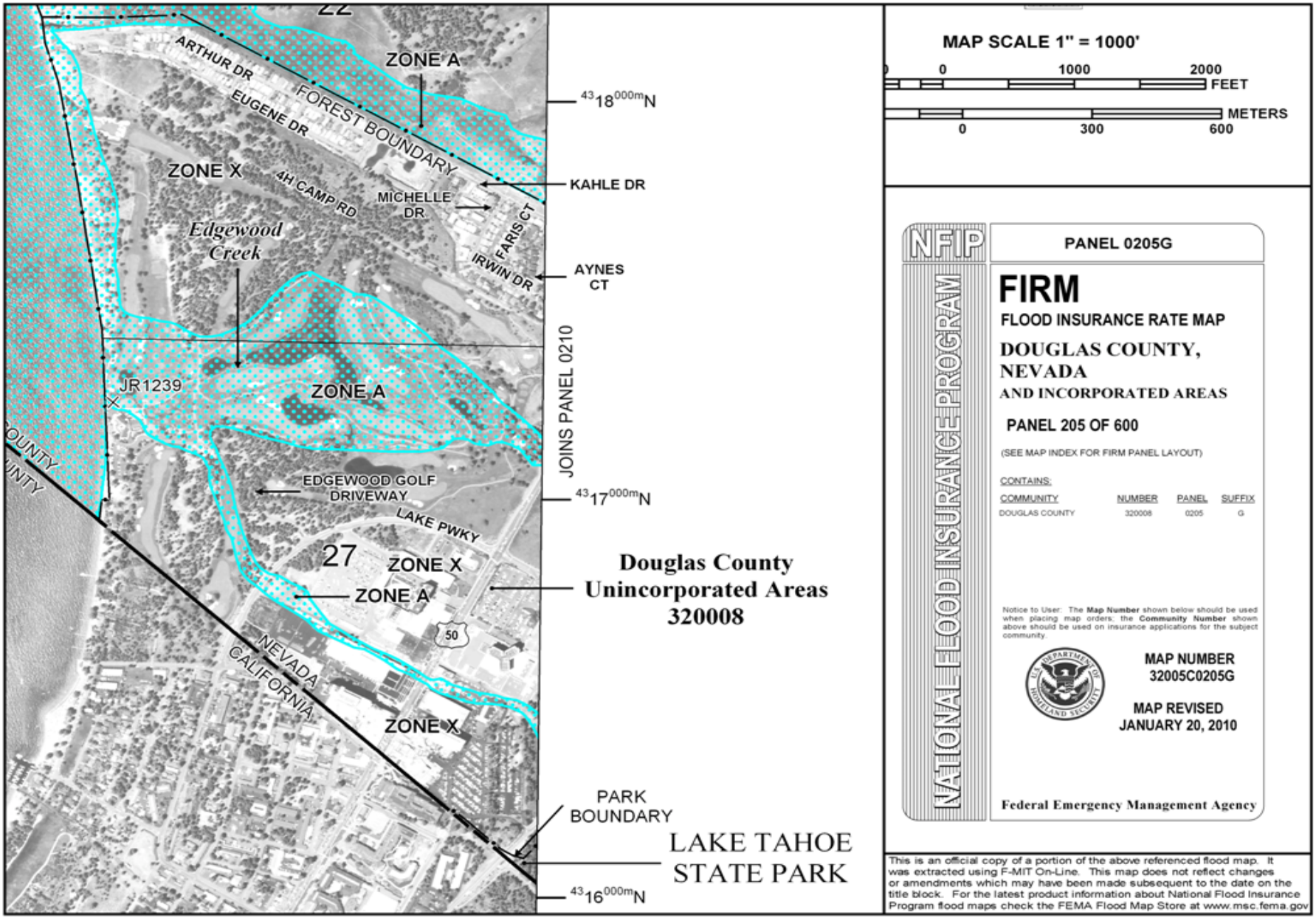
Osborne et al. (1985) conducted a comprehensive assessment of the littoral zone of Lake Tahoe; the project area is located in one of the littoral cells described by Osborne as having a dominant longshore sediment transport direction to the north with a minor direction to the south. Mean grain size for the sediments along this segment of the shoreline are approximately 1 to 2 millimeters (mm) in size and described as medium coarse sand. This shoreline segment ends at the discharge of Edgewood Creek where the cell terminates because of the offshore canyon created by creek discharge that removes sediment from the longshore transport zone.

Moory (2012), citing Osborne et al. (1985) and Williams and McDougal (2000), conducted a study of littoral processes and the potential for the project to cause adverse effects. To place medium coarse sand into motion, wave action must generate a bottom current of 0.31 to 0.50 meters per second. When this bottom current speed is reached sediments are entrained in the water column and moved in the direction of the wave. At these current speeds, ripple marks along the bottom of the lake would become visible as the result of wave motion (Moory 2012).

This segment of the shorezone is largely affected by waves generated from winds over the lake from the west and southwest. Winds blow predominantly from the west and southwest over Lake Tahoe. At the project location, the fetch over the lake is approximately 8.2 miles. Wind speeds of 20 to 40 miles per hour (mph) blowing over this fetch would generate significant wave heights ranging from 1.5 to 3.75 feet with wave periods ranging from 2.6 to 3.8 seconds. Wavelengths would range from 33 to 60 feet (Moory 2012).

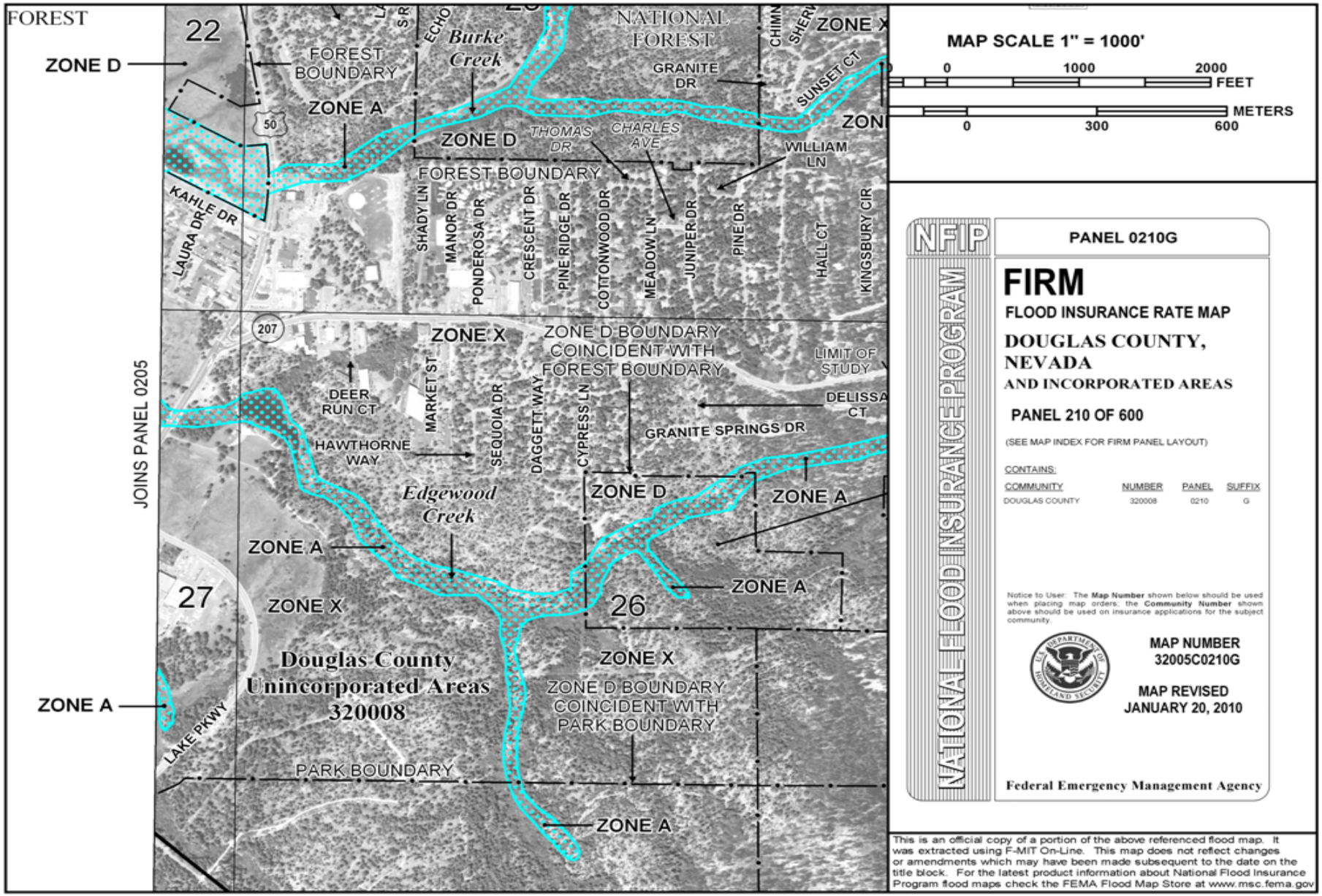
Source: Data provided by Resource Concepts, Inc. in 2010

Exhibit 5.6-2. **Existing Golf Course Configuration and Fertilizer Management**



Source: FEMA 2010

Exhibit 5.6-3. Flood Insurance Rate Map (1 of 2) Douglas County, NV and Incorporated Areas



Source: FEMA 2010

Exhibit 5.6-4. Flood Insurance Rate Map (2 of 2) Douglas County, NV and Incorporated Areas

5.6.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

An impact would be considered significant if the Edgewood Lodge and Golf Course Improvement Project were to cause any of the following:

- Contribute substantially to the non-attainment of TRPA environmental thresholds for water quality (Table 5.6-1);
- Substantially alter existing surface water drainage patterns or cause existing or planned stormwater drainage systems to exceed capacity;
- Result in any permanent or long-term degradation of Lake Tahoe water clarity;
- Interfere with groundwater movement or reduce groundwater infiltration, except as permitted under TRPA Code Subsection 33.3.6(A)(2);
- Cause substantial interference with or adverse effects on littoral processes in the project area;
- Place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary, Flood Insurance Rate Map, or other flood hazard delineation map;
- Place structures or fill within a 100-year flood hazard area that would impede or redirect flood flows; or
- Degrade a source water supply.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.6.1-1	**Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction.** Soil disturbance associated with construction of Alternative 1 could cause accelerated soil erosion and sedimentation and the release of other pollutants associated with construction activities to adjacent waterways and wetlands. This impact is considered **potentially significant**.

Project construction would be completed in five phases as shown in Table 3-9 in Chapter 3, "Project Description." Phase 1 would include: demolition of existing residential homes; realignment of golf holes 7, 8, and 9; utility work; construction of the remote parking structure; and improvements to ponds 1 and 12. Phase 2 would include: site grading and initial construction of phase 1 of the lodge, initial construction of the clubhouse expansion, and removal of existing surface parking lots. Phase 3 would include: continued construction of phase 1 of the lodge, including completion of proposed BMPs for the lodge; initial construction of casita buildings 1, 2, and 3; and construction of proposed improvements to Edgewood Creek. Phase 4 would include completion of construction phase 1 of the lodge, clubhouse, and casita buildings 1, 2, and 3 and associated BMPs. Phase 5 would include: site grading and construction of phase 2 of the lodge; casita buildings 4 through 10; and improvements to the SSWA wet basin treatment system (ponds 6 and 10).

Proposed soil disturbance activities include clearing, excavating, filling, grading, compacting, tilling, driving piles (for pier construction) and removing accumulated sediment from golf course ponds. Construction activities would involve vegetation removal, grading, excavation, and temporary stockpiling of soils, all of which would expose soil to erosion. Due to the close proximity of the project site to Lake Tahoe, soil exposed during temporary construction activities could be washed off the exposed areas and transported to Lake Tahoe,

particularly during storm events. In addition, there would be onsite construction staging of equipment and vehicles, as well as construction-related vehicle trips. Fuels and other construction related chemicals could be accidentally spilled or leaked, or could otherwise be discarded into nearby drainages. If pollutants reached drainages, they could be discharged to Lake Tahoe. This impact is considered **potentially significant**.

Mitigation Measure 5.6.1-1: Prepare and Implement a Storm Water Pollution Prevention Plan.

The project applicant shall prepare a Stormwater Pollution Prevention Plan (SWPPP) with water quality controls consistent with TRPA and NDEP requirements, and shall ensure that runoff quality meets TRPA water quality requirements under the TRPA Code, and maintains beneficial uses of Lake Tahoe, as defined by the Nevada Administrative Code (NAC) 445A.191. The following shall be included in the SWPPP:

- *Temporary BMPs to prevent the transport of earthen materials and other construction waste materials from disturbed land areas, stockpiles, and staging areas during periods of precipitation or runoff, including: filter fence, fiber roll, erosion control blankets, mulch (pine needles, wood chips, etc.); temporary drainage swales and settling basins; pre-grade inspection of temporary BMPs by TRPA staff a minimum of 48 hours prior to commencing construction activities to identify inadequacies in the installation of temporary BMPs; and shutdown of grading operations during inclement weather and between October 15 and May 1 (unless TRPA issues an exemption to the grading prohibition).*

- *Temporary BMPs to prevent the tracking of earthen materials and other waste materials from the project site to offsite locations, including stabilized points of entry/exit for construction vehicles/equipment and designated vehicle/equipment rinse stations.*

- *Temporary BMPs to prevent wind erosion of earthen materials and other waste materials from the project site, including routine application of water to disturbed land areas and covering of stockpiles with plastic or fabric sheeting.*

- *Temporary BMPs to prevent the migration of earthen materials and other waste materials from disturbed land areas to existing storm drain facilities, including: fiber roll and/or gravel filled bags placed around grated inlets (drop inlet protection), gravel filled bags or fiber rolls placed at regular intervals along existing curb and gutter, and broom sweeping (hand or mechanical) of earthen materials tracked onto paved areas that drain to existing storm drain facilities.*

- *Temporary BMPs to capture and contain pollutants from fueling operations, fuel storage areas, and other areas used for the storage of hydrocarbon based materials. This shall include materials on site such as oil absorbent booms and sheets for the cleanup of accidental spills, drip pans beneath construction equipment, training of site workers in spill response measures, immediate cleanup of spilled materials in accordance with directives from the TRPA and the NDEP, and proper disposal of waste materials at an approved offsite location that is licensed to receive such wastes.*

- *Temporary BMPs to capture and contain pollutants generated by concrete construction including lined containment to collect runoff from washing of concrete delivery trucks and equipment.*

- *Temporary BMPs to prevent damage to trees and other vegetation that are to remain after construction, including tree protection fencing and individual tree protection such as wood slats strapped along the circumference of trees.*

- *Temporary BMPs for the isolation and diversion of surface waters within the project area (e.g., Edgewood Creek) through and around construction zones including temporary lined diversion channels and piping.*

- *Temporary BMPs for the containment of disturbed sediment associated with new pier construction including turbidity barriers.*
- *Temporary BMPs for the containment of waste associated with pier demolition including netting/fabric installed below the pier deck to prevent waste materials from falling into Lake Tahoe.*
- *Regular inspection and maintenance of temporary BMPs.*
- *Construction boundary fencing to limit disturbance and prevent access to areas not under active construction.*
- *Construction schedule, winterization plan, and dewatering plan.*

In addition to that noted above:

- *The applicant shall obtain all necessary Douglas County permits and approvals, and shall follow all required County laws and procedures with respect to temporary BMPs and the maintenance thereof, grading and excavation for the proposed project, and all construction related water quality issues.*
- *Edgewood Creek is potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the CWA. The applicant shall develop a preliminary wetland delineation for the project site to be verified by the USACE. If deemed necessary, the applicant shall obtain a Section 404 permit from the USACE and shall comply with all applicable provisions of the 404 permit.*

Implementation of Mitigation Measure 5.6.1-1 would reduce Impact 5.6.1-1 to a **less-than-significant** level because the project would minimize soil erosion and sedimentation and release of pollutants associated with construction and conform to applicable local, state, and federal regulations regulating construction discharges.

Impact 5.6.1-2	Changes in Surface Runoff Patterns. In the baseline condition, surface runoff from the parking lots is pumped and treated in the wetland system between ponds 6 and 10 and remains as surface runoff. The proposed water quality facilities described in the stormwater management approach for Alternative 1 would emphasize stormwater detention and infiltration to a greater degree than BMPs used in the baseline condition, which would result in a reduction of total surface runoff volumes discharged to the local drainage system and Edgewood Creek. Furthermore, the proposed project would comply with all applicable Douglas County Design Criteria and Improvement Standards for drainage design and peak flow conveyance. Because the proposed project would reduce annual runoff volumes and comply with applicable drainage design standards, the proposed project would have a less-than-significant impact on existing surface water drainage patterns and existing or planned stormwater drainage systems.

The proposed project includes a description of water quality facilities and design approaches that would be used to detain and infiltrate stormwater runoff (Nichols Consulting Engineers et al. 2011:8–18). The overall approach for Alternative 1 employs the principles of low impact development (LID) by siting development on high capability land, preserving and re-creating natural landscapes, managing stormwater as close to its source as possible, and minimizing impervious cover to the maximum extent practicable.

Except where special circumstances occur, such as a high groundwater table, the Code (Chapter 60) requires projects to design infiltration facilities that accommodate the volume of surface runoff generated from impervious surfaces for a 20-year, 1-hour storm (per Section 60.4.6 of the TRPA Code an average intensity of 1 inch per hour shall be used for this calculation).

The stormwater management approach for the Edgewood lodge complex component of the proposed project is based on the premise that the quality of storm water runoff can be reasonably predicted based upon the source from which the runoff originates, where higher quality runoff is expected from roofs, decks, and undisturbed or restored soil surfaces and lower quality runoff is expected from parking areas, roads, and snow storage locations.

For Alternative 1, high quality stormwater runoff from roofs, patios, decks, and walkways would be infiltrated in vegetated swales, vegetated basins, or would be allowed to run off as sheet flow and infiltrate into landscaped and vegetated areas. The conceptual design of the infiltration facilities documented in the stormwater management approach for Alternative 1 identifies retention of 400 percent of the TRPA 20-year, 1-hour design storm standard (Nichols Consulting Engineers et al. 2011: 14–15).

Lower quality runoff from roads and parking areas is proposed to be routed through multi-stage treatment systems prior to discharge to infiltration facilities or to constructed wetlands. The anticipated water quality effectiveness of the proposed multi-stage treatment systems for removal of pollutants of concern is discussed under Impact 5.6.1-4. The conceptual design for Alternative 1 proposes that three of the four multi-stage treatment systems would discharge treated runoff to infiltration facilities that detain and infiltrate approximately 125 percent of the TRPA 20-year, 1-hour design storm standard. The fourth treatment system, which would be located in an area with a naturally high groundwater, would discharge treated stormwater to a constructed wetland (Nichols Consulting Engineers et al. 2011: 15–18).

Douglas County Design Criteria and Improvement Standards (2007) include applicable requirements for the proposed project related to hydrology (Section 6.6.1) and for methods of storm runoff determination (Section 6.6.2). The design storm frequency used to size drainage facilities outlined in Section 6.6.1 of the *Design Criteria and Improvement Standards* specifies that a 25-year return period should be used to size facilities for local roadways, developments, and for drainage crossings under local and development roadways. The 25-year return period was used in all hydrologic calculations for designing drainage facilities for the proposed project. Per Section 6.6.2 of the *Design Criteria and Improvement Standards*, storm drain pipe systems with a contributing area of less than 100 acres may be designed using the Rational Method or another appropriate method. For the proposed project, the Rational Method was applied to determine peak flows from the 25-year event to support the sizing of the storm drain system and the two culverts proposed under the entrance road.

The project applicant team met with the Douglas County Engineer and Floodplain Manager to discuss the potential applicability of Section 6.1.5 of the County's *Design Criteria and Improvement Standards*, which includes requirements for peak flows generated in the post-project condition. Douglas County staff stated that Section 6.1.5 of the *Design Criteria and Improvement Standards* is not intended to be applied to parcels that discharge directly to receiving waters, such as the Edgewood Tahoe Golf Course. The project applicant provided meeting notes documenting Douglas County's guidance that Section 6.1.5 of its *Design Criteria and Improvement Standards* (2007) does not apply to the proposed project (Nichols Consulting Engineers et al. 2011: Appendix 2.B).

To compare estimated surface runoff volumes generated in the baseline condition and the proposed condition under Alternative 1, the project applicant team developed a representation of each condition using the Lake Tahoe Pollutant Load Reduction Model [PLRM] (Nichols Consulting Engineers et al. 2011: 19–24 and Appendix 2C). In the baseline condition, surface runoff from the parking lots is pumped and treated to a wetland between ponds 6 and 10 and remains surface runoff. In the proposed project condition, water quality facilities would emphasize stormwater detention and infiltration as described above. Based on the PLRM analyses, the baseline condition is estimated to generate an average of 2.5 acre-feet of surface runoff per year associated with the existing facilities on the project site. The proposed project condition is estimated to generate 1.5 acre-feet of surface runoff per year from proposed facilities. Because the proposed project would reduce annual runoff volumes and comply with applicable drainage design standards when sizing storm drain facilities, the proposed

project would have a **less-than-significant** impact on existing surface water drainage patterns and existing or planned stormwater drainage systems.

Mitigation Measure

No mitigation is required.

Impact 5.6.1-3	Geomorphic Effects of Creek Modifications. Alternative 1 would reconstruct a portion of the Edgewood Creek channel, construct a new Lake Tahoe outlet, and modify/eliminate constructed ponds that are currently on the channel. The project applicant is proposing creek modifications as a voluntary water resource improvement that is in addition to measures required to mitigate the impacts of the project. The proposed creek modifications would likely result in a benefit by: 1) improving aquatic and riparian habitat by improving fish passage and providing spawning areas; 2) improving water quality by increasing vegetated floodplain and increasing fine sediment capture; and 3) improving channel stability by re-creating a more functional channel/floodplain system. Potential adverse geomorphic effects of the proposed creek modifications under Alternative 1 could include the potential to create channel instability and erosion during flood events. Because the proposed creek modifications would re-create a more functional channel/floodplain system relative to the baseline condition, and because a detailed design review process is proposed by the project applicant and would be required by applicable permitting agencies (e.g., TRPA, Douglas County, and USACE) to ensure that potentially adverse geomorphic effects of channel instability and erosion during flood events associated with the proposed modifications are avoided, this impact is considered to be beneficial.

Alternative 1 proposes to: construct a new Edgewood Creek outlet to Lake Tahoe, which is currently piped under golf hole 18 to Lake Tahoe; realign and improve Edgewood Creek from the outlet to the area near the tees for golf holes 1 and 10; disconnect pond 18 from the creek; construct wetland buffers in the area near the tees for golf holes 1 and 10; eliminate pond 15 and reconstruct a channel with habitat suitable for fish spawning; and stabilize the creek in the area near the outlet of the culvert under U.S. 50. The project applicant references these potential improvements as components of Threshold Improvement Project C (Nichols Consulting Engineers et al. 2011).The channel between pond 1 and the outlet to Lake Tahoe would be realigned and reconstructed with the project. The lower 300 feet of this channel are shown in the project application to have a cobble bed and geotextile-encapsulated soil side slopes (referred to as a Type A confined channel in project plans). From approximately 300 feet upstream of the lake outlet to pond 1, approximately 800 feet of new channel are proposed that have a cobble bed and low banks constructed of geotextile-encapsulated soil. In both the existing and proposed project conditions very little coarse sediment is likely to be transported in Edgewood Creek due to sediment interception in Friday's Station pond and ponds on the Edgewood Tahoe Golf Course property. Therefore, stability of the channel depends primarily on the bed and bank materials installed as part of the project and their suitability for the range of hydraulic conditions that would occur.

Overall, the proposed creek modifications would likely result in a benefit by: 1) improving aquatic and riparian habitat by improving fish passage and providing spawning areas; 2) improving water quality by increasing vegetated floodplain and increasing fine sediment capture; and 3) improving channel stability by re-creating a more functional channel/floodplain system. However, detailed design information would be necessary to confirm that proposed benefits are realized and potential adverse geomorphic effects of channel instability and erosion during flood events are avoided with creek modifications. The proposed creek modifications would be subject to a number of regulatory review and permitting processes to ensure that adverse impacts of channel instability and flooding are avoided. Necessary permits for the proposed modifications would include but not be limited to:

- TRPA Grading Permit
- USACE Nationwide Permit (or other applicable permit)
- Douglas County Floodplain Development Permit

To support the permitting process, the project applicant would develop the necessary hydrologic, hydraulic, and geomorphic design studies for regulatory review and approval (see Proposed Components of Threshold Project C in Section 3.4.3 in Chapter 3, "Project Description"). In summary, the studies would provide the following types of information that may be required by applicable permitting agencies: design flows, fish passage hydrologic and hydraulic criteria, hydraulics of the channel and floodplain including transition areas, potential scour depths and scour protection measures, and stability of bed and bank materials.

Because the proposed creek modifications would re-create a more functional channel/floodplain system relative to the baseline condition, and a detailed design review process is proposed by the project applicant and would be required by applicable permitting agencies (e.g., TRPA, Douglas County, and USACE) to ensure that potentially adverse geomorphic effects of channel instability and erosion during flood events are avoided, this impact is considered to be **beneficial**.

Mitigation Measure

No mitigation is required.

Impact 5.6.1-4 **Pollutant Loading in Surface Runoff.** Alternative 1 would implement water quality mitigation measures that are designed above and beyond TRPA requirements for BMPs associated with the lodge complex component of the project. Additionally, Alternative 1 would include a number of voluntary water quality improvements that are in addition to measures required to mitigate the impacts of the project, which include: (1) increasing the effectiveness of pollutant load reductions achieved by the wet pond treatment system (ponds 6 and 10) associated with the SSWA treatment system; (2) increasing the effectiveness of pollutant load reductions achieved by the Edgewood Creek pond system; and (3) committing to maintain the pond systems as water quality treatment BMPs in perpetuity as defined in the proposed Monitoring, Inspection, and Operations Plan. In total, the required water quality mitigation measures and the additional water quality improvements proposed by the project applicant would decrease pollutant loading in surface runoff from the project site and the Edgewood Creek Watershed. This impact is considered **beneficial**.

The following describes the proposed surface water quality conditions for the: (1) lodge and associated facilities; (2) ponds associated with the SSWA treatment system; (3) ponds that are in-line with Edgewood Creek; and (4) maintenance commitments in the proposed *Monitoring, Inspection, and Operations Plan* (Nichols Consulting Engineers 2012).

Proposed Lodge and Associated Facilities

Alternative 1 includes a description of water quality facilities and design approaches that would be used to retain and infiltrate stormwater runoff and to treat stormwater runoff from the proposed lodge and associated facilities, which is referred to as Threshold Improvement Project A by the project applicant (Nichols Consulting Engineers et al. 2011: 8–25). The stormwater management approach for the lodge complex component of the proposed project is based on the premise that the quality of stormwater runoff can be reasonably predicted based upon the source from which the runoff originates. For Alternative 1, higher quality stormwater runoff associated with roofs, patios, decks, and walkways would be infiltrated in vegetated swales, vegetated basins, or

would be allowed to sheet flow and infiltrate into landscaped and vegetated areas. The proposed design of these infiltration facilities is discussed in Impact 5.6.1-2.

Lower quality runoff from roads and parking areas is proposed to be routed through multi-stage treatment systems targeting removal of pollutants of concern for lake clarity, including fine sediment particles, prior to discharge to infiltration facilities or to constructed wetlands. The multi-stage treatment systems would first route stormwater through catch basins with sumps and hydrodynamic stormwater treatment vaults (CONTECH CDS Vaults) to remove coarse sediment and oils and grease. Next, stormwater runoff would be routed through stormwater filtration vaults (Imbrium Jellyfish Filter) to remove fine sediment particles. Independent performance studies cited by the project applicant have shown the proposed Imbrium Jellyfish Filters to be effective at removing fine sediment particles. For example, a University of Florida study found the Imbrium Jellyfish Filter reduced the median particle size distribution across 21 storm events in 2010 and 2011 from 89 microns to 3 microns (University of Florida 2011: Table 5). Stormwater leaving the filters would be routed to either underground infiltration galleries or to a wet basin. The collective components of the multi-stage treatment systems employ treatment techniques known to remove pollutants of concern from stormwater via filtration and infiltration.

SSWA Wet Basin Treatment System (Ponds 6 and 10)

The project applicant is proposing water quality improvements to ponds 6 and 10 on the Edgewood Tahoe Golf Course property, which is the final treatment component of the SSWA treatment system. These improvements are referred to as Threshold Improvement Project B by the project applicant team. The following improvements related to water quality are proposed (Nichols Consulting Engineers et al. 2011: Figures 3.7–3.9):

- restoring the collective storage volume of ponds 6 and 10 to approximately the original storage volume;
- routing stormwater runoff in the ponds through approximately 1 acre of increased vegetated wetland area; and,
- changing the low flow outlet location of pond 10 to increase the flow path length of the pond.

Edgewood Creek In-line Pond System

The project applicant is proposing water quality improvements to the in-line pond system of Edgewood Creek within the project area, referred to as Threshold Improvements Projects C and D by the project applicant team.

The following improvements for Friday's Station pond are proposed:

- constructing a new outlet structure that changes the outlet location to be closer to the surface of the pond, to reduce the potential for settled material to resuspend during peak flows and be transported downstream;
- dredging the pond to remove sediment and material that has been captured by the pond, which may be in excess of 8,500 cubic yards (RO Anderson 2010: 5);
- expansion of the emergency spillway to bypass the 100-year storm and prevent the dam from being overtopped by the 100-year event. This modification would also stabilize the emergency spillway and include energy dissipation devices in the spillway to reduce velocities of flow returning to the creek downstream of the dam.

The following improvements related to water quality are proposed in the vicinity of ponds 1 and 12:

- stabilizing Edgewood Creek from the culvert outfall under U.S. 50 to pond 12;
- increasing the storage volume of ponds 1 and 12 by approximately 650,000 cubic feet;
- increasing vegetated wetland area that stormwater is routed through in the ponds by approximately 1.5 acres;

- increasing the average hydraulic residence time by approximately 40 hours (based on an average annual flow rate of approximately 3 cfs in Edgewood Creek).

MONITORING, INSPECTION, AND OPERATIONS PLAN (MIOP)

In addition to implementation of the water quality improvements described above, the project applicant has prepared a *Monitoring, Inspection, and Operations Plan* (Nichols Consulting Engineers 2012) that describes the approaches and activities that the Edgewood Tahoe Golf Course would conduct to maintain the functionality of the proposed water quality improvements over time. The purpose of the MIOP is to provide a comprehensive plan that would guide Edgewood Companies' staff in maintaining the Threshold Improvement Projects through inspections, maintenance, and monitoring. The implementation of the MIOP would demonstrate Edgewood Companies' commitment to maintaining the function of the improvements associated with the Threshold Improvement Projects. The plan documents the following proposed or ongoing activities associated with the golf course:

- Fertilizer Management Plan
- Pond, wetland, and creek management for water and environmental quality
- Surface water monitoring
- Groundwater monitoring

The plan documents the following proposed activities associated with the lodge component of the proposed project:

- Stormwater Management Plan
- Water quality compliance monitoring
- Voluntary water quality performance monitoring of the proposed multi-stage treatment system described above

ESTIMATED POLLUTANT LOAD REDUCTION

The project applicant team developed a number of water quality analyses to estimate the performance of the proposed project elements described above for Alternative 1. The water quality analyses included use of the Lake Tahoe Pollutant Load Reduction Model (PLRM) and physical measurements of sediment captured in the ponds. Table 5.6-6 summarizes the overall pollutant load reductions estimated for the combined water quality elements of the proposed project, as well as the anticipated improvements to key water quality metrics (Nichols Consulting Engineers et al. 2011: 71). The construction of the water quality elements of the proposed project, as well as the project applicant's commitment to maintain the water quality improvements in perpetuity as described in the MIOP is considered a **beneficial** impact.

Table 5.6-6. Estimated Pollutant Load Reduction and Improvements to Key Water Quality Metrics

Pollutant	Estimated Sediment Capture in Ponds 1, 12, 6, 10, and Friday's Station Pond (lbs/year)		
	Pre-Project[1]	Net Additional Capture w/ Project	Post Project
Total Suspended Sediment	424,000	76,400	500,400
Fine Sediment Particles	41,400	7,800	49,200
Estimated Changes to Key Water Quality Metrics		**Quantity**	
Additional Pond Volume (cubic feet)		811,000	
Additional Wetland Area (acres)		3	

[1] Note: The pre-project condition does not include a commitment to maintain the current system benefits.
Source: NCE et al. 2011

Mitigation Measure

No mitigation is required.

Impact 5.6.1-5	**Interception of Groundwater Table During Construction.** Based on data generated during the soils/hydrologic subsurface investigations, the majority of proposed construction excavation for Alternative 1 would not encounter groundwater. However, in a few locations excavation activities may intercept the groundwater table or exceed 5 feet in depth below ground surface, creating the potential for introduction of contaminants to groundwater. This impact is considered **potentially significant**.

Section 33.3 of the TRPA Code prohibits excavations, except under certain defined and permitted conditions, that interfere with or intercept the seasonal high water table by: altering the direction of groundwater flow; altering the rate of flow of groundwater; intercepting groundwater; adding or withdrawing groundwater; or raising or lowering the water table.

Alternative 1 includes several locations where excavations of 5 feet in depth or greater would occur, and some of the excavations could potentially intercept groundwater. Most locations where excavation greater than 5 feet would occur would be associated with construction of water quality improvement project infrastructure, utility infrastructure, or golf course realignment, with the following two exceptions:

The clubhouse expansion involves removal of non-native, artificial landscaped berms against the existing structure to depths in excess of 5 feet to facilitate the expansion.

The remote parking structure near the entrance off Lake Parkway would require excavation exceeding 5 feet.

Preliminary geotechnical investigations performed in November of 2011 at the proposed location of the remote parking structure did not encounter groundwater to a depth of 12 feet, which was the maximum depth of the borings performed (GeoCon 2012: 6).

Appendix E includes maps showing the locations where excavations at depths of 5 feet or greater would occur under Alternative 1 (references to the specific plan sheets are shown below); these locations and activities generally include structural and non-structural project components as follows:

- Structural Components:
  - The remote parking structure located near Lake Parkway. (Sheets G5.1 and C-A2)
  - The clubhouse expansion where the existing berm abuts the clubhouse. (Sheet C-A2)
- Non-Structural Components:
  - Re-grading between golf holes 2 and 3 along the slope towards pond 1. (Sheet G5.1)
  - Re-grading of the green at golf hole 5 along the green's northeastern edge. (Sheet G5.1)Re-grading of golf hole 7 for a small portion of the fairway. (Sheets G5.1 and C-A3)
  - The water features located between the lodge and the casitas for the deepest portion of the ponds. (Sheets C-A1 and C-A2)
  - Installation of: 1) the storm drain along the southern corner of the project site, along the proposed roadway, and at the entryway to the parking garage; 2) the storm drain and treatment vaults to the southwest of the parking garage; and 3) the storm drain and outfall to pond 6. (Sheets C-A1, C-A2, C-A3, and C-B1)Construction of the vegetated basin located east of casita 1 at its deepest portions. (Sheet C-A2)

- Installation of common trenches and sanitary sewer main located along the roadway and southeast of the casitas where noted. Installation of a common trench to the maintenance building, and the installation of sanitary sewer service for relocated lots with future residences. (Sheets C-A4 and C-A5)
- Eastern portion of the wetland where the existing grade is highest. (Sheet C-B2)
- Creation of the new stream channel where noted. (Sheet C-C6)
- Dredging the central portion of Friday's Station pond and the outlet and spillway where noted. (Sheet C-D1)

Because some of the excavations under Alternative 1 may intercept groundwater, creating the potential for introduction of contaminants to groundwater, this impact is considered **potentially significant**.

Mitigation Measure 5.6.1-5: Develop and Implement a Dewatering Plan.

A Dewatering Plan shall be developed and implemented to protect groundwater during excavations from potential sediment and contaminant releases, including methods to clean up releases if they do occur. The plan shall also include methods for controlling potentially sediment-laden water from dewatering activities. Measures to prevent or minimize sediment and contaminant releases into groundwater during excavations, and methods to clean up releases if they occur may include: using temporary berms or dikes to isolate construction activities; using vacuum trucks to capture contaminant releases; and maintaining absorbent pads, and other containment and cleanup materials on-site to allow an immediate response to contaminant releases if they occur. Measures for controlling potentially sediment-laden water from dewatering activities may include routing pumped groundwater to an infiltration basin or to a treatment system.

Under the conditions of the TRPA approval of excavation depth for the proposed project (TRPA File # LCAP2008-0184), if subsurface conditions are found to be significantly different than those determined by the soils and hydrologic studies, TRPA shall be notified immediately.

Implementation of Mitigation Measure 5.6.1-5 would reduce Impact 5.6.1-5 to a **less-than-significant** level.

Impact 5.6.1-6 **Interference with Littoral Processes from the Relocated, Reconstructed, and Expanded Pier and Relocated Mouth of Edgewood Creek.** Alternative 1 would relocate the mouth of Edgewood Creek south of its current location. Because Edgewood Creek is not a significant source of beach sand to the littoral zone of Lake Tahoe; the beaches along the Edgewood property are influenced mostly by backshore erosion (as in most places on the Lake); the littoral cell of the shore at Edgewood does not have the same wave energy as other locations on Lake Tahoe where the Lake's shelf structure is deep (e.g., Third and Incline Creeks); and the proposed relocated mouth would be constructed such that no part of the improvements would be above grade that could alter, redirect, or otherwise interfere with shoreline currents; the relocated mouth of the creek is not anticipated to have an adverse effect on littoral processes. For these reasons, this impact is **less than significant**.

The proposed relocation, reconstruction and expansion of the existing pier associated with Alternative 1 would be designed and constructed consistent with the provisions of TRPA Code Subsection 84.5.2, "Design and Construction Standards," relevant to littoral processes. These standards were adopted to reflect the results of studies that establish criteria to avoid significant littoral drift impacts. However, Subsection 84.9.4 allows deviation from the standards for multiple-use facilities. The proposed pier is a multiple-use facility and deviates from the design standards specified in Subsection 84.5.2. The floating section of the proposed pier is large enough to disrupt wave actions when lake elevations range from 6225 to 6226 feet (average lake level is 6225 feet and ranges from below the low water rim of 6223 feet to high water conditions above 6229 feet). As a result, the proposed floating section of the pier has the potential to interfere with littoral processes and this would be a **significant** impact.

Further, the pilings for the Alternative 1 pier (fixed and floating segments) provide less potential for littoral interference (slightly lesser mass of pilings) than the existing pier that would be removed. Because the Design and Construction Standards were established to avoid substantial littoral drift, and because the proposed project's mass of pilings would be less than the existing pier, the littoral processes associated with the fixed portion of the pier are expected to be slightly less than under existing conditions. Therefore, this impact is **less than significant**.

The relocated mouth of Edgewood Creek would include improvements extending to elevation 6226 feet msl to allow fish passage at medium and high lake stands. The lower 300 feet of this channel are shown in the project application to have a cobble bed and geotextile-encapsulated soil side slopes. The proposed improvements would be constructed to match the grade of the adjacent beach area. In both the existing and proposed project conditions very little coarse sediment is likely to be transported in Edgewood Creek due to sediment interception in Friday's Station pond and ponds on the Edgewood Tahoe Golf Course property. Only Third Creek, the Upper Truckee River, and Trout Creek on Lake Tahoe are recognized for their importance in the delivery of appreciable volumes of coarse-grained sand to adjacent beaches (Osbourne 1985). Because Edgewood Creek is not a significant source of beach sand to the littoral zone of Lake Tahoe (Osbourne 1985; Moory, pers. comm., 2012); the beaches along the Edgewood property are influenced mostly by backshore erosion (as in most places on the Lake [Osbourne 1985]); the littoral cell of the shore at Edgewood does not have the same wave energy as other locations on Lake Tahoe where the Lake's shelf structure is deep (e.g., Third and Incline Creeks) (Moory, pers. comm., 2012); and the proposed relocated mouth would be constructed such that no part of the improvements would be above grade that could alter, redirect, or otherwise interfere with shoreline currents; the relocated mouth of the creek is not anticipated to have an adverse effect on littoral processes. For these reasons, this impact is **less than significant**.

Littoral processes could also be affected by the proposed pier. The existing pier plan is shown on Exhibit 3-10 and the proposed pier plan for Alternative 1 is shown on Exhibit 3-11.

The existing pier is approximately 91 feet long by 6 feet wide. It has wood decking supported on pairs of pilings spaced about every 15 feet and includes an approximately 16-foot by 3-foot ramp at the furthest section towards the lake. The total area of the deck is approximately 520 square feet. The pier pilings are 12-inch diameter, and have a total mass (plan view) of 11.3 square feet, 2.2 percent of the total pier deck.

As part of Alternative 1, the existing pier would be removed, relocated, and reconstructed at a location approximately 1,200 feet north of its current location (Exhibits 3-4 and 3-7). The proposed multiple-use pier would not be for commercial use. The pier would be accessible from the project area by Edgewood guests with limited space for boat mooring. It would not be available for commercial uses, but meets the definition of a multiple-use pier because it would be usable by the public, i.e., guests of Edgewood. (Chapter 90 of the TRPA Code) No sewage, boat lift, or refueling facilities are proposed in conjunction with the pier.

The proposed pier would extend approximately 123 feet into the lake from the high water line (natural rim; elevation 6229.1 feet Lake Tahoe Datum), approximately 32 feet longer than the existing pier. The pier would begin with an approximately 15-foot approach walk (American Disabilities Act [ADA] compliant access) above the high water line. The first 20 feet of the pier would be a stationary fixed section, followed by 11 feet of a fixed transition ramp section, and then a 19-foot adjustable section that connects the fixed portion of the pier (50 feet total) via a second 10-foot ramp section to a 73-foot floating section. The width of these sections would be 10 feet. The floating section of the pier would be constructed in an "L" shape and would end with a platform approximately 16 feet long by 30 feet wide. The proposed pier would include an estimated 14 steel pilings for the fixed and floating sections (the ramped sections would not include pilings), with the fixed sections of the pier having parallel sets of pilings (four pilings per section or eight pilings total) and the floating sections having a single piling in the center of each section (one piling per section or six pilings total). The proposed pilings would

be 12 inches in diameter. The proposed pier would extend to the TRPA-designated pierhead line (elevation 6219.0 feet Lake Tahoe Datum). The total area of the deck is proposed to be 1,561 square feet. The pier pilings would be 12-inch diameter or square/rectangular, and have a total mass (plan view) of 11.0 square feet, 0.7 percent of the total pier deck.

Because the reconstructed pier would qualify as a multiple use pier, it would be eligible for deviation from the Design and Construction Standards listed in TRPA Code Subsection 84.5.2, Subparagraph (A). Specifically, the multiple use pier could deviate from the 10-foot pier width standard specified in Code Subsection 84.5.2(A) to allow for a wider catwalk and the "L" shaped portion of the floating segment.

Construction staging for the pier removal and reconstruction would be provided by a barge on the lake. In addition, a turbidity curtain would be used at all times during construction of the floating pier. This is a standard BMP (208 Plan, Volume II, BMP-72, Best Management Practices). A turbidity curtain is a floating barrier consisting of relatively impervious fabric, used to prevent fine and coarse suspended sediment transport away from areas of water-based construction activities, in this case the removal and driving of the pier piles. The remainder (fixed section) of the reconstructed pier would be consistent with TRPA Code Section 84.5.2Design and Construction Standards, except for the exception allowed under Subparagraph (A) as mentioned above. The TRPA design and construction standards per Subsection 84.5.2 are:

- The width of piers shall be a maximum of 10 feet, which shall include all appurtenant structures except for a single low-level boat lift and a single catwalk. A catwalk below the level of the main deck, and not exceeding 3 feet in width by 45 feet in length, may be permitted. Additional width for a single catwalk may be permitted where TRPA finds it is necessary to facilitate barrier free access but at no time shall the entire width of the pier and catwalk exceed 13 feet. A low level boat lift with forks not exceeding 10 feet in width may be permitted.
- Pier decks shall not extend above elevation 6232.0 feet, Lake Tahoe Datum. Boat lifts, pilings, and handrails and other similar safety devices, shall not extend more than 4 feet above the pier deck. Pier decks may extend up to elevation 6234.0 feet in limited situations where TRPA finds that the additional height is necessary for safety reasons or that local wave characteristics represent a real threat to the integrity of the structure.
- To permit free circulation of water, piers shall be floating, or shall be built on an open piling foundation, but in no case shall a pier be supported on a foundation that is less than 90 percent open.
- Superstructures shall not be permitted on any lake or lagoon in the Region unless the structure is assured to be removed upon discontinuation of the use or the need for the structure; and it is either:
    - (a) for the purpose of conducting research identified in the Environmental Impact Program or conducting ongoing monitoring of environmental conditions identified in TRPA's monitoring program; the nature of the research or environmental monitoring requires an "over the water" location for data gathering instrumentation and is the minimal size necessary; and no watercraft will be housed in or on the superstructure; or
    - (b) required by a public agency for public health and safety purposes (such as a radio transmitter or a light beacon); by its very nature the superstructure requires an over the water location and is the minimum size necessary; and no watercraft will be housed in or on the superstructure.

Fueling facilities shall not be permitted on piers located adjacent to littoral parcels on which the primary use is residential.

The standards set forth in Subparagraph (1), above, may be waived for piers recognized by TRPA as multiple-use pursuant to Section 54.8 (Multiple-Use Facilities Standards).

A study was commissioned to look at the effects of piers and floating docks for the 2004 Lake Tahoe Shorezone Ordinance Amendments Draft EIS (TRPA 2004c: Appendix H). This study referenced information previously published on Lake Tahoe (Osborne et al. 1985), other studies on wave attenuation and floating docks, and field observations at three Lake Tahoe locations with existing floating piers – Anchorage Marina (Camp Richardson), Tahoe Vista, and the Hyatt Pier in Incline Village. The study concluded that open pile piers constructed to TRPA design and construction standards have no significant adverse impacts on littoral transport or backshore stability. Floating piers/docks (docks that float on the lake surface) can affect littoral transport if the dock is at least 50 percent the length of a wavelength sufficient in size to cause littoral drift. Appendix H states that the shortest wavelength that could cause littoral drift is 50 feet, so a floating dock that is 25 feet or less in length would have no effect on littoral drift.

As stated in Moory (2012), for conditions where the floating dock is attached firmly to the lake bottom, wave heights can be reduced by 50 percent or more when draft of the floating dock is 20 percent of the incoming wave height or the length of the dock is 20 percent of the wave length. Floating docks that are allowed to move with the wave heave reduce wave heights much less. Reduction of the wave height by 50 percent does not occur until the draft of the floating dock is 50 percent of the wave height or the length of the dock is 50 percent of the wave length. In other studies, Williams and McDougal (2000) found similar attenuation of wave heights when studying the response of waves to a floating dock with a wave wall. As the depth of the wave wall was increased a significant reduction of the transmitted wave occurred. Williams and McDougal also found that in the case of short waves that wave transmission rapidly approached zero due to the rapid decay of the wave during interaction with the floating dock. They also found that the width of the floating dock could substantially attenuate wave energy. As the width increased, the waves rapidly decreased to zero.

The investigation of the impact of the Alternative 1 pier requires information about the length of the proposed floating structure and the ability of waves to initiate and sustain the movement of sediment along the lake bottom. Based upon the first criterion, the proposed 73-foot floating section of the pier could affect littoral drift because it exceeds 50 percent of the length of the waves (as discussed, they range from 33 to 60 feet in length). However, the ability of any wave to move sediment must first be examined to confirm this possible impact.

The deep water waves that winds form and affect this project site are described in the Section 5.6.2, “Affected Environment.” Since the elevation of the surface of Lake Tahoe fluctuates with inflow and outflow of water, the water depth at the project site can vary and this can affect the ability of the wave to generate enough motion along the bottom of the lake. When water depths are at or below the low water rim of Lake Tahoe (elevation 6223 feet), the floating section of the proposed pier would be at a 4 foot water depth at its lakeward end and would be setting on land at its landward end. Under these conditions the floating section would act as a jetty. However, winds from the west and southwest would not generate waves capable of generating bottom currents sufficient to initiate sediment motion. Also any waves generated by winds greater than 25 mph would break before affecting the lakeward end of the pier. Waves generated by winds 25 mph or less would not create sufficient current at the lake bottom to initiate sediment motion. There would be no significant impact on littoral transport or backshore stability caused by the proposed pier when the lake was at elevation 6223 feet or below.

In the case of high water conditions at Lake Tahoe, the lake surface would be at elevation 6229 feet or greater. Under these conditions, water depth at the lakeward end of the floating structure would be 10 feet or greater; at this depth, wave energy would be absorbed in the water column and littoral transport would not occur. Water depth at the landward end of the floating section would be 6 feet or greater. Sediment entrainment in the water column would occur in 6 feet of water and littoral transport of sediments would be occurring. The floating pier would attenuate part of the wave. However, the part of the floating pier that would be capable of attenuating the wave would be substantially shorter than 50 percent of the wavelength. The impact upon littoral transport and backshore stability under these conditions would not be significant.

When the lake elevation is at elevation 6225 to 6226 feet, a common lake level elevation, there would be sufficient wave motion at the project site to entrain and move sediments at the lake bottom beneath the entire floating section of the pier. These conditions would occur frequently and the attenuating effects of the floating pier would be substantial. During these conditions the impact of the floating section on littoral transport and backshore stability would be deemed to have a **significant** impact. Mitigation is provided below.

The proposed deck would result in 1,561 square feet of surface area, and 11.0 square feet (plan view) of pier piling structure, meaning over 99 percent would be open. This compares with the existing 509 square foot pier with 11.3 square feet of pier structure (plan view) that would be removed with the relocation of the pier. More than 90 percent of the pier support would be open (over 99 percent would be open). Because the proposed pier would be designed and constructed to the TRPA standards (more than 90 percent open), which have been shown to be effective in avoiding substantial interference with littoral processes, and operated as designed to avoid effects on littoral processes, the fixed portion of the pier would have no significant adverse impacts to littoral transport or backshore stability. Therefore, this impact is **less than significant**.

Mitigation Measure 5.6.1-6: Reduce Floating Section of the Pier to 30 Feet.

The floating section shall be reduced to no more than 30 feet in length. The fixed section could be lengthened to 93 feet to maintain the overall length of the pier if desired. At 30 feet, the floating section would be short enough that it would not substantially affect littoral transport. As an alternative, the entire pier could be constructed so it is supported by open piling, with no floating segment.

Implementation of Mitigation Measure 5.6.1-6 would reduce Impact 5.6.1-6 to a **less-than-significant** level because the Alternative 1 pier with a maximum 30-foot floating section would not substantially affect littoral drift and backshore stability at any lake level.

Impact 5.6.1-7	Degradation of Water Quality During Pier Relocation and Extension. Alternative 1 includes removal of the existing pier, and relocation and construction of a new pier. A total of 14 pilings are proposed for pier construction with parallel pilings on fixed pier sections (four per section) and a single piling for each floating section. Pier installation would result in minor disturbance of the lake bottom and minimal resuspension of sediments, nutrients, and other pollutants. The minimal disturbance to the lake bottom associated with Alternative 1 would not adversely affect Lake Tahoe water quality or cause established water quality standards to be exceeded. Therefore, this impact is considered less than significant.

Floating piers and buoys built to TRPA Code Subsection 84.5.2“Design and Construction Standards” (described in Impact 5.6.1-6) are not a significant direct source of water pollution, because design and construction standards were developed specifically by TRPA to regulate the placement of new piers, buoys and other structures in the nearshore and foreshore to avoid degradation of fish habitats, creation of navigation hazards, interference with littoral drift, interference with the attainment of scenic thresholds and other relevant concerns. These standards conform to the TRPA Handbook of Best Management Practices, which sets forth the guidelines for water quality protection approved by TRPA based on proven water quality protection measures.

Construction staging for the pier relocation would be provided by a barge on the lake. In addition, a turbidity curtain would be used at all times during construction. A turbidity curtain is a floating barrier consisting of relatively impervious fabric, used to prevent fine and coarse suspended sediment transport away from areas of water-based construction activities, in this case the driving of the pier piles. This impact is considered **less than significant.**

Mitigation Measure

No mitigation is required.

Impact 5.6.1-8	**Degradation of Source Water Quality from Boating Activity and Increased Beach Recreation.** Alternative 1 would include the relocation and extension of the existing pier and would provide new public beach access. The proposed project would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities associated with the relocated pier. The proposed public beach access is not intended to accommodate a large number of people, and Edgewood Companies proposes to adaptively manage public access by potentially setting a limit to the number of people that may use the beach during peak periods. Furthermore, the Edgewood Water Company primary water supply intake line extends over 2,000 feet from the beach, and its backup line is located over 700 feet from the beach. These distances from the shoreline, combined with the depths of the intakes is sufficient to protect source water quality. This impact is considered **less than significant**.

Alternative 1 would include the relocation and extension of the existing pier (Exhibits 3-4, 3-7, 3-10, and 3-11). The proposed pier extension and relocation would not cause an increase in the number of boats on the lake because there would be no increase in the number of available buoys, no boat launching facility at the project site, no additional permanent boat moorings, and no marina facilities. The proposed pier would not include sewage or refueling facilities. The placement of the reconstructed pier and buoys would have no measureable effect on existing water supply intakes, as any increases in boat activity related to the pier would be near the shoreline. Measures that are in place to protect water quality from boating activities include but are not limited to the limitation of 4-stroke and direct fuel injection 2-stroke engines, as well as the requirement that boaters conform with Section 60.1 of the TRPA Code, which prohibits discharge of wastewater (bilge water, human waste) to Lake Tahoe.

The project includes a lakefront recreation area, including a public swimming beach that extends south from the proposed relocated pier to the northern edge of the golf hazard zone near realigned golf hole 9. The total public beach area from the high water line to the backshore would be 15,507 square feet, and in most years the size of the beach would likely be closer to 26,359 square feet (beach area at average Lake elevation 6,225') as Lake Tahoe is rarely at the high water line for an extended period of time. The proposed public beach is not intended to accommodate large numbers of people (see Section 5.4, "Recreation and Public Access"). Edgewood Companies proposes to take an adaptive management approach to beach management through such measures as limiting access during peak periods (e.g., beach goers may be provided a limited number of passes to get through the gate house area during peak periods).

Projects within 600 feet of a drinking water source identified by TRPA require special consideration as described in Section 60.3 of the TRPA Code and are afforded protection under the Lake Tahoe Source Water Protection Program. There are three protected drinking water sources within 600 feet of the project area: the Edgewood Water Company (EWC) intake line (00703003I11) that extends into Lake Tahoe from a location north of the existing lakefront residences; and two active wells (02903603W11 and 02905101W11) south of the project area boundary near golf hole 9 in California (TRPA 2000). Prior to issuance of a TRPA permit, the project applicant would be required to comply with the source water protection provisions contained in Section 60.3.3.D of the TRPA Code.

For the well sites south of the site, the proposed project would not bring fertilized turf areas closer than they are today and therefore is not considered to create a possible contaminating activity. The project is expected to result in reduced fertilizer application (Impact 5.3.1-10) at levels that could improve groundwater conditions. For these reasons, the project would not be expected to cause degradation of these drinking water sources.

The mouth of the EWC primary water supply intake is located over 2,000 feet from the beach, and an adjacent parallel back-up water intake is located over 700 feet from the beach. These distances from the shoreline, combined with the depths of the intakes is sufficient to protect source water quality of the intakes. This impact is considered **less than significant.**

Mitigation Measure

No mitigation is required.

Impact 5.6.1-9	Flood Hazard Effects. Based on the most recent Douglas County Flood Insurance Rate Maps (January 2010), Alternative 1 would site structures outside the 100-year flood hazard boundary and would not result in placement within the 100-year flood hazard boundary any structures that would impede or redirect flood flows. However, the current flood hazard boundary in the vicinity of the proposed project was delineated using approximate methodologies and is classified as a Zone A boundary, which does not provide base flood elevations. In this situation, Douglas County Floodplain Management Code (Section 20.50) requires additional study by a licensed civil engineer to delineate the floodplain boundary using approved engineering methods to confirm that proposed structures do not encroach into a special flood hazard area. Because the floodplain boundary on the subject parcels has not been delineated to required Douglas County standards to make the necessary findings, this impact is considered potentially significant.

The current floodplain delineation on the parcels associated with the proposed project is designated as a Zone A boundary (Exhibits 5.6-3 and 5.6-4). Zone A defines the boundary of the 100-year floodplain delineated using approximate methodologies. Because detailed hydraulic analyses have not been performed, no base flood elevations (BFEs) or flood depths are shown within a Zone A boundary.

Douglas County Floodplain Management Code (Section 20.50.100) requires that at a minimum, any project application for a parcel that is partially within a special flood hazard area (e.g., Zone A) provide a survey by a licensed engineer delineating the floodplain boundaries on the parcel, as well as an elevation certificate and proof the proposed construction, substantial improvement or other development does not encroach into the special flood hazard area. In the event improvements do encroach into the special flood hazard area, the project applicant is required to meet additional provisions of the Douglas County Floodplain Management Code prior to issuance of a floodplain development permit, which could include developing a Conditional Letter of Map Revision (CLOMR). Because the floodplain boundary on the subject parcels for Alternative 1 has not been delineated to required Douglas County standards to confirm the proximity of proposed structures relative to the 100-year flood hazard boundary, an analysis that is typically conducted as part of the latter phases of project design and for permitting purposes, this impact is considered **potentially significant**.

Mitigation Measure 5.6.1-9: Produce a Floodplain Delineation that Meets Douglas County Standards.

The project applicant shall confirm the proximity of proposed structures relative to the 100-year flood hazard boundary by developing a floodplain delineation using approved engineering methods that meet Douglas County standards. In the event that the floodplain delineation identifies proposed structures to be within the 100-year flood hazard boundary, the project applicant shall either relocate the structures, or comply with additional requirements of the Douglas County Floodplain Management Code and Section 35.4 of the TRPA Code.

By ensuring that proposed structures associated with Alternative 1 are located outside of the 100-year flood hazard boundary, implementation of Mitigation Measure 5.6.1-9 would reduce Impact 5.6.1-9 to a **less-than-significant** level.

Impact 5.6.1-10	**Degradation of Groundwater Quality from Golf Course Modifications and the Proposed Event Lawn.** Alternative 1 would include the reconfiguration and relocation of golf holes 7, 8, and 9 and a new event lawn that extends from the clubhouse expansion. The proposed reconfiguration would relocate golf play closer to Lake Tahoe for the green on golf hole 9 (albeit not closer than existing turf associated with golf hole 18) and the event lawn adjacent to the clubhouse expansion. Alternative 1 would also increase the area of buffer strips that separate fertilized turf areas from surface water features on the golf course by approximately 4 acres. Finally, Alternative 1 includes a commitment to maintain a reduction in golf course area that is fertilized by 23.5 acres relative to the baseline condition and to install two new groundwater monitoring wells near turf areas. In total, the proposed project would result in an overall reduction in the amount of fertilizer applied on the golf course, which would likely have a benefit to existing groundwater quality. Therefore, the cumulative modifications to the golf course and fertilized turf areas under Alternative 1 are considered to be a **less-than-significant** impact on groundwater quality.

Exhibit 5.6-2 presents the baseline configuration of the Edgewood Tahoe Golf Course, including the identification of fertilized turf areas. Exhibit 5.6-5 illustrates the proposed configuration of the Edgewood Tahoe Golf Course under Alternative 1, including identification of fertilized turf areas for the golf course. Exhibits 3-7 and 3-8 in Chapter 3, "Project Description," show the extent of the proposed event lawn.

Notable changes in fertilizer use and groundwater monitoring associated with Alternative 1 include the following:

- Removal of lawns associated with the two existing lakefront residences immediately adjacent to Lake Tahoe.
- Reconfiguration and relocation of golf holes 7, 8, and 9, and the new event lawn that extends from the clubhouse expansion. The proposed reconfiguration would relocate golf play closer to Lake Tahoe for the green on golf hole 9 (albeit not closer than existing turf associated with golf hole 18) and the event lawn.
- An increase in the area of surface water buffer strips (10 foot and 25 foot setbacks around ponds and wetlands), which separate fertilized turf areas from surface water features on the golf course. An increase of 4 acres of surface water buffer strips is proposed.
- A commitment to continue operation of the golf course with a reduction of 23.5 acres of fertilized turf relative to the baseline condition (with allowance for moderate changes in total area of fertilized turf necessary to adaptively manage the quality of play on the golf course). In the baseline condition fertilized turf are associated with the golf course is 129 acres (Nichols Consulting Engineers et al. 2011: 75). The commitment of reduced fertilized turf area would result in approximately 105.5 acres of fertilized turf under Alternative 1.
- In addition to the three existing groundwater monitoring wells at the site, the Alternative 1 groundwater monitoring program includes the establishment of two additional wells (one between the fairway on golf hole 9 and Lake Tahoe and the other along the fairway on golf hole 18 in the area down gradient of the fairway, driving range, pond 1, and up gradient portions of the golf course).

In total, the measures described above would result in an overall reduction in the amount of fertilizer applied on the golf course, which would likely have a benefit to existing groundwater quality. Therefore, the cumulative modifications to the golf course and fertilized turf areas under Alternative 1 are considered to be a **less-than-significant** impact on groundwater quality.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.6.2-1	**Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction.** Because Alternative 2 would be constructed on the same site and would result in a similar level of construction disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-1 described above for Alternative 1. Soil disturbance associated with construction of Alternative 2 could cause accelerated soil erosion and sedimentation or the release of other pollutants associated with construction activities to adjacent waterways and wetlands. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-1.

Mitigation Measure 5.6.2-1: Prepare and Implement a Storm Water Pollution Prevention Plan.

See Mitigation Measure 5.6.1-1 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.6.2-1 would reduce Impact 5.6.2-1 to a **less-than-significant** level.

Impact 5.6.2-2	Changes in Surface Runoff Patterns. Because Alternative 2 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would use the same BMPs and stormwater management approach as described for Alternative 1, this impact is similar to Impact 5.6.1-2 described above for Alternative 1. Alternative 2 would increase impervious coverage relative to Alternative 1 (an increase of 66,486 square feet or 1.5 acres), but would reduce annual surface runoff volumes compared to the baseline condition. In the baseline condition surface runoff from the parking lots is pumped and treated in the wetland system between ponds 6 and 10, and remains surface runoff. Water quality facilities for Alternative 2 would emphasize stormwater detention and infiltration to a greater degree than that current BMPs used in the baseline condition. Furthermore, Alternative 2 would comply with all applicable Douglas County Design Criteria and Improvement Standards for drainage design and peak flow conveyance. Because Alternative 2 would reduce annual runoff volumes and comply with applicable drainage design standards, the proposed project would have a **less-than-significant** impact on existing surface water drainage patterns and existing or planned stormwater drainage systems.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-2.

Mitigation Measure

No mitigation is required.

Source: Resource Concepts Inc. 2010

Exhibit 5.6-5 **Proposed Golf Course Configuration and Fertilizer Management**

Impact 5.6.2-3	**Geomorphic Effects of Creek Modifications.** Because Alternative 2 would include the same creek modifications as Alternative 1, this impact is the same as Impact 5.6.1-3 described above for Alternative 1. The proposed creek modifications would likely result in a benefit by: 1) improving aquatic and riparian habitat by improving fish passage and providing spawning areas; 2) improving water quality by increasing vegetated floodplain and increasing fine sediment capture; and 3) improving channel stability by re-creating a more functional channel/floodplain system. Potential adverse geomorphic effects of the proposed creek modifications under Alternative 2 could include the potential to create channel instability and erosion during flood events. Because the proposed creek modifications would re-create a more functional channel/floodplain system relative to the baseline condition, and because a detailed design review process is proposed by the project applicant and would be required by applicable permitting agencies (e.g., TRPA, Douglas County, and USACE) to ensure that potentially adverse geomorphic effects of channel instability and erosion during flood events associated with the proposed modifications are avoided, this impact is considered to be **beneficial**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-3.

Mitigation Measure

No mitigation is required.

Impact 5.6.2-4	**Pollutant Loading in Surface Runoff**. Because Alternative 2 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would apply similar water quality mitigation measures and the same additional water quality improvements as described for Alternative 1, this impact is similar to Impact 5.6.1-4 described above for Alternative 1. In total, the required water quality mitigation measures and the additional water quality improvements proposed by the project applicant for Alternative 2 would decrease pollutant loading in surface runoff from the project site and the Edgewood Creek watershed. This impact is considered **beneficial**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-4.

Mitigation Measure

No mitigation is required.

Impact 5.6.2-5	**Interception of Groundwater Table During Construction.** Because Alternative 2 would be constructed on the same site and would result in a similar level of construction related disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-5 described above for Alternative 1. Based on data generated during the soils/hydrologic subsurface investigations, the majority of proposed construction excavation for Alternative 2 would not encounter groundwater. However, in a few locations excavation activities may intercept the groundwater table or exceed 5 feet in depth below ground surface, creating the potential for introduction of contaminants to groundwater. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-5.

Mitigation Measure 5.6.2-5: Develop and Implement a Dewatering Plan.

See Mitigation Measure 5.6.1-5 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.6.2-5 would reduce Impact 5.6.2-5 to a **less-than-significant** level.

Impact 5.6.2-6 **Interference with Littoral Processes from the Reconstructed and Expanded Pier and Relocated Mouth of Edgewood Creek.** The proposed relocated mouth of Edgewood Creek would be the same with Alternative 2, as with Alternative 1. The Alternative 2 pier would be constructed in the same location as the existing pier and within the same littoral cell as the Alternative 1 pier. The Alternative 2 pier design is also the same as Alternative 1. The lake depth at the Alternative 2 pier location is expected to be about the same as the Alternative 1 pier. For these reasons, this impact is the same as Impact 5.6.1-6 described above for Alternative 1. Because Edgewood Creek is not a significant source of beach sand to the littoral zone of Lake Tahoe; the beaches along the Edgewood property are influenced mostly by backshore erosion (as in most places on the Lake); the littoral cell of the shore at Edgewood does not have the same wave energy as other locations on Lake Tahoe where the Lake's shelf structure is deep (e.g., Third and Incline Creeks); and the proposed relocated mouth would be constructed such that no part of the improvements would be above grade that could alter, redirect, or otherwise interfere with shoreline currents; the relocated mouth of the creek is not anticipated to have an adverse effect on littoral processes. For these reasons, this impact is **less than significant**.

The floating section of the Alternative 2 pier is large enough to disrupt wave actions when lake elevations range from 6225 to 6226 feet. As a result, the proposed floating section of the pier has the potential to interfere with littoral processes and this would be a **significant** impact.

Further, the pilings for the Alternative 2 pier (fixed and floating segments) provide less potential for littoral interference (slightly lesser mass of pilings) than the existing pier that would be removed. Because the Design and Construction Standards were established to avoid substantial littoral drift, and because the Alternative 2 pier's mass of pilings would be less than the existing pier, the littoral processes associated with the fixed portion of the pier are expected to be slightly less than under existing conditions. Therefore, this impact is considered **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-6.

Mitigation Measure 5.6.2-6: Reduce Floating Section of the Pier to 30 Feet.

See Mitigation Measure 5.6.1-6 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.6.2-6 would reduce Impact 5.6.2-6 to a **less-than-significant** level because the Alternative 2 pier with a maximum 30-foot floating section would not substantially affect littoral drift and backshore stability at any lake level.

Impact 5.6.2-7	**Degradation of Water Quality During Pier Relocation and Extension**. Because Alternative 2 would result in a similar pier relocation and extension, and would use the same construction techniques as Alternative 1, this impact is similar to Impact 5.6.1-7 described above for Alternative 1. Alternative 2 includes relocation and extension of the existing pier. A total of 14 pilings are proposed for pier construction with parallel pilings on fixed pier sections (four per section) and a single piling for each floating section. Pier installation would result in minor disturbance of the lake bottom and minimal resuspension of sediments, nutrients, and other pollutants. The minimal disturbance to the lake bottom associated with Alternative 2 would not adversely affect Lake Tahoe water quality or cause established water quality standards to be exceeded. Therefore, this impact is considered **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-7.

Mitigation Measure

No mitigation is required.

Impact 5.6.2-8	**Degradation of Source Water Quality from Boating Activity and Increased Beach Recreation**. Because Alternative 2 would result in a similar pier relocation and extension, and the same new public beach access as Alternative 1, this impact is similar to Impact 5.6.1-8 described above for Alternative 1. Alternative 2 would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities associated with the relocated pier. The proposed public beach access is not intended to accommodate a large number of people, and Edgewood Companies proposes to adaptively manage public access by potentially setting a limit to the number of people that may use the beach during peak periods. Furthermore, the Edgewood Water Company primarily water supply intake line extends over 2,000 feet from the beach, and its backup line is located over 700 feet from the beach. These distances from the shoreline, combined with the depths of the intakes is sufficient to protect source water quality. This impact is considered **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-8.

Mitigation Measure

No mitigation is required.

Impact 5.6.2-9	**Flood Hazard Effects**. Because Alternative 2 would be constructed on the same site, and would result in a similar level of development in a similar location on the site relative to Alternative 1, this impact is similar to Impact 5.6.1-9 described above for Alternative 1. The current flood hazard boundary in the vicinity of the proposed project was delineated using approximate methodologies and is classified as a Zone A boundary, which does not provide base flood elevations. In this situation, Douglas County Floodplain Management Code (Section 20.50) requires additional study by a licensed civil engineer to delineate the floodplain boundary using approved engineering methods to confirm that proposed structures do not encroach into a special flood hazard area. Because the floodplain boundary on the subject parcels has not been delineated to required Douglas County standards to make the necessary findings, this impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-9.

Mitigation Measure 5.6.2-9: Produce a Floodplain Delineation that Meets Douglas County Standards.

See Mitigation Measure 5.6.1-9 described above for Alternative 1. The same mitigation measure would apply.

By ensuring that proposed structures associated with Alternative 2 are located outside of the 100-year flood hazard boundary, implementation of Mitigation Measure 5.6.2-9 would reduce Impact 5.6.2-9 to a **less-than-significant** level.

Impact 5.6.2-10	**Degradation of Groundwater Quality from Golf Course Modifications and the Proposed Event Lawn.** Because Alternative 2 would result in the same reconfiguration and relocation of golf holes 7, 8, and 9 and a new event lawn that extends from the clubhouse expansion, as well as the same fertilizer management practices relative to Alternative 1, this impact is the same as Impact 5.6.1-10 described above for Alternative 1. In total, the proposed project would result in an overall reduction in the amount of fertilizer applied on the golf course, which would likely provide a benefit to existing groundwater quality. Therefore, the cumulative modifications to the golf course and fertilized turf areas under Alternative 2 are considered to be a **less-than-significant** impact on groundwater quality.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-10.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.6.3-1	**Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction**. Because Alternative 3 would be constructed on the same site and would result in a similar level of construction disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-1 described above for Alternative 1. Soil disturbance associated with construction of Alternative 3 could cause accelerated soil erosion and sedimentation or the release of other pollutants associated with construction activities to adjacent waterways and wetlands. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-1.

Mitigation Measure 5.6.3-1: Prepare and Implement a Storm Water Pollution Prevention Plan.

See Mitigation Measure 5.6.1-1 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.6.3-1 would reduce Impact 5.6.3-1 to a **less-than-significant** level.

Impact 5.6.3-2	Changes in Surface Runoff Patterns. Because Alternative 3 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would use the same BMPs and stormwater management approach as described for Alternative 1, this impact is similar to Impact 5.6.1-2 described above for Alternative 1. Alternative 3 would increase impervious coverage relative to Alternative 1 (an increase of 67,689 square feet or 1.6 acres), but would reduce annual surface runoff volumes compared to the baseline condition. In the baseline condition surface runoff from the parking lots is pumped and treated in the wetland system between ponds 6 and 10, and remains surface runoff. Water quality facilities for Alternative 3 would emphasize stormwater detention and infiltration to a greater degree than that current BMPs used in the baseline condition. Furthermore, Alternative 3 would comply with all applicable Douglas County Design Criteria and Improvement Standards for drainage design and peak flow conveyance. Because Alternative 3 would reduce annual runoff volumes and comply with applicable drainage design standards, the proposed project would have a **less-than-significant** impact on existing surface water drainage patterns and existing or planned stormwater drainage systems.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-2.

Mitigation Measure

No mitigation is required.

Impact 5.6.3-3	**Geomorphic Effects of Creek Modifications.** Because Alternative 3 would include the same creek modifications as Alternative 1, this impact is the same as Impact 5.6.1-3 described above for Alternative 1. The proposed creek modifications would likely result in a benefit by: 1) improving aquatic and riparian habitat by improving fish passage and providing spawning areas; 2) improving water quality by increasing vegetated floodplain and increasing fine sediment capture; and 3) improving channel stability by re-creating a more functional channel/floodplain system. Potential adverse geomorphic effects of the proposed creek modifications under Alternative 3 could include the potential to create channel instability and erosion during flood events. Because the proposed creek modifications would re-create a more functional channel/floodplain system relative to the baseline condition, and because a detailed design review process is proposed by the project applicant and would be required by applicable permitting agencies (e.g., TRPA, Douglas County, and USACE) to ensure that potentially adverse geomorphic effects of channel instability and erosion during flood events associated with the proposed modifications are avoided, this impact is considered to be **beneficial**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-3.

Mitigation Measure

No mitigation is required.

Impact 5.6.3-4	**Pollutant Loading in Surface Runoff.** Because Alternative 3 would be constructed on the same site, would result in a comparable level of development to Alternative 1, and would apply similar water quality mitigation measures and the same additional water quality improvements as described for Alternative 1, this impact is similar to Impact 5.6.1-4 described above for Alternative 1. In total, the required water quality mitigation measures and the additional water quality improvements proposed by the project applicant for Alternative 3 would decrease pollutant loading in surface runoff from the project site and the Edgewood Creek watershed. This impact is considered **beneficial**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-4.

Mitigation Measure

No mitigation is required.

Impact 5.6.3-5	**Interception of Groundwater Table During Construction**. Because Alternative 3 would be constructed on the same site and would result in a similar level of construction related disturbance as with Alternative 1, this impact is similar to Impact 5.6.1-5 described above for Alternative 1. Based on data generated during the soils/hydrologic subsurface investigations, the majority of proposed construction excavation for Alternative 3 would not encounter groundwater. However, in a few locations excavation activities may intercept the groundwater table or exceed 5 feet in depth below ground surface, creating the potential for introduction of contaminants to groundwater. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-5.

Mitigation Measure 5.6.3-5: Develop and Implement a Dewatering Plan.

See Mitigation Measure 5.6.1-5 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.6.3-5 would reduce Impact 5.6.3-5 to a **less-than-significant** level.

Impact 5.6.3-6	**Interference with Littoral Processes from the Relocated, Reconstructed, and Expanded Pier and Relocated Mouth of Edgewood Creek.** The proposed relocated mouth of Edgewood Creek would be the same with Alternative 3, as with Alternative 1. The Alternative 3 pier would be relocated and constructed at a location approximately 236 feet north of the location of the existing pier. The Alternative 3 pier would be constructed within the same littoral cell as the Alternative 1 pier, and would include the same pier design. The lake depth at the Alternative 3 pier location is expected to be about the same as the Alternative 1 pier. For these reasons, this impact is the same as Impact 5.6.1-6 described above for Alternative 1. Because Edgewood Creek is not a significant source of beach sand to the littoral zone of Lake Tahoe; the beaches along the Edgewood property are influenced mostly by backshore erosion (as in most places on the Lake); the littoral cell of the shore at Edgewood does not have the same wave energy as other locations on Lake Tahoe where the Lake's shelf structure is deep (e.g., Third and Incline Creeks); and the proposed relocated mouth would be constructed such that no part of the improvements would be above grade that could alter, redirect, or otherwise interfere with shoreline currents; the relocated mouth of the creek is not anticipated to have an adverse effect on littoral processes. For these reasons, this impact is **less than significant**.

The floating section of the Alternative 3 pier is large enough to disrupt wave actions when lake elevations range from 6225 to 6226 feet. As a result, the proposed floating section of the pier has the potential to interfere with littoral processes and this would be a **significant** impact.

Alternative 3 also includes permitting of existing buoys, but no change to the buoys. Further, the pilings for the Alternative 3 pier (fixed and floating segments) provide less potential for littoral interference (slightly lesser mass of pilings) than the existing pier that would be removed. Because the Design and Construction Standards were established to avoid substantial littoral drift, and because the Alternative 3 pier's mass of pilings would be less than the existing pier, the littoral processes associated with the fixed portion of the pier are expected to be slightly less than under existing conditions. Therefore, this impact is considered **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-6.

Mitigation Measure 5.6.3-6: Reduce Floating Section of the Pier to 30 Feet.

See Mitigation Measure 5.6.1-6 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.6.3-6 would reduce Impact 5.6.3-6 to a **less-than-significant** level because the Alternative 3 pier with a maximum 30-foot floating section would not substantially affect littoral drift and backshore stability at any lake level.

Impact 5.6.3-7 **Degradation of Water Quality During Pier Relocation and Extension**. Because Alternative 3 would result in a similar pier relocation and extension, and would use the same construction techniques as Alternative 1, this impact is similar to Impact 5.6.1-7 described above for Alternative 1. Alternative 3 includes relocation and extension of the existing pier. A total of 14 pilings are proposed for pier construction with parallel pilings on fixed pier sections (four per section) and a single piling for each floating section. Pier installation would result in minor disturbance of the lake bottom and minimal resuspension of sediments, nutrients, and other pollutants. The minimal disturbance to the lake bottom associated with Alternative 3 would not adversely affect Lake Tahoe water quality or cause established water quality standards to be exceeded. Therefore, this impact is considered **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-7.

Mitigation Measure

No mitigation is required.

Impact 5.6.3-8 **Degradation of Source Water Quality from Boating Activity and Increased Beach Recreation**. Because Alternative 3 would result in a similar pier relocation and extension, and the same new public beach access as Alternative 1, this impact is similar to Impact 5.6.1-8 described above for Alternative 1. Alternative 3 would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities associated with the relocated pier. The proposed public beach access is not intended to accommodate a large number of people, and Edgewood Companies proposes to adaptively manage public access by potentially setting a limit to the number of people that may use the beach during peak periods. Furthermore, the

Edgewood Water Company primarily water supply intake line extends over 2,000 feet from the beach, and its backup line is located over 700 feet from the beach. These distances from the shoreline, combined with the depths of the intakes is sufficient to protect source water quality. This impact is considered **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-8.

Mitigation Measure

No mitigation is required.

Impact 5.6.3-9 **Flood Hazard Effects**. Because Alternative 3 would be constructed on the same site, and would result in a similar level of development in a similar location on the site relative to Alternative 1, this impact is similar to Impact 5.6.1-9 described above for Alternative 1. The current flood hazard boundary in the vicinity of the proposed project was delineated using approximate methodologies and is classified as a Zone A boundary, which does not provide base flood elevations. In this situation, Douglas County Floodplain Management Code (Section 20.50) requires additional study by a licensed civil engineer to delineate the floodplain boundary using approved engineering methods to confirm that proposed structures do not encroach into a special flood hazard area. Because the floodplain boundary on the subject parcels has not been delineated to required Douglas County standards to make the necessary findings, this impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-9.

Mitigation Measure 5.6.3-9: Produce a Floodplain Delineation that Meets Douglas County Standards.

See Mitigation Measure 5.6.1-9 described above for Alternative 1. The same mitigation measure would apply.

By ensuring that proposed structures associated with Alternative 2 are located outside of the 100-year flood hazard boundary, implementation of Mitigation Measure 5.6.3-9 would reduce Impact 5.6.3-9 to a **less-than-significant** level.

Impact 5.6.3-10 **Degradation of Groundwater Quality from Golf Course Modifications and the Proposed Event Lawn.** Because Alternative 3 would result in the same reconfiguration and relocation of golf holes 7, 8, and 9 and a new event lawn that extends from the clubhouse expansion, as well as the same fertilizer management practices relative to Alternative 1, this impact is the same as Impact 5.6.1-10 described above for Alternative 1. In total, the proposed project would result in an overall reduction in the amount of fertilizer applied on the golf course, which would likely provide a benefit to existing groundwater quality. Therefore, the cumulative modifications to the golf course and fertilized turf areas under Alternative 3 are considered to be a **less-than-significant** impact on groundwater quality.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.6.1-10.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, there would be no changes to existing conditions on the project site. Under this alternative, there would be no change in the amount of impervious surfaces on the project site or existing uses of the site, and therefore there would be no impacts related to hydrology and water quality. However, the potential water quality benefits of the development alternatives (reduced impervious surface area and associated runoff volumes and reductions in pollutant loading in surface runoff) discussed above would not be realized. More specifically, the estimated pollutant load reductions shown in Table 5.6-6, including those for pre-project conditions, may not be maintained without implementation of the proposed project and the commitments contained in the MIOP.

5.6.4 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

This section summarizes the effects of implementing the proposed project on the environmental thresholds established by TRPA for water quality that are applicable to the proposed project. As shown in Table 5.6-1, the following six water quality thresholds established by TRPA are applicable to the proposed project:

- WQ-1, Nearshore Turbidity
- WQ-2, Winter Clarity, Pelagic Lake Tahoe
- WQ-3, Phytoplankton Primary Productivity
- WQ-4, Tributary Water Quality
- WQ-5, Stormwater Runoff Quality Discharged to Surface Water
- WQ-6, Stormwater Runoff Quality Discharged to Groundwater

Implementation of Alternatives 1, 2, and 3 would include a similar level of development, water quality facilities, and design approaches to retain and infiltrate stormwater runoff and to treat stormwater runoff from the proposed lodge and associated facilities. Furthermore, Alternatives 1, 2, and 3 would all include the same voluntary improvements that are in addition to measures required to mitigate the impacts of the project. Because the water quality and hydrology components of Alternatives 1, 2, and 3 would have the same effect on TRPA environmental thresholds, the analysis below references the proposed project but would also be applicable to Alternatives 2 and 3. Alternative 4 is the no project alternative and would not affect TRPA environmental thresholds for water quality.

WQ-1, WQ-2, AND WQ-3

Threshold indicators WQ-1, WQ-2, and WQ-3 include numerical standards that pertain to the quality and clarity of Lake Tahoe's waters, where measurements of the numerical standards are influenced by the amount of pollutant loading discharged to Lake Tahoe. The proposed project would implement water quality mitigation measures that are designed above and beyond TRPA requirements for BMPs associated with the Edgewood Lodge component of the project. Additionally, Alternative 1 would include a number of voluntary improvements that are in addition to measures required to mitigate the impacts of the project that would: (1) increase the effectiveness of pollutant load reductions achieved by the wet pond treatment system (ponds 6 and 10) associated with the SSWA treatment system; (2) increase the effectiveness of pollutant load reductions achieved by the Edgewood Creek pond system; and (3) commit to maintain the pond systems as water quality treatment

BMPs in perpetuity as defined in the proposed *Monitoring, Inspection, and Operations Plan* (Nichols Consulting Engineers 2011). In total, the required water quality mitigation measures and the additional water quality improvements proposed by the project applicant would decrease pollutant loading in surface runoff from the project site and the Edgewood Creek watershed, including the pollutant load of fine sediment particles. Implementation of the proposed project would not contribute to the non-attainment of WQ-1, WQ-2, and WQ-3 thresholds. Additionally, given that fine sediment particles are considered the primary pollutant of concern impairing lake clarity (see Section 5.6.1), the proposed project would contribute towards the attainment of WQ-2.

WQ-4

Threshold WQ-4 includes indicators that have been interpreted to include Nevada nutrient standards for nitrogen and phosphorus in streams. The proposed project would result in a commitment to reducing fertilized turf area relative to the baseline condition, which would result in an overall reduction in the amount of fertilizer applied on the golf course. Additionally, the proposed project would decrease fertilizer use in proximity to surface water features on the golf course (SEZ setbacks) and would thereby reduce the potential transport of nutrients in surface runoff to water features. Therefore, the proposed project is not considered to contribute to non-attainment of WQ-4.

WQ-5 AND WQ-6, STORMWATER RUNOFF QUALITY DISCHARGED TO SURFACE WATER AND GROUNDWATER

Thresholds WQ-5 and WQ-6 include numerical standards for specific water quality constituents that set maximum allowable concentrations for discharge to surface water or infiltration into soils. For the proposed project, higher quality stormwater runoff associated with roofs, patios, decks, and walkways would be infiltrated in vegetated swales, vegetated basins, or would be allowed to flow as sheet flow and infiltrate into landscaped and vegetated areas. Lower quality runoff from roads and parking areas is proposed to be routed through multi-stage treatment systems targeting removal of pollutants of concern for lake clarity, including fine sediment particles, prior to discharge to infiltration facilities or to constructed wetlands. The anticipated quality of runoff infiltrated from roofs and similar surfaces would exceed threshold standards for infiltration to groundwater. The treated quality of runoff from roads and associated surfaces after being discharged from the proposed multi-stage treatment system is anticipated to exceed threshold standards for discharge to surface water and groundwater. As part of the *Monitoring, Inspection, and Operations Plan* (Nichols Consulting Engineers 2011) for the proposed project, the project applicant is proposing to conduct a voluntary water quality monitoring study of the multi-stage treatment system. Implementation of the proposed project would not contribute to the non-attainment of WQ-5 and WQ-6 thresholds.

5.7 BIOLOGICAL RESOURCES (VEGETATION, WILDLIFE, AND FISHERIES)

This section summarizes the common and sensitive vegetation, terrestrial wildlife, and aquatic biological resources that are known or have the potential to occur in the project area. Biological resources include common vegetation and habitat types, sensitive plant communities, and special-status plant and animal species. Federal, state, and local regulations related to biological resources are summarized. Potential impacts of the proposed alternatives are analyzed, and mitigation measures are provided for those impacts determined to be significant. Cumulative biological resources impacts are addressed in Section 5.15, "Cumulative Impacts."

5.7.1 REGULATORY BACKGROUND

FEDERAL

FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) are charged with oversight of species designated as threatened or endangered under the federal Endangered Species Act (ESA) of 1973 (Title 50, Part 17 of the Code of Federal Regulations [i.e., 50 CFR 17]), as amended under the USFWS Mitigation Policy of 1956 (Title 16, Chapter 35, Section 1531 of the United States Code [16 USC 1531 et seq.]), as well as those species that are designated by Region 1 of USFWS as species of concern. The names of all fishes protected as provided by the ESA are on the federal List of Endangered and Threatened Wildlife (50 CFR 17.11), determined by USFWS and the NMFS to be in the greatest need of federal protection. USFWS manages land and freshwater species and maintains a current report of all listed animals and plants, updated daily, included in its Threatened and Endangered Species Database System, available at its website (USFWS 2012).

USFWS has authority over projects that may result in take of a federally-listed species. Under the ESA, "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or to attempt to engage in any such conduct" (Public Law 93-205, as amended by Section 3 of Public Law 107-136 [16 USC 1532]). The loss of habitat can also be considered "take" under the ESA. During project development and preparation of environmental documents, consultation occurs between the project proponent and the federal agency. If the project has a federal nexus, the process is accomplished through consultation under ESA Section 7 (16 USC 1536[a][2]) that produces a biological assessment (BA) to describe the impact mechanisms and any adverse effects on the listed population. Information within the BA is used to prepare the biological opinion (BO). If there is no federal nexus, the consultation occurs through Section 10 of the ESA and a habitat conservation plan is prepared to define the reasonable and prudent alternative (RPA) and incidental take statement.

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, domestically implements a series of international treaties that provide protection for migratory birds. It authorizes the Secretary of the Interior to regulate the taking of migratory birds and provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird (16 USC 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species, which is essentially all native birds.

EXECUTIVE ORDER 11990 (PROTECTION OF WETLANDS)

Executive Order 11990 established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

EXECUTIVE ORDER 13112 (NATIONAL INVASIVE SPECIES MANAGEMENT PLAN)

Executive Order 13112 directs all federal agencies to prevent the introduction and control the spread of invasive nonnative species in a cost-effective and environmentally sound manner to minimize economic, ecological, and human health impacts. It established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and advisory committee oversee and facilitate implementation of the executive order.

BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times since, prohibits the taking of bald and golden Eagles without a permit from the Secretary of the Interior. Similar to the ESA, the Bald and Golden Eagle Protection Act defines “take” to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” (16 USC 668-668c). For the purpose of the Act, disturbance that would injure an eagle, decrease productivity, or cause next abandonment, including habitat alterations that could have these results, are considered take and can result in civil or criminal penalties.

SECTION 404 OF THE CLEAN WATER ACT

Section 404 of the federal Clean Water Act (CWA) establishes a requirement for a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fills of less than 0.5 acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE’s nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP require a letter of permission or an individual permit.

TAHOE REGIONAL PLANNING AGENCY

REGIONAL PLAN

The 1987 Regional Plan is currently being updated; the Regional Plan update is anticipated to be completed by the end of 2012. Elements of the Regional Plan that pertain to biological resources are described below.

Goals and Policies

The Conservation Element (Chapter IV) of the TRPA Goals and Policies document establishes goals for the preservation, development, utilization, and management of natural resources within the Tahoe Basin (TRPA

2004a). These policies and goals are designed to achieve and maintain adopted environmental threshold carrying capacities and are implemented through the TRPA Code of Ordinances (Code).

The Conservation Element includes 10 sub-elements that address the range of Lake Tahoe's natural and historical resources. The Vegetation, Wildlife, and Stream Environment Zone (SEZ) Sub-elements are discussed in this section, and the goals related to each of these sub-elements are identified below.

Chapter IV of the Goals and Policies identifies the following five goals for vegetation:

- provide for a wide mix and increased diversity of plant communities;
- provide for maintenance and restoration of such unique ecosystems as wetlands, meadows, and other riparian vegetation;
- conserve threatened, endangered, and sensitive plant species and uncommon plant communities;
- provide for and increase the amount of late seral/old-growth stands; and
- retain appropriate stocking level and distribution of snags and coarse woody debris in the region's forests to provide habitat for organisms that depend on such features and to perpetuate natural ecological processes.

The two goals identified for wildlife are as follows:

- maintain suitable habitats for all indigenous species of wildlife without preference to game or nongame species through maintenance of habitat diversity; and
- preserve, enhance, and where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the Tahoe Basin.

The goal identified for fisheries is:

- improve aquatic habitat essential for the growth, reproduction, and perpetuation of existing and threatened fish resources in the Lake Tahoe Basin.

The goal identified for SEZs is:

- provide for the long-term preservation and restoration of stream environment zones.

In addition to these broader goals identified within the Conservation Element, special attainment goals have been developed to further focus management efforts and provide a measure of progress. These attainment goals are defined by the TRPA thresholds. The Conservation Element specifically identifies several attainment goals or thresholds for certain vegetation and wildlife resources. TRPA thresholds are discussed in the "TRPA Environmental Threshold Carrying Capacities" section below.

Code of Ordinances

The applicable provisions of the TRPA Code regarding vegetation, wildlife, and fisheries are summarized below.

Protection and Management of Vegetation

The TRPA Code requires the protection and maintenance of all native vegetation types. Section 61.3, "Vegetation Protection and Management," provides for the protection of SEZ vegetation, other common vegetation, uncommon vegetation, and sensitive plants (TRPA 2004b). TRPA defines an SEZ as an area that owes its biological and physical characteristics to the presence of surface water or groundwater. The term SEZ includes perennial, intermittent, or ephemeral streams; meadows and marshes; and other areas with near-surface water influence within the Tahoe Basin. No project or activity may be implemented within the

boundaries of a SEZ except as otherwise permitted for habitat improvement, dispersed recreation, vegetation management, or as provided in Chapter 30 "Land Coverage Standards," of the TRPA Code. TRPA can require the preparation and implementation of a remedial vegetation management plan, where the need has been identified, for the purposes of environmental threshold maintenance or attainment. In addition, Section 61.4, "Revegetation," specifies minimum criteria for revegetation programs.

Protection of Sensitive and Uncommon Plants

Subsection 61.3.6, "Sensitive and Uncommon Plant Protection and Fire Hazard Reduction," of the TRPA Code establishes standards for preserving and managing sensitive plants and uncommon plant communities; these plants and communities are referenced below in "Environmental Threshold Carrying Capacities." Projects and activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat must fully mitigate their significant adverse effects. Measures to protect sensitive plants and their habitat include:

- fencing to enclose individual populations or habitat,
- restricting access or intensity of use,
- modifying project design as necessary to avoid adverse impacts,
- dedicating open space to include entire areas of suitable habitat, or
- restoring disturbed habitat.

Tree Removal

TRPA regulates the management of forest resources in the Tahoe Basin to achieve and maintain the environmental thresholds for species and structural diversity, to promote the long-term health of the resources, and to create and maintain suitable habitats for diverse wildlife species. Provisions for tree removal are provided in Section 61.1, "Tree Removal," and Chapter 36, "Design Standards"; Section 33.6, "Vegetation Protection During Construction"; Subsection 61.3.6, "Sensitive and Uncommon Plant Protection and Fire Hazard Reduction"; and Section 61.4, "Revegetation," of the TRPA Code, and tree removal is subject to review and approval by TRPA (TRPA 2011).

Project proponents must obtain a tree removal permit from TRPA for cutting of live trees 14 inches diameter at breast height (dbh) or greater. However, trees of any size marked as a fire hazard by a fire protection district or fire department that operates under a memorandum of understanding with TRPA can be removed without a separate tree permit.

With limited exception, Subsection 61.1.4(A) of the TRPA Code prohibits the removal of trees greater than or equal to 24 inches dbh in eastside forest types within lands classified by TRPA as recreation land or Stream Environment Zones. Subsection 61.1.4(A)(11) of the Code allows private landowners to remove trees larger than 24 inches dbh in eastside forest types provided the landowner follows one of the planning processes in TRPA Code Subsection 61.1.4(C).

In addition, trees and vegetation not scheduled to be removed must be protected during construction in accordance with Section 33.6, "Vegetation Protection During Construction," of the TRPA Code of Ordinances.

If a project would result in substantial tree removal (as defined by TRPA Code Subsection 61.1.8), a tree removal or harvest plan must be prepared by a qualified forester. The required elements of this plan, and TRPA's review process for tree removal plans, are described in Subsection 61.1.5(C) of the TRPA Code.

The Code (Chapter 62) also provides quantitative requirements for snag and coarse woody debris retention and protection by forest type, in terms of size, density, and decay class.

Wildlife

TRPA sets standards for preserving and managing wildlife habitats, with special emphasis on protecting or increasing habitats of special significance, such as deciduous trees, wetlands, meadows, and riparian areas (TRPA Code, Chapter 62). Specific habitats that are protected include riparian areas, wetlands, and SEZs; wildlife movement and migration corridors; important habitat for any species of concern; critical habitat necessary for the survival of any species; nesting habitat for raptors and waterfowl; fawning habitat for deer; and snags and coarse woody debris. In addition, TRPA special-interest species (also referred to as "threshold species"), which are locally important because of rarity or other public interest, and species listed under the ESA are protected from habitat disturbance by conflicting land uses.

TRPA special-interest wildlife species are northern goshawk (*Accipiter gentilis*), osprey (*Pandion haliaetus*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus anatum*), mule deer (*Odocoileus hemionus*), and waterfowl species.

The TRPA Code includes the following requirements for protection of wildlife movement and migration corridors:

- SEZs adjoining creeks and major drainages that link islands of habitat will be managed, in part, for use by wildlife as movement corridors. Structures, such as bridges, proposed within these movement corridors will be designed to avoid impairment of wildlife movement.
- Projects and activities in the vicinity of deer migration areas will be required to mitigate or avoid significant adverse impacts.

The Code also contains several provisions regarding critical habitat. TRPA defines critical habitat as any element of the overall habitat for any species of concern that, if diminished, could reduce the existing population or impair the stability or viability of the population. This applies also to habitat for special-interest species native to the Tahoe Basin whose breeding populations have been extirpated, but could return or be reintroduced. The Code includes the following critical-habitat provisions:

- No project or activity will cause, or threaten to cause, the loss of any habitat component considered critical to the survival of a particular wildlife species.
- No project or activity will threaten, damage, or destroy nesting habitat of raptors and waterfowl or fawning habitat of deer.
- Wetlands will be preserved and managed for their ecological significance, including their value as nursery habitat to fishes, nesting and resting sites for waterfowl, and as a source of stream recharge, except as permitted pursuant to Chapter 30 of the TRPA Code.
- No project or activity will be implemented within the boundaries of a SEZ except as otherwise permitted for habitat improvement, dispersed recreation, vegetation management, or as provided in Chapter 30 of the Code of Ordinances.

Fish Resources

Chapter 63, "Fish Resources," of the TRPA Code includes provisions for the protection of fish habitat, enhancement of degraded habitat, prevention of the introduction and spread of aquatic invasive species. For instream habitats, protection provisions include prohibiting stream channel alterations, facilitating fish movement at stream crossings, removing barriers to fish movement, mitigating impacts on fish habitat from development, maintaining instream flows, preventing sediment entry into the stream system, and encouraging native vegetative cover.

The maintenance of essential habitat serves as the fisheries management emphasis for the Conservation Element of TRPA's Goals and Policies (TRPA 2004a). The first goal of the Conservation Element for fisheries is to "improve aquatic habitat essential for the growth, reproduction and perpetuation of existing and threatened fish resources in the Lake Tahoe Basin." For streams within the Tahoe Basin, management focus is on the quality and quantity of habitat provided for fish species, including spawning and rearing habitat, food supply, and cover. The Conservation Element identifies the following five policies related to instream fish habitat:

- Development proposals affecting streams, lakes, and adjacent lands will evaluate impacts on the fishery.
- Unnatural blockages and other impediments to fish movement will be prohibited and removed wherever appropriate.
- Habitat improvement projects in streams and lakes will be encouraged.
- Instream flows will be maintained or enhanced.
- State and federal efforts to reintroduce Lahontan cutthroat trout will be supported.

Aquatic Invasive Species

Section 63.4 of the TRPA Code, "Aquatic Invasive Species," addresses the threat of aquatic invasive species to the Tahoe Region. This section states that "Aquatic Invasive Species (AIS) pose a serious threat to the waters of the Lake Tahoe region and can have a disastrous impact to the ecology and economy of the Tahoe Region." Section 63.4 includes the following provisions necessary to prevent the introduction and spread of aquatic invasive species:

Prohibition

A. The transport or introduction of aquatic invasive species into the Lake Tahoe region.

B. The launching of any watercraft or landing of any seaplane contaminated with aquatic invasive species into the waters of the Tahoe region.

C. The provision of inaccurate or false information to the TRPA or persons designated to conduct inspections pursuant to subsection 63.4.2.

D. The alteration or modification of any inspection seal or other device used by TRPA or its designee to indicate that a watercraft or seaplane last entered the waters of the Lake Tahoe region.

Watercraft Inspections and Decontamination

A. All motorized watercraft shall be inspected by TRPA or its designee prior to launching into the waters of the Lake Tahoe region to detect the presence, and prevent the introduction of, aquatic invasive species. Non-motorized watercraft and seaplanes may be subject to an inspection prior to entering the waters of the Lake Tahoe region if determined necessary by TRPA or its designee.

B. All watercraft and seaplanes inspected pursuant to subparagraph 63.4.2.A shall be subject to decontamination if determined necessary by TRPA or its designee.

C. All watercraft and seaplanes subject to decontamination pursuant to subparagraph 63.3.2.B shall be permitted to enter the waters of the Lake Tahoe region only if: (a) the decontamination is performed and completed by an individual trained and certified pursuant to TRPA standards and requirements for aquatic invasive species decontamination, and (b) following decontamination, the launch or landing, as appropriate, is authorized by an inspector trained and certified pursuant to TRPA's standards and requirements for aquatic invasive species inspections.

D. Inspections and decontaminations performed pursuant to Section 63.4 shall be subject to a fee related to the costs of performing such services and other watercraft inspection program costs. The TRPA Governing Board shall review and approve the fee amount and structure annually.

E. An owner and/or operator of a boat ramp (excluding Marine Railway Systems) or other boat launch facility shall close any ramp or facility if the provisions of subparagraphs 63.4.2.A-C are not met in order to prevent the launching of motorized watercraft.

F. Any watercraft or seaplane entering the waters of the Lake Tahoe region in violation of Chapter 63 shall be removed from those waters immediately.

G. Any individual who launches watercraft in violation of Section 63.4 may be held responsible for the costs expended by TRPA or its designee for response and mitigation of impacts.

ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

Through the adoption of Resolution 82-11, TRPA has established thresholds for fish, vegetation, and wildlife, among others. TRPA cannot approve projects that would cause a significant adverse effect on a threshold without appropriate mitigation. Every 5 years TRPA conducts a comprehensive reevaluation to determine whether each threshold is being achieved and/or maintained, creates specific recommendations to address problem areas, and directs general planning efforts for the next 5-year period. The most recent threshold evaluation was completed in 2006 (TRPA 2007) and a 2011 threshold evaluation is underway.

The TRPA thresholds define special attainment goals that have been developed to focus management efforts and provide a measure of progress for vegetation, wildlife, and fisheries. The Conservation Element of TRPA's Goals and Policies (TRPA 2004a) specifically identifies several attainment goals or thresholds for certain vegetation and wildlife resources. The adopted TRPA thresholds for vegetation, wildlife, and fisheries are listed below, and Table 5.7-1 summarizes the 2006 attainment status for these thresholds (TRPA 2007).

V-1—Common Vegetation

Increase plant and structural diversity of forest communities through appropriate management practices as measured by diversity indices of species richness, relative abundance, and pattern by using the following standards:

- provide for the perpetuation of yellow pine forest, red fir forest, subalpine forest, shrub associations, sagebrush scrub, deciduous riparian, meadow associations, wetland associations, cushion plant association;
- maintain at least 4 percent meadow and wetland vegetation, 4 percent deciduous riparian vegetation;
- maintain no more than 25 percent dominant shrub vegetation;
- maintain 15–25 percent of the yellow pine forest in seral stages other than mature;
- maintain 15–25 percent of the red fir forest in seral stages other than mature;
- limit acreage size of new forest openings to no more than 8 acres; and
- ensure that adjacent forest openings are not of the same relative age class or successional stage.

V-2—Uncommon Plant Communities

Provide for the non-degradation of the natural qualities of any plant community that is uncommon to the Tahoe Basin or of exceptional scientific, ecological, or scenic value. This threshold will apply but not be limited to the deep-water plants of Lake Tahoe, Grass Lake (sphagnum fen), Osgood Swamp, the Freel Peak Cushion Plant Community, Hell Hole (sphagnum fen), Upper Truckee Marsh, Taylor Creek Marsh, and Pope Marsh.

Table 5.7-1. TRPA Vegetation, Wildlife, and Fisheries Resource Thresholds and Their Attainment Status	
TRPA Threshold	2006 Attainment Status
Vegetation	
V-1 Common Vegetation	Non-attainment
V-2 Uncommon Plant Communities	Attainment
V-3 Sensitive Plants	Attainment
V-4 Late Seral/Old-Growth Ecosystems	Non-attainment
Wildlife	
W-1 Special-Interest Species—Northern Goshawk	Non-attainment, Near Attainment
W-1 Special-Interest Species—Osprey	Attainment
W-1 Special-Interest Species—Bald Eagle–Nesting	Non-attainment
W-1 Special-Interest Species—Bald Eagle–Wintering	Non-attainment, Near Attainment
W-1 Special-Interest Species—Golden Eagle	Unknown
W-1 Special-Interest Species—Peregrine Falcon	Unknown
W-1 Special-Interest Species—Waterfowl	Non-attainment
W-1 Special-Interest Species—Deer	Non-attainment
W-2 Habitats of Special Significance	Non-attainment
Fisheries	
F-1—Lake Habitat	Non-attainment, Near Attainment
F-2—Stream Habitat	Unknown
F-3—Instream Flow	Attainment
F-4—Lahontan Cutthroat Trout	Attainment
Source: TRPA 2007	

V-3—Sensitive Plants

Maintain the following minimum number of population sites for TRPA special-interest plant species: Galena Creek rockcress (*Arabis rigidissima* var. *demota*) (seven sites); long-petaled lewisia (*Lewisia longipetala*) (two sites); Cup Lake draba (*Draba asterophora* var. *macrocarpa*) (two sites); Tahoe draba (*Draba asterophora* var. *asterophora*) (five sites); and Tahoe yellow cress (*Rorippa subumbellata*) (26 sites).

V-4—Late Seral/Old-Growth Ecosystems

Attain and maintain a minimum percentage of 55 percent by area of forested lands within the Tahoe Basin in a late seral or old-growth condition, and distributed across elevation zones. Forested lands within TRPA-designated urban areas are excluded in the calculations for threshold attainment.

W-1—Wildlife Species of Special Interest

Provide a minimum number of population sites for six TRPA special-interest wildlife taxa: northern goshawk (12 sites); osprey (four sites); bald eagle (two winter sites and one nesting site); golden eagle (four sites); peregrine falcon (two sites); and waterfowl (18 sites). Mule deer is also a special-interest species; however, no threshold site number for deer has been specified. Perching and nesting sites of special-interest bird species will not be physically disturbed. TRPA maintains a non-degradation standard within buffer zones ("disturbance zones") around nest sites of these species. In areas outside existing urban areas, projects or land uses within the disturbance zones will not, directly or indirectly, significantly affect the habitat or cause the displacement or

extirpation of the population. Habitat within disturbance zones will not be manipulated in any manner, except for habitat enhancement. The disturbance zone for northern goshawk and bald eagle is a 0.5-mile radius around each nest site; the disturbance zone for osprey, peregrine falcon, and golden eagle is a 0.25-mile radius around each nest site. TRPA has also mapped disturbance zones for wintering bald eagles. Disturbance zones for deer are meadows.

The non-degradation standard in wildlife disturbance zones does not apply to situations where these species choose to live in close proximity to existing developed parcels.

W-2—Habitats of Special Significance

Apply a non-degradation standard to habitats consisting of deciduous trees, wetlands, and meadows (i.e., riparian, wetland, and meadow habitats) while providing for opportunities to increase the acreage of such riparian associations. This includes but is not limited to preserving existing natural functioning SEZ lands in their natural hydrologic condition, restoring all disturbed SEZ lands in undeveloped, unsubdivided lands, and restoring 25 percent of the SEZ lands that have been identified as disturbed, developed, or subdivided, to attain a 5 percent total increase in the naturally functioning SEZ land.

F-1—Lake Habitat

Apply a non-degradation standard to fish habitat in Lake Tahoe. Achieve the equivalent of 5,948 total acres of excellent (prime) habitat.

F-2—Stream Habitat

Maintain 75 miles of excellent, 105 miles of good, and 38 miles of marginal stream habitat, as indicated by the map on page 76 of the EIS for the Establishment of Environmental Thresholds.

F-3—Instream Flow

Until instream flow standards are established in the Regional Plan to protect fishery values, a non-degradation standard will apply to instream flows.

F-4—Lahontan Cutthroat Trout

Support, in response to justifiable evidence, state and federal efforts to reintroduce Lahontan cutthroat trout.

STATE OF NEVADA

NEVADA NATURAL HERITAGE PROGRAM

The Nevada Natural Heritage Program (NNHP) systematically collects information on Nevada's at-risk, rare, endangered, and threatened biological features, and acts as a single source of information on Nevada's imperiled biodiversity. Taxa considered at-risk and actively inventoried by NNHP typically include those with federal or other Nevada agency status, indicating some level of imperilment. The following statutes and codes specify guidelines and provisions for those species afforded some level of protection by the state of Nevada, and which are included in the NNHP at-risk species list.

NEVADA ADMINISTRATIVE CODE 527.010 AND NEVADA REVISED STATUTES 527.260, 527.270, AND 527.300

Under Nevada Revised Statute (NRS) 527.270, state law provides that a species or subspecies of native flora shall be regarded as threatened with extinction when the state forester fire warden, after consultation with competent authorities, determines that its existence is endangered and its survival requires assistance because

of overexploitation, disease or other factors or because its habitat is threatened with destruction, drastic modification or severe curtailment. These species are also on a state list of fully protected species of native flora (NAC 527.010), also known as the Critically Endangered Species List. The law also authorizes a program for the conservation, protection, restoration, and propagation of selected species of flora and for the perpetuation of the habitats of such species (NRS 527.260 and NRS 527.300).

NEVADA REVISED STATUTES, TITLE 45

The Nevada Department of Wildlife (NDOW) manages fish and wildlife resources on the Nevada side of the Tahoe Basin, under the Title 45, "Wildlife," of the NRS. Title 45 consists of provisions that address wildlife management, including protective measures that establish a program for the conservation, protection, restoration, propagation, and perpetuation of native fish and other vertebrate wildlife species.

NEVADA REVISED STATUTES 503.610 AND 503.620

Bald Eagles, golden eagles, and migratory birds are specifically protected under NRS 503.610 and NRS 503.620. Under these statutes, it is unlawful for any person or organization to, "kill, destroy, wound, trap, injure, possess dead or alive, or in any other manner to catch or capture, or to pursue with such intent," bald eagles and golden eagles or other birds protect under the Federal Migratory Bird Treaty Act (16 USC Section 703 et seq.).

5.7.2 AFFECTED ENVIRONMENT

To evaluate and describe the presence or absence and quality of common and sensitive biological resources in the project area, map land cover types, and identify potential effects of project implementation on those resources, project biologists reviewed several existing data sources and conducted reconnaissance surveys of the site. The data review included: review of TRPA survey and GIS data; a records search of the USFWS database of *Federal Endangered and Threatened Species that Occur in or May be Affected by Projects in the Lake Tahoe Basin* (USFWS 2012); consultation with resource agency staff; and review of the *Edgewood Creek Watershed Assessment* (Edgewood Creek Integrated Watershed Assessment Team [ECIWAT] 2003). The reconnaissance surveys were conducted on August 12 and September 25, 2009, and on November 5 and 18, 2010. Additionally, a focused survey for Tahoe yellow cress on Edgewood Beach in the project area was conducted on August 12, 2009.

TERRESTRIAL VEGETATION COMMUNITIES AND HABITATS

Land cover in the project area consists mostly of managed golf course facilities, including golf fairways and holes, a clubhouse and restaurant, parking lots, and maintenance buildings. Jeffrey pine forest is the dominant natural vegetation type in the project area. Other vegetation types include montane riparian, freshwater marsh, dry meadow, and aspen. Table 5.7-2 summarizes the vegetation/land cover types mapped in the project area, their estimated acreages, and biological conditions. Exhibit 5.7-1 shows the location and extent of land cover types in the project area as mapped during project surveys.

AQUATIC RESOURCES

Aquatic habitats in the project area are Edgewood Creek, a system of in-line golf course ponds and wetlands, Friday's Station pond, and the nearshore and shorezone of Lake Tahoe. Edgewood Creek, a perennial stream, flows through a series of ponds and wetlands on the Edgewood Tahoe Golf Course property before discharging to Lake Tahoe. In addition to the perennial flow in Edgewood Creek, Friday's Station pond and the other water features on the Edgewood Tahoe Golf Course receive urban stormwater runoff from U.S. 50 and SR 207, the Kingsbury General Improvement District (KGID), the SSWA, and adjacent urban development.

Table 5.7-2. Vegetation and Land Cover Types in the Project Area		
Vegetation/Land Cover Type	**Acres**	**Summary of Conditions**
Golf Course Facilities	138.1	Includes golf fairways and holes, clubhouse and restaurant, parking lots, cart paths, and maintenance buildings. This type also includes scattered and small patches of Jeffrey pine (*Pinus jeffreyi*), lodgepole pine (*Pinus contorta*) and other trees.
Jeffrey Pine	61.7	Patchy distribution and relatively open canopy-closure dominated by Jeffrey pine; other tree species include lodgepole pine and white fir (*Abies concolor*). Stands include a range of size classes, including many medium- to large-sized trees. Most overstory trees in the project area appear healthy. However, Jeffrey pine understory habitat in the project area is disturbed, open, and managed to support golf play along adjacent fairways and greens, supporting sparse to no native understory vegetation cover in most locations. In many stands, understory consists of managed turf and pavement (parking lots, cart paths). Native understory vegetation in other locations includes rabbitbrush (*Chrysothamnus nauseosus*), big sagebrush (*Artemesia tridentata*), Woods' rose (*Rosa woodsii*), and greenleaf manzanita (*Arctostaphylos patula*).
Pond/Stream	13.1	Pond and stream habitat includes Friday's Station pond, and ponds 1, 6, 10, 12, 15, and 18. These features are summarized in the section "Aquatic Resources," below.
Dry Meadow	10.9	Patches of dry meadow are located along the northwest and northeast edges of the project area. These areas are disturbed, dry open areas composed of rabbitbrush, big sagebrush, grasses, and other species.
Montane Riparian	4.3	Montane riparian habitat in the project area is distributed primarily along Edgewood Creek upstream of pond 1 and at the creek mouth, around the margins of Friday's Station pond, and a few other scattered locations where mesic conditions support riparian scrub vegetation. Riparian vegetation is dominated by Lemmon's willow (*Salix lemmonii*), shining willow (*Salix lucida* ssp. *lasiandra*), Geyer's willow (*Salix geyeriana*), and mountain alder (*Alnus incana* ssp. *tenuifolia*). Generally, montane riparian vegetation in the project area exists in linear, disconnected, narrow bands and supports encroachment from conifer trees. Overall, the biological quality of montane riparian habitat in the project area is low.
Beach	2.1	A lengthy beach area and Lake Tahoe are located on the western edge of the project area. The beach area north of the clubhouse supports Tahoe yellow cress, a TRPA-sensitive plant species and federal candidate species.
Marsh	1.8	Freshwater marsh in the project area is characterized by narrow bands of emergent marsh vegetation, including cattails (*Typha* spp.) and sedges (*Carex* spp.), on the edges of golf course ponds, along some reaches of Edgewood Creek, and other wet areas.
Ruderal	0.11	Consists of disturbed roadside areas along the east side of U.S. 50.
Aspen	0.07	Located north of Friday's Station pond. Several aspens have been cut by beavers. Understory vegetation includes Woods' rose, with small Jeffrey pine and white fir trees.

Note: For land cover mapping and classification, land cover types were distinguished by differences in the dominant vegetation or other land cover (e.g., water, developed facilities) observable in the field, at a reconnaissance level, and on an aerial photo base map (1 inch = 200 feet). A wetland delineation has not been conducted for the project; land cover mapping for the EIS did not attempt to map or quantify small wetland features such as swales and other drainages.
Source: Data compiled by Ascent Environmental, Inc. in 2011.

In the Tahoe Basin, several variables determine suitability of aquatic habitat for various aquatic organisms and can limit the presence, abundance, and viability of native fish and other aquatic species. These habitat components include the frequency and diversity of habitat types, substrate conditions, bank and riparian canopy conditions, and food availability, and they interact to various degrees and also are influenced by stream flow. High-quality stream habitats are generally characterized by a diversity of riffles, runs, glides, and pools; stable banks that support intact riparian vegetation that overhangs or protrudes into the water, providing shade, cooler water temperatures, and refugia; and substrate conditions composed of a variety of size classes (e.g., sand, gravel, cobbles, boulders). Substrate conditions influence production of aquatic invertebrates that are important food for native fish. Many fish species, including salmonids, also rely on relatively loose, clean gravel substrate with low amounts of fine sediments for reproduction. Larger substrate, such as cobbles and boulders, can provide hiding areas and velocity refugia for juveniles of many species. High levels of silt and sand fill spaces between the larger substrate elements and reduce the ability to support benthic macroinvertebrate production, habitat for spawning, egg incubation, and escape cover (Bjornn and Reiser 1979; Harrington and Born 2000).

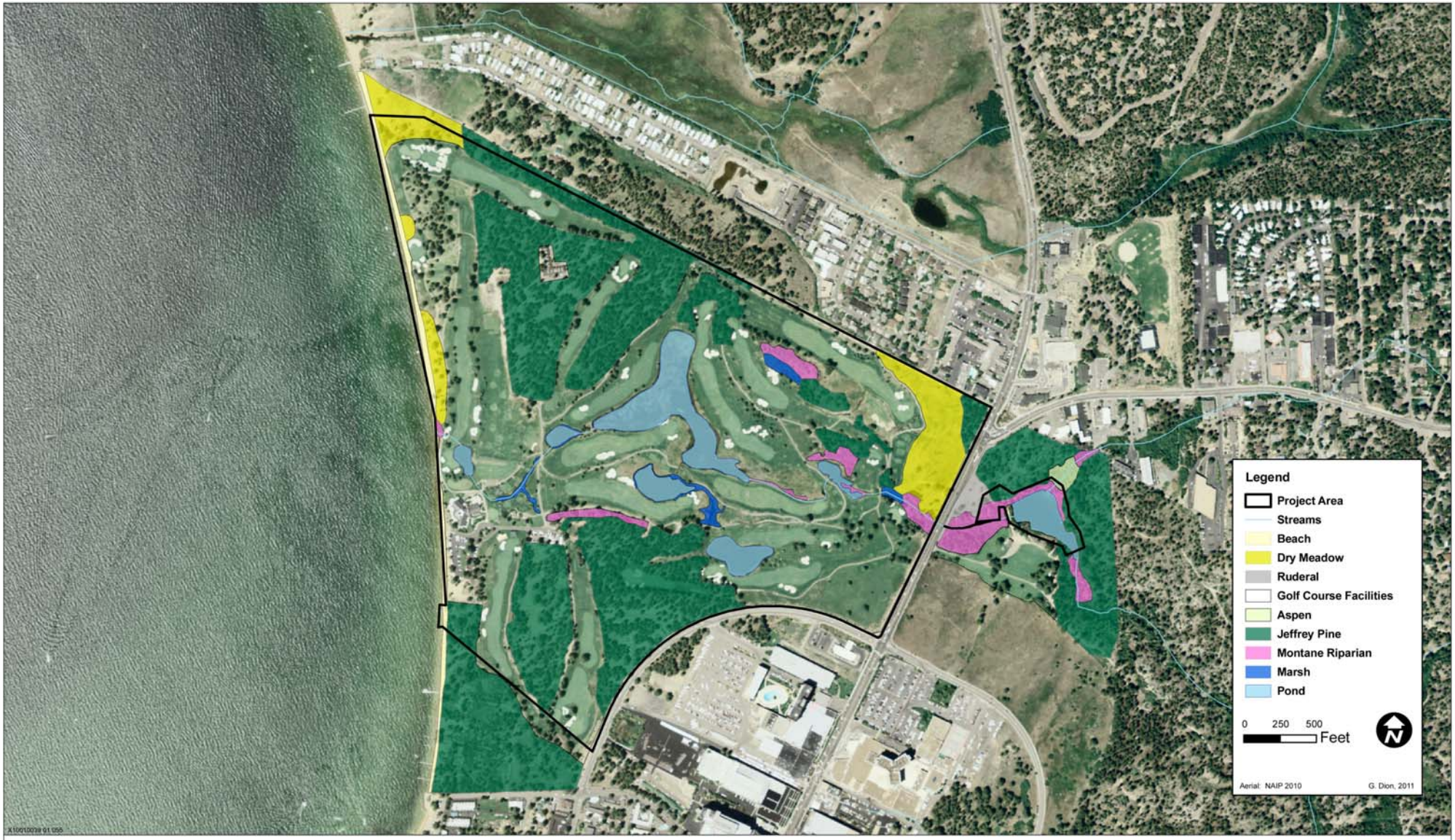
From Friday's Station pond downstream to Lake Tahoe, the quality of aquatic habitat in Edgewood Creek for native fish and other aquatic species is very low. Limits to aquatic habitat functions and quality include barriers to fish passage along Edgewood Creek, downcutting from below the U.S. 50 culvert to pond 1, poor connectivity among Edgewood Creek and the golf course ponds, lack of complex and continuous aquatic and riparian habitat structure, high sediment loads, and presence of invasive nonnative plant and animal species.

The composition and abundance of fish populations in Edgewood Creek are not well known. Native fish species documented in Edgewood Creek include Lahontan speckled dace (*Rhinichthyes osculus robustus*; ECIWAT 2003). Nonnative trout species documented in Edgewood Creek during reconnaissance-level surveys include brook trout (*Salvelinus fontinalis*), observed between U.S. 50 and Friday's Station dam; other nonnative species such as brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) could occur as well. Brook trout spawning has been documented in the Edgewood Creek watershed upstream of the project area (ECIWAT 2003). Fish populations documented in the existing pond system are comprised primarily, if not exclusively, of warm-water nonnative species (observed in all ponds), including largemouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*). The potential exists for some of the ponds to provide seasonal nursery or residential habitat for native species such as tui chub (*Gila bicolor*), speckled dace, and Lahontan redside (*Richardsonius egregious*). However, the abundance of nonnative fish in the ponds limits the suitability of these potential habitats.

No special-status fish or other aquatic species (such as amphibians and aquatic vertebrates) are known or expected to occur in the project area. No TRPA-designated prime fish habitat is located in the project area (Exhibit 5.7-2).

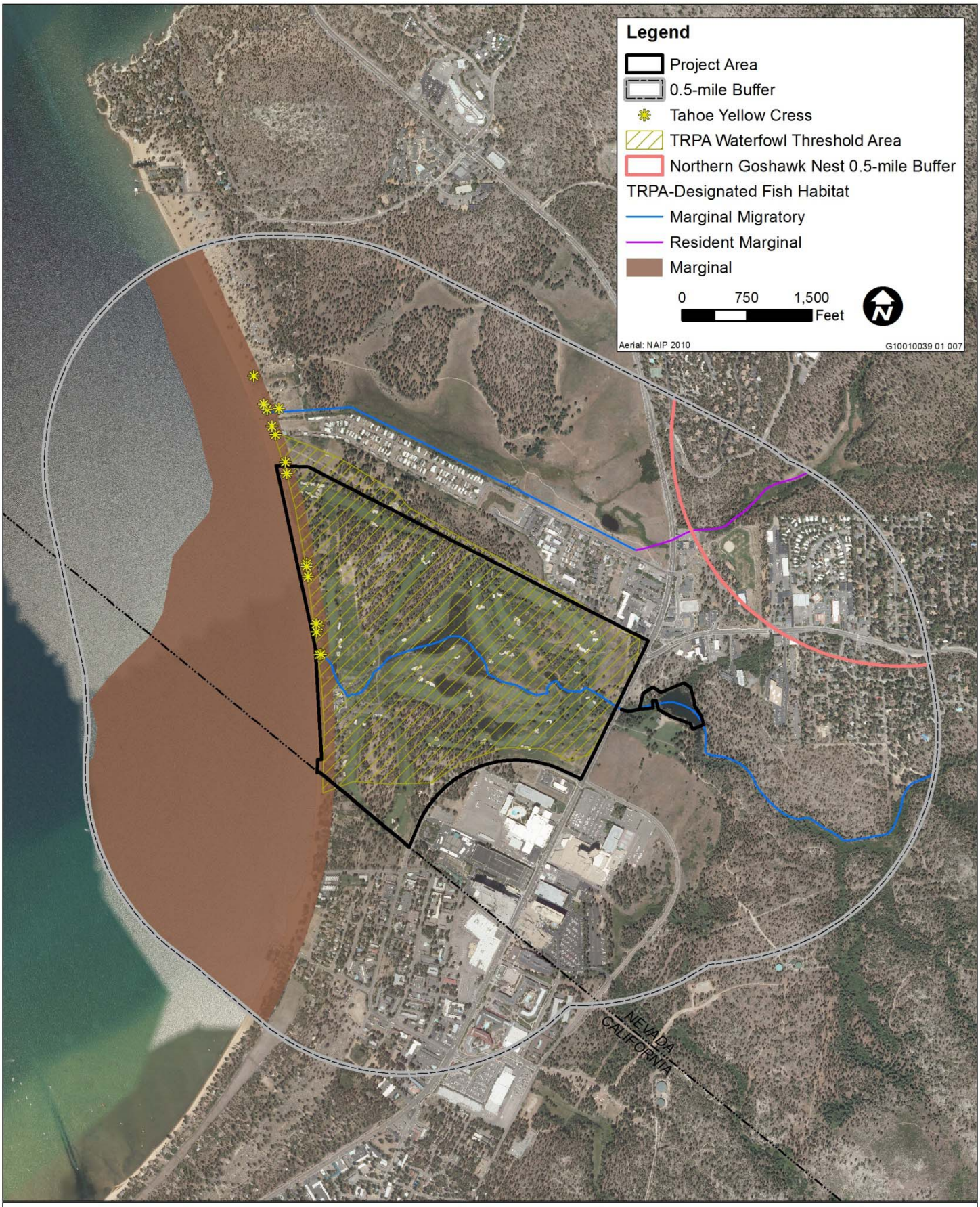
NONNATIVE FISH AND AQUATIC INVASIVE SPECIES

Nonnative aquatic invasive species have become a priority for education, prevention, and control in the Tahoe Basin. The Lake Tahoe Region Aquatic Invasive Species Management Plan (USACE 2009) was released in 2009; this document details past introductions of aquatic nonnative and invasive species, their current status, priority threats, and future management strategies to avoid additional introductions and spread of current nonnative invasive populations (USACE 2009). Two invasive nonnative aquatic mussels – quagga mussel (*Dreissena bugensis*) and zebra mussel (*Dreissena polymorpha*) – and an invasive aquatic snail – New Zealand mudsnail (*Potamopyrgus antipodarum*) – are not present in the Tahoe Basin and are of particular concern due to their expanding range, highly invasive nature, and potential to disrupt ecosystem functions. Aquatic invasive species of serious concern that are present in Lake Tahoe include Asian clam (*Corbicula fluminea*), Eurasian watermilfoil (*Myriophyllum spicatum*, an aquatic weed), and curlyleaf pondweed (*Potamogeton crispus*, an aquatic weed).



Source: Tallac Applied Ecology & Design, Ascent Environmental (TRPA Streams)

Exhibit 5.7-1. Existing Land Cover



Source: AECOM 2009, NNHP 2011, TRPA 2009 and 2011

Exhibit 5.7-2. Known Special-status Species and TRPA-designated Fish Habitat within 0.5 Mile of the Project Area

Nonnative introduced salmonid species that are present in Tahoe Basin streams and lakes are lake trout (*Salvelinus namaycush*), brook trout (*S. fontinalis*), rainbow trout (*Oncorhynchus mykiss*), and brown trout (*Salmo trutta*). Several warm-water fish species have also been introduced into Lake Tahoe and some tributary streams, including bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*M. dolomieu*), and brown bullhead catfish (*Ictalurus nebulosus*) (Moyle 2002). The presence and distribution of nonnative aquatic invasive species are not well-documented in the project area. Aquatic invasive fish species observed in Edgewood Creek and/or the golf course ponds include largemouth bass, bluegill, and brook trout; aquatic invasive plants include Eurasian watermilfoil (*Myriophyllum spicatum*), which occurs in the ponds. A substantial infestation of Eurasian watermilfoil has been observed in pond 18, where the potential for transport into Lake Tahoe is relatively high under existing conditions. Other nonnative aquatic species with potential to occur in the project area include bullfrog (*Rana catesbeiana*) and Asian clam.

SENSITIVE BIOLOGICAL RESOURCES

In this analysis, sensitive biological resources include those that receive special protection through the TRPA Code of Ordinances, ESA, CWA, or local plans, policies, and regulations; or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. These resources are addressed in the following sections.

SPECIAL-STATUS SPECIES

Special-status species include plants and animals that are legally protected or otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. In this document, special-status species are defined as species that are:

- listed or proposed for listing as threatened or endangered under ESA,
- designated as candidates for listing as threatened or endangered under ESA,
- designated as a sensitive, special interest, or threshold species by TRPA,
- fully protected in Nevada under NRS Chapter 503, or
- considered by the NNHP as “watch list” or threatened plant species.

Special-Status Plants

A preliminary list of special-status plant species with potential to occur on the project site was initially developed based on a review of the following:

- a list of taxa designated by TRPA as sensitive or special interest threshold species (TRPA 2002);
- a list and GIS data of special-status species known to occur within a 5-mile radius of the project site obtained from the NNHP (NNHP 2011);
- a list of special-status species tracked by the NNHP (NNHP 2010);
- a list of special-status species known to occur in Douglas County, Nevada, obtained from the NNHP website (NNHP 2004);
- the NNHP Rare Plant Atlas Maps and Information Sheets (NNHP 2001); and
- a list of federally endangered, threatened, or candidate species that may be affected by projects in the Lake Tahoe Basin (USFWS 2012).

The initial data review preliminarily identified 20 special-status plant species that could occur in the project vicinity. One of these species, Tahoe yellow cress, occurs on the beach within the project area and is discussed below. Only two other special-status plant species are known to have historical occurrences within 5 miles of the

project site (NNHP 2011): Washoe tall rockcress (*Arabis rectissima* var. *simulans*) and Tahoe draba (*Draba asterophora* var. *asterophora*). Tahoe draba grows only at higher elevations, and habitat in the project area is not expected to support Washoe tall rockcress due to forest understory uses, disturbances, and conditions. Table 5.7-3 summarizes the status, habitat associations, and potential for occurrence of each special-status plant species evaluated during this analysis. Except for Tahoe yellow cress, none of the special-status plant species considered in this analysis is expected to occur in the project area, due to high levels of disturbance, habitat modification, marginal habitat conditions for those species, or lack of recent occurrence records in the region. Additionally, no other special-status plant species were incidentally observed during reconnaissance surveys of the project area for botanical resources.

Table 5.7-3. Special-Status Plant Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project

Common Name and *Scientific Name*	Regulatory Status[1]		Habitat and Flowering Period	Potential for Occurrence[2]
	TRPA/ Federal	State		
Washoe tall rockcress *Arabis rectissima* var. *simulans*		NNHP-AR NNPS-T	Mid- to late-seral Jeffrey pine-fir forest on gentle slopes, in gently disturbed areas, on sandy granitic or andesitic soil; 6,000–7,400 ft. elev. Blooms June-July.	**Low**. Nearest known occurrences are along the eastern shore of Lake Tahoe in Douglas County. Jeffrey pine understory habitat in the project area is disturbed and managed to support golf play, supporting sparse to no native understory vegetation cover in most locations. In many stands, understory consists of managed turf and pavement (parking lots, cart paths), and appears to be periodically cleared of woody debris, pine needles, and vegetation in most stands.
Galena Creek rockcress *Arabis rigidissima* var. *demota*	TRPA	NNHP-AR NNPS-W	Fir-pine-quaking aspen associations, meadow edges, usually on north-facing slopes and rocky outcrops; 7,000–9,900 ft. elev. Blooms August.	**Low**. No suitable forest habitat present on the project site. Nearest occurrences are along the north shore of Lake Tahoe, outside of Douglas County.
Upswept moonwort *Botrychium ascendens*		NNHP-AR NNPS-W	Coniferous forest in mesic substrates such as springs; 5,000–7,500 ft. elev. Fertile in August.	**Low**. No suitable mesic forest habitat present in the project area.
Scalloped moonwort *Botrychium crenulatum*		NNHP-AR NNPS-W	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps; 5,000–11,000 ft. elev. Fertile in July–August.	**Low**. No suitable mesic forest habitat present in the project area.
Bolander's candle moss *Bruchia bolanderi*		NNHP-AR NNPS-W	Lower montane coniferous forest in mesic soils; 5,600–9,000 ft. elev. Fertile period not specified.	**Low**. No suitable mesic forest habitat present on the project site.
Tahoe draba *Draba asterophora* var. *asterophora*	TRPA	NNHP-AR NNPS-T	Alpine boulder and rock fell field, subalpine coniferous forest; 8,200–10,500 ft. elev. Blooms July – Sept.	**None**. No suitable subalpine habitat present on the project site; elevations of known occurrences exceed those on the project site.

Table 5.7-3. Special-Status Plant Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project

Common Name and *Scientific Name*	Regulatory Status[1]		Habitat and Flowering Period	Potential for Occurrence[2]
	TRPA/ Federal	State		
Cup Lake draba *Draba asterophora* var. *macrocarpa*	TRPA		Subalpine coniferous forest; 8,200–9,200 ft. elev. Blooms July–August.	**None**. No suitable subalpine habitat present on the project site; elevations of known occurrences exceed those on the project site.
Long-petaled lewisia *Lewisia longipetala*	TRPA		Alpine boulder and rock field, subalpine coniferous forest; 8,200–9,900 ft. elev. Blooms July – August.	**None**. No suitable subalpine habitat present on the project site; elevations of known occurrences exceed those on the project site.
Three-ranked hump moss *Meesia triquetra*		NNHP-AR NNPS-W	Bogs and fens, meadows and seeps, upper montane coniferous forest on mesic soil; 4,200–8,200 ft. elev. Fertile period not specified.	**Low**. No suitable forest or meadow habitat present on the project site.
Tahoe yellow cress *Rorippa subumbellata*	TRPA FC	NCE NNHP-AR NNPS-T	Decomposed granitic beaches of Lake Tahoe; 6,217–6,234 ft. elev. Blooms May–Sept.	**Present**. The beach at Edgewood is considered a Core site for Tahoe yellow cress (Pavlik et al 2002). Since surveying began there in 1979, it has supported an average of 480 stems annually (Stanton and Pavlik 2010). As of 2011, TYC occurs in at least five clusters along the beach between the existing mouth of Edgewood Creek and the northern boundary of the property (Exhibit 5.7-2). During surveys conducted by the AMWG in 2011, a total of 355 stems were counted within the project area, in five clusters ranging in size from 9 to 240 stems (Lewandowski, pers. comm., 2011).

[1]Regulatory Status Codes:
TRPA/Federal:
TRPA = TRPA sensitive/threshold species
FC = Federal candidate for listing

State:
NCE = Nevada Critically Endangered (and Fully Protected under NAC 527.010)
NNHP-AR = Nevada Natural Heritage Program At-Risk Species (http://heritage.nv.gov/lists/track.pdf)
NNPS-T = Nevada Native Plant Society Threatened
NNPS-W = Nevada Native Plant Society Watchlist

(Note : NNPS-T and -W species are only included here if they are also designated as NNHP-AR. The NNPS list is located at: http://heritage.nv.gov/lists/nnpstat.pdf. The NNPS is a division of the Nevada Department of Conservation and Natural Resources that tracks rare and potentially vulnerable native plant species in Nevada and acts as a clearinghouse of information through its comprehensive database. The information maintained by NNPS reflects the consensus of dozens of botanical experts and resource professionals throughout Nevada and the surrounding states.*)*

[2]Potential Occurrence Definitions
Present – Species was observed during site visits conducted for this EIS or was documented on the site by another reputable source.
High – All of the species' specific life history requirements can be met by habitat present on the site, and populations are known to occur in the immediate vicinity.
Moderate – Some or all of the species life history requirements are provided by habitat on the site; populations may not be known to occur in the immediate vicinity, but are known to occur in the region (Tahoe Basin).
Low – Species not likely to occur due to marginal habitat quality or distance from known occurrences.
None – None of the species' life history requirements are provided by habitat on the site and/ or the site is outside of the known distribution for the species.
Sources: NNHP 2010; TRPA 2002; USFWS 2012

Tahoe Yellow Cress

Tahoe yellow cress (TYC) is found only on the sandy beaches of Lake Tahoe. This species is designated as a sensitive plant and threshold indicator species by TRPA; listed as critically endangered and endangered by the states of Nevada and California, respectively; and is designated as a candidate for listing under the federal ESA by USFWS.

The distribution and abundance of TYC are closely linked to lake level, with greater abundance and more occurrences present during low lake levels when more beach habitat is available for colonization (Pavlik et al. 2002). The species exhibits a metapopulation dynamic, where populations or clusters of plants at some locations may periodically disappear or decline in number in some years (e.g., in high water years), and TYC may recover or colonize exposed suitable habitats during other periods (Pavlik et al. 2002). The timing and probability of these dynamic extirpation and colonization events depend primarily on lake level and disturbances from recreation or development, but also on the biophysical characteristics of the sites themselves.

In response to low numbers of TYC occurrences in the late-1990s, a multiagency technical advisory group (TAG) was formed to develop and implement a conservation strategy for the species. The Tahoe Yellow Cress Conservation Strategy was completed in 2002 (Pavlik et al. 2002), and a memorandum of understanding and conservation agreement were signed by 13 state and local agencies and stakeholders to implement the strategy. In 2002, the TAG initiated a research program that has included seed collection, greenhouse propagation, experimental outplantings of container-grown TYC plants, translocation of naturally occurring TYC among sites, and some limited genetic analysis. In 2005, members of the TAG transitioned to being members of an adaptive management working group (AMWG), and the TAG is now a subcommittee of the AMWG. A central goal of the Conservation Strategy is to ensure a sufficient level of protection and conservation for the species that will preclude the need for USFWS to list TYC under the ESA.

On the Edgewood property, TYC is known to occur on the beach in the northern portion of the project area in at least five clusters located between the existing mouth of Edgewood Creek and the northern boundary of the property (Exhibit 5.7-2). During surveys conducted in 2011 by the AMWG, a total of 355 stems were counted on the Edgewood property, in five different clusters ranging in size from 9 to 240 stems (Lewandowski, pers. comm., 2011). These surveys were conducted at a high lake stand of 6,228 feet. The northernmost cluster at the property had 62 stems, two small clusters to the south had 9 and 14 stems each, the lagoon area north of the creek had 230 stems, and 40 stems were present at the mouth of Edgewood Creek.

A TYC survey record for the Edgewood property dates back to 1979, and the beach at Edgewood is considered a Core site for Tahoe yellow cress in the Conservation Strategy (Pavlik et al 2002). Since 1979, the Edgewood property has supported between 106 and 1,254 stems, with an average of 480 stems over the entire survey period (Stanton and Pavlik 2010). The TYC habitat at the mouth of the creek is variable and appears to be dependent on flow. Based on recent TYC surveys, stems supported by the mouth of Edgewood Creek have varied from no stems to the majority of the stems at the site. The status of Edgewood as a Core site under private ownership made it an attractive site for AMWG research activities. Beginning in 2008, the golf course allowed site access and cooperated with researchers to conduct two field experiments using both container-grown TYC and translocation of naturally occurring stems (Stanton and Pavlik 2009, 2010). The information gained from these and other experiments can inform future management of the site and potential mitigation strategies. Additionally, Edgewood Companies is a voluntary participant in the Tahoe Yellow Cress Stewardship Program. The Stewardship Program is a collaborative effort between the Nevada Tahoe Conservation District, Tahoe Resource Conservation District, Natural Resources Conservation Service, and AMWG to work with the community and property owners to identify and conserve TYC on private lands. As part of this voluntary Program, a Tahoe Yellow Cress Stewardship Plan has been prepared for the Edgewood property. The plan

includes recommendations and information about conservation practices to protect TYC on the Edgewood property.

Special-Status Wildlife

A preliminary list of special-status wildlife species with potential to occur on the project site was developed based on a review of the following:

- a list of taxa designated by TRPA as special interest or threshold species (TRPA 2002);
- a list and GIS data of special-status species known to occur within a 5-mile radius of the project site obtained from the NNHP (NNHP 2011);
- a list of special-status species tracked by the NNHP (NNHP 2010);
- a list of special-status species known to occur in Douglas County, Nevada, obtained from the NNHP website; and
- a list of federally endangered, threatened, or candidate species that may be affected by projects in the Lake Tahoe Basin (USFWS 2012).

The initial data review preliminarily identified 21 special-status wildlife species that could occur in the project vicinity. One special-status species, waterfowl (collectively), occurs in the project area; and most of the project area is within a TRPA-designated waterfowl threshold area (Exhibit 5.7-2). Three other species – osprey, bald eagle, and mule deer – have a moderate to high likelihood to occasionally occur in the project area and vicinity. No other special-status wildlife species are expected to occur in the project area. This determination was based primarily on (1) the types, extent, and quality of habitats on the project site documented during the field survey; (2) the proximity of the project area to known extant occurrences of the species; and (3) the regional distribution and abundance of the species in the Tahoe Basin.

Table 5.7-4 summarizes the potential for occurrence of each special-status wildlife species evaluated during this analysis. Species known or with a moderate or high potential to occur in the project area are described below.

Table 5.7-4. Special-Status Animal Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project

Common Name and Scientific Name	Regulatory Status[1]			Habitat Associations	Potential for Occurrence[2]
	Federal	State	TRPA		
Invertebrates					
Northern Sierra endemic ant *Formica microphthalma*		NNHP-AR		Montane ant of conifer forests in the northern Sierra.	**Low**. Known from approximately 5 miles northwest of the project area, but not expected to occur in the project area. While little is known about this species, most *Formica* ants require coarse woody debris, rocks, or other material for nesting; these features are in low abundance in the study area.

Table 5.7-4. Special-Status Animal Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project

Common Name and Scientific Name	Regulatory Status[1]			Habitat Associations	Potential for Occurrence[2]
	Federal	State	TRPA		
Lake Tahoe benthic stonefly *Capnia lacustra*		NNHP-AR		Endemic to Lake Tahoe; occurs at depths between 95 and 400 feet with algae, mosses, and liverworts.	**Low.** No suitable habitat is present.
Carson Valley silverspot *Speyeria nokomis carsonensis*		NNHP-AR		Known from Carson Valley; host plant is *Viola nephrophylla*, and nectar sources include thistles.	**Low**. Known from within 5 miles of the project area, but not expected to occur in project area. No suitable habitat present.
Fish					
Lahontan cutthroat trout *Oncorhynchus clarki henshawi*	FT	NNHP-AR	SI	Only trout species native to lakes and streams in the Tahoe Basin. Found in both lake and stream habitats, but spawn in stream environments. Lahontan cutthroat trout (LCT) requires gravels and riffles for spawning, and generally does not persist or occur with nonnative salmonids.	**Low.** LCT were stocked in Lake Tahoe (near Cave Rock) in 2011. Habitat for LCT in the project area is limited and of poor quality. The shorezone habitat in the project area is characterized by shallow, nearshore, sandy substrate lacking vegetation or other cover, and is not designated as prime fish habitat by TRPA. Edgewood Creek is currently impassable to fish, does not support suitable spawning habitat for this species, and supports nonnative trout and other species.
Amphibians					
Yosemite toad *Bufo canarus*	FC			Endemic California toad found in wet meadows between 4,000 and 12,000 feet in the Sierra Nevada from Alpine County south to Fresno County.	**Low.** No suitable habitat is present.
Northern leopard frog *Rana pipiens*		NP		Usually occurs in permanent water with abundant aquatic vegetation. Associated with wet meadows, marshes, slow-moving streams, bogs, ponds, potholes, and reservoirs.	**Low.** Presumed extirpated from the Tahoe Basin.

Table 5.7-4. Special-Status Animal Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project					
Common Name and Scientific Name	Regulatory Status[1]			Habitat Associations	Potential for Occurrence[2]
	Federal	State	TRPA		
Sierra Nevada yellow-legged frog *Rana sierrae*	FC	NNHP-AR		Occurs in upper elevation lakes, ponds, bogs, and slow-moving alpine streams. Most Sierra Nevada populations are found between 6,000–12,000 feet elevation. Almost always found within one meter of water, and associated with montane riparian habitats in lodgepole pine, ponderosa pine, Jeffrey pine, sugar pine, white fir, whitebark pine, and wet meadow vegetation types. Alpine lakes inhabited by mountain yellow-legged frogs generally have grassy or muddy margin habitat, although below treeline sandy and rocky shores may be preferred. Suitable stream habitat can be highly variable, from high gradient streams with plunge pools and waterfalls, to low gradient sections through alpine meadows. Low-gradient streams are preferred because breeding and tadpole development cannot occur in streams with fast-moving water. Small streams are generally unoccupied and have no potential breeding locations because of the lack of depth for overwintering and refuge. Although Sierra Nevada yellow-legged frogs have been observed successfully breeding in shallow locations less than 7 feet deep, typically depth is an important factor for breeding locations since adults and larvae require overwintering habitat. For up to 9 months, adults and larvae will live/hibernate below ice, or in nonfrozen portions of ponds or lakes, so adequate depth (greater than 2 m) is necessary to avoid having the pond or lake freeze through.	**Low**. The only known population in the Tahoe Basin occurs at Hell Hole bog, approximately 11 miles south-southwest of the project site. No suitable breeding habitat present in project vicinity.
Birds					
Northern goshawk *Accipiter gentilis*	FSS	NP-S, NNHP-AR	SI	In the Sierra Nevada, generally requires mature conifer forests with large trees, snags, downed logs, dense canopy cover, and open understories for nesting; aspen stands also are used for nesting. Foraging habitat includes forests with dense to moderately open overstories and open understories interspersed with meadows, brush patches, riparian areas, or other natural or artificial openings. Goshawks reuse old nest structures and maintain alternate nest sites.	**Low.** No suitable breeding habitat present. Project area is not located within a TRPA-designated goshawk nondisturbance zone. Goshawk could occasionally forage or perch within, or otherwise move through, the project area; however, goshawk use of the project area is not expected due to marginal forest conditions and high disturbance levels.

Table 5.7-4. Special-Status Animal Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project					
Common Name and Scientific Name	Regulatory Status[1]			Habitat Associations	Potential for Occurrence[2]
	Federal	State	TRPA		
Golden eagle *Aquila chrysaetos*	BGEPA		SI	Mountains and foothills throughout California. Nests on cliffs and escarpments or in tall trees.	**Low.** No suitable habitat in the project area.
Willow flycatcher *Empidonax traillii*		NNHP-AR		In the Sierra Nevada, suitable habitat typically consists of montane meadows that support riparian deciduous shrubs (particularly willows) and remain wet through the nesting season (i.e., midsummer). Important characteristics of suitable meadows include a high water table that results in standing or slow-moving water, or saturated soils (e.g., "swampy" conditions) during the breeding season; abundant riparian deciduous shrub cover (particularly willow); and riparian shrub structure with moderate to high foliar density that is uniform from the ground to the shrub canopy. Most breeding occurrences are in meadows larger than 19 acres, but the average size of occupied meadows is approximately 80 acres. Although less common in the Sierra Nevada, riparian habitat along streams also can function as suitable habitat for willow flycatcher. However, those areas must support the hydrologic and vegetation characteristics described for suitable meadows (e.g., standing or slow-moving water, and abundant and dense riparian vegetation).	**Low.** No suitable habitat in the project area.
Peregrine falcon *Falco peregrinus*		NP-E, NNHP-AR	SI	Nest and roost on protected ledges of high cliffs, usually adjacent to water bodies and wetlands that support abundant avian prey.	**Low.** No suitable nesting habitat present within project vicinity. Could occasionally forage in the project area.
Bald eagle *Haliaeetus leucocephalus*	BGEPA	NP-E, NNHP-AR	SI	Uses ocean shorelines, lake margins, and river courses for both nesting and wintering. Most nests are within 1 mile of water, in large trees with open branches. Roost communally in winter.	**Moderate**. Bald eagle does not nest in or near the project area. During winter, likely forages in Lake Tahoe in the vicinity of the project area and may perch in trees along the shoreline within the project area. Could also use the project area similarly but less frequently during non-winter periods.

Table 5.7-4. Special-Status Animal Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project

Common Name and Scientific Name	Regulatory Status[1]			Habitat Associations	Potential for Occurrence[2]
	Federal	State	TRPA		
Osprey *Pandion haliaetus*			SI	Associated with large fish-bearing waters. Nest usually within 0.25 mile of fish-producing water, but may nest up to 1.5 miles from water. In the Tahoe Basin, osprey nests are distributed primarily along the Lake Tahoe shoreline, at the northern portion of the east shore and southern portion of the west shore. Other osprey nest sites in the Tahoe Basin occur along the shorelines of smaller lakes (e.g., Fallen Leaf Lake) and in forest uplands up to 1.5 miles from lakes.	**Moderate**. Osprey does not nest in the project area. Likely forages in Lake Tahoe in the vicinity of the project area and may perch in trees along the shoreline within the project area.
California spotted owl *Strix occidentalis occidentalis*		NNHP-AR		Occurs in several forest vegetation types including mixed conifer, ponderosa pine, red fir, and montane hardwood. Nesting habitat is generally characterized by dense canopy closure (i.e., greater than 70 percent) with medium to large trees and multistoried stands (i.e., at least two canopy layers). Foraging habitat can include intermediate to late-successional forest with greater than 40 percent canopy cover.	**Low.** No suitable habitat present.
Waterfowl species (collectively)			SI	Nest and roost in wetlands and around waters such as lakes, creeks, drainages, marshes, and wet meadows.	**Present.** Waterfowl species are present and common within the project area throughout the golf course property and along the Lake Tahoe shoreline. These species include Canada goose, mallard, and common merganser. Most of the project area is within a TRPA-designated waterfowl threshold area (Exhibit 5.7-2).
Mammals					
Pale Townsend's big-eared bat *Corynorhinus townsendii pallescens*		NP-S, NNHP-AR		Range throughout California, mostly in mesic habitats. Limited by available roost sites (i.e., caves, tunnels, mines, and buildings).	**Low.** No suitable habitat present.
Western red bat *Lasiurus blossevillii*		NP-S, NNHP-AR		Day roosting common in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. An association with intact riparian habitat may exist (particularly willows, cottonwoods, and sycamores).	**Low.** Suitable roosting habitat is limited and of low quality. However, this species has been detected in the Tahoe Basin and could periodically forage or move through the area.

Table 5.7-4. Special-Status Animal Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project

Common Name and Scientific Name	Regulatory Status[1]			Habitat Associations	Potential for Occurrence[2]
	Federal	State	TRPA		
Fringed myotis *Myotis thysanodes*		NP, NNHP-AR		Optimal habitat includes pinyon-juniper, valley foothill hardwood, and hardwood-conifer. Uses open habitats, streams, lakes, and ponds as foraging areas. Roosts in caves, mines, buildings, and crevices.	**Low.** Suitable roosting habitat is limited and of low quality. However, this species has been detected in the Tahoe Basin and could periodically forage or move through the area.
Northern flying squirrel *Glaucomys sabrinus*		NP		Coniferous and riparian-deciduous forests at approximately 5000-8000 feet.	**Low.** No suitable habitat present.
Sierra Nevada mountain beaver *Aplodontia rufa californica*		NP-S, NNHP-AR		Uses riparian habitats with soft, deep soils for burrowing, lush growth of preferred food sources such as willow and alder, and a variety of herbaceous species for bedding material. Vegetation types preferred include wet meadows and willow-alder–dominated riparian corridors typically near water sources. Suitable riparian habitats are characterized by dense growth of small deciduous trees and shrubs near permanent water. Mountain beaver is generally solitary, except during its short breeding season; beavers spend a high proportion of their time in extensive underground burrow systems with multiple openings, tunnels, and food caches.	**Low.** No suitable habitat present.
Sierra marten *Martes Americana sierrae*		NNHP-AR		Inhabits dense canopy conifer forests with large snags and downed logs, with more than 40 percent crown closure (CNDDB 2011). Prefers old growth stands with multiple age classes in vicinity.	**Low.** No suitable habitat present.
Pacific fisher *Martes pennanti pacifica*	FC			Inhabits stands of pine, Douglas fir, and true fir in northwestern California and Cascade-Sierra ranges. Uses cavities, snags, logs & rocky areas for cover and denning. Needs large areas of mature, dense forest. Fishers are considered extirpated throughout much of the Central and Northern Sierra Nevada (Zielinski, Kucera, and Ba 1995).	**None.** No suitable habitat present. Species is considered extirpated from the Tahoe Basin.

Table 5.7-4. Special-Status Animal Species Evaluated for the Edgewood Lodge and Golf Course Improvement Project

Common Name and Scientific Name	Regulatory Status[1]			Habitat Associations	Potential for Occurrence[2]
	Federal	State	TRPA		
Mule deer *Odocoileus hemionus*			SI	Year-long resident or elevational migrant that prefers a wide distribution of various-aged vegetation for cover, meadow, and forest openings, and free water. In the Sierra Nevada, early to mid-successional forests, woodlands, and riparian and brush habitats are preferred because of the greater diversity of shrubby vegetation and woody cover. In addition to forage, vegetative cover is critical for thermoregulation. Suitable habitats include a mosaic of vegetation such as forest or meadow openings, dense woody thickets and brush, edge habitat, and riparian areas. Fawning habitat, used by does during birth and by newborn fawns, is of critical importance for reproductive success. A diversity of thermal cover, hiding cover, succulent forage, and water are needed during fawning. Optimal deer fawning habitat has been described as having moderate to dense shrub cover near forest cover and water, such as riparian zones. A source of surface water (e.g., creek or river) is especially important to mule deer. Typical fawning habitat varies in size, but an area of 5–26 acres is adequate, with optimal fawn-rearing habitat of around 400 acres.	**Moderate.** Deer are not expected to fawn or regularly use the project area due to human disturbance levels; lack of high-quality forage and cover; and isolation of the habitat due to commercial/recreational development, major roads, and fencing around most of the project area. However, mule deer may occasionally migrate through or forage in the project area.

Notes:
[1] Regulatory Status Definitions:
Federal—U.S. Fish and Wildlife Service:
FE = Endangered species under the federal Endangered Species Act
FT = Threatened species under the federal Endangered Species Act
FC = Candidate for listing under the federal Endangered Species Act

State—Nevada Revised Statues and Nevada Administrative Code; Nevada Natural Heritage Program:
NP = Nevada state protected under NRS 501 and NAC 503, but only those species with a Nevada Natural Heritage Program state vulnerability/threat rank of 4 or lower.
NP-E = Nevada state protected, further classified as Endangered, under NRS 501, NAC 503
NP-S = Nevada state protected, further classified as Sensitive, under NRS 501, NAC 503
NNHP-AR = Nevada Natural Heritage Program At-Risk Species (http://heritage.nv.gov/lists/track.pdf)

TRPA:
SI = Special interest/threshold species

[2] Potential for Occurrence Definitions:
Observed—Species was observed in the project area during site visits conducted for this analysis or was documented there by another reputable source.
High—All of the species' specific life history requirements can be met by habitat present in the project area, and populations are known to occur in the immediate vicinity.
Moderate—Some or all of the species life history requirements are provided by habitat in the project area; populations may not be known to occur in the immediate vicinity, but are known to occur in the region.
Low—Species not likely to occur because of marginal habitat quality or distance from known occurrences.
None—None of the species' life history requirements are provided by habitat in the project area and/or the project area is outside of the known distribution for the species.

Waterfowl

"Waterfowl" is designated as a special interest species by TRPA. Several waterfowl species occur in the Tahoe Basin during spring and summer months including Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), green-winged teal (*Anus crecca*), common merganser (*Mergus merganser*), and ruddy duck (*Oxyura jamaicensis*). In the Tahoe Basin wetlands provide nesting, resting, and foraging habitat for waterfowl. Important areas for waterfowl include Pope Marsh, Truckee Marsh, Taylor Creek Marsh, Grass Lake, and Spooner Lake (TRPA 2002).

The TRPA waterfowl threshold site at Edgewood Tahoe Golf Course is well-recognized as being artificial and altered by intensive golf course operations and use. However, the artificial ponds on the golf course support considerable numbers of waterfowl, which is presumably why the site was designated as a threshold area. These areas are primarily used for foraging and resting. Nesting habitat for waterfowl species within the project area is limited due to lack of extensive riparian vegetation or other naturalized areas that may provide adequate cover and limited buffer distance between golf course play and wetland/open water habitats. However, small areas of nesting habitat may exist in areas near the ponds where vegetation cover is relatively dense. Surveys for nesting waterfowl have not been conducted within the project area, and whether the area is used for nesting is currently unknown. However, waterfowl species are present and common within the project area throughout the golf course property and along the Lake Tahoe shoreline. These species include Canada goose, mallard, and common merganser.

Mule Deer

Mule deer is designated as a special interest species by TRPA. Both the Carson River and Loyalton-Truckee deer herds occur in the Tahoe Basin during snow-free months. The Tahoe Basin includes fawning and summer range for these herds. Mule deer in the Tahoe Basin are elevational migrants, leaving the Tahoe Basin during winter months for the Carson Valley or other low-elevation areas free of deep snow. Mule deer numbers in the Tahoe Basin are relatively low; and over the last 10 years, migratory habitat loss and fragmentation has increased throughout the herds' range as a result of residential development, and population sizes have been declining. The loss of wintering habitat and reduced access to wintering areas may be the primary causes of these population declines (TRPA 2002). Mule deer primarily use early to mid-successional stages of several vegetation types, including riparian, meadow, and forest with moderate understory shrub cover. Important habitat requirements for mule deer fawning include undisturbed meadow and riparian areas that provide hiding cover and forage, and availability of open water. Early to mid-successional forests are used primarily as summer range.

The project area is at the edge of the range for the Loyalton-Truckee and Carson River mule deer herds. Mule deer may occasionally migrate through or forage in the project area. Deer are not expected to fawn or regularly use the project area due to high levels of human disturbance levels, lack of high-quality forage and cover, and isolation of the habitat due to commercial development and major roads.

Bald Eagle and Osprey

Bald Eagle and osprey are designated by TRPA as special-interest species. Bald eagle is also federally protected by USFWS under the Bald and Golden Eagle Protection Act. Osprey is associated with large fish-bearing waters. In the Tahoe Basin, osprey nests are distributed primarily along the northern portion of the east shore and southern portion of the west shore of Lake Tahoe. Other osprey nests in the Tahoe Basin are located along the shorelines of smaller lakes (such as Fallen Leaf Lake) and in forest uplands up to 1.5 miles from water. Ospreys forage in Lake Tahoe as well as several other fish-bearing lakes, streams, and rivers within the Tahoe Basin. Bald eagles require large bodies of water or free-flowing streams with abundant fish and adjacent snags or other perches for hunting. They generally nest in undisturbed coniferous forests, usually within a mile of a lake or reservoir. Bald eagle habitat typically consists of several components, most significantly, proximity to large bodies of water and wetlands associated with lakes, mature coniferous stands with presence of dominant trees,

and adequate protection from human disturbance. Bald eagles are known to nest within the Tahoe Basin, including Emerald Bay and Marlette Lake.

Neither of these species nests within the project area. Ospreys likely forage in Lake Tahoe in the vicinity of the project and could perch in trees along the shoreline in the project area. Bald eagle could also forage or perch in the project area throughout the year, particularly during winter when the abundance of bald eagles in the Tahoe Basin is greatest.

SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through the TRPA Goals and Policies and TRPA Code, Section 404 of the CWA, and other applicable regulations. Sensitive natural habitats may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species.

In the project area, montane riparian and freshwater marsh are sensitive habitats and also comprise a portion of SEZ lands. These habitats are present primarily along Edgewood Creek and the golf course ponds throughout the project area (Exhibit 5.7-1). A wetland delineation has not been conducted for the project; and land cover mapping for this EIS did not attempt to map or quantify small wetland features such as swales and other drainages.

5.7.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

FEDERAL AND NEVADA VEGETATION, WILDLIFE, AND FISHERIES RESOURCES SIGNIFICANCE CRITERIA

Implementation of any project alternative would have a significant impact on biological resources if it would:

- have a substantial effect, either directly or through habitat modifications, on any of the following special-status species: (1) animals and plants listed as threatened, endangered, or candidates for listing under the federal ESA; (2) animals and plants designated in Nevada as fully protected; or (3) plants designated as threatened or endangered by the Nevada Native Plant Society.
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.

TRPA SIGNIFICANCE CRITERIA

Based on TRPA's Initial Environmental Checklist, an alternative was determined to result in a significant impact to vegetation, wildlife, and aquatic resources if it would:

- result in substantial removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table
- introduce new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species

- introduce new species of animals into the region, or result in a barrier to the migration or movement of animals
- result in a substantial change in the abundance or distribution of any species of plant or animal
- substantially reduce the numbers of any unique, rare, or endangered species of plants or animals
- result in a change in the natural functioning of a late seral or an old growth ecosystem
- result in deterioration of existing fish or wildlife habitat quantity or quality

METHODS AND ASSUMPTIONS

VEGETATION AND WILDLIFE

Potential impacts of each alternative on vegetation and wildlife resources were initially identified by overlaying geographic information system (GIS) layers of proposed project components on the land cover map of the study area (Exhibit 5.7-1) and a map of sensitive biological resources (Exhibit 5.7-2). Any natural community and wildlife habitat that overlapped with an area of proposed modification was considered to be directly affected during project construction. Short-term construction impacts would occur where natural vegetation would be removed to construct new features and facilities or modify existing features, such as ponds. Long-term impacts to biological resources would occur in or adjacent to habitats that would experience a permanent conversion in land use and cover (i.e., conversion of natural vegetation to lodge facilities, conversion of existing features, realignment of Edgewood Creek and Golf Course Creek, and relocation of the mouth of Edgewood Creek). Impacts on trees were determined by estimating the number of trees to be removed based on the project footprint. The boundaries of SEZs within the study area were derived from the verified TRPA land capability maps and were used to calculate the SEZ acreage that would be lost or gained under each alternative as a result of SEZ conversion creation, enhancement, or restoration. A formal wetland delineation according to USACE criteria would be conducted after selection of a preferred alternative and prior to project permitting. The delineation would not change regardless of the alternative selected, and so could be done before project approval.

FISHERIES AND AQUATIC RESOURCES

Potential impacts of each alternative on fisheries and aquatic resources were also identified by overlaying GIS layers of proposed project components on the sensitive biological resources map of the study area (Exhibit 5.7-2). The impact analysis for fisheries and aquatic resources examines effects of each alternative in both the short term and the long term. Short-term, temporary effects could occur over hours, days, or weeks during the active construction phase. In addition, the creek system is expected to experience adjustments after construction, so the analysis of short-term, temporary impacts also considers interim effects that may occur during the first few years after construction, assuming that spring stream flows are at least average. Long-term effects would be the result of changes to the mouth of Edgewood Creek, the realignment of Edgewood Creek, and modifications to the creek/pond matrix throughout the golf course, riparian corridors, and wetlands, and include changes to habitat conditions over a period of time after the system has responded and achieved a new dynamic state. Effects on lake habitat as a result of the proposed pier are also considered in the fisheries and aquatic resources analysis.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

Section 5.7.2, “Affected Environment,” discusses all special-status plants, wildlife, and fish species evaluated in this analysis, and Tables 5.7-3 and 5.7-4 summarizes the potential for each of these species to occur in the study area. Most special-status species not expected or with a low probability to occur (because of a lack of suitable

habitat, recent surveys that did not detect the species, or lack of other occurrence records) are not addressed further in this analysis. Implementation of this project is not expected to affect those species.

Lahontan cutthroat trout occurs in Lake Tahoe (Table 5.7-4). Recent efforts toward reintroducing Lahontan cutthroat trout into Lake Tahoe, for recreational (sport fishing) purposes, began during the summer of 2011. The Nevada Department of Wildlife stocked approximately 22,000 Lahontan cutthroat trout in Lake Tahoe (near Cave Rock) as part of their efforts to begin stocking native aquatic species for the benefit of anglers. Although the project is not expected to affect LCT, this species is analyzed further in this EIS because USFWS and USACE may require informal or formal ESA consultation for LCT during review of any project that could affect Lake Tahoe. As the lead federal agency for the proposed project, USACE must determine whether formal or informal consultation with USFWS under Section 7 of the ESA is required.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.7.1-1	**Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ).** Implementation of Alternative 1 would result in the temporary disturbance of riparian vegetation, freshwater marsh habitat, and SEZ along existing sections of Edgewood Creek and along the existing complex of ponds throughout the Edgewood Tahoe Golf Course property, including Friday's Station pond. Under Alternative 1, Threshold Improvement Project C would involve realigning portions of Edgewood Creek and stabilizing the existing channel and bank in other areas, which would require the deposit of some fill into or disturbances to an active channel. Realignment of Edgewood Creek would also include the removal of pond 15, requiring fill of potential waters of the United States, including wetlands. Implementation of Threshold Improvement Projects B, C, and D would involve modifications to ponds 1, 6, 10, 12, and 18, and Friday's Station pond to remove accumulated sediment; restore capacity; and create, restore, and enhance wetlands -- including reconstructing a creek channel and expanded riparian buffer in place of pond 15 with habitat suitable for fish spawning. Construction of these project features would disturb habitats considered sensitive by USACE and TRPA, including riparian vegetation, SEZ, and potential jurisdictional wetlands. This temporary impact would be **significant**.

Lodge Complex

The lodge complex would be constructed primarily in the southwestern portion of the project area. A primary goal of the project is to construct the lodge complex on higher capability and non-sensitive land, to the extent feasible. Habitat throughout most of this area is open Jeffrey pine forest or covered by an existing parking lot and other golf course facilities. Although this portion of the project area includes some areas classified as land capability district (LCD) 1b or SEZ, these areas are paved or otherwise disturbed, and do not support functioning stream environments (biologically or hydrologically) and are not considered a sensitive natural community. Therefore, construction of the lodge complex would not directly affect sensitive habitats.

Threshold Improvement Project C

Threshold Improvement Project C proposes several improvements to Edgewood Creek to improve bank stability, riparian vegetation, functional wetland area, and fish passage and spawning habitat. The majority of improvements under Project C would include the realignment and enhancements of Edgewood Creek from its outlet at Lake Tahoe upstream to pond 1. The length of disturbance from the outlet at Lake Tahoe upstream to pond 1 would be approximately 1,373 linear feet, with the width ranging from 15 to 220 feet.

Channel realignment and improvements would include constructing a new mouth of Edgewood Creek approximately 350 feet south of its existing location, removing the in-line connection between Edgewood Creek and pond 18 (i.e., isolating pond 18 from Edgewood Creek and Lake Tahoe), improving the channel structure, and constructing wetlands along both sides of Edgewood Creek near golf tees 1 and 10. Near golf tees 1 and 10, Edgewood Creek is joined by Golf Course Creek; wetlands would be constructed at and around this confluence. Channel realignment would consist of construction of a new channel with stepped banks built to support dense riparian vegetation. Improvements to the reach of Edgewood Creek above golf tees 1 and 10 to pond 1 would include the complete removal of pond 15. The removal of pond 15 and its conversion to a restored channel with expanded riparian buffer would involve fill of approximately 24,000 square feet of potential waters of the United States, and reconstruction of Edgewood Creek through this area to provide improved channel structure and fish spawning habitat.

Additional improvements to Edgewood Creek would occur at the outfall from U.S. 50. Here, banks would be stabilized above, around, and below the outfall through soil reconditioning, revegetation, and the placement of rock riprap. In addition, large woody debris that has accumulated just downstream from the outfall would be removed to improve stream hydraulics and the vegetative community.

Project C also includes improvements and creation of new wetlands in and around pond 1. Ponds 1 and 12 would be drained and dredged to remove accumulated sediment. The pond volume would then be increased and pond 1 would be re-graded to include a wetland shelf, and wetland vegetation would be established through seeding.

Although the Edgewood Creek SEZ is intensively managed for and affected by golf course operations and provides limited biological functions, it presently supports riparian vegetation and wetlands, freshwater marsh, ponds and other aquatic habitat, and is considered a sensitive habitat. Edgewood Creek and its associated wetlands are also potential waters of the United States and subject to jurisdiction of the USACE. The realignment and improvement of Edgewood Creek below pond 1 would require construction-related disturbances of these sensitive habitats. This would be a significant temporary impact.

Threshold Improvement Project D

Implementation of Threshold Improvement Project D would disturb potential jurisdictional waters of the United States and sensitive habitats near Friday's Station dam, which is located on Edgewood Creek upstream of U.S. 50. Improvements to Friday's Station pond and dam would include modifying the existing outlet structure, expanding the emergency spillway at the northwest corner of the pond, draining and dredging the pond to remove accumulated sediment, and stabilizing the stream channel where it enters the north side of Friday's Station pond. Riparian vegetation exists along the northern edge of the pond and in the area west of the pond to U.S. 50. Riparian vegetation would be affected as a result of construction associated with dredging of the pond, modifications to the outlet structure, and expansion of the emergency spillway. This would be a significant temporary impact. An aspen community is located north of Friday's Station pond; however, disturbance to this sensitive community is not expected as a result of project construction.

Threshold Improvement Project B

Threshold Improvement Project B includes improvements to ponds 6 and 10, primarily for water quality benefits. Although pond improvements and wetland creation would be similar to those described above for ponds 1 and 12, whether these ponds are subject to USACE jurisdiction has not been confirmed. Ponds 6 and 10 are man-made features and receive water from the SSWA treatment system, and are not connected directly to Edgewood Creek; however, they do have an outfall into pond 1, which is likely subject to USACE jurisdiction. Regardless, riparian vegetation and wetland habitat is present around the edges of these ponds and would likely be disturbed during pond expansion and wetland creation. This would be a significant temporary impact.

Summary

Threshold Improvement Project C would involve realigning portions of Edgewood Creek and stabilizing the existing channel and bank in other areas, which would require the deposit of some fill into or disturbances to an active channel. Realignment of Edgewood Creek would also include the removal of pond 15, requiring fill of potential waters of the United States, including wetlands. Pond 15 would be converted to a restored channel and expanded riparian buffer to support fish spawning habitat. Implementation of Threshold Improvement Projects B, C, and D would involve modifications to ponds 1, 6, 10, 12, and 18, and Friday's Station pond, to remove accumulated sediment, restore capacity, and create, restore, and enhance wetlands. Construction of these project features would temporarily disturb habitats considered sensitive by USACE and TRPA, including riparian vegetation, SEZ, and potential jurisdictional wetlands. Fill or reconfiguration of jurisdictional waters of the United States requires a permit from USACE pursuant to Section 404 of the Clean Water Act. In addition, the deciduous riparian vegetation within the SEZ would likely be considered jurisdictional habitat by the USACE and would require a permit and mitigation. Deciduous riparian vegetation is one of TRPA's threshold common vegetation types with an attainment threshold of 4 percent; it is also considered a habitat of special significance by TRPA. Disturbance of these sensitive habitats and potential fill of a jurisdictional water of the United States as a result of construction would be a **significant** impact. (Note: Impact 5.7.1-2 below discusses the long-term beneficial effects on sensitive habitats.)

Mitigation Measure 5.7.1-1a: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits.

Prior to the onset of construction activities in association with Alternative 1 and Threshold Improvement Projects B, C, and D, unless otherwise directed by USACE, a delineation of waters of the United States, including wetlands that would be affected by the project, shall be prepared by a qualified biologist through the formal Section 404 wetland delineation process. The delineation shall be submitted to and verified by USACE. If, based on the verified delineation, it is determined that fill of waters of the United States would result from implementation of the project, authorization for such fill shall be secured from USACE through the Section 404 permitting process. The acreage of riparian habitat (deciduous riparian vegetation) that would be removed or disturbed during project implementation shall be quantified and replaced or restored/enhanced in accordance with USACE regulations. Habitat restoration, enhancement, and/or replacement shall be at a location and by methods agreeable to USACE as determined during the permitting processes for CWA Section 404 and consistent with TRPA regulations. The enhancement and creation of sensitive habitats proposed as part of the project may be considered in determining the extent of replacement needed for permit issuance.

Mitigation Measure 5.7.1-1b: Implement Vegetation Protection Measures and Revegetate Disturbed Areas.

To minimize the loss of native wetland and riparian vegetation as a result of project construction, salvage actions shall be implemented for wet meadow and riparian vegetation. Riparian vegetation within the SEZ shall be avoided to greatest extent feasible, except vegetation identified for removal in association with the threshold improvement projects. A minimum number of channel access points shall be used to avoid and minimize adverse effects on any established bank or SEZ vegetation that does not need to be removed as part of stream/wetland construction. If avoidance is not possible, trees shall be shielded, and shrubs shall be pruned while protecting soil and root structures. In areas where existing streambank or wetland vegetation must be removed, plant materials shall be salvaged, stored, and reused as possible.

Implementation of Mitigation Measures 5.7.1-1a and 5.7.1-1b would reduce impacts to project-related fill of waters of the United States and removal or disturbance of deciduous riparian vegetation, wetlands, and SEZ to a **less-than-significant** level. These measures would minimize the loss of existing sensitive habitats during

construction to the extent feasible, and provide habitat compensation for the loss of riparian and wetland vegetation through the CWA Section 404 permitting process.

Impact 5.7.1-2	Long-Term Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ). One of the long-term goals of Alternative 1 is to reduce the amount of managed turf and coverage within SEZ, increase riparian habitat, and enhance and expand constructed wetlands within the project area. Implementation of Alternative 1 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat, resulting in an overall increase of sensitive habitats. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to be a beneficial effect.

Under Alternative 1, areas of managed turf and other developed golf course features (e.g., cart paths) would be moved away from Edgewood Creek and Golf Course Creek. Threshold improvement projects that create, restore, and enhance SEZ and sensitive habitats would be implemented in those areas. Additionally, the potential for fertilizer use within or adjacent to SEZs for turf and landscape maintenance is expected to be reduced, because golf course features would be moved away from SEZs, the footprint of managed turf would be reduced, and restored SEZ vegetation would not require the long-term use of fertilizers.

Threshold Improvement Project A would restore SEZ associated with Golf Course Creek. Preliminary designs indicate that a low-flow channel approximately 2-feet wide along with riparian vegetation would be constructed along its edges. The estimated total length of Golf Course Creek to be restored is 1,462 linear feet, and the estimated post-project restoration of SEZ is 53,028 square feet (Table 1.1, NCE et al. 2011).

Threshold Improvement Project B would create or improve 32,766 square feet of SEZ in and around ponds 6 and 10, and within the existing wetland feature located between the two ponds. Each pond would be drained, accumulated sediment would be removed, and the new area would be re-graded to include a shallow wetland shelf along the edge that would be seeded with wetland vegetation. The edges of ponds 6 and 10 would also be planted with riparian vegetation to provide a buffer between the open water habitat and the adjacent managed turf.

Threshold Improvement Project C would provide an additional 114,553 square feet of created, restored, and/or enhanced SEZ through improvements along Edgewood Creek, including establishing riparian vegetation where possible, expanding wetland features along the lower reaches of Edgewood Creek and its confluence with Golf Course Creek, and establishing wetlands and a riparian buffer along the perimeter of pond 1.

Under Alternative 1, implementation of Threshold Improvement Projects A, B, and C would create, enhance, and/or restore a total of 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat along Edgewood Creek and Golf Course Creek, and within the existing pond complex. The increased area and potential for improved function of SEZ, wetlands, and riparian communities, which are considered sensitive habitats, is expected to be a **beneficial** effect.

Mitigation Measure

No mitigation is required.

Impact 5.7.1-3	**Loss or Disturbance of Tahoe Yellow Cress Populations.** Implementation of Alternative 1 would relocate the mouth of Edgewood Creek; remove, relocate, and reconstruct the existing pier; and may result in incidental public use of portions of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of Tahoe yellow cress plants. The potential loss or disturbance of this TRPA special interest, Nevada critically endangered, and federal candidate species would be a **potentially significant** impact.

Tahoe yellow cress (TYC) is a sensitive plant species found only on the beaches of Lake Tahoe. TYC is designated as a sensitive plant and threshold indicator species by TRPA; listed as critically endangered and endangered by the states of Nevada and California, respectively; and is designated as a candidate for listing under the federal ESA by USFWS. TYC occurs on the beach at Edgewood in the northern portion of the project area (Exhibit 5.7-2). Based on recent TYC surveys, stems supported by the mouth of Edgewood Creek have varied from no stems to the majority of the stems at the site. Currently, there are at least five clusters occurring along the beach between the existing mouth of Edgewood Creek and the northern property boundary. During surveys conducted in 2011 by the TYC AMWG, a total of 355 stems were counted within the project area, in five clusters ranging in size from 9 to 240 stems (Lewandowski, pers. comm., 2011). The beach at Edgewood is considered a Core site for TYC in the Conservation Strategy (Pavlik et al 2002). Since the first survey at Edgewood in 1979, the Edgewood property has supported between 106 and 1,254 stems, with an average of 480 stems over the entire survey period (Stanton, pers. comm., 2011).

Pier Relocation

Implementation of Alternative 1 would include removing the existing pier and constructing a new pier north of its current location. The existing pier to be removed is located in the southern portion of the beach lakeward of the existing residences at the site, and is not located near any known TYC plants. The proposed relocated and reconstructed pier would be constructed within the beach/dune habitat on the beach at Edgewood, approximately 1,200 feet north of the existing pier's location. The new pier would extend approximately 123 feet into Lake Tahoe from the high water line (natural rim; elevation 6,229.1 feet Lake Tahoe Datum) and would consist of four main sections. Each section would be 10 feet wide and would be anchored by parallel steel pilings drilled into the substrate and spaced at approximately 20-foot intervals. The pier and access ramp would cover approximately 247 square feet of beach and may affect a larger area during years of lower lake levels. The proposed new pier is not located within occupied TYC habitat and would not directly affect this species. Although the beach is sandy in the proposed pier location, the area is devoid of vegetation and current levels of use render it unsuitable habitat for TYC (Stanton, pers. comm., 2011).

Relocation of the Mouth of Edgewood Creek

Under Alternative 1, Threshold Improvement Project C would relocate the mouth of Edgewood Creek to establish potential for fish passage from Lake Tahoe upstream to pond 1. Presently, Edgewood Creek exits the golf course through a culvert that leads from pond 18 and under the fairway at golf hole 18, to where it outfalls onto the beach. The mouth of Edgewood Creek tends to shift seasonally as a result of wind and wave action, and may form a back beach depression that runs parallel to Lake Tahoe as the creek scours through the beach while making its way toward the lake. The course of the scouring patterns may reverse in a single year or remain constant until a large flooding event occurs. TYC readily colonizes these depressions and it is thought that their lower elevations, relative to the surrounding beach, allow the plant to establish more easily (Stanton pers. comm. 2011). During the 2011 AMWG survey, 40 stems were observed in such a depression in the vicinity of the creek mouth (Lewandowski, pers. comm., 2011), and an additional 230 stems were observed in a small lagoon north of the mouth. Construction of the new creek mouth would occur in beach/dune habitat approximately 350 feet to the south of the existing location, outside of occupied TYC habitat.

The newly constructed mouth would be a fixed channel designed to withstand the wind and wave action of Lake Tahoe. The channel would be approximately 4-feet wide at the outlet, but would to expand up to 14-feet wide, and extend the full width of the beach to the high water line and 30 feet beyond. The existing outfall would be abandoned and left in place, but no hydrologic flow would remain through this area. Construction disturbance within the existing TYC clusters on the beach at Edgewood is not planned or expected during relocation of the Edgewood Creek mouth. However, incidental disturbance to TYC through inadvertent trampling, soil disturbance, or dust deposition could result from construction activity in the near vicinity.

Of greater concern are the potential short- and long-term impacts that may result from the termination of flow of Edgewood Creek through the culvert at the existing mouth. Current habitat conditions specifically associated with the existing stream flow may contribute to TYC presence and viability at the creek mouth. All (16) of the Core and High priority ranked TYC sites around Lake Tahoe are associated, at least partly, with a creek or outflow; this regional pattern suggests a link between TYC persistence/abundance and fluvial geomorphic processes and their effects on beach habitats (Stanton, pers. comm., 2012). However, the degree to which the presence, abundance, and vigor of these TYC populations depend on the biophysical conditions created by or associated with creek mouths is unknown; and short- and long-term processes can influence the presence and abundance of TYC populations differently and site-specifically. At Edgewood, in the short term, the termination of flow could cause the surrounding substrate to dry to a point where TYC could not persist. Conversely, the surrounding substrate could remain moist directly from the Lake Tahoe water table; if so, the existing stems would be expected to persist unless they were disturbed either by trampling or uprooting by inundation in a large storm event. The termination of flow could also remove geomorphic processes that prohibit other plants that outcompete TYC from being established and it could remove a natural deterrent to trampling and other human disturbance. Additionally, in the short term, the lack of flow through the culvert could prevent some existing TYC plants or potential colonizers from being scoured away by the creek. Eventually, a storm event capable of moving large amounts of sediment would re-shape beach topography in this area. Under Alternative 1, the termination of stream flow at the existing creek mouth would make the re-formation of a new suitable depression feature following such an event unlikely, thereby potentially reducing the probability of re-colonization of the site by TYC over time (Stanton, pers. comm., 2012). Therefore, this analysis assumes that changes in the fluvial geomorphic processes at the existing creek mouth, as a result of its relocation under Alternative 1, could adversely affect TYC habitat suitability and result in a short- or long-term loss of TYC plants. However, because of the metapopulation dynamic and natural variability of TYC abundance described above in section 5.7.2, “Affected Environment,” confirming and quantifying a long-term loss of TYC as a result of relocating the creek mouth may be difficult.

Recreation Impacts

Alternative 1 proposes construction of a new lodge complex, which includes a 154-unit hotel and 10 interval-ownership casita buildings, expansion of the South Room at the existing golf course clubhouse to accommodate larger sized events, and a new public beach. By creating new formal public access, the new public beach would increase the amount of recreational use within the beach/dune habitat present along Lake Tahoe on Edgewood property. Guests at the lodge complex and expanded clubhouse are also expected to contribute to an increase in the level of recreational use along the beach. The proposed lodge complex and public beach would be located south of the new proposed pier. All known TYC populations in the project area are located north of the proposed pier. The beach area north of the proposed pier is not intended to receive recreational use, particularly the area around the green on golf hole 18 where TYC occurs, because this section is designated as a golf safety hazard area. However, because of its connectivity with the new public beach, its accessibility to an increased recreation-guest population (e.g., lodge, clubhouse, and public beach users), and its overall scenic quality and desirability, the beach area north of the proposed pier is expected to receive some additional use under Alternative 1. An increase in access and use of the beach/dune habitat north of the proposed pier could indirectly affect the TYC populations in this area, through potential l trampling by beach users resulting in potential loss of TYC plants. This

beach area presently experiences some recreation-related disturbances and frequent trampling by Canada geese; however, the magnitude of this potential project-related indirect effect is unknown.

Summary

Under Alternative 1, direct impacts to TYC populations on the beach at Edgewood are not expected; however, incidental disturbances to TYC could occur as a result of construction near existing populations. Moreover, changes in the fluvial geomorphic processes present at the existing creek mouth that would result from its relocation could reduce TYC survival and result in the loss of TYC plants, and adversely affect current or future TYC habitat suitability. Also, potential increased use of the beach area north of the proposed pier as an indirect result of the new lodge complex, public beach, and clubhouse use could result in additional trampling, degradation, or loss of existing TYC. Subsection 61.3.6 of the TRPA Code states that "all projects or activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat, shall fully mitigate their significant adverse effects. Those projects or activities that cannot fully mitigate their significant adverse effects are prohibited." Any potential loss of TYC plants or decline in suitability of TYC habitat, particularly at a Core site, as a result of project implementation would be a **potentially significant** impact.

Mitigation Measure 5.7.1-3: Implement Measures to Protect Existing Tahoe Yellow Cress Plants.

Mitigation Measure 5.7.1-3a shall be implemented with Alternative 1. Mitigation Measures 5.7.1-3b and 5.7.1-3c below provide options to address changes in the fluvial geomorphic processes present at the existing creek mouth resulting from the proposed relocation of the mouth of Edgewood Creek that could result in the loss of TYC plants and adversely affect habitat suitability. Mitigation Measures 5.7.1-3b and 5.7.1-3c are mutually exclusive – implementation of either of these measures coupled with Mitigation Measure 5.7.1-3a would mitigate this impact.

Mitigation Measure 5.7.1-3a: Conduct Preconstruction Surveys, Avoid Potential Construction Impacts, and Avoid Potential Recreation Impacts to Existing Tahoe Yellow Cress Plants.

To avoid potential adverse effects on TYC plants resulting from construction activities and potential increased use of the beach area north of the proposed pier, the following actions shall be implemented:

(A) A qualified biologist familiar with the vegetation of the Tahoe Basin and identification of TYC shall conduct a focused preconstruction survey for TYC in all beach habitat where construction-related disturbance could occur in the vicinity of TYC populations during that year. Surveys shall be conducted between June 15 and September 30, when TYC is clearly identifiable, and shall follow Survey Protocols for Tahoe Yellow Cress Annual Surveys (Stanton and Pavlik 2009b). Surveys shall be completed for each year that construction activities could occur in beach habitat. If no TYC stems are found during the survey, the results of the survey shall be documented in a letter report to TRPA and the TYC AMWG that shall become part of the project environmental record, and no further actions shall be required.

(B) If TYC stems are documented during the survey in areas potentially disturbed by construction activities, the stems shall be clearly identified in the field and protected from impacts associated with construction activities. Protective measures shall include installing high-visibility fencing around known stem locations during construction. No construction-related activities shall be allowed in areas fenced for avoidance, and construction personnel shall be briefed about the presence of the stems and the need to avoid effects on the stems.

(C) To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of the new lodge complex, public beach, and clubhouse use, protective fencing and educational signage about the need to avoid these areas shall be installed around all TYC clusters on the Edgewood property. This measure shall be implemented consistent with recommendations provided in the Tahoe Yellow Cress Stewardship Plan for the Edgewood property. Long-term fencing and signage will be periodically monitored and maintained, as necessary, to ensure that they remain effective and in good working condition. Also, because locations and concentrations of TYC could shift over time, the locations and configurations of fencing relative to TYC distribution on the Edgewood property shall be evaluated periodically. If necessary, fencing shall be moved or added in response to changes in TYC distribution to ensure that TYC plants are protected over time. The locations of TYC plants and shifts in their locations relative to fencing can be determined by annual surveys at Edgewood conducted as part of the ongoing AMWG TYC monitoring program. The installation and maintenance of long-term protective fencing and signage will be designed to not interfere with necessary golf course operations and maintenance activities.

EIP Project No. 980, "Habitat Protection of Tahoe Yellow Cress: Mouth of Edgewood Creek Project," calls for protection of Tahoe yellow cress at the mouth of Edgewood Creek by constructing "a protective structure that eliminates the trampling of this Tahoe Yellow Cress Colony" and installing "education/interpretive displays." Implementing this mitigation measure, which would include fencing the TYC plants near the existing creek mouth and other TYC clusters, would complete EIP Project No. 980.

Mitigation Measure 5.7.1-3b: Implement Monitoring Surveys and Adaptive Management of Tahoe Yellow Cress Near the Existing Mouth of Edgewood Creek.

The specific short- and long-term effects of relocating the mouth of Edgewood Creek on TYC in that area are uncertain and difficult to quantify. Therefore, determining whether and to what extent relocating the mouth of Edgewood Creek adversely affects TYC and developing and implementing appropriate compensatory actions if adverse effects are confirmed, shall use a survey and adaptive management approach in coordination with the TYC AMWG. Although the specific objectives and methods of the survey and adaptive management program shall be developed together by Edgewood Companies, the TYC AMWG, and TRPA, the following provides a recommended framework.

To assess the potential loss of Tahoe yellow cress that may result from moving the mouth of Edgewood Creek from its current location, a qualified biologist shall survey existing TYC populations located within the project area near the existing creek mouth during each of 5 years after the project is completed and in full operation. Additionally, to facilitate comparison of abundance trends with the other TYC clusters on the Edgewood properties, it is recommended that surveys of those clusters also be conducted during the same 5-year period. Surveys shall be conducted using the Survey Protocol for Tahoe Yellow Cress Annual Surveys (Stanton and Pavlik 2009b) in conjunction with the TYC AMWG. Currently, the Edgewood property is included in the lake-wide AMWG TYC monitoring program. Surveys are conducted every year that the level of Lake Tahoe exceeds 6,226 ft Lake Tahoe Datum or every other year in lower lake stands. The project applicant shall conduct the surveys in years when the AMWG does not survey and shall supply all survey data to the AMWG for evaluation.

TYC stem counts shall be compared between pre-project conditions and the 5 years following project implementation. Because annual natural variability in TYC population abundance is normal and expected, any post-project change in TYC abundance would not necessarily be considered a result of project implementation. Appropriate data analysis methods and quantitative thresholds or statistical indicators of significant project-related population change shall be determined in coordination with the TYC-AMWG and TRPA, depending on the type, amount, and quality of historic TYC monitoring data. If a decrease in TYC is detected during post-project monitoring and found to be outside the historic range of variation, specific investigations shall be conducted to determine whether the impact is the result of relocation of the mouth of Edgewood Creek, then

adaptive management or compensatory actions would be required. If no significant decline in TYC is attributable to project implementation, then no further actions would be required.

Adaptive management or compensatory actions for any significant project-related loss of TYC (i.e., the amount of population decline that is significantly beyond the historic range of variation and attributed to project implementation) shall be identified, designed, and implemented in coordination with the TYC-AMWG and TRPA, and agreed to by Edgewood Companies. Potential compensatory actions could include or require seed collection, nursery propagation and outplanting of container-grown TYC, or translocation of naturally occurring TYC either on-site or at a suitable off site location. Management or compensatory actions shall be designed to not interfere with necessary golf course operations and maintenance activities.

Mitigation Measure 5.7.1-3c: Redesign Project to Retain the Mouth of Edgewood Creek at its Current Location.

Prior to TRPA permit acknowledgement, the site plan shall be revised in subsequent design phases to retain the mouth of Edgewood Creek at its current location. This measure would eliminate changes in the fluvial geomorphic processes present at the existing creek mouth that would result from its relocation.

With implementation of Mitigation Measure 5.7.1-3a and either Mitigation Measure 5.7.1-3b or Mitigation Measure 5.7.1-3c, Tahoe yellow cress plants that are present in areas of potential disturbance would be identified before construction and disturbances to those plants would be avoided. To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of the new lodge complex, public beach, and clubhouse use, protective fencing and educational signage about the need to avoid these areas would be installed around all TYC clusters on the Edgewood property.

Additionally, with Mitigation Measure 5.7.1-3b existing Tahoe yellow cress populations would be monitored and adaptively managed to assess potential loss as a result of moving the mouth of Edgewood Creek. If a decrease in TYC as a result of relocation of the mouth of Edgewood Creek is detected, adaptive management or compensatory actions would be identified, designed, and implemented in coordination with the TYC-AMWG, TRPA, and Edgewood Companies.

If Mitigation Measure 5.7.1-3c was implemented in lieu of Mitigation Measure 5.7.1-3b, changes in the fluvial geomorphic processes present at the existing creek mouth and the effect on TYC habitat suitability and potential resultant loss of TYC plants associated with the creek relocation would be eliminated. With implementation of this mitigation measure, the potential for fish passage from Lake Tahoe upstream to pond 1 and the long-term effects on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe (described in Impact 5.7.1-9) would not be realized. In this case, the current fish and aquatic habitat conditions would persist.

For these reasons, with implementation of Mitigation Measure 5.7.1-3a and either Mitigation Measure 5.7.1-3b or Mitigation Measures 5.7.1-3c, Impact 5.7.1-3 would be **less than significant**.

Impact 5.7.1-4.	Tree Removal. Implementation of Alternative 1 would result in the removal of approximately 540 native trees 14 inches dbh or larger. This includes 152 trees with a dbh greater than or equal to 24 inches, which comprises 8.9 percent of all trees within this size class in the project area. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4) of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal would be a less-than-significant biological

impact. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2)(a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area.

Implementation of Alternative 1 would include the removal of 388 trees with a dbh between 14 and 24 inches, and 152 trees with a dbh greater than or equal to 24 inches, totaling 540 trees in these size classes to be removed. Trees would be removed primarily for construction of the lodge complex and the realignment of golf holes 7, 8, and 9. A few trees would also be removed for the relocation of the two residences, and for water quality improvements, pond modifications, and SEZ expansion as part of the threshold improvement projects. While the limited tree removal associated with the relocated single family lots is evaluated as part of this EIS, the project proponent is not planning to remove these trees or construct the relocated single family lots at this time.

Provisions for tree removal are provided in the TRPA Code (Chapter 36, Sections 61.1, 61.4, and 33.6, and Subsection 61.3.6), and all tree removal for trees greater than 14 inches dbh requires review and approval by TRPA. A harvest or tree removal plan is required by TRPA where implementation of a project would cause "substantial" tree removal. "Substantial" tree removal is defined in Subsection 61.1.8 of the TRPA Code as: (1) removal of more than 100 live trees 14 inches dbh or larger on project areas of 3 acres or more; or (2) proposing tree removal that, as determined by TRPA after a joint inspection with appropriate state or federal forestry staff, does not meet the minimum acceptable stocking standards set forth in Section 61.1.6(H). For the purpose of late seral/old growth enhancement protection, Subsection 61.1.4(A) of the Code specifies that no tree greater than or equal to 24 inches dbh in eastside forest types shall be cut. However, Subsection 61.1.4(C)(2) of the Code provides an exception for private landowners by allowing for a limited forest plan to be prepared if 10 percent or less of the trees greater than or equal to 24 inches dbh in eastside forest types within a project area are proposed to be cut within the life of the plan.

The 152 trees greater than or equal to 24 inches dbh proposed for removal under Alternative 1 represents 8.9 percent of the 1,713 trees of similar size found in the project area. Therefore, as part of the project, the project applicant commissioned preparation of the *Edgewood Lodge and Golf Course Improvement Project TRPA Limited Forest Management Plan* (Appendix C), to ensure that tree removal would be in compliance with TRPA Code Subsection 61.1.4(C)(2)(a) and (b), TRPA Code Subsection 61.3.6, "Sensitive and Uncommon Plant Protection", and TRPA Code Chapter 62, "Wildlife Resources". The limited forest plan includes a description and evaluation of current forest stand conditions; a list of permits required for tree removal; prescription for tree removal, which includes harvesting systems to be used and vegetation treatment specifications; and Best Management Practices to be implemented. The plan also includes a discussion of how proposed tree removal would not conflict with attainment of TRPA thresholds, goals, and policies. Additionally, trees to be retained in and around areas of construction would be protected prior to initiation of demolition or construction of the proposed project in compliance with TRPA Code, Section 33.6.

Although implementation of Alternative 1 would result in the removal of numerous trees, most of these trees are Jeffrey pines, which are common and widely distributed in the Lake Tahoe Basin and elsewhere in the Sierra Nevada. Most overstory trees in the project area appear healthy. However, Jeffrey pine habitat in the project area is disturbed and managed, supporting sparse to no native understory vegetation cover or down woody debris in most locations; in many stands, the understory consists of managed turf and pavement (parking lots, cart paths). Jeffrey pine trees and stands, particularly those that are disturbed and within developed landscapes such as on the Edgewood property, and their biological functions are not considered threatened or vulnerable to decline in the region. As discussed in Impact 5.7.1-7 (Long-term Effects on Special-Status and Common Wildlife Species and Habitats), below, wildlife habitat in Jeffrey pine stands that would be affected by the proposed

lodge complex is presently degraded; it is characterized partly by a parking lot, other developed facilities, and a disturbed understory within a matrix of disturbed, open Jeffrey pine overstory. This area of upland habitat is not considered critical or limiting to the presence or viability of common or special-status wildlife or plant populations in the region. Tree removal for the development and operation of the lodge complex is not expected to substantially affect breeding productivity or population viability of any species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4) of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal resulting from implementation of Alternative 1 would be a **less-than-significant** biological impact.

Additionally, the development and implementation of the limited forest plan (pending acceptance and approval by TRPA) would ensure that tree removal is in compliance with TRPA Code Subsection 61.1.4(C)(2)(a) and (b), TRPA Code Subsection 61.3.6, "Sensitive and Uncommon Plant Protection," and TRPA Code Chapter 62, "Wildlife Resources."

Mitigation Measure

No mitigation is required.

Impact 5.7.1-5 **Introduction and Spread of Invasive Weeds and Aquatic Invasive Species.** Implementation of Alternative 1 has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. Invasive weeds and other species could inadvertently be introduced or spread in the project area during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Soil, vegetation, and other materials transported to the project area from off-site sources for best management practices (BMPs), revegetation, or fill for project construction could contain invasive weed seeds or plant material that could become established in the project area. Additionally, terrestrial and aquatic invasive species currently present in or near the project area have the potential to be spread by construction disturbances. The introduction and spread of terrestrial or aquatic invasive species would degrade terrestrial plant, wildlife, and aquatic habitats, including habitats of special significance (riparian) within the project area and possibly Lake Tahoe. The potential introduction and spread of terrestrial or aquatic invasive species would be a **potentially significant** impact.

A focused survey for terrestrial or aquatic invasive species has not been conducted in the project area. However, weed species documented on the Edgewood property during reconnaissance-level project surveys include bull thistle (*Cirsium vulgare*), moth mullein (*Verbascum blattaria*), oxeye daisy (*Leucanthemum vulgare*), and Eurasian watermilfoil (*Myriophyllum spicatum*) (in the golf course ponds). Other invasive weeds have been documented elsewhere in and adjacent to the Edgewood Creek watershed and could occur in the project area; these species include cheatgrass (*Bromus tectorum*), Canada thistle (*Cirsium arvense*), and spotted knapweed (*Centaurea maculosa*) (ECIWAT 2003; AECOM 2010).

Construction of the lodge complex and relocation of the lakefront residences under Alternative 1 would involve temporary ground-disturbing activities in Jeffrey pine forest and other vegetation types previously disturbed by the existing golf course operations. Implementation of the threshold improvement projects under Alternative 1 would also include ground-disturbing activities along reaches of Edgewood Creek and Golf Course Creek, in and around ponds 1, 6, 10, 12, 15, 18, and at Friday's Station pond during construction of the stream and pond reconfiguration, realignment, and restoration projects. These activities would temporarily create areas of open ground that could be colonized by nonnative, invasive weed species from inside or outside of the project area.

Invasive weeds and other species could inadvertently be introduced or spread in the project area during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Some of the construction BMPs would reduce the potential for introducing or spreading weed populations in the project area, by reducing the amount of open ground during construction; however, the potential for this effect would still exist.

The proposed creek and pond restoration, which includes realignment of Edgewood Creek; creation of riparian and wetland areas along Edgewood and Golf Course Creeks; and dredging, re-grading, expanding, and creating wetlands within ponds 1, 6, 10, 12, and Friday's Station pond, could facilitate the spread of aquatic invasive species into Edgewood Creek and Lake Tahoe. Eurasian watermilfoil, an aquatic invasive plant that occurs in the golf course ponds, or bluegill and large-mouth bass, aquatic invasive fish that occur in the golf course ponds, could be spread outside of the ponds if propagules or fish are transported or flushed into Edgewood Creek and Lake Tahoe as a result of construction disturbance in the ponds. Pond 18, which as described in the setting above includes a substantial infestation of Eurasion watermilfoil, would be hydrologically disconnected from Edgewood Creek with the proposed project and relocation of the mouth of Edgewood Creek. Additionally, waders or boots worn by construction personnel could harbor other aquatic invasive species (e.g., New Zealand mudsnail) that could invade the project area, if the equipment was exposed to those species in another water body and is not sufficiently cleaned and sanitized.

Nonnative terrestrial and aquatic invasive species compete with native plant and animal species; their introduction and proliferation in ecosystems can substantially alter the dynamics of native aquatic and terrestrial communities. This conversion can indirectly affect wildlife and fish species by changing and often reducing food sources and habitat structure and can lead to competition between native plant species and the weeds, often resulting in loss of native vegetation. The TRPA Code specifically prohibits the release of nonnative species in the Tahoe Basin because they can invade important wildlife habitats and compete for resources. Additionally, in its Regional Plan Update process, TRPA is considering adopting a new policy to explicitly prohibit and prevent the release of invasive, exotic, or undesirable nonnative aquatic species into the Tahoe Basin and control existing populations of those species. Under Alternative 1, some of the construction BMPs would reduce the potential for introducing or spreading weed populations in the project area, by reducing the amount of open ground during construction; however, the potential for this effect would still exist. Any introduction or spread of invasive weeds or aquatic invasive species would degrade plant and wildlife habitat, including habitats of special significance (riparian) within the project area and could extend into Lake Tahoe. Without mitigation to address the potential introduction and spread of terrestrial or aquatic invasive species, this potential short-term, construction-related impact would be **potentially significant**.

Mitigation Measure 5.7.1-5a: Implement Weed Management Practices during Project Construction.

In consultation with TRPA, the project applicant shall develop and implement a plan that includes appropriate weed management practices during project construction. Recommended practices include the following:

- *A qualified biologist with experience in the Tahoe Basin shall conduct a preconstruction survey to determine whether any populations of invasive/noxious weeds are present within areas proposed for ground-disturbing activities (i.e., the study area). If noxious weed species are documented, they shall be removed or their spread otherwise prevented before the start of construction. Control measures may include herbicide application, hand removal, or other means of mechanical control. This would help eliminate the threat of spreading the species throughout the study area and adjacent areas.*

- *All equipment entering the study area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts before being allowed into the study area.*

- *To ensure that fill material and seeds imported to the study area are free of invasive/noxious weeds, the project shall use on-site sources of fill and seeds whenever available. However, if fill and seed materials need to be imported to the study are, they shall be certified weed-free. In addition, only certified weed-free imported materials (or rice straw in upland areas) shall be used for erosion control.*

After project construction, the project area shall be monitored on an annual basis for infestations of invasive weeds until the restored vegetation has become fully established. If new populations of invasive weeds are documented during monitoring, they shall be treated and eradicated to prevent further spread as outlined in the Edgewood Lodge and Golf Course Monitoring, Inspection, and Operations Plan (NCE 2011). Emphasis in monitoring shall be given to those areas that serve as a buffer between the golf course holes and adjacent forest and riparian vegetation to ensure that these areas do not act as source points for infestations of weeds.

Mitigation Measure 5.7.1-5b: Implement Aquatic Invasive Species Management Practices during Project Construction.

In consultation with TRPA and consistent with USFSWS Hazard Analysis and Critical Control Point (HACCP) planning guidance, the project applicant shall develop and implement a plan that includes appropriate aquatic invasive species management practices during project construction. Recommended practices include the following:

- *All equipment, including individual equipment such as waders, wading boots, etc., entering the study area that will be used in or around Edgewood Creek and its associated ponds and/or Golf Course Creek shall be decontaminated using recommended methods (USACE 2009) before being allowed into the study area.*

- *All equipment, including individual equipment such as waders, wading boots, etc., used in known infested areas within the project area (e.g., pond 15), shall be decontaminated using the above mentioned methods before entering any other areas of the project area not known to contain aquatic invasive species.*

- *Aquatic invasive plants shall be removed from ponds or otherwise controlled prior to the initiation of construction activities in the stream or ponds that could transport or flush invasive plants or propagules into Edgewood Creek or Lake Tahoe.*

- *Aquatic invasive fish shall be treated and eradicated from the project site prior to construction activities in the stream or ponds that could transport or flush invasive fish into Edgewood Creek or Lake Tahoe.*

- *Aquatic invasive species encountered during fish removal and relocation efforts will be euthanized and/or removed from the watershed.*

With the measures described above, weed and aquatic invasive species management practices would be implemented during project construction and the inadvertent introduction and spread of weeds or aquatic invasive species from project construction would be prevented. Therefore, with implementation of Mitigation Measures 5.7.1-5a and 5.7.1-5b, Impact 5.7.1-5 would be **less than significant**.

Impact 5.7.1-6	**Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats.** Under Alternative 1, construction of the new lodge complex, modifications to existing golf course features (including hole realignments and relocations), realignment and restoration of Edgewood and Golf Course Creeks, as well as modifications to the existing pond network including Friday's Station pond could result in disturbances to four special-status species (bald eagle, osprey, waterfowl, and mule deer). Disturbances resulting in loss of individuals or nests, or disruptions to nesting attempts by special-status species (waterfowl) would be a **potentially significant** impact.

"Waterfowl" is a TRPA special-interest group of species that has been documented within the project area, and most of the project area has been designated as a TRPA waterfowl threshold site. Three additional special-status wildlife species are known or have moderate potential to occur in the project area: bald eagle, osprey, and mule deer. Potential impacts as a result of implementing Alternative 1 are discussed below for each species; and those impacts that would be considered significant are described under "Impact Summary," below.

Waterfowl

The TRPA waterfowl threshold site at Edgewood Golf Course is well-recognized as being artificial and altered by intensive golf course operations and use. However, the artificial ponds on the golf course support considerable numbers of waterfowl, which is presumably why the site was designated as a threshold area. These areas are primarily used for foraging and resting. Nesting habitat for waterfowl species within the project area is limited due to lack of extensive riparian vegetation or other naturalized areas that may provide adequate cover and limited buffer distance between golf course play and wetland/open water habitats. However, small areas of nesting habitat may exist in areas near the ponds where vegetation cover is relatively dense. Surveys for nesting waterfowl have not been conducted within the project area and whether the area is used for nesting is currently unknown. However, waterfowl species such as mallard and Canada goose are present and common within the project area throughout the golf course property and along the Lake Tahoe shoreline.

Implementation of Alternative 1 would create disturbances to waterfowl through the temporary loss of habitat during pond improvement activities and creek realignment and restoration activities associated with the threshold improvement projects. In addition, other disturbances such as noise generated in association with construction of the lodge complex could affect foraging and resting waterfowl. If waterfowl use the area for nesting, these disturbances could result in the loss of active nests, and injury or mortality to individuals. This would be a potentially significant impact.

Bald Eagle and Osprey

Bald eagle and osprey are designated by TRPA as special-interest species. Ospreys have been observed in the project area perching in trees along the shoreline and foraging in Lake Tahoe. Neither species nests within the project area, or are known to use trees in the project area regularly for perching. However, large trees in the project area that are in close proximity to the foraging habitat within Lake Tahoe provide good perch sites for both species throughout the year.

If ospreys or bald eagles use the project area or immediate vicinity for foraging, construction related to the lodge complex, clubhouse expansion, pier relocation, golf course hole realignment, and the threshold improvement projects could disturb their foraging activities, particularly where these activities would occur near or in Lake Tahoe. However, due to the existing high level of recreation use and disturbance throughout the project area in association with existing clubhouse and golf course operations, construction-related disturbance under Alternative 1 would not be expected to substantially affect the foraging patterns of bald eagle or osprey. Also, suitable and abundant foraging habitat is available in the immediate vicinity.

Construction activities associated with Alternative 1 are not expected to cause injury or mortality to individuals, disrupt breeding attempts, or affect the population size or viability of these species. This would be a less-than-significant impact.

Mule Deer

Mule deer are designated as a special-interest species by TRPA. The project area is at the edge of the range for the Loyalton-Truckee and Carson River mule deer herds. Deer are not expected to regularly use the project area due to high disturbance levels, lack of high-quality forage and cover, and fencing around the Edgewood property. However, mule deer may occasionally migrate through or forage in the project area, particularly east of U.S. 50 near Friday's Station pond; if so, construction associated with Alternative 1 could infrequently disturb individuals. Deer are not expected to fawn within the project vicinity due to human disturbance levels and isolation of the habitat due to commercial development, major roads, and fencing. Because the project area is not likely to support fawning mule deer and does not provide important foraging or migratory habitat, implementation of Alternative 1 would not affect the species' distribution, breeding productivity, or local population size. This would be a less-than-significant impact.

Summary

Implementation of Alternative 1 could result in the loss of individuals or nests, or disruptions to nesting attempts by waterfowl. This impact would be **potentially significant**. All other impacts to bald eagle, osprey, and mule deer would be less than significant.

Mitigation Measure 5.7.1-6: Conduct Preconstruction Surveys for Nesting Special-Status Birds (Waterfowl) and Implement a Limited Operating Period If Necessary.

For construction activities that would occur in suitable habitat during the nesting season (generally April 1–August 31, depending on snowpack and other seasonal conditions), a qualified wildlife biologist shall conduct focused surveys for waterfowl nests no more than 14 days before construction activities are initiated each construction season. If an active nest is located during the preconstruction surveys, the biologist shall notify TRPA. If necessary, modifications to the project design to avoid removal of occupied habitat while still achieving project objectives shall be evaluated, and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, a limited operating period shall apply to avoid disturbances during the sensitive nesting season. Construction shall be prohibited within a minimum of 500 feet (or at a distance directed by the appropriate regulatory agency) of the nest to avoid disturbance until the nest is no longer active. These recommended buffer areas may be reduced through consultation with TRPA.

Implementation of Mitigation Measure 5.7.1-6 would avoid the loss of individuals and nests of waterfowl species and, therefore, Impact 5.7.1-6 would be **less than significant**.

Impact 5.7.1-7	**Long-Term Effects on Special-Status and Common Wildlife Species and Habitats.** In the long term, natural ecosystem response to improvements to Edgewood Creek, Golf Course Creek, and the pond system under Alternative 1 is expected to improve habitat quality and functions for riparian and aquatic wildlife, including special-status species such as waterfowl. These improvements would also increase the size and enhance the functions of TRPA-designated wildlife habitats of special significance (i.e., wetlands, meadows, and riparian areas), and enhance the quality of the TRPA-designated waterfowl threshold area on the Edgewood property. These effects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance would be **beneficial**. Developing the new lodge complex would remove tree cover and disturbed upland habitat in the southwest portion of the project area. However, this area is characterized primarily by a large parking lot and other developed facilities, and development and operation of the lodge

complex is not expected to substantially affect breeding productivity or population viability of any common or special-status wildlife, or cause a change in species diversity locally or regionally. Therefore, the impact of developing the lodge complex and associated facilities on common and special-status wildlife would be **less than significant.**

Overall, the project would result in either beneficial or less-than-significant impacts on common wildlife and special-status wildlife species and habitats.

Under Alternative 1, implementation of the threshold improvement projects is expected to enhance the quality of wildlife habitat throughout the project area. The threshold improvement projects would include channel restoration of Edgewood Creek and improved hydraulic conditions, and creation and enhancement of wetlands and riparian areas along Edgewood Creek, Golf Course Creek, and the pond system. Improvements to Edgewood Creek, Golf Course Creek, and the pond system would increase the size and enhance function of TRPA-designated habitats of special significance (i.e., wetlands and riparian areas), which provide important functions and values for both riparian and aquatic wildlife communities. Benefits of this expansion and enhancement of wetland and riparian habitats would be realized over time, as vegetation becomes more established and its structure and function improves. Over time, increased riparian vigor along the creeks and pond edges could provide important cover for riparian and aquatic wildlife such as nesting passerine birds. Riparian vegetation cover and patch size along Edgewood Creek and several golf course ponds would also increase and become more contiguous as riparian vegetation matures in areas where it would not be managed for golf play. The increased density of wetland shrubs, particularly near ponds, could provide a greater separation between natural areas that support native wildlife and more disturbed areas where golf play is concentrated. Under Alternative 1, wetlands would be created within pond 1 (which is in-line with Edgewood Creek), pond 6, and pond 10, and along Edgewood Creek and Golf Course Creek below pond 1. These areas are designed to retain 2 to 4 inches of water through the dry summer months, which would improve the development, persistence, and quality of wetland and riparian vegetation and wildlife habitat.

In the long term, natural ecosystem response to improvements to Edgewood Creek, Golf Course Creek, and the pond system under Alternative 1 is expected to improve habitat quality and functions for riparian and aquatic wildlife, including special-status species such as waterfowl. These improvements would also increase the size and enhance the functions of TRPA-designated wildlife habitats of special significance (i.e., wetlands, meadows, and riparian areas), and enhance the quality of the TRPA-designated waterfowl threshold area on the Edgewood property. The magnitude and biological significance of these enhancements are presently not known. However, overall, the long-term effects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance are expected to be **beneficial**.

Alternative 1 involves constructing and operating a new lodge complex in the southwest portion of the project area, which would remove tree cover and some disturbed upland habitat in this area. Some common resident and migratory wildlife species use this area for foraging, shelter, and possibly breeding; no special-status species are expected to use this area for breeding or other important habitat use. Common species would be subject to the loss of habitat, which could result in the reduction of population sizes and diminished use of the project area by some local wildlife populations. These common species are relatively abundant locally and regionally, and not limited by the availability of habitat in the region. Also, the upland habitat in the proposed lodge complex area is presently degraded; it is characterized partly by a parking lot, other developed facilities, and a disturbed understory within a matrix of open Jeffrey pine overstory. This area of upland habitat is not considered critical or limiting to the presence or viability of common wildlife populations in the region. Development and operation of the lodge complex is not expected to substantially affect breeding productivity or population viability of any common or special-status wildlife, or cause a change in species diversity locally or regionally. Therefore, the

impact of developing the lodge complex and associated upland facilities on common and special-status wildlife would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.7.1-8 **Short-Term Degradation of Fish and Aquatic Habitat Resulting from Construction and Initial Response.** Construction during implementation of Alternative 1 could result in temporary adverse effects on water quality, aquatic habitats, and the aquatic biological community within Edgewood Creek, the in-line ponds connected to Edgewood Creek, and Lake Tahoe. Effects could also occur during the initial channel-response period within the study area and Lake Tahoe. This impact would be **significant**.

This impact discussion addresses fisheries and aquatic habitat in general. Potential effects of Alternative 1 on Lahontan cutthroat trout are discussed separately under Impact 5.7.1-10 (Effects on Lahontan Cutthroat Trout), below.

The composition and abundance of fish populations in Edgewood Creek are not well known. Fish species documented in Edgewood Creek include speckled dace (a native species) and brook trout (a nonnative species); other nonnative species such as brown trout and rainbow trout could occur as well. Fish populations documented within the existing pond system are comprised primarily, if not exclusively, of warm-water nonnative species, including largemouth bass and bluegill. No special-status fish or other special-status aquatic species are known or expected to occur in the project area. As discussed in Section 5.7.2, "Affected Environment," the quality of aquatic habitat in Edgewood Creek and the pond system for fish and other species is low.

Implementation of Alternative 1 would include demolition of existing single family homes and relocation of the corresponding lots to higher capability land; realignment of golf holes 7, 8, and 9; removal of the existing pier and surface parking lots; and construction of the new lodge complex, which includes installation of several BMPs and construction of a new pier. The threshold improvement projects would include realignment and restoration of approximately 1,373 linear feet of Edgewood Creek, restoration of Golf Course Creek, and improvements to several of the ponds. These ponds include both in-line ponds along Edgewood Creek (ponds 1, 12, and Friday's Station pond), as well as ponds that are part of the SSWA wet basin treatment system (ponds 6 and 10), which also connect to the in-line system (via pond 1). The following describes the types of potential construction-related impacts to fisheries aquatic biological resources that could result from implementation of Alternative 1.

Stream and Pond Improvements

Water Quality: Sedimentation and Turbidity, Release and Exposure of Contaminants

Construction of the proposed threshold improvement projects and elements of the lodge complex would disturb soils adjacent to Edgewood Creek and Lake Tahoe. As discussed in Section 5.6, "Hydrology and Water Quality," soil disturbances would result from clearing, excavating, filling, grading, compacting, and tilling. All of these activities would expose soil to potential erosion and transport into Edgewood Creek and/or Lake Tahoe, which could affect water quality and aquatic habitat for fish and other aquatic species.

In addition to construction activities occurring adjacent to Edgewood Creek and Lake Tahoe, project activities would occur within aquatic habitats for the realignment of Edgewood Creek, improvements to the ponds, and construction of the new pier (discussed separately under "Pier Relocation," below). The realignment of Edgewood Creek would require temporary dewatering and diversions of portions of the stream channel during construction activities. Improvements to the ponds would involve dewatering of the ponds, dredging the ponds to remove accumulated sediment, re-grading the bottom of the ponds, and constructing wetland areas. During the initial channel construction and rewatering of the new stream channel and ponds, project applicant would implement measures to protect water quality, including a full suite of construction BMPs; however, the BMP measures associated with the creek realignment have not yet been identified. These BMPs will be developed during final design as part of the process to obtain the necessary permits from the USACE, NDEP, and TRPA.

Even with the implementation of BMPs designed to protect water quality, the erosion or disturbance of sediments and soils in Edgewood Creek and the pond system due to project construction could intermittently increase turbidity in Edgewood Creek and downstream into Lake Tahoe. For example, soil exposed during temporary construction activities in Edgewood Creek and the ponds could be washed off the exposed areas and transported downstream to Lake Tahoe, particularly during storm events. Reduced fish population levels and survival rates have been linked to elevated turbidity levels and silt deposition. Prolonged exposure to high levels of suspended sediment could reduce the visual capability of fish in Edgewood Creek and the ponds. Reduction in visual capacity could lead to a reduction in feeding and growth rates; a thickening of the gills, potentially causing the loss of respiratory function; the clogging and abrasion of gills; and increases in stress levels. These effects, in turn, could reduce the tolerance of fish to disease and toxicants, especially during low flows in the summer months, when background conditions would be expected to exhibit high water clarity (Waters 1995). Turbidity also could result in increased water temperature and affect dissolved oxygen (DO) concentrations. Both effects would place greater stress on fish respiration.

High levels of suspended sediments could also cause the movement and redistribution of fish populations, and could diminish the character and quality of the physical habitat important to fish survival. Sediment loading would interfere with photosynthesis of aquatic flora and displace aquatic fauna. Many fish, including salmonids, are sight feeders, and turbid waters reduce the ability of these fish to locate and feed on prey. Prey (e.g., macroinvertebrates) of resident fish could be adversely affected by a decline in habitat (i.e., water quality conditions) caused by factors such as increased turbidity, decrease in DO content, or an increased level of pollutants or—although unlikely as a project effect—an extreme change in pH or water temperatures (Harrington and Born 2000). Avoidance of adverse habitat conditions by fish is the most common result of increases in turbidity and sedimentation. Within the portion of Lake Tahoe potentially affected by construction upstream in Edgewood Creek, fish would move into available aquatic habitat nearby to avoid adverse conditions. Fish populations in reaches of Edgewood Creek subject to construction disturbance may have a difficult time moving out of areas where sedimentation and turbidity would potentially increase.

The potential exists for contaminants such as fuels, oils, other petroleum products, cement, and various chemicals used in construction activities to be accidentally introduced into aquatic habitat, either directly through spills or incrementally through surface runoff, from work within or immediately adjacent to Edgewood Creek and/or Lake Tahoe (also see Section 5.6, "Hydrology and Water Quality"). In sufficient concentrations, contaminants would be toxic to fish occupying habitats in the project area or may alter oxygen diffusion rates and cause acute and chronic toxicity to aquatic organisms, thereby reducing growth and survival. Trash, plastic bags, cans, tape, paper, wrapping material, and other solid wastes could also be deposited in Edgewood Creek or Lake Tahoe and could entrap, injure, or otherwise be harmful to fish and other aquatic life. This would be a significant impact.

Direct Disturbance and Temporary Loss of Habitat during Construction

As described above, construction for the threshold improvement projects would require dewatering of the active channel or ponds to allow for access. These activities would occur during the low-flow summer months. Any native fish and macroinvertebrate species occupying aquatic habitats could be injured or killed by heavy equipment during site access, preparation, or construction activities, if present in the affected area. Dewatering activities could desiccate habitats for fish and macroinvertebrates and cause these species to become stranded. In addition to direct mortality as a result of water removal, the increased exposure of aquatic organisms as a result of stranding or habitat desiccation could facilitate increased predation by birds or mammals.

Project construction activities would also result in the temporary loss of riparian trees and shrubs that provide important riverine aquatic habitat functions, such as shade, cover, and substrate for macroinvertebrates. This would be a significant impact. See Impact 5.7.1-1 for additional discussion of effects on riparian vegetation.

Initial Channel and SEZ Response

After construction of the threshold improvement projects, some habitat improvements associated with the realignment and restoration of Edgewood Creek and Golf Course Creek, improvements to the ponds, and realignment of golf hole 7 would be realized immediately. For example, removing managed turf and reconfiguring golf hole 7 would reduce encroachments and disturbances in SEZs

The new physical form of the Edgewood Creek channel and associated wetland floodplain would also result in immediate changes to hydraulic conditions, which in turn would result in a geomorphic response for some period of time until a new dynamic state was reached. Depending on the specific, localized circumstances (e.g., flows and channel geometry), this could include localized changes in water velocities, sediment transport, and depositional patterns. Because the geomorphic response is process driven and subject to several highly variable conditions (e.g., frequency, duration, and magnitude of intermediate- to high-flow events; local sediment grain sizes; local channel geometry), it can be extremely difficult to predict the nature and extent of short-term (interim) outcomes. Nevertheless, it is possible that some aquatic habitat conditions could become degraded during the channel's initial response to the changed physical condition. For example, initial channel responses could result in the formation of localized sediment deposits that disconnect surface water and physically interfere with fish movement during low-flow conditions. In addition, wetland floodplain surface deposits (e.g., off-channel depressions) could form, which could lead to fish stranding after overbanking flow events. This would be a significant impact. Additional discussion on the geomorphic effects of creek modifications is provided in Section 5.6, "Hydrology and Water Quality."

Pier Relocation

Implementation of Alternative 1 includes the removal of the existing pier near the lakefront residences and construction of a new pier. The existing pier would be removed and reconstructed 1,200 feet north of its current location. The proposed new pier would extend 123 feet into Lake Tahoe from the high water line, approximately 32 feet longer than the existing pier. The pier would begin approximately 15-feet above the high water line. The first 20 feet of the pier would be a stationary fixed section, followed by 11 feet of a fixed transition ramp section, and then a 19-foot adjustable section that connects the fixed portion of the pier (50 feet total) via a second 10-foot ramp section to a 73-foot floating section. The floating section of the pier would be constructed in an "L" shape and would end with a platform approximately 16 feet long by 30 feet wide. Both the floating and the fixed sections of the pier would be anchored by steel pilings spaced at about 20-foot intervals. The proposed pier would extend to the TRPA-designated pier head line (elevation 6,219.0 feet Lake Tahoe Datum).

A BMP plan approved by TRPA would be implemented to prevent spillage of debris, machine oils, or other construction-related materials from the pier work area into the lake water. The BMP plan, at a minimum, would specify that a turbidity barrier be used at all times during construction of the floating pier and relocation of the buoys. A turbidity curtain, which is a floating barrier consisting of relatively impervious fabric, would be used to prevent fine and coarse suspended sediment transport away from areas of water-based construction activities, in this case the driving of the pier piles.

The areas surrounding both the existing pier and the proposed pier expansion are not located in TRPA-designated prime fish habitat (see Exhibit 5.7-2). If fish or other aquatic organisms use lake habitat in the existing and proposed pier locations, these species would likely move into available aquatic habitat nearby to avoid adverse conditions during construction. Therefore, this would be a less-than-significant impact.

Summary

Under Alternative 1, project construction would occur in five phases over multiple years. Construction activities in and adjacent to Edgewood Creek for the threshold improvement projects could temporarily and intermittently result in increased turbidity and downstream sedimentation, and could result in the release and exposure of construction-related contaminants. These potential effects could adversely affect aquatic habitat and populations of native fish species in Edgewood Creek or Lake Tahoe. The threshold improvement projects would also include dewatering activities that would cause the temporary loss of aquatic habitat. Fish and macroinvertebrates could become stranded during dewatering activities; and aquatic organisms could be injured or killed by heavy equipment during site access, preparation, or construction activities. These temporary, short-term impacts to fisheries and aquatic resources as a result of project construction would be **significant**.

Mitigation Measure 5.7.1-8a: Conduct Preconstruction Surveys and Develop and Implement Native-Fish Capture and Translocation Plan for Fish Species in Edgewood Creek and Associated Ponds (1, 6, 10, 12, 15, and 18).

The project applicant or its representative shall develop and implement a measure to prevent the construction-related loss of native fish occupying habitat within the project area. Before any construction activities that require dewatering commence, a qualified biologist shall conduct preconstruction surveys and implement native-fish relocation activities within the construction dewatering area. All captured native fish species shall be immediately released to a suitable habitat near the project area. The qualified biologist shall place nets with 1/8-inch mesh at the upstream and downstream extents of the area to be dewatered to keep fish out of the area during fish removal activities. After completion of removal activities, the work area shall be approved for dewatering. Fish rescue and relocation efforts shall continue until the area is completely dewatered or until it is determined that no fish remain in the dewatering area. This fish translocation plan shall apply only to native fish species. Nonnative species captured during the pre-dewatering effort shall be humanely killed and disposed of. These activities shall take place in consultation with TRPA and the Nevada Department of Wildlife (NDOW).

Mitigation Measure 5.7.1-8b: Prepare and Implement a Storm Water Pollution Prevention Plan.

See Mitigation Measure 5.6.1-1 in Section 5.6, "Hydrology and Water Quality." The same mitigation would apply.

With implementation of Mitigation Measures 5.7.1-8a and 5.7.1-8b, potential short-term adverse effects on fish and aquatic habitat would be avoided and/or minimized, or corrective actions would be implemented, and Impact 5.7.1-8 would be **less than significant**.

Impact 5.7.1-9	**Long-Term Effects on Fish and Aquatic Habitat.** Under Alternative 1, stream, pond, and wetland habitat restoration associated with the threshold improvement projects could result in long-term beneficial effects on aquatic habitats and the fish community in Edgewood Creek. Beneficial effects would likely result from removal of barriers to fish passage in Edgewood Creek from Lake Tahoe to pond 1; improved habitat connectivity along Edgewood Creek; increased aquatic habitat structure and complexity; removal of nonnative invasive species; and reduced sediment inputs from upstream sources (e.g., Friday's Station dam). The long-term certainty or magnitude of some of the potential benefits are difficult to predict under the current level of design. However, an overall net benefit to aquatic habitat is anticipated, given the highly degraded condition of the existing stream and pond system, and because adaptive management measures to control and limit the spread of aquatic invasive species over the long term would be developed and implemented. The long-term effect on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe is **potentially beneficial**.

This impact discussion addresses fisheries and aquatic habitat in general. Potential effects of Alternative 1 on Lahontan cutthroat trout are discussed separately under Impact 5.7.1-10 (Effects on Lahontan Cutthroat Trout), below.

Under Alternative 1, the mouth of Edgewood Creek at Lake Tahoe would be relocated south of its existing location and designed to provide passage for spring-migrating fish up Edgewood Creek to pond 1. Presently, fish passage between Lake Tahoe and Edgewood Creek is not possible. Beach habitat around the existing outflow culvert has been severely eroded, and the culvert is perched approximately 3 feet or more above the beach and disconnected from Lake Tahoe. The new outflow of Edgewood Creek would extend 30 feet into the lake from the high water line (i.e., it would extend to the 6225.5' contour) and is designed to allow fish passage during spring months in years of normal to high lake level. The new mouth would be constructed with boulders and cobbles and is designed to withstand the wind and wave action of Lake Tahoe.

The reaches of Edgewood Creek from Lake Tahoe upstream to pond 1 would be realigned and restored through improvements to the physical channel and hydraulic conditions, and creation and/or enhancement of wetland and riparian habitat. The realignment and restoration of Edgewood Creek under Threshold Improvement Project C would improve natural stream habitat complexity and processes, and increase the size and functions of the riparian corridor along approximately 1,373 linear feet of Edgewood Creek. The realigned channel would be constructed to more closely mimic a natural channel and add aquatic habitat features to improve complexity within the stream channel, such as riffles. Riffle substrates could provide spawning habitat for trout and other species, and would also provide habitat for aquatic macroinvertebrates. The reach of Edgewood Creek where riffles are a primary design feature is the upper section of Edgewood Creek from golf tees 1 and 10 to the outlet of pond 1. Channel realignment and improvement from the mouth upstream to golf tees 1 and 10 would include the construction of wetland areas along Edgewood Creek and Golf Course Creek near their confluence. Riparian vegetation would be planted in the wetland areas and along the streambanks, improving bank stability and providing shade and cover for aquatic species. These improvements are expected to increase the amount and quality of habitat for fish and the macroinvertebrate community in the project area over the long term.

Realignment and restoration of the Edgewood Creek system also includes elimination of pond 15. This pond is known to support relatively large numbers of nonnative fish and nonnative aquatic vegetation. After draining pond 15, the nonnative species would be removed and Edgewood Creek would be reconstructed and improved through this area.

Implementation of Alternative 1 includes the removal of an existing pier and construction of a new pier on Lake Tahoe. The lake and shorezone habitat in the project area is characterized by shallow, nearshore, sandy substrate lacking vegetation or other cover (TRPA 2004c), and is not designated by TRPA as prime fish habitat. The placement of pilings into the sandy substrate of Lake Tahoe in the project area is not expected to affect the availability or quality of fish or other aquatic habitat in the long term. Because the proposed pier includes single pilings for the floating section, the proposed pier relocation would result in a reduction of pier pilings into the lake substrate relative to the existing pier.

Although Alternative 1 is designed and expected to benefit aquatic habitats overall in the long term, the certainty and magnitude of some of the potential benefits are difficult to predict under the current level of design. For example, several complex variables determine suitability of aquatic habitat for various aquatic organisms and can limit the presence, abundance, and viability of native fish and other aquatic species. These habitat components include the frequency and diversity of habitat types, substrate conditions, bank and riparian canopy conditions, food availability, and the presence and abundance of nonnative species that compete with, prey on, or modify habitat for native species; and these variables interact to various degrees and also are influenced by streamflow. High-quality stream habitats are generally characterized by a diversity of riffles, runs, glides, and pools; stable banks that support intact riparian vegetation that overhangs or protrudes into the water, providing shade, cooler water temperatures, and refugia; and substrate conditions composed of a variety of size classes (e.g., sand, gravel, cobbles, boulders). Adding riffles and other in-stream and riparian habitat features to Edgewood Creek that are proposed under Alternative 1 would improve habitat conditions. However, the extent to which the improved system would support viable populations of native fish, spawning, suitable fish passage, and other aquatic habitat functions depends on these other variables and interactions, which are difficult to evaluate under the current design level.

The presence and abundance of nonnative invasive fish and plant species strongly influence and limit the suitability of aquatic habitats for native species. Whether implementation of the threshold improvement projects would successfully achieve the objectives of improving fish habitat, including functioning spawning areas and fish passage, largely depends on the long-term status of nonnative aquatic species in Edgewood Creek and the pond system. Nonnative species are often more prolific than native species and will outcompete them in a given area, either through competition for food resources or by preying upon the juveniles of native species. However, nonnative species would be removed from Edgewood Creek and the ponds initially during construction of the threshold improvement projects. Additionally, the project applicant has committed to developing and implementing a strategy to prevent and manage for nonnative species that may become established or re-established into the Edgewood Creek system in the long term. Working in collaboration with TRPA, the project applicant would revise the Monitoring, Inspection, and Operations Plan (MIOP) to include adaptive management measures to control and limit the spread of aquatic invasive species. The adaptive management measures contained within a revised MIOP and as offered by the project proponent will identify target invasive species, control measures, and removal techniques appropriate for the ponds and Edgewood Creek.

Despite uncertainties about the level of improvements to fisheries and aquatic habitat that would result from implementation of Alternative 1, an overall net benefit to aquatic habitat quality and functions is anticipated. The existing stream and pond system is highly degraded and has relatively low biological value. The threshold improvement projects are expected to increase the area, quality, and functions of aquatic habitat, and adjacent riparian communities and wetlands. Additionally, adaptive management measures to control and limit the spread of aquatic invasive species over the long term will be developed and implemented as part of the MIOP. The long-term effect on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe is considered **potentially beneficial**.

Mitigation Measure

No mitigation is required.

Impact 5.7.1-10	**Effects on Lahontan Cutthroat Trout.** Implementation of Alternative 1 would include removing the existing pier and constructing a new, expanded pier north of its current location on the beach at Edgewood. Pier removal and construction would require construction disturbances within Lake Tahoe. Although Lahontan cutthroat trout were stocked in Lake Tahoe in 2011, this species is not expected to occur in Lake Tahoe or Edgewood Creek in the project area due to unsuitable habitat conditions. Construction activities in Lake Tahoe and Edgewood Creek are not expected to adversely affect Lahontan cutthroat trout or its occupied habitat, or result in take of the species. Implementation of Alternative 1 is expected to result in **no impact** to Lahontan cutthroat trout.

Lahontan cutthroat trout (LCT) is not known or expected to occur in the project area; however, LCT occurs in Lake Tahoe (Table 5.7-4). Although the project is not expected to affect LCT, this species is analyzed in this EIS because USFWS and USACE may require informal or formal ESA consultation for LCT during review of any project that could affect Lake Tahoe. Recent efforts toward reintroducing Lahontan cutthroat trout into Lake Tahoe, for recreational (sport fishing) purposes, began during the summer of 2011. The Nevada Department of Wildlife stocked approximately 22,000 Lahontan cutthroat trout in Lake Tahoe (near Cave Rock) as part of their efforts to begin stocking native aquatic species for the benefit of anglers.

LCT is listed as threatened under the federal ESA. LCT historically occurred in Lake Tahoe and accessible cold-water streams in the Lahontan Basin. Until recently, LCT was limited to a few tributaries of the Truckee, Carson, and Walker River drainages. LCT requires gravels and riffles for spawning, and generally does not persist with other salmonid species. LCT is currently being stocked in some Tahoe Basin lakes and rivers, including the 2011 stocking effort in Lake Tahoe described above. Where the species occurs it uses both lake and stream habitats and spawns in streams.

No suitable habitat for Lahontan cutthroat trout is currently present in the project area. The shorezone habitat in the project area is characterized by shallow, nearshore, sandy substrate lacking vegetation or other cover, and is not designated as prime fish habitat by TRPA. Edgewood Creek is currently impassable to fish, does not support suitable spawning habitat for this species, and supports nonnative trout and other species.

As described for Impact 5.7.1-8 (short-term effects on aquatic habitat) and Impact 5.7.1-9 (long-term effects on aquatic habitat), under Alternative 1, water quality, aquatic habitats, and the aquatic biological community within Edgewood Creek, the in-line ponds connected to Edgewood Creek, and Lake Tahoe would be affected during construction and over the long term. Pier removal and relocation would require construction disturbances within Lake Tahoe; and placement of the new pier pilings would disturb lakebed substrate and result in an overall net loss of 0.34 square feet (considering the removal of the existing pilings). Construction activities in Lake Tahoe and Edgewood Creek are not expected to adversely affect LCT or its occupied habitat, or result in take of the species. Although LCT were stocked in Lake Tahoe in 2011, this species is not expected to occur in the project area due to unsuitable habitat conditions. Also, potential short-term adverse effects on fish and aquatic habitat as a result of construction (e.g., water quality impacts in Edgewood Creek and Lake Tahoe) would be avoided and/or minimized, or corrective actions would be implemented, through implementation of project BMPs and Mitigation Measures 5.7.1-8a and 5.7.1-8b. In the long term, improvements to fish passage and aquatic habitat quality in Edgewood Creek could create spawning habitat for salmonids and improve aquatic habitat functions overall. However, the improved creek system is not designed or expected to attract or support a LCT population, due to the very small population size and density of LCT within Lake Tahoe relative to the

lake's size, uncertainty about the viability and future distribution of introduced LCT in Lake Tahoe, and the high likelihood that nonnative salmonids and other species would reside in Edgewood Creek. Overall, implementation of Alternative 1 is expected to result in **no impact** to Lahontan cutthroat trout.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.7.2-1	**Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ).** Because Alternative 2 would be located on the same site and include implementation of the same threshold improvement projects as Alternative 1, this impact is the same as Impact 5.7.1-1 for Alternative 1. Construction of the project and the threshold improvement project features would disturb habitats considered sensitive by USACE and TRPA, including riparian vegetation, SEZ, and potential jurisdictional waters of the United States, including wetlands. This temporary impact would be **significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-1.

Mitigation Measure 5.7.2-1a: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits.

See Mitigation Measure 5.7.1-1a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.2-1b: Implement Vegetation Protection Measures and Revegetate Disturbed Areas.

See Mitigation Measure 5.7.1-1b described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measures 5.7.2-1a and 5.7.2-1b would minimize the loss of existing sensitive habitats during construction to the extent feasible, and provide habitat compensation for the loss of riparian and wetland vegetation through the CWA Section 404 permitting process. Therefore, impacts to project-related fill of waters of the United States and removal or disturbance of deciduous riparian vegetation, wetlands, and SEZ to a **less-than-significant** level.

Impact 5.7.2-2	**Long-Term Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ).** This impact is the same as Impact 5.7.1-2 for Alternative 1. One of the long-term goals of Alternative 2, as with Alternative 1, is to reduce the amount of managed turf and coverage within SEZ, increase riparian habitat, and enhance and expand constructed wetlands within the project area. Implementation of Alternative 2 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat, resulting in an overall increase of sensitive habitats. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to be a **beneficial** effect.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-2.

Mitigation Measure

No mitigation is required.

Impact 5.7.2-3	**Loss or Disturbance of Tahoe Yellow Cress Populations.** This impact would be similar to Impact 5.7.1-3 for Alternative 1; however, reconstruction of a new pier would occur at the location of the existing pier under Alternative 2. Implementation of Alternative 2 would relocate the mouth of Edgewood Creek and may result in incidental public use of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of Tahoe yellow cress plants. The loss or disturbance of this TRPA special interest, Nevada critically endangered, and federal candidate species would be a **potentially significant** impact.

This impact is similar to Impact 5.7.1-3 for Alternative 1. See full discussion above. However, under Alternative 2, the existing pier would be removed and a new pier would be constructed in the same location as the existing pier. Under Alternative 2, direct impacts to TYC populations on the beach at Edgewood are not expected; however, incidental disturbances to TYC could occur as a result of construction near existing populations. Moreover, changes in the fluvial geomorphic processes present at the existing creek mouth that would result from its relocation could reduce TYC survival and result in the loss of TYC plants, and adversely affect current or future TYC habitat suitability. Also, potential increased use of the beach area north of the proposed pier as an indirect result of the new lodge complex, public beach, and clubhouse use could result in additional trampling, degradation, or loss of existing TYC. Any potential loss of TYC plants or decline in suitability of TYC habitat, particularly at a Core site, as a result of project implementation would be a **potentially significant** impact.

Mitigation Measure 5.7.2-3: Implement Measures to Protect Existing Tahoe Yellow Cress Plants.

Mitigation Measure 5.7.2-3a shall be implemented with Alternative 2. Mitigation Measures 5.7.2-3b and 5.7.2-3c below provide options to address changes in the fluvial geomorphic processes present at the existing creek mouth resulting from the proposed relocation of the mouth of Edgewood Creek that could result in the loss of TYC plants and adversely affect habitat suitability. Mitigation Measures 5.7.2-3b and 5.7.2-3c are mutually exclusive – implementation of either of these measures coupled with Mitigation Measure 5.7.2-3a would mitigate this impact.

Mitigation Measure 5.7.2-3a: Conduct Preconstruction Surveys, Avoid Potential Construction Impacts, and Avoid Potential Recreation Impacts to Existing Tahoe Yellow Cress Plants.

See Mitigation Measure 5.7.1-3a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.2-3b: Implement Monitoring Surveys and Adaptive Management of Tahoe Yellow Cress Near the Existing Mouth of Edgewood Creek.

See Mitigation Measure 5.7.1-3b described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.2-3c: Redesign Project to Retain the Mouth of Edgewood Creek at its Current Location.

See Mitigation Measure 5.7.1-3c described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measure 5.7.2-3a and either Mitigation Measure 5.7.2-3b or Mitigation Measure 5.7.2-3c, Tahoe yellow cress plants that are present in areas of potential disturbance would be identified before construction and disturbances to those plants would be avoided. To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of the new lodge complex, public beach, and clubhouse use, protective fencing and educational signage about the need to avoid these areas would be installed around all TYC clusters on the Edgewood property.

Additionally, with Mitigation Measure 5.7.2-3b, existing Tahoe yellow cress populations would be monitored and adaptively managed to assess potential loss as a result of moving the mouth of Edgewood Creek. If a decrease in TYC as a result of project implementation is detected, adaptive management or compensatory actions would be identified, designed, and implemented in coordination with the TYC-AMWG, TRPA, and Edgewood Companies.

If Mitigation Measure 5.7.2-3c was implemented in lieu of Mitigation Measure 5.7.2-3b, changes in the fluvial geomorphic processes present at the existing creek mouth and the effect on TYC habitat suitability and potential resultant loss of TYC plants associated with the creek relocation would be eliminated. With implementation of this mitigation measure, the potential for fish passage from Lake Tahoe upstream to pond 1 and the long-term effects on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe would not be realized. In this case, the current fish and aquatic habitat conditions would persist.

For these reasons, with implementation of Mitigation Measure 5.7.2-3a and either Mitigation Measure 5.7.2-3b or Mitigation Measure 5.7.2-3c, Impact 5.7.2-3 would be **less than significant**.

Impact 5.7.2-4 **Tree Removal.** This impact is similar to Impact 5.7.1-4 for Alternative 1. However, implementation of Alternative 2 would result in the removal of more native trees 14 inches dbh or larger than under Alternative 1, including 171 trees with a dbh greater than or equal to 24 inches, which comprises 10 percent of all trees within this size class in the project area. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4)of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal would be a **less-than-significant** biological impact. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2) (a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area, which would be implemented as part of Alternative 2.

This impact is similar to Impact 5.7.1-4 for Alternative 1. See full discussion above. However, Alternative 2 proposes the removal of more trees than Alternative 1. Alternative 2 would include the removal of 397 trees with a dbh between 14 and 24 inches, and 171 trees greater than or equal to 24 inches dbh, totaling 568 trees within these size classes to be removed. (Under Alternative 1, a total of 540 trees in these size classes would be removed, including 388 trees with a dbh between 14 and 24 inches, and 152 trees greater than or equal to 24 inch dbh.) The 172 trees greater than or equal to 24 inches dbh proposed for removal under Alternative 2 represent 10 percent of the 1,713 trees of similar size found in the project area.

Although implementation of Alternative 2 would result in the removal of numerous trees, most of these trees are Jeffrey pines, which are common and widely distributed in the Lake Tahoe Basin and elsewhere in the Sierra Nevada. Most overstory trees in the project area appear healthy. However, Jeffrey pine habitat in the project area is disturbed and managed, supporting sparse to no native understory vegetation cover or down woody debris in most locations; in many stands, the understory consists of managed turf and pavement (parking lots, cart paths). Jeffrey pine trees and stands, particularly those that are disturbed and within developed landscapes such as on the Edgewood property, and their biological functions are not considered threatened or vulnerable to decline in the region. As discussed in Impact 5.7.1-7 (Long-term Effects on Special-Status and Common Wildlife Species and Habitats), below, wildlife habitat in Jeffrey pine stands that would be affected by the proposed lodge complex is presently degraded; it is characterized partly by a parking lot, other developed facilities, and a disturbed understory within a matrix of open Jeffrey pine overstory. This area of upland habitat is not considered critical or limiting to the presence or viability of common or special-status wildlife or plant populations in the region. Tree removal for the development and operation of the lodge complex is not expected to substantially affect breeding productivity or population viability of any species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4)of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal resulting from implementation of Alternative 2 would be a **less-than-significant** biological impact.

Additionally, the development and implementation of the limited forest plan (pending acceptance and approval by TRPA) would ensure that tree removal is in compliance with TRPA Code Subsection 61.1.4(C)(2)(a) and (b), TRPA Code Subsection 61.3.6, “Sensitive and Uncommon Plant Protection,” and TRPA Code Chapter 62, “Wildlife Resources.”

Mitigation Measure

No mitigation is required.

Impact 5.7.2-5	Introduction and Spread of Noxious Weeds and Aquatic Invasive Species. This impact is the same as Impact 5.7.1-5 for Alternative 1. Implementation of Alternative 2 has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. The potential introduction and spread of terrestrial or aquatic invasive species would be a potentially significant impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-5.

Mitigation Measure 5.7.2-5a: Implement Weed Management Practices during Project Construction.

See Mitigation Measure 5.7.1-5a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.2-5b: Implement Aquatic Invasive Species Management Practices during Project Construction.

See Mitigation Measure 5.7.1-5b described above for Alternative 1. The same mitigation measure would apply.

With the measures described above, weed and aquatic invasive species management practices would be implemented during project construction and the inadvertent introduction and spread of weeds or aquatic invasive species from project construction would be prevented. Therefore, with implementation of Mitigation Measures 5.7.2-5a and 5.7.2-5b, Impact 5.7.2-5 would be **less than significant**.

Impact 5.7.2-6	Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats. This impact is the same as impact 5.7.1-6 for Alternative 1. Under Alternative 2, construction of the new lodge complex, modifications to existing golf course features (including hole realignments and relocations), realignment and restoration of Edgewood and Golf Course Creeks, as well as modifications to the existing pond network including Friday's Station pond could result in disturbances to four special-status species (bald eagle, osprey, waterfowl, and mule deer). Disturbances resulting in loss of individuals, nests or disruptions to nesting attempts by special-status species (waterfowl) would be a potentially significant impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-6.

Mitigation Measure 5.7.2-6: Conduct Preconstruction Surveys for Nesting Special-Status Birds (Waterfowl) and Implement a Limited Operating Period If Necessary.

See Mitigation Measure 5.7.1-6 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.7.2-6 would avoid the loss of individuals and nests of waterfowl species, and therefore Impact 5.7.2-6 would be **less than significant**.

Impact 5.7.2-7	Long-Term Effects on Special-Status and Common Wildlife Species and Habitats. This impact is the same as Impact 5.7.1-7 for Alternative 1. Under Alternative 2, long-term effects of the threshold improvement projects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance would be beneficial. The impact of developing the lodge complex and associated facilities on common and special-status wildlife would be less than significant.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-7.

Mitigation Measure

No mitigation is required.

Impact 5.7.2-8	**Short-Term Degradation of Fish and Aquatic Habitat Resulting from Construction and Initial Response.** This impact is similar to Impact 5.7.1-8 for Alternative 1; however, removal of the existing pier and construction of a new pier would occur in a different location under Alternative 2. Construction during implementation of Alternative 2 could result in temporary adverse effects on water quality, aquatic habitats, and the aquatic biological community within Edgewood Creek, the in-line ponds connected to Edgewood Creek, and Lake Tahoe. Effects could also occur during the initial channel-response period within the study area and Lake Tahoe. This impact would be **significant**.

This impact is similar to Impact 5.7.1-8 for Alternative 1. See full discussion above. However, under Alternative 2, the existing pier would be removed and a new pier would be constructed in the same location. Under Alternative 2, project construction would occur in five phases over multiple years. Construction activities in and adjacent to Edgewood Creek for the threshold improvement projects could temporarily and intermittently result in increased turbidity and downstream sedimentation, and could result in the release and exposure of construction-related contaminants. These potential effects could adversely affect aquatic habitat and populations of native fish species in Edgewood Creek or Lake Tahoe. The threshold improvement projects would also include dewatering activities that would cause the temporary loss of aquatic habitat. Fish and macroinvertebrates could become stranded during dewatering activities; and aquatic organisms could be injured or killed by heavy equipment during site access, preparation, or construction activities. These temporary, short-term impacts to fisheries and aquatic resources as a result of project construction would be **significant**.

Mitigation Measure 5.7.2-8a: Conduct Preconstruction Surveys and Develop and Implement a Native-Fish Capture and Translocation Plan for Fish Species Along Edgewood Creek and Associated Ponds (1, 6, 10, 12, 15, and 18).

See Mitigation Measure 5.7.1-8a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.2-8b: Prepare and Implement a Storm Water Pollution Prevention Plan.

See Mitigation Measure 5.7.1-8b described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measures 5.7.2-8a and 5.7.2-8b, potential short-term adverse effects on fish and aquatic habitat would be avoided and/or minimized, or corrective actions would be implemented, and Impact 5.7.2-8 would be **less than significant**.

Impact 5.7.2-9	**Long-Term Effects on Fish and Aquatic Habitat.** This impact is the same as Impact 5.7.1-9 for Alternative 1. Under Alternative 2, stream, pond, and wetland habitat restoration associated with the threshold improvement projects could result in long-term beneficial effects on aquatic habitats and the fish community in Edgewood Creek. The long-term effect on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe is **potentially beneficial**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-9.

Mitigation Measure

No mitigation is required.

Impact 5.7.2-10	**Effects on Lahontan Cutthroat Trout**. This impact is similar to Impact 5.7.1-10 for Alternative 1; however, removal of the existing pier and construction of a new pier in the location of the existing pier would occur under Alternative 2. Construction activities in Edgewood Creek and Lake Tahoe are not expected to adversely affect LCT or its occupied habitat, or result in take of the species. In the long term, improvements to fish passage and aquatic habitat quality in Edgewood Creek could create spawning habitat for salmonids; however, the improved creek system is not likely to support LCT. Implementation of Alternative 2 is expected to result in **no impact** to Lahontan cutthroat trout.

This impact is similar to Impact 5.7.1-10 for Alternative 1. See full discussion above. However, under Alternative 2, the existing pier would be removed and a new pier would be constructed in the same location.

As discussed in Impact 5.7.1-10, LCT is not expected to occur in Lake Tahoe or Edgewood Creek in the project area due to unsuitable habitat conditions. Also, potential short-term adverse effects on fish and aquatic habitat as a result of construction (e.g., water quality impacts in Edgewood Creek and Lake Tahoe) would be avoided and/or minimized, or corrective actions would be implemented, through implementation of project BMPs and Mitigation Measures 5.7.2-8a and 5.7.2-8b. In the long term, improvements to fish passage and aquatic habitat quality in Edgewood Creek could create spawning habitat for salmonids and improve aquatic habitat functions overall. However, the improved creek system is not designed or expected to attract or support a LCT population, due to the very small population size and density of LCT within Lake Tahoe relative to the lake's size, uncertainty about the viability and future distribution of introduced LCT in Lake Tahoe, and the high likelihood that nonnative salmonids and other species would reside in Edgewood Creek. Implementation of Alternative 2 is expected to result in **no impact** to Lahontan cutthroat trout.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.7.3-1	**Construction-Related Disturbance or Loss of Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ).** Because Alternative 3 would be located on the same site and include implementation of the same threshold improvement projects as Alternative 1, this impact is the same as Impact 5.7.1-1 for Alternative 1. Construction of the project including threshold improvement project features would disturb habitats considered sensitive by USACE and TRPA, including riparian vegetation, SEZ, and potential jurisdictional wetlands. This temporary impact would be **significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-1.

Mitigation Measure 5.7.3-1a: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits.

See Mitigation Measure 5.7.1-1a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.3-1b: Implement Vegetation Protection Measures and Revegetate Disturbed Areas.

See Mitigation Measure 5.7.1-1b described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measures 5.7.3-1a and 5.7.3-1b would minimize the loss of existing sensitive habitats during construction to the extent feasible, and provide habitat compensation for the loss of riparian and wetland vegetation through the CWA Section 404 permitting process. Therefore, project-related fill of waters of the United States and removal or disturbance of deciduous riparian vegetation, wetlands, and SEZ would be reduced to a **less-than-significant** level.

Impact 5.7.3-2 **Long-Term Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, and SEZ).** This impact is the same as Impact 5.7.1-2 for Alternative 1. One of the long-term goals of Alternative 3, as with Alternative 1, is to reduce the amount of managed turf and coverage within SEZ, increase riparian habitat, and enhance and expand constructed wetlands within the project area. Implementation of Alternative 3 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat, resulting in an overall increase of sensitive habitats. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to be a **beneficial** effect.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-3.

Mitigation Measure

No mitigation is required.

Impact 5.7.3-3 **Loss or Disturbance of Tahoe Yellow Cress Populations.** This impact would be similar to Impact 5.7.1-3 for Alternative 1; however, reconstruction of a new pier would occur at a location midway between the existing pier location and the clubhouse under Alternative 3. Implementation of Alternative 3 would relocate the mouth of Edgewood Creek; remove, relocate, and reconstruct the existing pier; and may result in incidental public use of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of TYC plants. The loss or disturbance of this TRPA special interest, Nevada critically endangered, and federal candidate species would be a **potentially significant** impact.

This impact is the same as Impact 5.7.1-3 for Alternative 1. See full discussion above. Under Alternative 3, direct impacts to TYC populations on the beach at Edgewood are not expected; however, incidental disturbances to TYC could occur as a result of construction near existing populations. Moreover, changes in the fluvial

geomorphic processes present at the existing creek mouth that would result from its relocation could reduce TYC survival and result in the loss of TYC plants, and adversely affect current or future TYC habitat suitability. Also, potential increased use of the beach area north of the proposed pier as an indirect result of the new lodge complex, public beach, and clubhouse use could result in additional trampling, degradation, or loss of existing TYC. Any potential loss of TYC plants or decline in suitability of TYC habitat, particularly at a Core site, as a result of project implementation would be a **potentially significant** impact.

Mitigation Measure 5.7.3-3: Implement Measures to Protect Existing Tahoe Yellow Cress Plants.

Mitigation Measure 5.7.3-3a shall be implemented with Alternative 3. Mitigation Measures 5.7.3-3b and 5.7.3-3c below provide options to address changes in the fluvial geomorphic processes present at the existing creek mouth resulting from the proposed relocation of the mouth of Edgewood Creek that could result in the loss of TYC plants and adversely affect habitat suitability. Mitigation Measures 5.7.3-3b and 5.7.3-3c are mutually exclusive – implementation of either of these measures coupled with Mitigation Measure 5.7.3-3a would mitigate this impact.

Mitigation Measure 5.7.3-3a: Conduct Preconstruction Surveys, Avoid Potential Construction Impacts, and Avoid Potential Recreation Impacts to Existing Tahoe Yellow Cress Plants.

See Mitigation Measure 5.7.1-3a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.3-3b: Implement Monitoring Surveys and Adaptive Management of Tahoe Yellow Cress Near the Existing Mouth of Edgewood Creek.

See Mitigation Measure 5.7.1-3b described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.3-3c: Redesign Project to Retain the Mouth of Edgewood Creek at its Current Location.

See Mitigation Measure 5.7.1-3c described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measure 5.7.3-3a and either Mitigation Measure 5.7.3-3b or Mitigation Measure 5.7.2-3c, Tahoe yellow cress plants that are present in areas of potential disturbance would be identified before construction, and disturbances to those plants would be avoided. To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of the new lodge complex, public beach, and clubhouse use, protective fencing and educational signage about the need to avoid these areas would be installed around all TYC clusters on the Edgewood property.

Additionally, with Mitigation Measure 5.7.3-3b, existing Tahoe yellow cress populations would be monitored and adaptively managed to assess potential loss as a result of moving the mouth of Edgewood Creek. If a decrease in TYC as a result of project implementation is detected, adaptive management or compensatory actions would be identified, designed, and implemented in coordination with the TYC-AMWG, TRPA, and Edgewood Companies.

If Mitigation Measure 5.7.3-3c was implemented in lieu of Mitigation Measure 5.7.3-3b, changes in the fluvial geomorphic processes present at the existing creek mouth and the effect on TYC habitat suitability and potential resultant loss of TYC plants associated with the creek relocation would be eliminated. With implementation of this mitigation measure, the potential for fish passage from Lake Tahoe upstream to pond 1 and the long-term effects on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe would not be realized. In this case, the current fish and aquatic habitat conditions would persist.

For these reasons, with implementation of Mitigation Measure 5.7.3-3a and either Mitigation Measure 5.7.3-3b or Mitigation Measure 5.7.3-3c, Impact 5.7.3-3 would be **less than significant**.

Impact 5.7.3-4 **Tree Removal.** This impact is similar to Impact 5.7.1-4 for Alternative 1. Implementation of Alternative 3 would result in the removal of approximately 569 native trees 14 inches dbh or larger. This includes 172 trees greater than or equal to 24 inches dbh, which comprises 10 percent of all trees within this size class in the project area. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4)of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal would be a **less-than-significant** biological impact. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2) (a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area, which would be implemented as part of Alternative 3.

This impact is similar to Impact 5.7.1-4 for Alternative 1. See full discussion above. Alternative 3 would include the removal of 397 trees with dbh between 14 and 24 inches, and 172 trees greater than or equal to 24 inches DBH, totaling 569 trees within these size classes to be removed. The 172 trees greater than or equal to 24 inches dbh proposed for removal under Alternative 3 represent 10 percent of the 1,713 trees of similar size found in the project area.

Although implementation of Alternative 3 would result in the removal of numerous trees, most of these trees are Jeffrey pines, which are common and widely distributed in the Lake Tahoe Basin and elsewhere in the Sierra Nevada. Most overstory trees in the project area appear healthy. However, Jeffrey pine habitat in the project area is disturbed and managed, supporting sparse to no native understory vegetation cover or down woody debris in most locations; in many stands, the understory consists of managed turf and pavement (parking lots, cart paths). Jeffrey pine trees and stands, particularly those that are disturbed and within developed landscapes such as on the Edgewood property, and their biological functions are not considered threatened or vulnerable to decline in the region. As discussed in Impact 5.7.1-7 (Long-term Effects on Special-Status and Common Wildlife Species and Habitats), below, wildlife habitat in Jeffrey pine stands that would be affected by the proposed lodge complex is presently degraded; it is characterized partly by a parking lot, other developed facilities, and a disturbed understory within a matrix of open Jeffrey pine overstory. This area of upland habitat is not considered critical or limiting to the presence or viability of common or special-status wildlife or plant populations in the region. Tree removal for the development and operation of the lodge complex is not expected to substantially affect breeding productivity or population viability of any species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6(A)(4) of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal resulting from implementation of Alternative 3 would be a **less-than-significant** biological impact. Additionally, the development and implementation of the limited forest plan (pending acceptance and approval by TRPA) would ensure that tree removal is in compliance with TRPA Code Subsection 61.1.4(C)(2)(a) and (b),

TRPA Code Subsection 61.3.6, "Sensitive and Uncommon Plant Protection," and TRPA Code Chapter 62, "Wildlife Resources."

Mitigation Measure

No mitigation is required.

Impact 5.7.3-5	**Introduction and Spread of Noxious Weeds and Aquatic Invasive Species**. This impact is the same as Impact 5.7.1-5 for Alternative 1. Implementation of Alternative 3 has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. The potential introduction and spread of terrestrial or aquatic invasive species would be a **potentially significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-5.

Mitigation Measure 5.7.3-5a: Implement Weed Management Practices during Project Construction.

See Mitigation Measure 5.7.1-5a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.3-5b: Implement Aquatic Invasive Species Management Practices during Project Construction.

See Mitigation Measure 5.7.1-5b described above for Alternative 1. The same mitigation measure would apply.

With the measures described above, weed and aquatic invasive species management practices would be implemented during project construction and the inadvertent introduction and spread of weeds or aquatic invasive species from project construction would be prevented. Therefore, with implementation of Mitigation Measures 5.7.3-5a and 5.7.3-5b, Impact 5.7.3-5 would be **less than significant**.

Impact 5.7.3-6	**Construction-Related Disturbance or Loss of Special-Status Wildlife Species and Habitats.** This impact is the same as impacts under Alternative 1. Under Alternative 3, construction of the new lodge complex, modifications to existing golf course features (including hole realignments and relocations), realignment and restoration of Edgewood and Golf Course Creeks, as well as modifications to the existing pond network including Friday's Station pond could result in disturbances to four special-status species (bald eagle, osprey, waterfowl, and mule deer). Disturbances resulting in loss of individuals or nests, or disruptions to nesting attempts by special-status species (waterfowl) would be a **potentially significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-6.

Mitigation Measure 5.7.3-6: Conduct Preconstruction Surveys for Nesting Special-Status Birds (Waterfowl) and Implement a Limited Operating Period If Necessary.

See Mitigation Measure 5.7.1-6 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.7.3-6 would avoid the loss of individuals and nests of waterfowl species, and therefore Impact 5.7.3-6 would be **less than significant**.

Impact 5.7.3-7	**Long-Term Effects on Special-Status and Common Wildlife Species and Habitats.** This impact is the same as Impact 5.7.1-7 for Alternative 1. Under Alternative 3, long-term effects of the threshold improvement projects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance would be **beneficial**. The impact of developing the lodge complex and associated facilities on common and special-status wildlife would be **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-7.

Mitigation Measure

No mitigation is required.

Impact 5.7.3-8	**Short-Term Degradation of Fish and Aquatic Habitat Resulting from Construction and Initial Response.** This impact is the same as Impact 5.7.1-8 for Alternative 1; however, removal of the existing pier and construction of a new pier would occur in a different location under Alternative 3. Construction during implementation of Alternative 3 could result in temporary adverse effects on water quality, aquatic habitats, and the aquatic biological community within Edgewood Creek, the in-line ponds connected to Edgewood Creek, and Lake Tahoe. Effects could also occur during the initial channel-response period within the study area and into Lake Tahoe. This impact would be **significant**.

This impact is the same as Impact 5.7.1-8 for Alternative 1. See full discussion above. Under Alternative 3, project construction would occur in five phases over multiple years. Construction activities in and adjacent to Edgewood Creek for the threshold improvement projects could temporarily and intermittently result in increased turbidity and downstream sedimentation, and could result in the release and exposure of construction-related contaminants. These potential effects could adversely affect aquatic habitat and populations of native fish species in Edgewood Creek or Lake Tahoe. The threshold improvement projects would also include dewatering activities that would cause the temporary loss of aquatic habitat. Fish and macroinvertebrates could become stranded during dewatering activities; and aquatic organisms could be injured or killed by heavy equipment during site access, preparation, or construction activities. These temporary, short-term impacts to fisheries and aquatic resources as a result of project construction would be **significant**.

Mitigation Measure 5.7.3-8a: Conduct Preconstruction Surveys and Develop and Implement a Native-Fish Capture and Translocation Plan for Fish Species Along Edgewood Creek and Associated Ponds (1, 6, 10, 12, 15, and 18).

See Mitigation Measure 5.7.1-8a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.7.3-8b: Prepare and Implement a Storm Water Pollution Prevention Plan.

See Mitigation Measure 5.7.1-8b described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measures 5.7.3-8a and 5.7.3-8b, potential short-term adverse effects on fish and aquatic habitat would be avoided and/or minimized, or corrective actions would be implemented, and Impact 5.7.3-8 would be **less than significant**.

Impact 5.7.3-9	Long-Term Effects on Fish and Aquatic Habitat. This impact is the same as Impact 5.7.1-9 for Alternative 1. Under Alternative 3, stream, pond, and wetland habitat restoration associated with the threshold improvement projects could result in long-term beneficial effects on aquatic habitats and the fish community in Edgewood Creek. The long-term effect on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe is potentially beneficial.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.7.1-9.

Mitigation Measure

No mitigation is required.

Impact 5.7.3-10	Effects on Lahontan Cutthroat Trout. This impact is the same ass Impact 5.7.1-10 for Alternative 1; however, removal of the existing pier and construction of a new pier at a midpoint location between the existing pier and clubhouse would occur under Alternative 3. Construction activities in Edgewood Creek and Lake Tahoe are not expected to adversely affect LCT or its occupied habitat, or result in take of the species. In the long term, improvements to fish passage and aquatic habitat quality in Edgewood Creek could create spawning habitat for salmonids; however, the improved creek system is not likely to support LCT. Implementation of Alternative 3 is expected to result in no impact to LCT.

This impact is the same as Impact 5.7.1-10 for Alternative 1. See full discussion above. As discussed in Impact 5.7.1-10, LCT is not expected to occur in Lake Tahoe or Edgewood Creek in the project area due to unsuitable habitat conditions. Also, potential short-term adverse effects on fish and aquatic habitat as a result of construction (e.g., water quality impacts in Edgewood Creek and Lake Tahoe) would be avoided and/or minimized, or corrective actions would be implemented, through implementation of project BMPs and Mitigation Measures 5.7.3-8A and 5.7.3-8B. In the long term, improvements to fish passage and aquatic habitat quality in Edgewood Creek could create spawning habitat for salmonids and improve aquatic habitat functions overall. However, the improved creek system is not designed or expected to attract or support a LCT population,

due to the very small population size and density of LCT within Lake Tahoe relative to the lake's size, uncertainty about the viability and future distribution of introduced LCT in Lake Tahoe, and the high likelihood that nonnative salmonids and other species would reside in Edgewood Creek. Implementation of Alternative 3 is expected to result in **no impact** to LCT.

Mitigation Measures

No mitigation is required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, lodge construction, golf course improvements, relocation of the existing residential lots, pier reconstruction, clubhouse expansion, and the threshold improvement projects would not be implemented. Conditions in the project area pertaining to biological resources would remain the same as under existing and ongoing conditions, and maintenance and operation of the golf course would continue to affect these resources in the same manner as they do currently.

The project applicant would continue to periodically manage vegetation for fuels reduction and treatment of hazard trees, as necessary. Any effects related to these activities would be similar to those under existing and ongoing conditions, and would not affect any functioning old growth forests. In addition current conditions related to the introduction, persistence, and spread of weeds and aquatic invasive species would continue.

Sensitive habitats in the project area include montane riparian and freshwater marsh, which also comprise a portion of SEZ in the project area. These habitats are present primarily along Edgewood Creek, the lower section of Golf Course Creek, and the golf course ponds throughout the project area (Exhibit 5.7-1). These areas provide habitat for waterfowl and several other wildlife species. "Waterfowl" is a TRPA special-interest group of species that has been documented within the project area, and most of the project area has been designated as a TRPA waterfowl threshold site. Upland habitats in the project area also provide potential habitat for special-status and common wildlife species.

Under Alternative 4, golf course operation would continue throughout the project area and would occupy 212,521 square feet (4.88 acres) of SEZ, limiting the quality of functions of riparian and other sensitive habitats. Disturbances associated with golf course use and operations (e.g., trampling of vegetation) would continue to affect riparian, wetland, and SEZ habitat functions along Edgewood Creek and the pond system. It is anticipated that repairs to existing bank stabilization, infrastructure, and additional spot stabilization would continue to occur in response to erosion, damage, or failure of banks along Edgewood Creek, as it does presently. Some of these treatments could be implemented within or adjacent to sensitive habitats along the Edgewood Creek as well as in the aquatic habitat in Edgewood Creek, the ponds, and Lake Tahoe. However, the potential for and general frequency of implementing these treatments as well as other disturbances associated with golf course operation would be the same as under current conditions; and the specific nature and extent of these potential activities are unknown and would not be a direct result of implementing Alternative 4.

Other disturbances associated with continued golf course operation could disturb waterfowl and other special-status wildlife species, through golf play and maintenance activities associated with turf management (e.g., mowing). However, the potential for disturbances to special-status species would be the same as under current conditions and is not expected to result in substantial adverse impacts to special-status or common wildlife species.

Project-related improvements to Edgewood Creek and relocation of the pier on Lake Tahoe/Edgewood beach would not occur, under Alternative 4. The fish community and aquatic habitat conditions within the project area would continue to be degraded and affected by ongoing golf course operations, stream channel and bank conditions, highly degraded riparian and in-stream habitat conditions, sediment inputs, lack of connectivity with Lake Tahoe, and presence of nonnative species. Because the project area currently provides aquatic habitat of limited quality and availability for native aquatic species, these ongoing conditions would continue to limit presence of native aquatic species within the Edgewood Creek watershed. Because the project area does not provide suitable habitat for LCT and the species is not expected to occur there, these ongoing conditions would not change habitat quality or availability for LCT and would not achieve any of the benefits of the alternatives.

Finally, under Alternative 4, project-generated changes to the mouth of Edgewood Creek would not occur. The mouth of Edgewood Creek would continue to outflow into Lake Tahoe at its current location under golf hole 18, and the outfall would continue to be allowed to move in response to wind and wave conditions. This area supports clusters of TYC. The degree to which the presence, abundance, and vigor of these TYC populations depend on the existing biophysical conditions and fluvial geomorphic processes supported by the existing creek mouth is unknown; however, it is assumed that these conditions and processes at least partly contribute to TYC presence and viability at this location.

5.7.4 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

VEGETATION

This section summarizes the effects of implementing each of the alternatives on the environmental thresholds established by TRPA for vegetation. As described in Section 5.7.1, “Regulatory Background,” four vegetation thresholds have been established by TRPA:

- V-1, Common Vegetation
- V-2, Uncommon Plant Communities
- V-3, Sensitive Plants
- V-4, Late Seral/Old Growth Ecosystems

V-1, COMMON VEGETATION

The V-1 threshold includes increasing plant and structural diversity of forest communities through appropriate management practices as measured by diversity indices of species richness, relative abundance, and pattern. The V-1 threshold includes separate standards for diversity and pattern of vegetation types and relative abundance for conifer forest types, meadow and wetland vegetation types, and deciduous riparian vegetation types that are applied basin-wide.

Jeffrey Pine

In its 2006 Threshold Evaluation Report, TRPA determined that the diversity and pattern standards for common vegetation were in attainment. The threshold for relative abundance of Jeffrey pine forest is to maintain 15–25 percent of the Jeffrey pine forest in seral stages other than mature to ensure that relatively young age classes of this forest type are represented in the Tahoe Basin. For Jeffrey pine, TRPA’s metric for this threshold is the relative proportion of tree stands dominated by small and large diameter trees in seral stages other than mature (< 12 inches dbh).

Implementation of Alternatives 1, 2, or 3 would result in the loss of up to 8.7 acres of Jeffrey pine stands for construction of the lodge complex, modifications to the existing golf course, and treatments for the threshold improvement projects. Under Alternative 4, no trees would be removed. Implementing any of the alternatives would not affect the attainment status of these thresholds, because none of the alternatives would affect the overall diversity or pattern of common vegetation types throughout the Tahoe Basin, or reduce the amount of Jeffrey pine stands within seral stages other than mature and/or characterized by small size classes. In the project area, Jeffrey pine stands include a range of size classes; however, stands are generally characterized as even-aged with uniform composition and structure containing larger trees. The age of Jeffrey pine stands in the project area are estimated at approximately 135 years (Appendix C). Most overstory trees in the project area appear healthy. However, Jeffrey pine habitat is disturbed and managed, supporting sparse to no native understory vegetation cover or down woody debris in most locations. In many stands, the understory consists of managed turf and pavement (such as parking lots and cart paths).

Meadow, Wetland, and Deciduous Riparian Vegetation

Implementing Alternatives 1, 2, or 3 would result in an increase in the acreage and quality of deciduous meadow, wetland, and deciduous riparian vegetation. Although the relative abundance threshold for these vegetation types is presently in non-attainment, implementing any of these action alternatives would be beneficial for these vegetation types and contribute to attainment of this threshold.

Under Alternative 4, no improvements to these habitats would be made within the project area, and the amount, quality, and functions of these habitats would continue to be limited. Alternative 4 would not contribute to attainment of this threshold.

V-2, Uncommon Plant Communities

The V-2 threshold calls for providing the non-degradation of the natural qualities of any plant community that is uncommon to the Tahoe Basin or of exceptional scientific, ecological, or scenic quality. No uncommon plant communities are known to occur within the project area. Therefore, none of the project alternatives would contribute to non-attainment of this threshold.

V-3, Sensitive Plants

The V-3 threshold is to maintain the following minimum number of population sites for TRPA special-interest plant species: Galena Creek rockcress (seven sites), long-petaled lewisia (two sites), Cup Lake draba (two sites), Tahoe draba (five sites), and Tahoe yellow cress (26 sites).

Five populations or clusters of TYC are present in the project area and the beach at Edgewood is considered a “core” site for this species. Implementation of Alternatives 1, 2, or 3 would include relocating the mouth of Edgewood Creek, which could directly or indirectly affect TYC plants that occur near the existing stream mouth. In addition, implementation of all of the action alternatives have the potential to facilitate new public use of the northern portion of Edgewood Beach, which could indirectly result in the additional disturbance or loss of TYC plants from trampling. Alternative 4 would not alter current conditions as they pertain to TYC habitat or use of the beach area.

With implementation of Mitigation Measure 5.7.1-3a and either Mitigation Measure 5.7.1-3b or Mitigation Measure 5.7.1-3c associated with Alternatives 1, 2, and 3, TYC plants that are present in areas of potential disturbance would be identified before construction, and disturbances to those plants would be avoided. To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of the new lodge complex, public beach, and clubhouse use, protective fencing and educational signage about the need to

avoid these areas would be installed around all TYC clusters on the Edgewood property. Additionally, with Mitigation Measure 5.7.1-3b existing Tahoe yellow cress populations would be monitored and adaptively managed to assess potential loss as a result of moving the mouth of Edgewood Creek. If a decrease in TYC as a result of project implementation is detected, adaptive management or compensatory actions would be identified, designed, and implemented in coordination with the TYC-AMWG, TRPA, and Edgewood Companies. If Mitigation Measure 5.7.1-3c was implemented in lieu of Mitigation Measure 5.7.1-3b, changes in the fluvial geomorphic processes present at the existing creek mouth and the effect on TYC habitat suitability and potential resultant loss of TYC plants associated with the creek relocation would be eliminated. Therefore, with mitigation for Alternatives 1, 2, and 3, none of the project alternatives are expected to contribute to non-attainment of the threshold for TYC.

No other TRPA sensitive plant species would be affected by any project alternative. Therefore, none of the project alternatives would contribute to non-attainment of the threshold for Galena Creek rockcress, long-petaled lewisia, Cup Lake draba, or Tahoe draba.

V-4, Late Seral/Old Growth Ecosystems

Forest stands within the project area are not considered late seral/old growth forest ecosystems (see discussion in the limited forest plan prepared for the project [Appendix C]). Although Jeffrey pine stands in the project area are comprised of large trees, these stands do not meet ecological and functional definitions of old growth forest. Implementing any of the three action alternatives or Alternative 4 (No Project) would not affect the attainment status of this threshold.

WILDLIFE

This section summarizes the effects of implementing each of the alternatives on the environmental thresholds established by TRPA for wildlife. As described in Section 5.7.1, “Regulatory Background,” two wildlife thresholds have been established by TRPA:

- W-1, Wildlife Species of Special Interest
- W-2, Habitats of Special Significance

W-1, Species of Special Interest

The W-1 threshold is to provide a minimum number of population sites for six TRPA special-interest wildlife taxa: northern goshawk (12 sites), osprey (four sites), bald eagle (two winter sites and one nesting site), golden eagle (four sites), peregrine falcon (two sites), and waterfowl (18 sites). Mule deer is also a special-interest species; however, no threshold site number for deer has been specified.

Most of the project area is within a TRPA-designated waterfowl threshold area (Exhibit 5.7-2). The TRPA waterfowl threshold site at Edgewood Tahoe Golf Course is well-recognized as being artificial and altered by intensive golf course operations and use. However, the artificial ponds on the golf course support considerable numbers of waterfowl, which is presumably why the site was designated as a threshold area. These areas are primarily used for foraging and resting. Nesting habitat for waterfowl species within the project area is limited due to lack of extensive riparian vegetation or other naturalized areas that may provide adequate cover and limited buffer distance between golf course play and wetland/open water habitats. However, small areas of nesting habitat may exist in areas near the ponds where vegetation cover is relatively dense.

Implementation of Alternatives 1, 2, or 3 would create disturbances to waterfowl through the temporary loss of habitat during pond improvement activities and creek realignment and restoration activities associated with the threshold improvement projects. In addition, other disturbances such as noise generated in association with construction of the lodge complex could affect foraging and resting waterfowl. If waterfowl use the area for nesting, these disturbances could result in the loss of active nest, and injury or mortality to individuals. However, these potential disturbances and loss of nesting waterfowl would be avoided through implementation of mitigation measures, which include preconstruction surveys and avoidance requirements. In the long term, natural ecosystem response to improvements to Edgewood Creek, Golf Course Creek, and the pond system under Alternatives 1, 2, or 3 is expected to improve habitat quality and functions for riparian and aquatic wildlife, including special-status species such as waterfowl. These improvements are expected to enhance the quality of the TRPA-designated waterfowl threshold area on the Edgewood property. The magnitude and biological significance of these enhancements are presently not known. However, overall, the long-term effects on riparian, wetland, and aquatic habitat are expected to be beneficial. Implementing any of the three action alternatives would not adversely affect the attainment status of the W-1 threshold for waterfowl, and could contribute to attainment of the threshold. Under Alternative 4, no improvements to these habitats would be made within the project area, and the amount, quality, and functions of these habitats would continue to be limited. Alternative 4 would not contribute to attainment of the W-1 threshold for waterfowl.

No population sites or nondisturbance zones of other TRPA special interest wildlife species would be affected by any project alternative. Therefore, none of the alternatives would contribute to non-attainment of the threshold for northern goshawk, osprey, bald eagle, golden eagle, or peregrine falcon.

W-2, Wildlife Habitats of Special Significance

The W-2 threshold is to apply a non-degradation standard to habitats consisting of deciduous trees, wetlands, and meadows while providing for opportunities to increase the acreage of such riparian associations. These opportunities include but are not limited to preserving existing naturally functioning SEZ lands in their natural hydrologic condition; restoring all disturbed SEZ lands in undeveloped, unsubdivided lands; and restoring 25 percent of the SEZ lands that have been identified as disturbed, developed, or subdivided, to attain a 5-percent total increase in the naturally functioning SEZ land. One of the long-term goals of Alternatives 1, 2, and 3 and the proposed threshold improvement projects is to reduce the amount of managed turf and coverage within SEZ, increase riparian habitat, and enhance and expand constructed wetlands within the project area. Implementation of Alternatives 1, 2, or 3 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat along Edgewood Creek and Golf Course Creek, and within the existing pond complex. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to contribute toward attainment of the W-2 threshold. Under Alternative 4, no improvements to these habitats would be made within the project area, and the amount, quality, and functions of these habitats would continue to be limited. Alternative 4 would not contribute to attainment of the W-2 threshold.

FISH HABITAT

This section summarizes the effects of implementing each of the alternatives on the environmental thresholds established by TRPA for fish habitat. As described in Section 5.7.1, “Regulatory Background,” four fish habitat thresholds have been established by TRPA:

- F-1, Lake Habitat
- F-2, Stream Habitat
- F-3, Instream Flow
- F-4, Lahontan Cutthroat Trout

F-1, Lake Habitat

The F-1 threshold is to apply a non-degradation standard to fish habitat in Lake Tahoe and achieve the equivalent of 5,948 total acres of excellent (prime) habitat. The current status of this threshold is non-attainment. Over the long term, implementation of the proposed threshold improvement projects associated with Alternatives 1, 2, or 3 would improve water quality in Edgewood Creek and likely reduce suspended sediment loads entering Lake Tahoe from the project area. Alternatives 1, 2, and 3 also include the removal of the existing pier and construction of a new pier on Lake Tahoe. The lake and shorezone habitat in the project area is characterized by shallow, nearshore, sandy substrate lacking vegetation or other cover (TRPA 2004c), and is not designated by TRPA as prime fish habitat. The placement of pilings into the sandy substrate of Lake Tahoe in the project area is not expected to affect the availability or quality of fish or other aquatic habitat in the long term, and would not affect prime fish habitat. Short-term, construction-related disturbances as a result of upstream improvements to Edgewood Creek or pier decommissioning and construction in Lake Tahoe would be mitigated. Therefore, implementation of Alternatives 1, 2 or 3 would not contribute to non-attainment of the F-1 threshold. Alternative 4 would not affect lake habitat for fish species and, therefore, would not affect the attainment status of this threshold.

F-2, Stream Habitat

The F-2 threshold is to "maintain 75 miles of excellent, 105 miles of good, and 38 miles of marginal stream habitat." The current status of this threshold is unknown because of lack of data (TRPA 2007). Implementing Alternative 4 would not change stream habitat conditions in the study area; therefore, implementing this alternative would not affect the attainment status of the F-2 threshold. Implementation of the proposed threshold improvement projects under Alternatives 1, 2, or 3 is expected to improve stream habitat conditions within Edgewood Creek, especially along the lower 1,373 linear feet between Lake Tahoe and pond 1. As discussed in Section 5.7.3, "Environmental Consequences and Recommended Mitigation Measures," although the threshold improvement projects are designed and expected to benefit stream habitat overall in the long term, the certainty and magnitude of some of the potential benefits are difficult to predict under the current level of design. Despite these uncertainties, an overall net benefit to stream habitat quality and functions is anticipated. The existing stream and pond system is highly degraded and has relatively low biological value. The proposed threshold improvement projects are expected to increase the area, quality, and functions of aquatic habitat, and adjacent riparian communities and wetlands. Therefore, long-term effects of Alternatives 1, 2, or 3 on fish and aquatic habitat in the Edgewood Creek/pond system is considered potentially beneficial, and could contribute to the attainment of the F-2 threshold.

If Mitigation Measure 5.7.1-3c was implemented in lieu of Mitigation Measure 5.7.1-3b, the potential for fish passage from Lake Tahoe upstream to pond 1 and the long-term effects on fish and aquatic habitat in the Edgewood Creek/pond system and Lake Tahoe would not be realized. In this case, the current fish and aquatic habitat conditions would persist.

F-3, Instream Flow

The F-3 threshold states that "until instream flow standards are established in the Regional Plan to protect fishery values, a non-degradation standard shall apply to instream flows." The current status of the threshold is attainment. The flow of Edgewood Creek is managed within the project area via the dam structure at Friday's Station pond and the downstream pond system in association with operation of the golf course. Implementation of any of the project alternatives would not change how instream flows are managed in Edgewood Creek within the project area. Therefore, none of the alternatives would affect the attainment status of the F-3 threshold.

F-4, Lahontan Cutthroat Trout

The F-4 threshold is to "support, in response to justifiable evidence, state and federal efforts to reintroduce Lahontan cutthroat trout." The current status of the threshold is attainment. Implementation of Alternatives 1, 2, 3, or 4 would not change habitat conditions for LCT in the project area or affect efforts to reintroduce the species. As discussed in section 5.7.3, "Environmental Consequences and Mitigation Measures," none of the alternatives are expected to affect LCT. Therefore, implementing Alternatives 1, 2, 3, or 4 would not affect attainment of the F-4 threshold.

5.8 HUMAN HEALTH AND RISK OF UPSET

This section evaluates the potential hazardous material and public health impacts from implementation of the project. The analysis is based on existing and past uses of the project site, and a review of the U.S. Environmental Protection Agency (EPA) EnviroMapper database for Stateline, Nevada (EPA 2011a). This section describes the regulatory background, existing environmental conditions at the project site, and potential environmental impacts associated with each of the proposed Alternatives, 1 through 4, related to human health and risk of upset. The potential for the project to affect Edgewood Water Company's water intake lines is discussed in Section 5.6, "Hydrology and Water Quality."

5.8.1 REGULATORY BACKGROUND

Numerous federal, state, and regional laws, rules, regulations, plans, and policies define the framework for regulating human health and risk of upset, including hazardous materials, in the Tahoe Basin. A summary of the most pertinent regulations is provided below.

HAZARDOUS MATERIALS MANAGEMENT

FEDERAL

Federal laws require planning to ensure that hazardous materials are properly handled, used, stored and disposed of, and if such materials are accidentally released, to prevent or to mitigate injury to health or the environment.

Federal Emergency Planning and Community Right to Know Act

The Federal Emergency Planning and Community Right to Know Act (EPCRA) (42 U.S.C. §11001 et seq. [1986]) defines hazardous materials planning requirements to help protect local communities in the event of accidental release.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. §9601 et seq. [1980]), otherwise known as CERCLA or Superfund, provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, EPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup.

Clean Air Act

The federal Clean Air Act (CAA) (42 U.S.C. §7401 et seq. [1970]) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. Section 112 of the CAA addresses emissions of hazardous air pollutants. When Congress passed the CAA amendments of 1990, Section 112(r) required EPA to publish regulations and guidance for chemical accident prevention at facilities using substances that posed the greatest risk of harm from accidental releases.

EPA List of Lists

EPA has a consolidated chemical list that includes chemicals subject to reporting requirements under the EPCRA, also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and chemicals listed under Section 112(r) of the CAA. The consolidated list helps firms handling chemicals determine whether

they need to submit reports under Sections 302, 304, or 313 of EPCRA and, for a specific chemical, what reports may need to be submitted. It also helps firms determine whether they will be subject to accident prevention regulations under Section 112(r) of the CAA (EPA 2011c). Separate lists are also provided of Resource Conservation and Recovery Act (RCRA) waste streams and unlisted hazardous wastes, and of radionuclides reportable under CERCLA. These lists should be used as a reference tool, not as a definitive source of compliance information. Compliance information for EPCRA is published in the Code of Federal Regulations (CFR), 40 CFR Parts 302, 355, and 372. Compliance information for CAA Section 112(r) is published in 40 CFR Part 68.

Asbestos

Asbestos is a naturally occurring mineral commonly used as an acoustic insulator, thermal insulation, fire proofing, and in other building materials. Prior to the 1980s, many types of building products and insulation materials used in building construction contained asbestos. When inhaled in sufficient quantities, asbestos fibers can cause serious health problems. EPA defines asbestos-containing material (ACM) as materials that contain greater than 1 percent asbestos as detected by laboratory analysis. Emissions of asbestos fiber to the ambient air, which can occur during activities such as renovation or demolition of structures made with ACMs (e.g., insulation), are regulated in accordance with Section 112 of the CAA.

Lead-Based Paint

Lead is a highly toxic metal that was used for many years in products found in and around homes. Lead-based paint (LBP) was widely used on buildings until 1978, when paint containing more than 0.06 percent lead was banned on residential structures by the Consumer Products Safety Commission. Prior to the 1950s, paints for residential uses may have contained up to 50 percent lead by weight. Today, some commercial and military paints still contain lead and are used on non-residential structures. The only sure way to tell if a property was painted with LBP is to test the paint for lead. Renovation, remodeling, demolition, and surface preparation for painting, in addition to specified lead abatement, are all activities that have the potential to produce hazardous wastes if the property involved was painted with LBP.

The hazardous waste criterion for lead wastes is established under RCRA, Subtitle C, as 5.0 mg/L measured with the Toxicity Characteristic Leaching Procedure (TCLP). In order to facilitate the removal of LBP from residential structures, where it may pose a significant health threat to children, on June 18, 2003 the EPA published a rule under solid waste regulations that streamlines disposal of LBP debris from residential structures. Under the new rule LBP debris from households, whether generated by a do-it-yourselfer or a contractor, may be disposed of at a municipal waste landfill or a construction and demolition waste landfill, as defined in 40 CFR §257.2. LBP debris that comes from commercial or industrial sources, as opposed to households, may be subject to state and federal hazardous waste rules. In this case the generator must determine whether the debris fails, or is likely to fail, the toxicity characteristic for lead.

Radon

Radon is an invisible, odorless, radioactive gas produced by decay of uranium in rock and soil. Radon gas enters buildings through cracks in the foundation, areas surrounding drainage pipes, and other openings in the foundation and walls. The radon decay products, once inside a building, may become attached to dust particles and inhaled, or the decayed radioactive particles alone may be inhaled and cause damage to lung tissue. Radon is measured in picocuries per liter of air (pCi/L). EPA has established the recommended safe radon level at 4 pCi/L. EPA and U.S. Geological Survey (USGS) have evaluated radon potential on a county-wide basis as an aid in deciding whether radon-resistant features are applicable in new construction. One of three zones is assigned based on radon potential. Each zone designation reflects the average short-term radon measurement that can be expected to be measured in a building without the implementation of radon control methods. According to EPA's Map of Radon Zones, Douglas County is located in a high radon potential zone (greater than 4 pCi/L);

REGIONAL

Subsection 60.1.8 of the TRPA Code of Ordinances (Code) provides criteria for fertilizer management to ensure that the use and application of fertilizers achieve management standards. Projects that include landscaping or revegetation as well as existing uses that require regular fertilizer maintenance, such as the golf course, are required to submit fertilizer management plans (FMP) for review and approval by TRPA.

STATE

In compliance with the Community Right to Know Act of 1986, the Nevada State Emergency Response Commission (SERC) was established in 1987. SERC coordinates and supervises the activities of local emergency planning committees to ensure that each committee has an approved hazardous materials emergency response plan. SERC also collects chemical inventory reports, provides funds through grants, and processes information requests from the public.

Asbestos

Nevada Administrative Code 444.965 to 444.976 contain regulations governing the disposal of asbestos. Friable asbestos waste is subject to regulatory standards concerning handling, transportation, record-keeping, notification and disposal. The program for certification of asbestos waste contractors is administered by the Nevada Division of Industrial Relations/Occupational Safety and Health Enforcement Section. Together with the federal regulations, these rules and regulations: prohibit emissions of asbestos from asbestos-related demolition or construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices that must be followed to minimize the potential for release of asbestos fibers; and require notice to federal and local government agencies prior to any renovation or demolition activities that could disturb asbestos.

LOCAL

Douglas County Code, Title 20, Section 20.690.030(I) requires projects and/or businesses that store hazardous materials, to prepare a spill management plan and containment systems to the satisfaction of the fire district with appropriate jurisdiction.

WORKER SAFETY

FEDERAL

The federal Occupational Safety and Health Administration (Fed-OSHA) is the agency responsible for assuring worker safety in the handling and use of chemicals in the Occupational Safety and Health Act of 1970. Fed-OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling.

STATE

The Nevada Occupational Safety and Health Act (Nev-OSHA) promotes safe and healthful working conditions to provide job safety and health protection for workers in the State of Nevada. This Act provides the Nevada Occupational Safety and Health Administration (Nevada OSHA) the power to issue citations for conditions inspected and found to be unsafe.

The Nev-OSHA poster (to be displayed in Nevada workplaces) states: each employer shall furnish to each of his employees employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees; and shall comply with occupational safety and health standards adopted under the Act (Nevada OSHA 2004).

HAZARDOUS MATERIALS TRANSPORT

FEDERAL

The U.S. Department of Transportation regulates hazardous materials transportation between states. The federal hazardous materials transportation law (federal hazmat law), 49 U.S.C. Section 5101 et seq., (formerly the Hazardous Materials Transportation Act, 49 App. U.S.C. Section 1801 et seq.) is the basic statute regulating hazardous materials transportation in the United States. Hazardous material regulations are enforced by the federal Highway Administration, the U.S. Coast Guard, the federal Railroad Administration and the federal Aviation Administration.

STATE

Nevada Revised Statute NRS 459.7052 requires motor carriers to register and obtain a permit for the transportation of hazardous materials before transporting a hazardous material upon a public highway of the state. As part of this statute the Nevada Department of Motor Vehicles (NDMV) requires anyone applying for a permit to transport hazardous waste to have a commercial driver's license and to undergo a background check that includes a fingerprint based Security Threat Assessment (NDMV).

State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the officers of the Nevada Highway Patrol (NRS 459.250).

HAZARDOUS WASTE MANAGEMENT

FEDERAL

The federal Resource Conservation and Recovery Act (RCRA) (EPA 2011b) requires a comprehensive regulatory system for handling hazardous waste in a manner that protects human health and the environment. This regulatory system includes tracking all generators of hazardous waste. All generators and treatment, storage, and disposal facilities who handle hazardous waste are required to report to the EPA Administrator at least once every 2 years.

Applicable to facilities in the vicinity of the proposed project are those RCRA rules related to Large Quantity Generators (LQG) of hazardous waste, Small Quantity Generators (SQG) of hazardous waste and Conditionally Exempt Small Quantity Generators (CESQG) of hazardous waste. LQGs generate 1,000 kilograms or more of hazardous waste, SQGs generate more than 100 kilograms, but less than 1,000 kilograms of hazardous waste per month and CESQGs generate 100 kilograms or less per month of hazardous waste.

STATE

The Nevada Division of Environmental Protection, Bureau of Waste Management manages a Hazardous Waste Program that is responsible for enforcing state hazardous waste statues and regulations in lieu of the EPA. With some modifications, Nevada adopts the federal hazardous waste regulations. The Hazardous Waste Program is

responsible for permitting and inspecting hazardous waste generators and disposal, transfer, storage and recycling facilities.

SOLID WASTE MANAGEMENT

STATE

The Nevada Division of Environmental Protection Bureau of Waste Management also manages a solid waste management program, the purpose of which is to regulate the collection and disposal of solid waste. Included in this solid waste management program is a recycling program. Generally the solid waste is required to be collected and disposed of in a manner that will:

- protect public health and welfare,
- prevent water or air pollution,
- prevent the spread of disease and the creation of nuisances,
- conserve natural resources, and
- enhance the beauty and quality of the environment.

DOUGLAS COUNTY

Chapter 8 of the Douglas County Code discusses health and safety issues. In regards to solid waste County Code declares the existence of waste matter upon public and/or private roads or parcels of land (both public and private) subject to code enforcement action (County Code Section 8.14.020).

Douglas County Code also declares it unlawful for any person to dump on any parcel of land, lot, street, highway, gutter or alley, or in any water within Douglas County any waste matter (including abandoned vehicles) (County Code Section 8.14.030). Further, Douglas County declares it unlawful for any person to drive any vehicles on any roadways without properly securing its contents to prevent them from escaping from the vehicle. In vehicles that contain garbage, Douglas County declares it unlawful for any person to drive the vehicle unless the garbage is covered (County Code Sections 8.28.020 and 8.28.030).

FIRE HAZARD MANAGEMENT

TAHOE REGIONAL PLANNING AGENCY

Regional Plan

The Natural Hazards Sub-Element of TRPA's Regional Plan for the Lake Tahoe Basin lists the following policy related to fire hazards that is applicable to the proposed project (TRPA 1987):

- **Policy 3:** Inform residents and visitors of the wildfire hazard associated with occupancy in the Basin. Encourage use of fire resistant materials and fire preventative techniques when constructing structures, especially in the highest fire hazard areas. Manage forest fuels to be consistent with state laws and other goals and policies of this plan.

Code of Ordinances

Subsection 61.3.6(D) of the TRPA Code (2011) provides the following guidance related to fire hazards that is applicable to the proposed project:

- Vegetation Management to Prevent the Spread of Wildfire: Within areas of significant fire hazard, as determined by local, state, or federal fire agencies, flammable or other combustible vegetation may be removed, thinned, or manipulated up to 30 feet from any structure to prevent the spread of wildfire. Sufficient quantities of residual vegetation should remain in this 30 foot zone to stabilize the soil and prevent erosion. Whenever possible, vegetation in this zone should be thinned, tapered, cut back, or otherwise selectively manipulated, rather than removed entirely. Revegetation with approved species may be required where vegetative ground cover has been eliminated or where erosion problems may occur.

TRPA also regulates tree removal through Section 61.1 of the TRPA Code. Removal of any trees greater than 14 inches in diameter at breast height (dbh) requires a tree permit; however, TRPA has delegated authority to issue tree removal permits to most local fire agencies for defensible space treatments. A tree removal permit must be approved for all projects that require substantial removal of trees, which is defined in Subsection 61.1.8 of the TRPA Code as removing more than 100 trees greater than 14 inches dbh in an area greater than 3 acres or proposing tree removal that as determined by TRPA after a joint inspection with appropriate state or federal Forestry staff does not meet the minimum acceptable stocking standards set forth in Subsection 61.1.6(H).

DOUGLAS COUNTY

Douglas County Master Plan

Douglas County Master Plan (DCMP) Land Use Policy 3.7 states that, within all land use designations, a variety of factors including "f) location in a high fire hazard area" shall be considered in reviewing and approving individual development proposals. It should be noted that a draft update of the DCMP was released in November 2011, and approved at the January 5, 2012 County Board of Supervisors (Board) meeting. However, the DCMP has not been finalized to reflect the requested changes of the Board. It may be several months before the update is finalized. Because the DCMP update has not yet been finalized, the relevant policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

5.8.2 AFFECTED ENVIRONMENT

The project area west of U.S. 50 is currently occupied by the Edgewood Tahoe Golf Course, an accessory clubhouse with a pro shop, restaurant, bar, banquet rooms, and golf course support facilities (e.g., maintenance and utility facilities, pathways, surface parking, pump houses, a gate house, and restrooms), and two, single-family lakefront residences with a pier. Edgewood Tahoe Golf Course is bordered by a 4-H Camp, residences and commercial and casino properties to the north; Lake Parkway and the Stateline casino corridor to the southeast; residences to the south; U.S. 50 to the east; and Lake Tahoe to the west. The portion of the project area east of U.S. 50 includes Edgewood Creek, Friday's Station pond and dam, and a former bunk house on the pond. The project area is located at the bottom of the Edgewood Creek watershed which drains an area of approximately 6.6 square miles.

HAZARDOUS MATERIALS ON-SITE

Hazardous materials on-site include those typical for the maintenance and operation of a golf course facility and associated restaurant and clubhouse (e.g., fuel, lubricants, paint). Landscape management of the golf course includes the application of fertilizers and use of pesticides, which are listed in Appendix J. All hazardous materials are used, stored, and disposed of in accordance with applicable federal, state, and local laws including

Nev-OSHA, and Nevada's Hazardous Waste Management Program regulations, the Nevada Online Hazardous Materials Reporting System, and manufacturer's instructions (material safety data sheets [MSDS]). Additionally, Edgewood Tahoe Golf Course operates under a FMP prepared in accordance with Chapter 60.1.8 of the TRPA Code. The FMP includes a fertilizer list, addresses maintenance and monitoring activities at the golf course, and is updated regularly to address ongoing water quality monitoring and any operational changes that have been made. The FMP describes the types and timing of fertilizer use, areas retired from fertilizer application, areas incorporated as no-fertilizer buffer zones around creeks and ponds, areas naturalized, use of pond water for irrigation, stormwater treatment for on- and off-site sources, water hazards, pesticide use, and water quality monitoring. A number of ingredients within the fertilizers and pesticides utilized at the golf course were identified on EPA's consolidated list of substances subject to reporting requirements under the EPCRA and Section 112(r) of CCA (Edgewood Companies 2012; EPA 2011c). Descriptions of each of the products containing listed chemicals, their use at the golf course, and the quantities utilized annually are listed in Appendix J. The maximum quantities stored at the project site at any given time, and the quantities applied to the golf course, for all listed chemicals are below the threshold quantities that trigger reporting and additional regulatory oversight.

Hazardous substances stored at and applied to the golf course in accordance with federal, state, and local regulations, the FMP, and the product MSDS handling procedures do not constitute a risk to human health.

Asbestos-Containing Building Materials

The two single-family residences, which would be demolished as part of the project, were constructed prior to 1978. Due to the age of these structures, there is the possibility of the presence of asbestos; however, no sampling for asbestos has been performed at the project site.

Lead-Based Paint

The two single-family residences and the existing pier, which would be demolished as part of the project, were constructed prior to 1978 (the pier was constructed in 1978). Due to the age of these structures, there is the possibility of the presence of lead-based paint; however, no sampling for lead paint has been performed at the project site.

Radon

According to EPA's Map of Radon Zones, Douglas County is located in a high radon potential zone (greater than 4 pCi/L); however, no radon sampling has been performed at the project site.

HAZARDOUS MATERIALS IN THE VICINITY

The EPA's EnviroMapper Database indicated the presence of fifteen facilities within one (1) mile of the project site that produce emissions of hazardous materials or other pollutants and report to the EPA (EPA 2011a). Of these facilities 10 are in active operation and are classified as Conditionally Exempt Small Quantity Generators (CESQG), Small Quantity Generators (SQG), or Large Quantity Generators of hazardous waste. There is no record of a violation or informal enforcement action related to hazard materials for any of these facilities within the last 5 years. Table 5.8-1 describes these active facilities.

Table 5.8-1. Facilities that Produce Hazardous Materials Within One (1) Mile of the Project Site		
Name	Address	Facility Characteristic
Conoco Phillips #2535534115	Lake Tahoe Boulevard, South Lake Tahoe, CA 96150	LQG
Harvey's Resort Hotel	U.S. 50 and Stateline Avenue, Stateline, NV 89449	SQG
Jo's Design	197 Shady Lane, Stateline, NV 89448	CESQG
Kingsbury Auto Supply	180 Shady Lane, Stateline, NV 89449-	CESQG
Montbleu Resort Casino and Spa	55 U.S. 50, Stateline, NV 89449	CESQG
Pine Tree Printing	Kingsbury Center, Stateline, NV 89449	CESQG
Pro Tow	Shady Lane, Stateline, NV 89449	CESQG
Raley's Drug Center	1594018 U.S. 50, South Lake Tahoe CA 96150	SQG
Shell Oil Co	U.S. 50/ Pioneer Trail, South Lake Tahoe, CA 96150	SQG
Shell Service Station	3953 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150-8907	SQG
Source: EPA 2011a		

WILDLAND FIRE HAZARDS

The Tahoe Basin is considered at high risk for catastrophic wildfire by the TRPA and by other land use agencies in the area. Currently all fire protection districts in the basin have prepared Community Wildfire Prevention Plans (CWPPs). In 2010 the Lake Tahoe Basin Fuel Reduction and Wildfire Prevention Strategy (FRWPS) was released. Both the CWPPs and the FRWPS stress the high risk of wildfire, particularly high intensity wildfire, in the Tahoe Basin and identify fuel reduction treatments as an important action for reducing the fire risk.

The project site is located within the service area of the Tahoe Douglas Fire Protection District (TDFPD). The TDFPD CWPP classifies the hazard category of the Stateline area in which the project site is located as moderate. Compared to the other communities within the TDFPD CWPP this is a relatively low hazard classification which the CWPP attributes to good defensible space and moderate slopes.

Much of the Stateline community is surrounded by National Forest System (NFS) land managed by the U.S. Forest Service, Lake Tahoe Basin Management Unit (USFS, LTBMU). Vegetation in Stateline generally consists of a Jeffrey pine/white fir tree layer with some willow, aspen, and mountain alder in the stream zones. The understory shrub component is composed of manzanita, snowbrush, whitethorn, rabbitbrush, and some sagebrush along roads and disturbed areas. Ground fuels are a thick layer of pine needles and cones, dead and down woody fuels, squaw carpet, and annuals including cheatgrass. Fuel loading is heavy, estimated at 6 tons per acre. Stateline has a high potential for ignition from U.S. 50 and Kingsbury Grade.

In 2010 and 2011, Property owned by Edgewood Companies in the Stateline area, including portions of the project site, underwent fuels treatment by the Nevada Division of Forestry (NDF) under the supervision of a registered professional forester and in accordance with the terms of a TRPA Forest Health and Fuels Reduction Permit to remove diseased trees and hazardous fuels to promote long-term health and growth in the stand and to reduce fire hazard.

MOSQUITO/ VECTOR CONTROL

The climate, topography, and plant communities of the Tahoe Basin provide an abundance and variety of larval mosquito habitats. The restoration of stream environment zones has created additional habitat sources. The

mosquito population in the Tahoe Basin is most active in the spring and early summer. All mosquito species are potential vectors of organisms that can cause disease to pets, domestic animals, wildlife, or humans.

The project site is located within the Douglas County Mosquito Abatement District (MAD). The District has two full-time employees and utilizes additional seasonal employees to form a small but highly trained unit responsible for the prevention, elimination, and control of mosquitoes and other arthropods known to be potential carriers of infectious diseases or presenting a public nuisance. The District routinely conducts surveillance to locate mosquito-breeding sources and to solve mosquito problems using physical, biological and chemical means, along with conducting public education outreach efforts.

Areas of standing water are often breeding grounds for mosquitoes. Standing water north of the project site behind the Lakeside Inn apartments on Kahle Drive; in the east/west running ditch just north of the Edgewood Tahoe Golf Course; and in the stormwater detention basin behind Harvey's Lake Tahoe Casino just south of the entrance to Edgewood Tahoe Golf Course, are all sites recognized as mosquito breeding areas by MAD (Jenkins, pers. comm., 2011). Biological larvacides have been introduced via briquettes to these standing water bodies. MAD has also treated standing water with biological larvacides along Kingsbury Grade. Only mosquitoes, black flies, and certain midges are susceptible to these bacteria; other aquatic invertebrates and non-target insects are unaffected.

MAD has also used pyrethrins and pyrethroids for its adult mosquito fogging program in the area. Pyrethrins are insecticides that are derived from an extract of chrysanthemum flowers, and pyrethroids are synthetic forms of pyrethrins. These are generally applied by truck mounted or hand held foggers. All of these mosquito abatement techniques have been approved for use by TRPA.

MAD does not currently treat standing water on the golf course itself and Edgewood Companies reports mosquitoes have not been a noticeable problem within the project area (Hill, pers. comm., 2011). Standing water on the project site includes catchment ponds and water traps on the golf course.

There have been no known cases of West Nile Virus in Douglas County in the past 2 years and no mosquitoes have tested positive for the virus (Jenkins, pers. comm., 2011).

EMERGENCY SERVICES

LAKE TAHOE GEOGRAPHIC RESPONSE PLAN

The Lake Tahoe Geographic Response Plan (LTGRP) establishes the policies, responsibilities, and procedures required to protect life, environment, and property from the effects of hazardous materials incidents occurring within the Lake Tahoe watershed. The plan is generally intended to be used for oil spills or chemical releases that impact or could potentially impact drainages entering Lake Tahoe, Lake Tahoe itself, and its outflow at the Truckee River. It is both an operational plan as well as a reference document. The plan is consistent with federal, state, and local laws and is intended to facilitate multi-agency and multi-jurisdictional coordination in hazardous materials emergencies, particularly among local, state, and federal agencies.

DOUGLAS COUNTY EMERGENCY DISPATCH PROGRAM

Douglas County provides emergency services through the Emergency Dispatch Program. This provides a direct service to the citizens of Douglas County, Nevada and Alpine County, California on a 24-hour, 7 days per week basis. The program provides a consolidated countywide communications center that dispatches the appropriate response units for the Douglas County Sheriff's Department, East Fork Fire and Paramedic District, TDFPD,

Washoe Tribal Police, and 75 percent of Alpine County's Sheriff, fire, and medical dispatching services (Douglas County 2011).

DOUGLAS COUNTY E-911 PROGRAM

The County's E-911 Program provides for "Enhanced 911" service to citizens of Douglas and Alpine Counties. This program provides citizens with a single universal three digit emergency number that allows the communications center to quickly identify the caller's phone number and address. With this system, response times to emergencies are substantially reduced, by up to one (1) minute, while providing information to the Communications Center in the event the caller cannot talk or does not know their location (Douglas County 2011).

The Communications Director reports to the County Manager and to the Emergency Response Council that is appointed by the Board of County Commissioners. The Emergency Response Council is made up of the County Manager, Douglas County Sheriff, East Fork Fire Chief, East Fork Deputy Chief in charge of Paramedics, Tahoe Douglas Fire Chief, and a representative of the Nevada Division of Forestry.

5.8.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Based on TRPA's Initial Environmental Checklist, the proposed project would result in a significant public health and safety impact leading to a risk of upset if it would:

- involve a risk of explosion or the release of hazardous substances;
- create a health hazard or potential health hazard;
- expose people to potential health hazards;
- conflict with an emergency access plan; or
- disrupt public services to a degree that human health and safety could be adversely affected.

METHODS AND ASSUMPTIONS

The following sources documenting potential hazardous conditions at the project site were reviewed for this analysis:

- preliminary site plans for the project;
- applicable elements from the Douglas County General Plan and TRPA Plan Area Statement 070A and 080;
- *Community Wildfire Risk and Hazard Assessment* (TDFPD 2004);
- EPA's EnviroMapper Database (EPA 2011a);
- EPA's Consolidated List of Chemicals Subject to EPCRA, CERCLA, and Section 112(r) of the CAA (List of Lists) (EPA 2011c);
- Tahoe Water Suppliers Association's *2010 Annual Report* (Tahoe Water Suppliers Association 2010);
- *Lake Tahoe Geographic Response Plan* (Lake Tahoe Response Plan Area Committee 2007); and,
- Edgewood Tahoe Golf Course's current list of fertilizers and pesticides (Edgewood Companies 2012).

Project activities were evaluated against the information gathered from the above sources to determine whether any risks to public health and safety or other conflicts would occur. The project would not conflict with an emergency access plan. As illustrated in the site plan for the proposed project (Exhibits 3-7 through 3-9), vehicle access to the project area would be via a single, realigned main roadway from Lake Parkway. Additional emergency access to the project area would be provided via an emergency access only entrance south of the main entrance along Lake Parkway. This entrance would remain gated except in the event of an emergency. Construction access to the project area would be provided via Lake Parkway. Any partial street closures and traffic control would be coordinated with NDOT and the Douglas County Public Works Department, as necessary and local residents would be informed of potential traffic controls. Adequate emergency access would be provided at all times and local emergency service providers would be notified of any potential road closures or detours at least 48 hours in advance. Therefore, the project would not block through traffic nor affect emergency access. This issue is not discussed further in this section.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.8.1-1	**Expose the Public or Environment to Hazardous Materials.** Alternative 1 would involve the storage, use, and transport of hazardous materials at the project site during construction activities. However, use of hazardous materials at the site would be typical of most construction projects and would occur in compliance with local, state, and federal regulations. Hazardous materials (e.g., fuel, lubricants, fertilizers, and pesticides) for long-term use on site would continue to be stored and used in compliance with local, state and federal regulations. There are no nearby sources of hazardous materials or wastes that would pose a significant health risk for people within the project area. Therefore, impacts related to exposure of the public or environment to significant hazards would be **less than significant.**

Construction of the proposed project would involve the short-term use and storage of a variety of hazardous materials typically associated with construction (e.g., asphalt, fuel, lubricants, paint). Operation of the existing golf course, clubhouse and restaurant requires the occasional use and storage of hazardous materials typical of a recreation complex and golf course (e.g., fuel, lubricants, paint, fertilizer, pesticides). Long-term operation of the golf course, proposed lodge complex and other facilities would also require the storage and occasional use of similar hazardous materials. The proposed project would not change the quantity of fertilizers and pesticides stored on-site nor would it change the types used under existing conditions. Consistent with existing conditions and practices, all hazardous materials would be used, stored, and disposed of in accordance with applicable federal, state, and local laws including Nev-OSHA, and Nevada's Hazardous Waste Management Program regulations, the Edgewood Tahoe Golf Course TRPA-reviewed FMP, and manufacturer's instructions (MSDS sheets). These protective regulations are sufficient to insure that hazardous materials stored and used in the project area would be in compliance with local, state, and federal regulations and would not constitute a risk to human health. Additionally, the project proposes to remove 24 acres of the golf course from fertilizer management, thereby reducing application rates of fertilizers. Ongoing surface and groundwater monitoring at the golf course would also ensure that fertilizer and pesticide use at the golf course does not cause groundwater degradation.

A search of the EPA's EnviroMapper database did not reveal any nearby sources of hazardous materials or waste that would pose a health hazard for residents or construction workers at the project site. The 10 active facilities within a one (1)-mile radius of the project site that produce hazardous materials are required to obtain permits and comply with appropriate regulatory standards to avoid hazardous waste releases and provide for

appropriate cleanup measures in the event of an accidental spill or release. There is no record of a violation or informal enforcement action related to hazardous materials for any of these facilities within the last 5 years.

For the reasons described above, the project would not create a significant health hazard to the public or the environment or expose the public or the environment to additional hazards. Therefore, this would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.8.1-2	**Create a Safety Hazard to Construction Workers.** Demolition, excavation, and construction activities associated with Alternative 1 could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered **potentially significant**.

Development of Alternative 1 would involve site grading, excavation for utilities and demolition of the existing single-family residences and pier. The residences were constructed prior to 1978 and may have building materials containing asbestos. Asbestos is designated as a hazardous substance when the fibers have the potential to come in contact with air because the fibers are small enough to lodge in the lung tissue and cause health problems. The presence of ACMs in existing buildings poses an inhalation threat only if the ACMs are found to be in a friable (i.e., ability to become airborne) state. If the ACMs are not friable, there is no inhalation hazard because asbestos fibers would not become airborne. Emissions of asbestos fiber to the ambient air, which can occur during activities such as renovation or demolition of structures made with ACMs (e.g., insulation), are regulated in accordance with Section 112 of the CAA.

Human exposure to lead has been determined by EPA and Fed-OSHA to be an adverse health risk, particularly to young children. Demolition of structures containing lead-based paint requires specific remediation activities regulated by federal, state, and local laws described above. The use of lead as an additive to paint was discontinued in 1978. However, the single-family residences were built prior to 1978 and the pier was constructed in 1978; therefore, these structures may contain lead-based paint.

No testing or sampling of materials was conducted at the project site. However, the residences and pier were constructed when asbestos-containing materials and lead-based paints were commonly used. Therefore, during construction and demolition activities, construction workers could come in contact with and be exposed to hazardous materials present in on-site buildings. Exposure to these hazardous materials could create a significant environmental or health hazard. This would be a **potentially significant** impact.

Mitigation Measure 5.8.1-2: Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.

To avoid health risks to construction workers, the project applicant's contractor shall prepare a Site Health and Safety Plan. This plan shall outline measures that will be employed to protect construction workers and the public from exposure to hazardous materials during demolition and construction activities. These measures could include, but would not be limited to, posting notices, limiting access to the site, air monitoring, and watering. Construction contractors shall be required to comply with state health and safety standards for all demolition work.

In addition, before demolition of any on-site structures, the applicant shall hire a qualified consultant to investigate whether any of the on-site structures to be demolished contain asbestos-containing materials and lead that could become friable or mobile during demolition activities. If found, the asbestos-containing materials and lead shall be removed in accordance with EPA and Nev-OSHA standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Fed-OSHA and Nev-OSHA asbestos and lead worker construction standards, as determined necessary. Any materials found to contain asbestos and/or lead shall be disposed of properly at an appropriate off-site disposal facility.

Implementation of Mitigation Measure 5.8.1-2 would reduce the exposure of construction workers to hazardous materials, including asbestos and lead-based paint, to a **less-than-significant** level, because adequate protection measures that comply with applicable regulations would be implemented to protect construction workers.

Impact 5.8.1-3 **Disruption of Public Services.** Demolition, excavation, and construction activities on the project site associated with Alternative 1 could result in the disruption of continuous public services in and around the project site, resulting in potentially adverse health and safety effects. This impact is considered **potentially significant**.

The existing utilities, including electricity, natural gas, water, wastewater, solid waste, and telecommunication services, would continue to be provided by the same service providers that currently serve the site. On-site utilities would be upgraded/extended to serve Alternative 1. In addition, existing overhead utility lines north and south of the clubhouse would be undergrounded. Because utilities would be altered as part of the project, construction of the project could result in the disruption of continuous public services on adjacent properties, resulting in potentially adverse health and safety effects. This would be a **potentially significant** impact.

Mitigation Measure 5.8.1-3: Minimize Loss of Service.

The project applicant shall coordinate with all affected utility providers including Edgewood Water Company, Douglas County Sewer Improvement District, NV Energy, Southwest Gas Corporation, South Tahoe Refuse, and Charter Business (telecommunications) to minimize any potential loss of service. Measures that could be implemented include, but are not limited to scheduling necessary outages, limiting the hours of disruption, informing affected users in advance of the disruption, and avoiding outages during periods of high demand. Any measures would require review and approval by the affected utility provider.

With implementation of Mitigation Measure 5.8.1-3, Alternative 1 would have a **less-than-significant** impact related to the disruption of public services, because necessary steps would be taken to minimize the potential for adverse health and safety effects.

Impact 5.8.1-4 **Expose Future Residents to Potential Health Hazard Related to Radon.** The project site is located in a high radon potential zone, as designated by EPA's Map of Radon Zones for Douglas County. Development of Alternative 1 in this area could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered **potentially significant**.

EPA and USGS have evaluated radon potential on a county-wide basis as an aid in deciding whether radon-resistant features are applicable in new construction. One of three zones is assigned based on radon potential. Each zone designation reflects the average short-term radon measurement that can be expected to be measured in a building without the implementation of radon control methods. According to EPA's Map of Radon Zones, Douglas County is located in a high radon potential zone (greater than 4 pCi/L). Radon could be present in

project site soils, therefore, posing a risk of radon exposure to the future residents located on the relocated residential parcels. This would be a **potentially significant** impact.

Mitigation Measure 5.8.1-4: Conduct Investigation and Implement Radon Resistant Construction Techniques.

The project applicant shall conduct on-site testing for radon by a certified professional. If radon is found, mitigation plans shall be developed by a certified professional. This plan shall identify specific measures that would be implemented to reduce radon exposure levels. Specific radon resistant new construction techniques that could be implemented include installation of a gas permeable layer beneath foundation construction, a layer of plastic sheeting, sealing and caulking, vent pipe and venting fan. Any radon resistant new construction techniques shall be reviewed and approved by TRPA and the Douglas County Building Department, and shall reduce the radon exposure level below 4 pCi/L.

With implementation of Mitigation Measure 5.8.1-4, Alternative 1 would have a **less-than-significant** impact related to potential health hazards of radon exposure, because adequate radon reduction measures would be in place to reduce the radon exposure level below 4 pCi/L.

Impact 5.8.1-5	Increased Risk of Health Hazards From Vector-borne Diseases. Alternative 1 would increase the number of people visiting an area recognized as containing several mosquito breeding sites and, therefore, would increase the number of people potentially exposed to vector-borne diseases carried by mosquitoes. However, mosquitoes are not a current nuisance on the Edgewood Tahoe Golf Course property, and the proposed threshold improvement projects would improve hydrologic flow on the site, thereby decreasing the amount of standing water existing on the course. In addition, the Tahoe portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District (MAD). Over the past several years MAD employees have used TRPA-approved mosquito abatement measures in the project vicinity and would continue to do so. A substantial increase in risk of health hazards from vector-borne diseases is not anticipated as a result of the project. This would be a less-than-significant impact.

The proposed project includes a series of improvements to Edgewood Creek and the golf course wetland and pond system. Stormwater catchment basins and other stormwater best management practices can create pools of water which can act as breeding grounds for mosquitoes. However, the proposed Threshold Improvement Projects would improve hydrologic flow on site – reducing the volume of existing standing water. In addition, Edgewood Companies reports mosquitoes have not been a nuisance in the project area (Hill, pers. comm., 2011). As described above in Section 5.8.2, “Affected Environment,” areas of standing water that are sources of mosquito breeding near the Edgewood Tahoe Golf Course are monitored and treated by Douglas County MAD. The continued mosquito abatement actions of MAD combined with the attention of Edgewood Companies to potential breeding grounds in the project area would reduce any potential increase in mosquito breeding sites and associated vector-borne diseases. Impacts related to vector-borne diseases carried by mosquitoes would be **less than significant.**

Mitigation Measure

No mitigation is required.

Impact 5.8.1-6	**Increased Exposure to Wildland Fire Hazard.** The project site is located in a moderate fire hazard area. Alternative 1 would incorporate fire resistant roofs and defensible space, and adequate fire protection services are available to the serve the project. These measures would reduce the project's potential to increase exposure of people or structures to wildland fires. This would be a **less-than-significant** impact.

The Tahoe Douglas Fire Protection District classifies the fire hazard rating in the Stateline area as moderate because of moderate slopes and good defensible space (TDFPD 2004). TDFPD recommends a minimum of 30 feet of defensible space around residential uses on relatively flat terrain (greater setbacks for areas with slopes) with minimal wildland vegetation. The project site is in a developed area where the topography is fairly level and fuel loading is low. Alternative 1 would provide appropriate setbacks given the flat terrain of the project site and proposed landscaping. In addition, the proposed lodge complex buildings would incorporate fire resistant roofs (i.e., asphalt shingles or other fire resistant material) and adequate defensible space surrounding the buildings. Adequate fire protection services are available to the serve the project. Furthermore, the project site is already developed with an existing golf course, clubhouse, and restaurant. Expansion of these uses would not substantially increase the fire hazard potential of the area. Therefore, the proposed project's potential to increase exposure of people or structures to wildland fire would be considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.8.1-7	**Increased Exposure to Boating Hazards.** While relocating, reconstructing, and extending the pier at the project site could potentially increase exposure of people to boating hazards, under Alternative 1, no new mooring buoys or boating facilities would be constructed. Further, the swimming area would be roped off at the public beach to protect swimmers from boating activities associated with the pier. Therefore, the project's potential to increase exposure to boating hazards would be a **less-than-significant impact**.

The project proposes to remove, relocate, and reconstruct the existing Pruett Pier at a location approximately 1,200 feet north of its current location (Exhibits 3-4, 3-7, and 3-11). The relocated pier would be adjacent to the clubhouse and extend from the public beach area. The proposed multiple-use pier would not be for commercial use; it would be accessible from the project area by Edgewood guests and the public. As discussed in Impact 5.4.1-2, the relocated and extended pier is not expected to change boating activity in the project area because no new mooring buoys or new boating facilities would be provided. A designated swim area would be roped off along the shore within the limits of the public beach area to protect swimmers from boating activities associated with the relocated pier. Further, people already recreate in the project area and relocating the existing pier would not result in any new risk of exposure to boating hazards. For these reasons, the project-related increased exposure of people to boating hazards would be considered **less than significant**.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.8.2-1	**Expose the Public or Environment to Hazardous Materials.** This impact is the same as Impact 5.8.1-1 described above. Alternative 2 would involve the storage, use and transport of hazardous materials at the project site during construction activities. However, use of hazardous materials at the site would be typical of most construction projects and would occur in compliance with local, state, and federal regulations. Hazardous materials (e.g., fuel, lubricants, fertilizers, and pesticides) stored for long-term use on site would continue to be stored and used in compliance with local, state and federal regulations. There are no nearby sources of hazardous materials or wastes that would pose a significant health risk for people within the project area. Therefore, impacts related to exposure of the public or environment to significant hazards would be **less than significant.**

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-1.

Mitigation Measure

No mitigation is required.

Impact 5.8.2-2	**Create a Safety Hazard to Construction Workers.** This impact is the same as Impact 5.8.1-2 described above for Alternative 1. Demolition, excavation, and construction activities on the project site associated with Alternative 2 could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-2.

Mitigation Measure 5.8.2-2: Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.

See Mitigation Measure 5.8.2-1 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.8.2-2 would reduce the exposure of construction workers to hazardous materials, including asbestos and lead-based paint, to a **less-than-significant** level, because adequate protection measures that comply with applicable regulations would be implemented to protect construction workers.

Impact 5.8.2-3	**Disruption of Public Services.** This impact is the same as Impact 5.8.1-3 described above for Alternative 1. Demolition, excavation, and construction activities on the project site associated with Alternative 2 could result in the disruption of continuous public services, resulting in potentially adverse health and safety effects. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-3.

Mitigation Measure 5.8.2-3: Minimize Loss of Service.

See Mitigation Measure 5.8.1-3 described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measure 5.8.2-3, Alternative 2 would have a **less-than-significant** impact related to the disruption of public services, because necessary steps would be taken to minimize the potential for adverse health and safety effects.

Impact 5.8.2-4	Expose Future Residents to Potential Health Hazard Related to Radon. This impact is the same as Impact 5.8.1-4 described above for Alternative 1. The project site is located in a high radon potential zone, as designated by EPA's Map of Radon Zones for Douglas County. Development of Alternative 2 in this area could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered potentially significant.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-4.

Mitigation Measure 5.8.2-4: Conduct Investigation and Implement Radon Resistant Construction Techniques.

See Mitigation Measure 5.8.1-4 described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measure 5.8.2-4, Alternative 2 would have a **less-than-significant** impact related to potential health hazards of radon exposure, because adequate radon reduction measures would be in place to reduce the radon exposure level below 4 pCi/L.

Impact 5.8.2-5	Increased Risk of Health Hazards From Vector-borne Diseases This impact is the same as Impact 5.8.1-5 described above for Alternative 1. The Douglas County Mosquito Abatement District services the Tahoe area of Douglas County and treats standing water identified as mosquito breeding areas in the project vicinity. Mosquitoes are not a current nuisance on the Edgewood Tahoe Golf Course property and the proposed threshold Improvement projects proposed would improve hydrologic flow, thereby decreasing the amount of standing water existing on the course. No substantial increase in risk of health hazards from vector-borne diseases would occur with implementation of Alternative 2. This would be a less-than-significant impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-5.

Mitigation Measure

No mitigation is required.

Impact 5.8.2-6	**Increased Exposure to Wildland Fire Hazard.** This impact is the same as Impact 5.8.1-6 described above for Alternative 1. The project site is located in a moderate fire hazard area. Alternative 2 would incorporate fire resistant roofs and defensible space, and adequate fire protection services are available to the serve the project. These measures would reduce Alternative 2's potential to increase exposure of people or structures to wildland fires. This would be a **less-than-significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-6.

Mitigation Measure

No mitigation is required.

Impact 5.8.2-7	**Increased Exposure to Boating Hazards.** This impact is the same as Impact 5.8.1-7 described above for Alternative 1. While relocating, reconstructing, and extending the pier at the project site could potentially increase exposure of people to boating hazards, under Alternative 2, no new mooring buoys or boating facilities would be constructed. Further, the swimming area would be roped off at the public beach to protect swimmers from boating activities associated with the pier. Therefore, Alternative 2's potential to increase exposure to boating hazards would be a **less-than-significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-7.

Mitigation Measure

No mitigation is required.

Alternative 3: Maximum Buildout Development (250 Units)

Impact 5.8.3-1	**Expose the Public or Environment to Hazardous Materials.** This impact is the same as Impact 5.8.1-1 as described above for Alternative 1. Alternative 3 would involve the storage, use and transport of hazardous materials at the project site during construction activities. However, use of hazardous materials at the site would be typical of most construction projects and would occur in compliance with local, state, and federal regulations. Hazardous materials (e.g., fuel, lubricants, fertilizers, and pesticides) stored for long-term use on site would continue to be stored and used in compliance with local, state and federal regulations. There are no nearby sources of hazardous materials or wastes that would pose a significant health risk for people within the project area. Therefore, impacts related to exposure of the public or environment to significant hazards would be **less than significant.**

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-1.

Mitigation Measure

No mitigation is required.

Impact 5.8.3-2	**Create a Safety Hazard to Construction Workers.** This impact is the same as Impact 5.8.1-2 described above for Alternative 1. Demolition, excavation, and construction activities associated with Alternative 3 could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-2.

Mitigation Measure 5.8.3-2: Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.

See Mitigation Measure 5.8.2-1 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.8.3-2 would reduce the exposure of construction workers to hazardous materials, including asbestos and lead-based paint, to a **less-than-significant** level, because adequate protection measures that comply with applicable regulations would be implemented to protect construction workers.

Impact 5.8.3-3	**Disruption of Public Services.** This impact is the same as Impact 5.8.1-3 described above for Alternative 1. Demolition, excavation, and construction activities on the project site associated with Alternative 3 could result in the disruption of continuous public services in and around the project site, resulting in potentially adverse health and safety effects. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-3.

Mitigation Measure 5.8.3-3: Minimize Loss of Service.

See Mitigation Measure 5.8.1-3 described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measure 5.8.3-3, Alternative 3 would have a **less-than-significant** impact related to the disruption of public services, because necessary steps would be taken to minimize the potential for adverse health and safety effects.

Impact 5.8.3-4	**Expose Future Residents to Potential Health Hazard Related to Radon.** This impact is the same as Impact 5.8.1-4 described above for Alternative 1. The project site is located in a high radon potential zone, as designated by EPA's Map of Radon Zones for Douglas County. Development of Alternative 3 in this area could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered **potentially significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-4.

Mitigation Measure 5.8.3-4: Conduct Investigation and Implement Radon Resistant Construction Techniques.

See Mitigation Measure 5.8.1-4 described above for Alternative 1. The same mitigation measure would apply.

With implementation of Mitigation Measure 5.8.3-4, Alternative 3 would have a **less-than-significant** impact related to potential health hazards of radon exposure, because adequate radon reduction measures would be in place to reduce the radon exposure level below 4 pCi/L.

Impact 5.8.3-5	Increased Risk of Health Hazards From Vector-borne Diseases This impact is the same as Impact 5.8.1-5 described above for Alternative 1. The Douglas County Mosquito Abatement District services the Tahoe area of Douglas County and treats standing water identified as mosquito breeding areas in the project area vicinity. Mosquitoes are not a current nuisance on the Edgewood Tahoe Golf Course property, and the proposed threshold improvement projects would improve hydrologic flow, thereby decreasing the amount of standing water existing on the course. No substantial increase in risk of health hazards from vector-borne diseases would occur. This would be a less-than-significant impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-5.

Mitigation Measure

No mitigation is required.

Impact 5.8.3-6	Increased Exposure to Wildland Fire Hazard. This impact is the same as Impact 5.8.1-6 described above for Alternative 1. The project site is located in a moderate fire hazard area. Alternative 3 would incorporate fire resistant roofs and defensible space, and adequate fire protection services are available to the serve the project. These measures would reduce the project's potential to increase exposure of people or structures to wildland fires. This would be a less-than-significant impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-6.

Mitigation Measure

No mitigation is required.

Impact 5.8.3-7	**Increased Exposure to Boating Hazards.** This impact is the same as Impact 5.8.1-7 described above for Alternative 1. While relocating, reconstructing, and extending the pier at the project site could potentially increase exposure of people to boating hazards, under Alternative 3, no new mooring buoys or boating facilities would be constructed. Further, the swimming area would be roped off at the public beach to protect swimmers from boating activities associated with the pier. Therefore, Alternative 3's potential to increase exposure to boating hazards would be a **less-than-significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.8.1-7.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the project area would remain in its current state and existing operation of the golf course, clubhouse and restaurant would be projected into the future. The continued operation of these facilities would involve the storage, use and transport of hazardous materials at the project site. Hazardous materials (e.g., fuel, lubricants, fertilizers, and pesticides) stored for long-term use on site would continue to be stored and used in compliance with local, state and federal regulations. There are no nearby sources of hazardous materials or wastes that would pose a significant health risk for people within the project area. Therefore, impacts related to exposure of the public or environment to significant hazards would be **less than significant.** Because no demolition, construction, or site improvements would occur, Alternative 4 would have no impact related to safety hazards for construction workers; disruption to public services; or increase hazards or health hazards related to exposure to radon, vector-borne diseases, exposure to wildland fire, or increased boating hazards.

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5.9 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

This section considers the effects of the Edgewood Lodge and Golf Course Improvement Project on prehistoric and historic-era cultural resources located within the project area boundaries. This analysis (1) describes the criteria for determining archaeological and historical significance; (2) provides an inventory of known archaeological and historical resources within the project area; (3) summarizes previous archeological investigations; and (4) evaluates the potential project impacts to archaeological and historical resources and identifies mitigation measures that would reduce those impacts to less-than-significant levels.

The section summarizes the details of the comprehensive *Edgewood Lodge & Golf Course Improvement Project Inventory and Evaluation Report* prepared for the proposed project by Susan Lindström, Ph.D., Consulting Archaeologist and Judith Marvin, Architectural Historian. This report involved: (1) prefield research (including the required records search at the Nevada State Museum and the Nevada Office of Historic Preservation); (2) consultation with the Washoe Tribe; (3) an intensive archaeological field reconnaissance to identify and record heritage resources; (4) significance evaluations of recorded heritage resources as per federal and TRPA guidelines and recommended determinations of their eligibility to the National Register of Historic Places; (5) an assessment of potential project impacts and recommended measures to mitigate those impacts; and (6) presentation of these findings in a stand-alone final technical report. This report is included in Appendix I (the confidential appendix materials have been excluded) to this EIS. TRPA has submitted this report to the Nevada State Historic Preservation Office for concurrence.

5.9.1 REGULATORY BACKGROUND

FEDERAL

Project-related actions are subject to compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800), as amended. Because project development may involve the waters of the United States, the end product of environmental review may require review and permitting from the U.S. Army Corps of Engineers (USACE). Accordingly, a heritage resource study also needs to comply with USACE regulations under Section 106 of the NHPA. Section 106 constitutes the main regulatory framework guiding the cultural resource investigation conducted for the proposed project and requires the project applicant to consider the effects of its actions on properties that are listed in or may be eligible for listing in the National Register of Historic Places (NRHP).

Administered by the National Park Service, Department of Interior, NRHP properties include all National Historic Landmarks, as well as other districts, sites, buildings, structures, objects significant and American History, architecture, archaeology, engineering and culture at the local state and national level. In Nevada, nominations to the NRHP are first submitted to the Nevada State Historic Preservation Office (SHPO) in Carson City for review by the SHPO and the History and Museum Board of Directors. With their approval it is forwarded to the Keeper of the NRHP in Washington D.C.

The regulations provided in 36 CFR Part 60.4 describe the criteria for evaluating heritage resources for inclusion on the NRHP. A determination of significance is commonly based upon the criteria of significance as established by the NRHP. Important considerations in these criteria focus upon a heritage property's research potential, uniqueness and integrity (relative to other cultural resources similar in kind). A district, site, building, structure, or object must generally be at least 50 years old (unless it is an "exceptional" younger property) to be eligible for consideration as a historic property. The property must be associated with the era that has been designated as "significant." Properties that may not be individually eligible for listing on the NRHP could meet the criteria of eligibility if such properties are integral parts of an eligible district. The criteria listed below provide legal and

professional guidelines. These criteria may be applied at the local, state, and/or national level. Heritage properties are equally important at all three levels.

- Criterion A. A heritage resource may be significant if it is associated with an important historical **event** or theme and retains sufficient data needed to study and/or interpret this event or theme.
- Criterion B. A heritage property is potentially significant if it is associated with the lives of important historical **personalities**.
- Criterion C. A heritage property must embody the **distinctive characteristics** of a type, period, or method of construction, or that it possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction. In this regard, a heritage property should represent the typical technology/engineering of a significant era or possess a special or particular quality such as oldest, best example, largest, or last surviving example of its kind.
- Criterion D. A heritage property must have yielded, or may be likely to yield, **information** important in history, in that it can provide critical data that is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable research questions. Furthermore, a heritage property should involve important research questions that historical research has shown can be answered only with archaeological methods, hence further warranting preservation of physical remains.

A property must be associated with one or more **events** important in the history or prehistory in order to be considered for listing under Criterion A. Additionally, the specific association of a property, itself, must also be considered significant. Criterion B applies to properties associated with **individuals** whose specific contributions to the history can be identified and documented. Properties significant for their **physical design or construction** under Criterion C must have features with characteristics that exemplify such elements as architecture, landscape architecture, engineering, artwork, or a district. Criterion D most commonly applies to properties that have the potential to answer, in whole or in part, important research questions about human history that can only be answered by the actual physical materials of cultural resources. A property eligible under Criterion D must demonstrate the potential to contain **information** relevant to the prehistory and history on the local level, particularly the history of Nevada and/or Douglas County, as well as the regional or national level.

To be listed in the NRHP, a property must not only be shown to be significant under one or more of these criteria, but it must also have integrity. The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. In other words, the property must remain in its original location and retain the ability to convey its historic associations. Its design must be in conformance with the original construction plan and without significant alterations or cumulative loss of features during the past 50 years. The materials should be original and repairs should incorporate in-kind materials so that the property retains evidence of the original workmanship. The setting should be relatively free of modern day intrusions. A property that is clearly visible and interpretable should evoke a strong sense of feeling when viewed by contemporary observers. To possess integrity a resource must retain sufficient physical character, with key aspects present, so that it conveys an association or connectedness with historic patterns, persons, designs, or technologies.

The National Register Bulletin (Appendix I) also provides guidance in the evaluation of archaeological site significance. If a heritage property cannot be placed within a particular theme or time period, and thereby lacks “focus,” it is considered not eligible for the NRHP (Appendix I). In further expanding upon the generalized NRHP criteria, evaluation standards for linear features (such as roads, trails, fence lines, railroads, ditches, flumes, etc.) are considered in terms of four related criteria that account for specific elements that define engineering and construction methods of linear features: (1) size and length; (2) presence of distinctive engineering features and

associated properties; (3) structural integrity; and (4) setting. The highest probability for NRHP eligibility exists within the intact, longer segments, where multiple criteria coincide.

TAHOE REGIONAL PLANNING AGENCY

In compliance with federal law, TRPA has adopted guidelines to determine heritage resource significance in the Lake Tahoe Basin. Section 67.6 of the TRPA Code states that for sites, objects, structures, districts or other resources of historical, cultural, archaeological, paleontological, or architectural values to be considered significant (a "historic resource") on a local, regional, state-wide, or national level, they must meet at least one of the following criteria:

- Resources associated with historically significant events such as an important community function in the past, a memorable happening in the past, or that which contains qualities reminiscent of an early stage of development in the region (Subection 67.6.1 of the TRPA Code).
- Resources associated with significant persons include buildings or structures associated with a locally, regionally, or nationally known person, notable examples or best surviving works or a pioneer architect, or structures associated with the life or work of significant persons (Subsection 67.6.2 of the TRPA Code).
- Resources embodying distinctive characteristics include those resources of a distinctive type, period, or method of construction, possessing high artistic values, or representing a significant or distinguishable entity (Subsection 67.6.3 of the TRPA Code).
- Resources that are state or federally protected are archaeological or paleontological resources protected or eligible for protection under state or federal regulations (TRPA 1991) (Subsection 67.6.4 of the TRPA Code).

Prehistoric archaeological or paleontological resources that contribute to the knowledge and understanding of early cultural or biological development (Subsection 67.6.5 of the TRPA Code).

REGIONAL PLAN

The Regional Plan, initially adopted in 1987, includes relevant documents that address archaeological and historical resources including the Goals and Policies and Code of Ordinances, as described below.

Goals and Policies

The Goals and Policies of the Regional Plan establish an overall framework for development and environmental conservation in the Lake Tahoe region. Chapter IV, "Conservation Element," of the Goals and Policies document addresses historical, cultural and architectural resources within the region as follows.

- **Goal 1:** Identify and preserve sites of historical, cultural, and architectural significance within the region.
  - **Policy 1**. Historical or culturally significant landmarks in the basin shall be identified and protected from indiscriminate damage or alteration.
  - **Policy 2**. Sites and structures designated as historically, culturally, or archaeologically significant shall be given special incentives and exemptions to promote the preservation and restoration of such structures and sites.

The proposed project's consistency with the relevant goal and policies of the Conservation Element are evaluated in Section 5.2, "Land Use."

Code of Ordinances

TRPA has adopted guidelines for the identification, recognition, protection, and preservation of the region's significant cultural, historical, archaeological, and paleontological resources as listed in Chapter 67 of the Code

of Ordinances (Code). For projects that have the potential to affect these resources, Sections 67.3.2, 67.4 and 67.5 of the TRPA Code require a site survey by a qualified archaeologist, provide for their designation as heritage resources, and require consultation with the Washoe Tribe. Provisions for a report documenting compliance with the TRPA Code are contained in Section 67.7.

DOUGLAS COUNTY

The 2006 Douglas County Master Plan (DCMP) (Douglas County 2007) provides long-range guidance for numerous programs related to planning activities in the county including protection of cultural resources. The DCMP includes a single goal that relates to the management and protection of cultural resources.

- **Goal 6.01.** To preserve Douglas County's historic, cultural, and archaeological resources as physical reminders of the County's past and as unique focal points to shape the County's identity, now and in the future. Policies applicable to the proposed project are as follows:
  - **Policy 6.01.01**. Douglas County shall support, whenever feasible, the preservation of the County's rich cultural heritage, including the establishment of historic districts to protect significant historic properties.
  - **Policy 6.01.02**. Douglas County will cooperate and encourage the development of historical preservation efforts of the towns, the Washoe Tribe, and other entities in the County.
  - **Policy 6.01.07**. Douglas County will coordinate with the Washoe Indian Tribe in the identification and preservation of structures and sites of cultural or archaeological significance. Developments proposed in areas of potential archaeological significance shall be required to conduct an investigation in order to determine whether valuable archaeological remains may be affected by the project.

Regarding the goals of local Native American groups, the county's master plan also addresses the goals and policies of the Washoe Tribe Comprehensive Master Plan (1994) and in response the following goal and policy has been adopted.

- **Goal 3.01**. Douglas County should cooperate and work toward the mutual attainment of the goals of each entity's Master Plan.
  - **Policy 3.01.01.** Douglas County shall continue to coordinate with the Washoe Tribe regarding planning issues and seek formal agreements as to land use, economic development, transportation, and other common issues to provide for attainment of Master Plan goals.

A draft update of the DCMP was released in November 2011, and approved at the January 5, 2012 County Board of Commissioners (Commissioners) meeting. However, the DCMP has not been finalized to reflect the requested changes of the Board. It may be several months before the updated is finalized. Because the DCMP update has not yet been finalized, the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

5.9.2 AFFECTED ENVIRONMENT

ENVIRONMENT

The project area lies in the Carson Range, an outlier of the Sierra Nevada mountains. Project elevations range from 6,320 feet near Friday's Station down to lake level at 6,225 feet. Edgewood Creek and its tributaries drain the project area westward into Lake Tahoe. Landforms are characterized as depositional outwash and lake deposits.

The project area includes many plants and animals of economic importance to the prehistoric and historic occupants of the area. However, it is doubtful that modern plant and animal communities closely resemble their pristine composition due to historic and modern disturbance involving historic logging, transportation, and recreation activities, and more recent commercial/residential development. During prehistoric times the area is thought to have supported a luxuriant growth of native bunch grasses which allowed an abundant large game population and provided a nutritious source of seeds for use by early peoples. Tributaries to Lake Tahoe, such as Edgewood Creek, were once considered prime fisheries of the prehistoric Washoe and historic Euroamerican residents (Appendix I).

PREHISTORY

In broadest terms, the archaeological signature of the Tahoe Basin marks a trend from hunting-based societies in earlier times to populations that were increasingly reliant upon diverse resources by the time of historic contact (Appendix I). The shift in lifeways reflects the adaptive strategies used in prehistory to cope with changing environments, a shifting subsistence base, demographic change, and evolving social dynamics.

Current understanding of northern Sierra Nevada and western Great Basin prehistory is framed within a hypothetical sequence spanning nearly 12,000 years of environmental change and human adaptation. The archaeological phenomena are organized into five time periods, as follows (Appendix I):

- The earliest recognized period in western Great Basin prehistory, from ca. 11,500 to 10,000 before present (B. P.), is marked by the presence of fluted projectile points found along the shores of shallow Late Pleistocene/Early Holocene lakeshores.
- Pre-Archaic sites date from 10,000 to ca. 7,000 B. P. and cluster around lakeshores, river terraces, and high ground above valleys. The localized archaeological record suggests that following the retreat of Sierran glaciers, prehistoric populations began to occupy the Tahoe Sierra by at least 8,000 to 9,000 years ago during the Tahoe Reach Phase. Climates warmed and dried rapidly, although conditions remained relatively cool and moist. The earliest archaeological evidence of human presence in the region is found at South Lake Tahoe along Taylor Creek and along the Truckee River near Squaw Valley. Early populations around Tahoe are represented by scant occurrences of isolated projectile points (large stemmed, edge-ground projectile points of the Great Basin Stemmed series), typically manufactured from a local banded metamorphic toolstone (gneiss) that was procured from a stone quarry on Tahoe (Gardner's) Mountain at South Lake Tahoe. Populations were highly mobile in the pursuit of large game animals.
- The Early Archaic Period (or Spooner Phase ca. 7,000 to 4,000 B. P.) begins with a mid-Holocene warming trend, during which lakes and marshes receded, and drought-tolerant vegetation communities expanded. Drying lowlands may have prompted sparse populations to travel into upland resource zones like the Tahoe Basin to hunt and fish and gather plants. Archaeological sites dated to the Early Archaic are rare and no diagnostic projectile point types have been identified until ca. 5,000 B. P., which is when the Martis Contracting Stem and Martis Split Stem atlatl dart points appear.
- Late Holocene archaeology, beginning with the later Early Archaic, is better known and Late Holocene chronologies are well developed. Populations appear to be on the rise. The Early Archaic at this time is characterized by Martis Contracting Stem and Martis Split Stem points and diversified land use, with large sites located near permanent water. Big game hunting continued supplemented by intensified seed processing and storage.

  Late Holocene climate (after ca. 4,000 B. P.) saw a trend toward cooling and increased moisture. Population densities increased and more intensive prehistoric use of the Tahoe Sierra began during this period, as mixed-mode foragers-collectors moved into the highlands on seasonal gathering, fishing, and hunting

forays. The Middle Archaic Period begins at about 4,000 years ago, during the Early Martis Phase, and continues through the Late Martis Phase to ca. 1,300 B. P. The Martis Contracting Stem and Martis Split Stem points reflect an early aspect of the Middle Archaic, but Martis Corner-notched and Elko Eared projectile points (ca. 3,000 to 1,300 B. P.) are the predominant Middle Archaic time markers. A hallmark of Middle Archaic prehistoric culture in the Tahoe Sierra is the use of basalt in the manufacture of stone tools and production of large bifaces.

- The Late Archaic Period spans about 1,300 years ago to historic contact. This period is marked by an overall drying trend, punctuated by cool-moist episodes alternating with extended severe drought that lasted until about 500 years ago. Such extreme climatic fluctuations may have allowed for year-round residence in the Tahoe highlands at some times and prohibited even seasonal occupation at other times. Throughout the Late Archaic, prehistoric populations continued to rise, as reflected archaeologically in more intensive use of all parts of the Tahoe environment and a greater emphasis on plants, fish and small game. The early half of this period (Early Kings Beach Phase ca. 1,300 to 700 B. P.) is characterized by Rose Spring series arrow points and the later half (Late Kings Beach Phase; ca. 700 – 150 B. P.) is marked by Desert Side-notched and Cottonwood arrow points. The bow and arrow (with emphasis on core/flake technology) replaced the atlatl and dart (and production of large bifaces). This period has been associated with the Washoe Indians. It is estimated that the prehistoric Washoe had one of the highest population densities in the western Great Basin. Relatively high estimates are attributed to the bountiful environment in which they lived. Historic declines in Washoe population and traditional resource use were caused by disruptions imposed by incoming Euroamerican groups. The Washoe regard all “prehistoric” remains and sites within the Tahoe Basin as associated with their own history.

PALEONTOLOGIC SETTING

A review of the *Geologic Map of the Lake Tahoe Basin* (Saucedo 2005) indicates that the project site is located within an area with Pleistocene-age (11,000 to 1.8 million years B. P.) lacustrine terrace deposits, older beach deposits, and alluvium and Holocene-age (10,000 years ago to present) floodplain deposits, beach deposits, and alluvium.

The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled (such as for a research project). Marine invertebrates are generally common; the fossil record is well developed and well documented, and they would generally not be considered a unique paleontological resource. Identified vertebrate marine and terrestrial fossils are generally considered scientifically important because they are relatively rare.

A review of the U.C. Berkeley Museum of Paleontology (UCMP) database indicates there are no recorded fossil sites in the vicinity of the project area (UCMP 2012). The UCMP database indicates that no Pleistocene-era fossil sites have been recorded within Douglas County, Nevada.

WASHOE HISTORY

WASHOE TERRITORY

The project area falls within the center of Washoe or *Wa She Shu* territory (Appendix I). Overall, there was extensive interaction among the Washoe and their neighbors, engaging in cooperative practices of trade, inter-visiting and intermarriage among the Pyramid Lake and Walker River Paiute, the Miwok and the Maidu. This strategic geographical position afforded the Washoe an opportunity to transfer a number of trade goods between the Great Basin and California.

At the time of "contact" (ca. 1840s with the onset of incoming Euroamericans), the Washoe homeland encompassed Lake Tahoe and the east side of the Sierra Nevada to its crest, being bounded by Honey Lake on the north, Walker River on the south and the Pine Nut Mountains on the east (Appendix I). Residency was marked by the presence of domestic camps exhibiting permanent site "furniture" such as bedrock milling features, by fishing structures such as platforms above a stream, and by a landscape where plant resources were modified by on-going horticultural practices.

The project area was most likely frequented by the southern Washoe of Woodfords and Markleeville (Appendix I).

Place Names

Lake Tahoe was both the spiritual and physical center of the Washoe world, referring to it as *Da ow a ga*, which means "edge of lake." The Washoe word, *Da ow* and mispronounced by whites as "Tahoe", gave rise to the lake's modern name. Several Washoe encampments have been reported in the project vicinity, including a Washoe camp site, *lamwO'tha* (*lam* = mortar; *wO'tha* = river), on the lower reaches of Burke Creek (located north of Edgewood Creek). Another Washoe encampment has been reported along the lower reaches of Edgewood Creek and within the project area. This site was marked by a complex of bedrock milling features, but they have subsequently been destroyed by construction of the Edgewood Tahoe Golf Course (Appendix I).

The annual trek to Lake Tahoe by the Washoe and their ancestors to fish, hunt and gather plants has been well established. These aboriginal trek routes, patterned after game trails, are often the precursors of our historic and modern road systems. Every summer Washoe families revisited base camps that were commonly centered on fishing territories claimed along productive streams. Neither Burke Creek nor Edgewood Creek are included in the top 10 list of Washoe fisheries (Appendix I).

Contact Period

By the 1850s Euroamericans had permanently occupied Washoe territory and changed traditional lifeways. Mining, lumbering, grazing, commercial fishing, tourism, and the growth of settlements disrupted traditional Indian relationships to the land. As hunting, fighting, and gathering wild foods were no longer possible, Washoes were forced into dependency upon the Euroamerican settlers and Washoe individuals and family groups developed close relationships with their "white employers" as a strategy for survival (Appendix I). Throughout the last quarter of the 19th century and until the end of World War I, Washoes became increasingly involved in the Euroamerican economy, surviving by trading goods and services to the dominant Euroamerican population. In exchange, Washoes arranged for camping privileges on traditional lands with access to what resources remained. Traditional plant management continued on the fringe of "white" settlements, but on a reduced scale.

Throughout this contact period, Washoes responded to "white" incursions with a strategy of accommodation and negotiation voiced through a steady stream of protests and petitions to government officials. Beginning in 1917, the Washoe Tribe began acquiring back a small part of their traditional lands were awarded small tracts of land in Nevada on which to establish residential "colonies", although the Tribe was not federally recognized until 1936. The Tribe filed a case with the Indian Land Claims Commission (Docket 288) in 1951, which was not settled until 1970 when they were awarded five million dollars as compensation for their loss of resources and real estate within a traditional territory that may have covered over 10,000 square miles (including all of the Lake Tahoe Basin). Even into the 21st century, the Washoe have not been displaced from their traditional lands. They remain as a recognized tribe by the U.S. government and have maintained an established land base. Its 1,200 tribal members are governed by a tribal council. Today, the Washoe have developed a Comprehensive Land Use Plan that includes

goals of reestablishing a presence within the Lake Tahoe Basin and re-vitalizing Washoe heritage and cultural knowledge, including the harvest and care of traditional plant resources and the protection of traditional properties within the cultural landscape (Appendix I).

EUROAMERICAN HISTORY

EXPLORATION AND EARLY SETTLEMENT

Aside from a few trappers and probably some adventuresome miners moving east from the foothills, the Tahoe Basin was essentially uninhabited following its first sighting by Fremont in 1844. It is doubtful if there was any permanent settlement of any significance up to the time of the Comstock, other than a few trading posts or inns in Lake Valley which catered to early emigrants during the later 1850s.

Lake Tahoe was an important point of observation in the California-Nevada boundary survey. The Edgewood project is bounded on the south by the California/Nevada state boundary. Events surrounding the controversial survey of the state line in the Tahoe region are summarized in Appendix I. In 1899 the state line through Tahoe was resurveyed for the fourth and last time. Numerous boundary markers were set as part of these various surveys.

TRANSPORTATION: COMMERCIAL OVERLAND AND AUTOMOBILE

The project site falls within a historic corridor of travelways along Lake Tahoe's south shore involving at least four generations of travel: (1) the Emigrant Trail; (2) the Placerville-Carson System/Bonanza Road/Lake Tahoe Wagon Road; (3) the Lincoln Highway; and (4) U.S. 50. The U.S. 50 corridor (although not part of the project) bisects the project site and the historic Lincoln Highway traverses through the portion of the project area east of U.S. 50 (Appendix I).

The developments in transportation opened the door for permanent settlement on the south and east shores of Lake Tahoe and for the development of the Tahoe Basin in the 19th century, just as it has paved the way for its explosive expansion in the 20th century (Appendix I). The network of roadways established during the early Emigrant Era and subsequent Comstock Era was later integrated into the trans-Sierra highway system. Subsequent technological developments and road improvements frequently overlay earlier routes.

Emigrant Era (1850s)

The earliest component of the Placerville-Carson road system was the Emigrant Trail. It may have passed through the Edgewood project area although no original physical evidence remains (Appendix I). Originally laid out in 1852 as the "Johnson's Cutoff," the trail traversed south Tahoe and connected Placerville with the Carson Valley (Eagle Ranch) via Echo Summit (Johnson Summit) on the west and Spooner Summit (Eagle Pass or Eagle Ranch Pass) on the east. That portion of Johnson's Cut-Off that crossed the Carson Range between Friday's Station and the Carson Valley was known as the Carson Emigrant Ridge Road. By 1860 the segment of the Johnson's Cut-Off between Stateline and Eagle Valley and by way of Spooner Summit was abandoned in favor of the route over Luther Pass and the West Carson River Canyon (Appendix I).

Wagon and Stage Toll Road Era (1860s-1870s)

Kingsbury Grade (SR 207)

The route up Kingsbury Grade and over Daggett Pass was once a major Indian trail (Appendix I). The opening of the Kingsbury Grade over Daggett Pass shortened the Placerville-Carson route considerably. For the first time traffic was brought to the lake itself, thereby encouraging the development of way stations and stops and

supporting agricultural and livestock enterprises in the adjoining meadows. The new wagon road climbed from Carson Valley to the summit of Daggett Pass and dropped down to Friday's Station, on the Lake Tahoe's southeast shore. The first Pony Express rider crossed the Sierra by way of the new Kingsbury Grade on April 18, 1860. This portion of the Placerville-Carson route thereafter became the scene of some of the most spectacular rides in the brief history of that hazardous and expensive service. John A. ("Snowshoe") Thompson also carried mail over this route on skis. The construction of Kingsbury Grade was completed in 1862.

Present-day State Route 207 (SR 207) was earlier referred to as SR 19. It was a gravel road until 1959 when Douglas County paved the entire road, completing the work by 1962. This enhanced winter access to Tahoe's developing ski industry and serviced subdivision development in the Kingsbury Grade area. During the late 1960s and early 1970s, major improvements and some alignment changes were made by the Nevada Department of Transportation (NDOT) east of the Daggett's Pass. It was not until 1973 that the Federal Highway Administration (FHWA) commenced a program of minor improvements west of the summit. Road maintenance was the responsibility of Douglas County until 1977, after which time NDOT took over responsibilities in order to meet the increased demands for an all-winter road.

Placerville-Carson Route/Lincoln Highway/U.S. 50

Originally laid out in 1852 as the Johnson Cutoff, it was later known as the original dirt "Lake Road", the Placerville/Lake Tahoe Road, the Lake Bigler (Tahoe) Toll Road, the Lakeshore Turnpike, the Lincoln Highway, and then U.S. 50. Today's U.S. 50 runs in comparable alignment with the historic road, passing through (and later near) Friday's Station. The Lake Bigler Toll Road, constructed and initially operated as a territorially licensed franchise, was the last and finest link in the Placerville-Carson road system. The road was completed in August of 1863 and by the spring of 1864 this new arterial had channeled freight traffic away from Kingsbury Grade and Daggett Pass northward along Tahoe's east shore, just as the Kingsbury Grade before had diverted the Luther and Carson Pass travel (Appendix I).

Way Stations and Inns

Along the Placerville-Carson route hostelries, way stations, and inns were established to provide the services required by travelers. Small-scale ranching and farming endeavors developed in support of the local economy. The area along the lakeshore road between Glenbrook and Friday's Station was described as a "checkerboard of wheat, barley fields and orchards adjoining the road on either side" (Appendix I). One of the area's first stations was started in the early 1860s by Martin K. "Friday" Burke and James Small.

Burke and Small preempted 320 acres near the southeast shore of Lake Tahoe at present-day Edgewood. They built a log cabin near Edgewood Creek and along an improved Washoe trail that wound along the lakeshore toward Cave Rock and Glenbrook. The partners had chosen their location wisely, being centrally located on the Placerville-Carson route at the point where the Carson Emigrant Ridge road left the lake for Spooner Summit and near the trail junction connecting with the pack trail leading eastward over Daggett Pass. Meadowland stretched to the lake and Edgewood Creek and a spring supplied water.

In April of 1860, Burke and Small obtained a franchise to operate Friday's as a Pony Express station and it became one of the most important horse change and remount stops on the run. It was the home station of "Pony Bob" Haslam, one of the most notable riders, who is accredited the fastest run and the longest ride by a single rider in the short life of the Pony Express. "Pony Bob" was the first rider to cross the Sierra on the Kingsbury Grade road. The short-lived Pony Express was discontinued with the completion of the transcontinental telegraph system. Mail was still carried overland by coach via the same route and Friday's continued to serve as a way station for the Pioneer Stage Lines and the hundreds of Washoe wagons and freighters.

Burke and Small were also granted a franchise to operate the western section of the Kingsbury and McDonald Toll Road from their Friday's Station to Yank's and Osgood's in present-day Meyers (largely following present-day Pioneer Trail). Their station was a "home" station for James McLane's and Wells Fargo's Pioneer Stage Lines Concord coaches and six-horse teams (Appendix I). The accommodations of a one-room log cabin were augmented by the addition of a two-and-one-half story frame hostelry and outbuildings. Friday's Station housed 25 lodgers in the main building and an equal number of teamsters and stage drivers in the outlying cabins. Their horse-change stable and hay barn was one of the largest in the west at the time. Running water was piped to the buildings from the spring in 10-inch crudely hollowed-out logs.

Friday's Station prospered and expanded along with the other hostelries on this road. Tolls collected by Burke and Small were up to $1,500 a day at the crest of the summer traffic. In the years 1861 through 1863, the traffic doubled and then tripled.

In 1863, when the Kingsbury Grade was superseded by the still shorter Lake Bigler Wagon Road, Friday's remained as a key station. Reduced business with the completion of the transcontinental railroad forced Burke and Small to divide their land interests in 1871. Burke deeded the site of Friday's Station to Small. This included 400 surrounding acres running from Lake Tahoe across the meadow and flanking the Kingsbury Grade. A small sawmill was reportedly operated by Small near Friday's Station. Burke took the remaining 520 acres stretching north from Friday's Creek to Round Hill and including 1.5 miles of lakefront. With this transaction, Friday's Station was now more commonly called "Small's" or the "Old Friday Ranch." During the 1870s and 1880s, it served as an early Lake Tahoe resort, operating under the name "Buttermilk Bonanza Ranch." In July of 1872, Small sold 280 acres of land located 1 mile up the grade to Charles P. Young from Genoa for $350.00. In 1885, "Doc" Small took over active management of the ranch from his brother James. Three years after the "Doc" Small family settled at "Small's" they sold 130 acres of their land to John Wales Averill, who also operated a meat market in conjunction with a dairy. It was Averill who in 1888 named the site "Edgewood." After Averill's death in 1897, his widow sold the land to David Brooks Park of Mottsville, Nevada. The Park family retained the name Edgewood. In 1957, reduced acreage located on both sides of U.S. 50 was under the ownership David Wallace Park, D. B. Park's son. Today the Park family still owns Friday's Station, Edgewood Tahoe Golf Course, and property occupied by some of the Stateline casinos (Appendix I).

Automobile Era (1910s to present)

The network of roadways established during the era of freight and wagon toll roads was later integrated into the trans-Sierra highway system. The first automobiles began traveling to the Lake Tahoe Basin on rudimentary roads around 1910. Automobile roads in the basin generally date after this time and they were designated by the Federal Highway Administration (once the Bureau of Highways) and the Nevada Department of Transportation (NDOT). Both California and Nevada became heavily involved in road construction during the 1920s and the first auto loop encircling the Lake Tahoe Basin was completed in August 1925. By the 1930s the roads to the Tahoe Basin from both California and Nevada were paved.

The Lincoln Highway (1913-1925)

In 1913, selected roadways within the old Bonanza Road system over Spooner Summit were designated as sections of the Lincoln Highway, the nation's pioneer transcontinental auto road. The Lincoln Highway concept was conceived in 1913 by the Lincoln Highway Association, in collaboration with the fledgling auto industry and its various support enterprises. Highway plans entailed the development of a continuous, connecting, improved road from the Atlantic to the Pacific which joined New York and San Francisco, a distance of 3,331 miles (Appendix I). The auspicious goal to complete a transcontinental road in hard-surfaced material and marked by signage for its entire length required a long-term effort by both state and local governments and private groups. Motorists traveling west along the "Wishbone Route" of the Lincoln Highway and reaching Reno or Carson City, had a choice of two roads over the Sierra Nevada. The southern branch of the Lincoln Highway headed west via

South Lake Tahoe, Placerville, and Sacramento. The northern portion of the route crossed the Sierra by way of Truckee and Donner Pass and then headed to Sacramento via Auburn.

The route through the Tahoe Basin largely followed the original route of the old Lake Tahoe Wagon Road (Appendix I). Despite its designation as part of the first transcontinental auto road, improvements or alterations to the original wagon road grade were minimal, consisting only of basic maintenance. Initially no monies were allotted to fund the concept of a transcontinental highway and Lincoln Highway status did not directly result in supporting funds for new road construction or reconstruction. The "Lincoln Highway" designation was simply applied to the existing Lake Tahoe Wagon Road corridor and it continued to be a reused as a graveled wagon road until about 1927, when segments were paved as part of "old" U.S. 50 (Appendix I). However, the notoriety achieved from such a designation did motivate some state and local government a private groups to improve road segments within the Lincoln Highway system. Funding of Nevada projects by the Lincoln Highway Association was terminated in 1924 and by 1925 the Lincoln Highway was incorporated into U.S. 50.

In 1925, the federal government adopted a numbering system for its highways, and as a result, named highways gradually fell out of fashion. After the establishment of the Nevada Department of Highways, the Lincoln Highway was given a state designation and incorporated as part of Route No. 3, along with an assortment of other roads in western Nevada. With the onset of World War I, the new Department of Highways was not able to initiate upgrades on the road system; instead efforts were spent on planning and maintenance of existing roads. Up to this time, Lincoln Highway Association funds had not been used for any part of Route 3 and an additional source of potential funding for the Lincoln Highway came in 1923, when the section of Route 3 between Glenbrook and Stateline was included into the State of Nevada Forest Highway System as the "Glenbrook National Forest Highway" (Appendix I).

U.S. 50 (1925 to present)

Ultimate transformation of the old Lincoln Highway into the improved U.S. 50 further enhanced general accessibility to automobile tourism, especially along Tahoe's south shore. By 1928, some segments of the old Lincoln Highway between Carson City and Glenbrook were paved over and between 1929 and 1930 the U.S. Bureau of Public Roads (USBPR) had constructed several sections of the Forest Highway System in the project vicinity. Funds allocated from the National Industrial Recovery Act prompted a boom in state highway construction in 1933, and by 1934 the Forest Highway along the east side of Lake Tahoe was completed. Between 1934 and 1936 the road surface between Carson City and Stateline was upgraded to "roadmix" asphalt (Appendix I). In 1934, the Department of Highways acquired right-of-way for the construction of a relocated alignment of U.S. 50, which is where the present alignment exists today.

By the mid-1950s when federal aid for highway projects once again became available, state officials initiated large construction undertakings in the Lake Tahoe area. Expansion of the modern U.S. 50 corridor in 1957 prompted the abandonment of segments of the "old" US 50 pavement and precursor dirt wagon roads on both sides of Spooner Summit (Appendix I).

Changing Technology

Typical road construction in the 1920s consisted principally of grading, gravel surfacing, and the installation of drainage controls. In order for road prisms to maintain more moderate gradients and allow for faster travel, routing was sometimes straightened by the construction of moderate cuts and fills and curves were slightly banked. Oftentimes, gravel subgrades to support heavier autos and trucks were sometimes surfaced with asphalt paving. Road profiles were slightly crowned to facilitate moisture run-off. Road widths were typically 24 feet wide to allow for two lanes of traffic, with right-of-way widths of 66 to 80 feet. Nevada highway documents from the 1920s refer to the Lincoln Highway as a graveled county road. By the end of its existence as the main travelway, highway plans indicate it had been bladed to a width of about 18 to 20 feet, sufficient to allow two cars to pass easily at any point.

"Old" U.S. 50, constructed in 1927-1928, was the first road in the region specifically engineered for relatively fast automobile traffic into the Tahoe Basin and over Spooner Summit. Automobiles traveled at much higher speeds than earlier horse-drawn wagons, requiring the construction of more sweeping curves and lanes from 20 to 36 feet wide. The advent of heavy, power-operated equipment allowed for cut-and-fill construction in rougher terrain. Characteristics of the old two-lane U.S. 50 are distinctive as an intermediate level of engineering between the earlier automobile and wagon roads and the new four-lane version of U.S. 50 that replaced "old" U.S. 50 in the later 1950s. Modern engineering standards accommodated even higher traffic speeds and increased truck traffic. Rights-of-way were up to 200 feet wide. Modern U.S. 50 incorporates more straight stretches of roadway than "old" U.S. 50 and some of the curves once present along "old" U.S. 50 were abandoned when current U.S. 50 was constructed.

A schematic rendition of the historic road corridor that was later to become the Lincoln Highway and U.S. 50 appears on several maps. The earliest maps date from 1861-1865 (Figures 4 and 5 in Appendix I); U.S. Geological Survey (USGS) quadrangles date from 1889 (Figure 6 in Appendix I); and early U.S. Forest Service (USFS) maps begin in 1914. On a later U.S. Bureau of Land Management survey plat dating from 1952 (February 18, 1954) the ultimate route of US 50 finally appears. The 1955 USGS 15 minute quad clearly depicts the divergence of both routes – the Lincoln Highway and U.S. 50. On modern USGS quadrangles, the route of the Lincoln Highway is obscured in the vicinity of Friday's Station.

COMMERCE AND INDUSTRY: LUMBERING

The Comstock could not have attained its level of complexity without adequate sources of water and wood that were supplied by the Tahoe Basin. Historic lumbering in the Lake Tahoe Basin furnished timber, lumber, and cord wood for the Comstock mines.

Sierra Nevada Wood and Lumber Company

Several major lumber companies operated within the Tahoe Basin. Each developed an impressive network of sawmills, railroads, tramways, flumes, and rafting operations that were designed to cut and move the lumber over the Tahoe rim and down to the mines of Washoe and markets along the transcontinental railroad. All acquired vast tracts of timber land in California and Nevada, buying out small holders and employing nominee buyers. Lands were logged until the mid to late 1890s when the decline of timber forced lumber operators elsewhere. The Sierra Nevada Wood and Lumber Company (SNW&LCo) was the primary large operator in the project vicinity. Run by W. S. Hobart and S. H. Marlette, the company cut in the northern and northeastern section of the Tahoe Basin inland from Crystal and Agate Bays and also had timber holdings in the southeastern corner of the basin.

Hobart

In 1889, G. N. Folsom purchased 520 acres of timber and meadowland north of Friday's Station from Burke's widow for $750. Here, he harvested timber to meet his contract agreements with the SNW&LCo at Crystal Bay. Folsom named the logging settlement "Hobart," after the principal of the SNW&LCo, W.S. Hobart. Round Hill, also known as "Folsom's Knob," was named after Folsom himself. By 1893, Folsom had increased his land holdings to 610 acres and lumbering activity at Hobart was at its peak. The old Carson Emigrant Ridge Road, running behind Hobart near Chimney Rock and along the ridge to Spooner Summit, was used to haul logs. Two log chutes were built to carry logs westward through the meadow and to the lakeshore at Folsom's pier. Folsom also built a water-powered shingle mill, which was fed by "Hobart's Ditch," up the canyon northeast of the Kingsbury Grade.

The little settlement of Hobart consisted of a few clapboard houses, log cabins, and tents that housed the lumbermen and their families. There was also a combination store and post office, a blacksmith shop, cook

house, a slaughterhouse, recreation hall, and salon. Two barns were built across the wagon road and to the west, indicating that the main settlement was located east of the road. The largest barn rivaled the Wells Fargo's structure at Friday's Station. Meat was supplied to Hobart from cattle grazed south of Friday's Station.

By 1896, Folsom was forced to move his camps farther and farther back into the decreasing timber stands and his operations were reduced to cordwood cutting. He went into bankruptcy in 1897 and his lands were taken by the bank. In 1898, Robert L. Bence leased the meadowland and ran dairy cattle. Later Richard Kirman purchased a part of the holding. From Kirman it passed to the Chris Rabe family, who farmed and ranched at the location and furnished lodging for travelers in the mid 1900s. The Rabe family holdings were eventually reduced to about 160 acres. Under the ownership of William Rabe, the land was used as a summer range for cattle. It was later transferred to the USFS.

COMMERCE AND INDUSTRY: RANCHING AND GRAZING

With the demise of large-scale clear cutting in the late 1890s, cut-over lands near the lake were leased or sold to ranchers for grazing and Basque shepherds grazed their flocks in the high meadows. Increasing human populations in the Tahoe Basin and surrounding region were supplied with meat, milk, butter, and cheese. Agriculture and seasonal stock grazing largely centered on lakeshore meadows. Markets created by teamsters traveling along the old Bonanza Road prompted the development of farming and ranching. At first small meadowlands and family vegetable gardens supplied the needs of the individual toll stations and inns, but as demands escalated, meadowlands were quickly preempted wherever wild hay could be harvested and beef and dairy cattle could be grazed. Apart from local consumption, the market for mountain range cattle and dairy products ranged from Carson City to San Francisco.

The ranching industry was seasonal. The harsh winters in the Sierra Nevada highlands made year round stock-raising impossible. In the early days, every rancher needed a winter range, either in the California foothills or in the Carson Valley (Appendix I). When the grass turned dry in the lower foothills, cattle were moved into the Tahoe Basin for the summer.

Although in the mountains, meadows still had to be irrigated later in the season (Appendix I). This was accomplished through a network of water impounding and diverting dams and wing walls, water gates, and miscellaneous earthen water works. Creeks in Lake Valley were seasonal, running dry about mid-summer, and irrigation enabled ranchers to extend the grazing season beyond mid-July to mid-September. To further enhance pasture production, stock was periodically moved from the upper meadows to areas closer to the lake shore. In recent times grazing practices were increasingly modified by local regulation, which ultimately spelled the demise of grazing in Lake Valley.

David Brooks Park purchased 571 acres of pastureland at Lake Tahoe in 1896 and Park family holdings encompass the project area. Except for a small parcel sold to Harrah's and a piece of property given to the 4-H Club, the property remains intact today. Sometime around 1918-1920 Park Sr. operated Friday's Station as a kind of way station and maintained a butcher shop for wagon travelers during the summer.

The family refurbished the home in the early 1980s. As a boy, Brooks Park irrigated for his father. About 200 head of cattle were grazed at the present-day golf course. Feed was raised in Carson Valley and stock was herded over Kingsbury Grade. By the mid 1960s the family stopped herding, although grazing was carried out on a very limited scale until ca. 1990 (Appendix I).

RECREATION AND TOURISM

Into the early 19th century, lumbering and ranching diminished in significance, as the land used for these activities became more valuable for residential, commercial, and recreational purposes. Prior use of national forest lands for grazing or timber production gave way to recreation, as recreation and allied services became the major economic forces shaping growth. As the Tahoe Basin attracted more tourists, diverse resorts appeared along the shores of the lake. The movement toward year-round use of the Tahoe Basin, initially prompted by the gaming and ski industries, brought building and development to Tahoe's shores, with the need to house employees, not only vacationers.

Gaming was legalized in Nevada in 1931. More and larger gaming establishments opened their doors during the 1940s and 1950s prompting an increase in the volume of tourists and permanent residents. To retain more of the tourist's dollars on the Nevada side, the gaming houses erected high rise hotels and elegant restaurants fronting the lake.

The Heavenly Ski Resort received its first special use permit from the USFS in the spring of 1954. Early development was confined to the California side of the ski area. Ski area expansion occurred here (and elsewhere around the lake) after the 1960 Winter Olympics at Squaw Valley, as attention was focused on the potential of the Tahoe Sierra for alpine skiing.

Contemporaneous with Tahoe's reputation for winter sports was its increasing popularity as a summer destination with the development of golf courses and other fair season resorts. The Park family's holdings around Friday's Station proved to be a strategic location to serve summer tourism. During the 1950s the family began to rent meadowlands to Harvey Gross and Bill Harrah as "parking lots" (Appendix I). In 1978 the Brooks Park family opened the Park Tahoe Hotel Casino (now MontBleu Resort Casino & Spa) and continued to manage the acreage upon which the Stateline casinos are situated. The family was also occupied in the business of the Park Cattle Company holdings (now Edgewood Companies), amounting to about 500 acres in the Tahoe Basin and 5,000 acres in the Carson Valley; the Carson valley holdings were purchased in 1995. They also handled the affairs of the Edgewood Tahoe Golf Course and the Edgewood Water Company (which did and still does supply water to the casinos at Stateline and the golf course).

The Edgewood Tahoe Golf Course was originally part of the Friday's Station property. It later became the Edgewood Resort, which offered camping, hunting, and fishing. In the late 1960s, Brooks Park had the vision to create a world class golf course on the family ranch land, hiring architect George Fazio as the designer. Assisted by his nephew Tom Fazio, George Fazio completed the course in 1968. After the golf course was built in 1965, the family stopped herding, but still brought cows up from the valley for sentimental reasons until 1990. In 1980, the club hosted the Public Links Championship and in 1985 the U.S. Senior Open Championship. It is currently the site of the American Century Celebrity Golf Championship (Appendix I).

ARCHITECTURE

Although the designers or builders of the Park Family lakefront residences along the lakefront are unknown, they are characteristic of Modern vernacular architectural styles, and were probably built by a local contractor. Designed by unknown builders and constructed with locally available materials, the buildings exhibit stylistic elements of Postwar Modernism, also identified as Mid-Century Modern, Modern Contemporary, or American International. While based upon architectural movements popular in eastern and western architectural circles, and quickly adopted throughout the west (including the resort areas of the California and Nevada Sierra Nevada), the architectural heritage of the Lake Tahoe area was not represented by the well-known architects of

that era: Richard Neutra, Charles and Ray Eames, Ludwig Mies van der Rohe, Warren Callister, and others of their ilk.

Ranch Style

The Pruett home (the northernmost of the two lakefront residences) was built in the Ranch Style, which originated in the mid-1930s with designs by several creative California architects, and became the dominant style throughout America during the decades of the 1950s and 1960s. The style is loosely based on early Spanish Colonial precedents of the American southwest, modified by influences borrowed from Craftsman and Prairie modernism of the early 20th century. Asymmetrical one-story shapes with low-pitched roofs dominate. Three common types of roof forms are used: the hipped version is probably the most common (though not at Lake Tahoe), followed by the cross-gabled, and finally, side-gabled examples.

Other typical characteristics included a linear arrangement of rooms and a telescopic effect of low wings spreading out from the rectangular core. There is usually a moderate or wide eave overhang, which may be either boxed or open, with the rafters exposed. Ranch-style homes often feature multiple materials, including wood, brick, stone, and faux stone facades and/or wainscoting. Builders frequently added modest bits of traditional detailing, usually loosely based on Spanish or English Colonial precedents. Decorative iron or wooden porch supports and decorative shutters are the most common.

Ribbon windows are frequent as are large picture windows in living areas. Partially enclosed courtyards or patios, borrowed from Spanish houses, are a common feature. Outdoor living areas extended beyond the house on the same level, so that interior space merged with the exterior, separated by large areas of glass and sliding glass doors. These private outdoor living areas to the rear of the house are a direct contrast to the large front and side porches of most late 19th and early 20th century styles (Appendix I).

There are many styles and subtypes of the Ranch style, with different shapes or masses, including U-shape, L-shape, and rectangular, as well as split-level homes with a sunken garage, up one-half level to living space, and up another half to sleeping rooms; sometimes with half-story wings.

As the most popular architectural style of the 1950s and into the mid-1960s, the ranch house style extended beyond residential architecture into adaptations for other buildings. Typically low in scale with a linear plan, it was easily adapted for schools, public buildings, club houses, small office buildings, and health care facilities. In addition, designs for motels, restaurants, supermarkets, shopping centers, service stations, and other automobile-related buildings achieved equal popularity.

Shortly after World War II, Lake Tahoe, like most of the West, experienced an era of unprecedented growth and development. Returning soldiers, and those who had been stationed nearby and experienced its climate and scenery, moved west in droves. Financed by the G.I. Bill and aided by the readily available architectural materials developed for the war effort (aluminum siding and windows, plywood, composition shingles, and other mass-produced materials), the towns and rural areas of the West saw the explosion of the Ranch style of architecture.

Modern

The Dingman Home (the southernmost of the two lakefront residences) was constructed in 1978 in a style known as Postwar Modernism. Also known as Mid-Century Modern, the term came from Cara Greenberg's seminal book on 1950s furniture. The principles of design were organic, combined with International and Bauhaus movements, but less formal than those styles. The style was characterized by simple lines, democratic design, and natural shapes, exemplified by the Scandinavian designers popular in that era. Structures were built with large windows, open floor plans, and open to the outdoors. Mid-Century Modern was employed in numerous post-war suburbs in America.

Also identified as "Modern Contemporary" or "American International," the style was popular in America from ca. 1940 to 1980. The style occurs in two distinctive subtypes based on roof shapes: flat or gabled. The flat (or low shed) roof subtype is a derivation of the earlier International Style and resembles it in having flat roofs and no decorative detailing, but lacks the white stucco wall surfaces, which are usually replaced by various combinations of wood, brick, or stone. The Dingman Home was built in this subtype.

5.9.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

FEDERAL CRITERIA

Section 106 of the NHPA requires that federal agencies consider the effects of their actions on significant archaeological properties prior to implementing the undertaking. The criteria of effect are found in 36 CFR 800.0(a) and state that:

> An undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the National Register.

Regulations require that the federal agency apply the criteria of adverse effect to historic properties that will be affected by a proposed undertaking (36 CFR 800.9b). The criteria of adverse affect, defined at 36 CFR Part 800.5(a)(1), states that:

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Adverse effects on historic properties include, but are not limited to:

- Physical destruction, damage, or alteration of all or part of the property;
- Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the NRHP;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- Neglect of a property resulting in its deterioration or destruction;
- Transfer, lease, or sale of the property.

Determining the nature of the effects of an undertaking on historic properties depends upon an understanding of the characteristics that make the property eligible. Specific components of the proposed undertaking and their impacts on the characteristics that contribute to the potential NRHP eligibility of these properties are measured against these criteria of adverse effect.

In consultation with the SHPO, the project sponsor and/or the lead agency (in this case the USACE as part of the Section 404 permitting process) are directed to follow the 1995 *Secretary of the Interior's Standards for the Treatment of Historic Properties* in order to identify heritage properties and adopt mitigation measures to avoid adverse effects, as necessary. If it is determined that a project may adversely affect a significant heritage

property, then appropriate mitigation measures or a "treatment plan" must be implemented and carried-out in consultation with appropriate federal and regional agencies pursuant to Section 106 of the NHPA (as amended 16 U.S.C. 470f). A means to monitor mitigation must also be identified. A treatment plan is usually commensurate with the nature and scale of impacts associated with the proposed undertaking, so that the level of treatment matches and is consistent with the level of impacts.

TRPA Criteria

Subsection 67.7.3 of the TRPA Code requires the protection of sites, objects, structures, or other resources designated as historic resources or for which designation is pending. Demolition, disturbance, removal, or significant alterations are prohibited unless TRPA has approved a resource protection plan to protect the historic resources. Subsections 67.3.1 and 67.3.4 of the TRPA Code address the discovery of historic resources during grading activities and require protection during construction, which includes prohibiting grading or excavation in designated historic resource areas. Subsection 67.3.3 requires the resource protection plan to be prepared by a qualified professional. Subsection 67.7 addresses projects related to historic resources. Projects affecting designated historic resources would be required to supply documentation of compliance with standards in Subsections 67.7.1 through 67.7.3 related to additions to historic structures or adjacent structures or in historic sites or districts; and repair, maintenance, reconstruction, or demolition of historic resources. In addition, an adverse change to a historical resource or important archaeological resource is considered to be significant if the following would result from implementing the project: physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially altered or otherwise impaired.

Specifically, implementation of the proposed project would result in a significant impact if it would:

- cause a substantial adverse change in the significance of a historical resource;
- cause a substantial adverse change in the significance of an archaeological resource;
- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- disturb any human remains, including those interred outside of formal cemeteries.

METHODS AND ASSUMPTIONS

The cultural resources inventory and evaluation included in Appendix I was performed in compliance with guidelines established by TRPA and Douglas County and under federal guidelines in advance of the Section 404 permit process under Section 106 of the NHPA.

Prefield Research

Literature Review/Archival and Oral History Research

Literature review for the project included file search and review in 2009 and 2011 at the offices of TRPA; the U.S. Forest Service, Lake Tahoe Basin Management Unit (USFS-LTBMU); the Lake Tahoe Historic Society Museum; the Douglas County Recorder's Office; the Bureau of Land Management (BLM) office in Carson City, Nevada; the Nevada State Museum Annex; and the office of Foothill Resources, Ltd., in Murphys, California. Additionally, a review was conducted of the on-line Nevada Cultural Resource Information System (NVCRIS) database maintained by the Nevada SHPO, the NRHP, the report *Historic Resources of the Nevada Side of the Tahoe Basin*, and general historic texts and maps. The Nevada Historical Society was also contacted. The research indicated that 12 previous heritage resources surveys have been conducted in and within 0.5 mile of the project area boundaries (Appendix I). These studies resulted in the identification of 22 prehistoric and historic-era heritage

resources within a 0.5-mile radius (Tables 5.9-1 and 5.9-2); one of these (prehistoric site 26-Do-4) has been recorded within the project area boundaries.

Table 5.9-1. Heritage Resources Previously Identified Within the Project Area and Vicinity (2009)

Resource #	Association	Type	Location	Reference
26-Do-4	Prehistoric	bedrock mortars	Edgewood Tahoe Golf Course	Heizer, 1953
26-Do-451	historic-era	Lincoln Hwy. segments	adjacent to Hwy. 50	n/a
26-Do-806	Prehistoric	bedrock mortars	east of Hwy. 50	n/a
05-19-143	prehistoric-ethnographic	ethnographic village site of *lamw O'tha*	Rabe Meadow	n/a
05-19-332	Prehistoric	bedrock mortars	Round Hill area	Lindström 1989
05-19-357	historic-era	refuse scatter	Round Hill area	Burke 1991
05-19-359	historic-era	refuse scatter	Round Hill area	Burke 1991
05-19-360	historic-era	trail/road segment	Round Hill area	Burke 1991
05-19-363	historic-era	refuse scatter	Round Hill area	Burke 1991
05-19-364	historic-era	Round Hill Pines Resort	Round Hill area	Burke 1991
05-19-366	historic-era	rock alignment	Round Hill area	Burke 1991
05-19-367	historic-era	cedar stumps, logs	Round Hill area	Burke 1991
05-19-368	historic-era	refuse scatter	Round Hill area	Burke 1991
05-19-486	Prehistoric	bedrock mortar	Rabe Meadow	Davis 1993
SCT-1	Prehistoric	bedrock mortar	east of Hwy. 50	Taggart et al. 2006
SCT-2	Prehistoric	bedrock mortar	east of Hwy. 50	Taggart et al. 2006
ISO-1	historic-era	ca. 1890 bottle	east of Hwy. 50	Taggart et al. 2006
ISO-2	Prehistoric	pestle fragment	east of Hwy. 50	Taggart et al. 2006
ISO-3	historic-era	ditch segment	east of Hwy. 50	Taggart et al. 2006
RM-1	historic-era	corral and fences	Rabe Meadow	AECOM 2009

Source: Appendix I

Table 5.9-2. Heritage Resources Identified Within and Adjacent to the Project Area (2011)

Trinomial	Temp Number	Description	Location
26-DO-4	n/a	Prehistoric site	Sections 26, 27
No number	n/a	Friday's Station	Sections 26, 27
No number	26-Do-451/726 (KBG-3)	Historic road	Sections 26, 27

Source: Appendix I

In addition, interviews were conducted with persons with knowledge of the area and its history (Appendix I). Jim Summers, who worked for the Park Cattle Company and Edgewood Water Company from 1984 to the present, provided invaluable information on construction dates, land and building usage, ditch systems, and locations of features that are no longer extant.

NATIVE AMERICAN CONSULTATION

Consultation with the Washoe Tribe has occurred on several occasions related to the proposed project (Appendix I). Most recently Darrel Cruz, Tribal Historic Preservation Officer (THPO) for the Washoe Tribe, was contacted in order to invite the opinions, knowledge and sentiments regarding traditional Native American lands within the project area. As a follow-up, project background information and location maps were emailed to the Tribe on September 23, 2010, on January 28, 2012, and on February 2 and 9, 2012. These communications were supplemented by a series of email exchanges and telephone conversations on June 30 and September 22, 2010. A letter response was received from the Tribe on February 13, 2012 (Appendix I). The Tribe reiterated their concerns related to the avoidance of impacts to Native American resources.

FIELD RESEARCH

Field survey methods were consistent with the Secretary of the Interior's Standards and Guidelines for Identification of Cultural Resources and Professional Qualifications and the Nevada BLM's Cultural Resource Inventory General Guidelines (Appendix I). Documentation of resources followed the guidelines provided in the Intermountain Antiquities Computer System (IMACS).

An intensive archaeological reconnaissance of the project area was conducted during the fall in 2009 and 2011. The survey performed within the existing golf course concentrated on undeveloped portions of the property with heavily modified areas (e.g., greens and fairways) not being examined. Wooded areas and otherwise potentially undisturbed areas were subjected to an intensive survey utilizing pedestrian transects spaced approximately 10 meters (30 feet) apart. Survey of the Friday's Station parcels to the east of U.S. 50 was also conducted utilizing regularly-spaced pedestrian transects, although the spacing was variable based on the built and landscaped environment. These locales include: Friday's Station and the dam, pond and ditch at Friday's Station. Heritage resource locations were recorded with a Trimble Geoexplorer XH GPS unit. No artifacts were collected, nor were permanent site datum points established. No evidence of prehistoric site 26-Do-4 was observed in 2009 or 2011.

On October 20 and 21, 2011 Judith Marvin conducted a pedestrian survey of the project boundaries, closely inspecting the previously identified historic sites and features, including: Friday's Station and its associated architectural resources; the Friday's Station North Ditch (EW-LF2), from its takeout on Edgewood Creek to where it disappeared into U.S. 50; the South Ditch (EW-LF3), in the area on the hillside above and near the southwest corner of the pond, through a culvert in the ranch road to where it crossed over the Friday's Station southern fence line into the meadow to the south; the Road over Friday's Station Dam (EW-LF4) from Friday's Station to its exit on SR 207; and the 1946 California-Nevada boundary monument (EW-LFI) on the southeast shore of Lake Tahoe.

In addition, the area northwest of the pond where the location of the Placerville-Carson System/Bonanza Road/Lake Tahoe Wagon Road was mapped in the 1860s, was intensely surveyed, but subsequent ground disturbance, consisting of an improved drainage, ranch roads, borrow pits, and other activities have obliterated its route within the project boundaries. The site of the Friday's Station slaughterhouse (an earthen road and pad on the hillside south of the southwest corner of the pond) is located outside of the project area boundaries.

The entire project area was subject to a surface survey using a mixed reconnaissance strategy of intensive, intuitive and cursory coverage techniques. Appendix I includes an archaeological coverage map keyed to the survey strategies employed. Heritage resources were documented on IMACS records and photographed using digital photography.

The heritage resources survey disclosed two new heritage resources, the Friday's Station Pond and Dam and an irrigation ditch located south of the pond. New IMACS archaeological records were prepared for these resources aided by field notes, maps and photos from the earlier work. An updated IMACS form documenting that prehistoric site 26-Do-4 was not encountered was prepared reflecting this fact. Three additional sites were discovered as part of the current survey: a ditch north of the Friday's Station Pond and Dam, a road segment over the dam, and a 1946 bi-state boundary marker. These resources are described below and IMACS records providing supplemental details and mapped locations are contained in the confidential appendix to the Appendix I report. These resources are summarized below.

Archaeological Sites

Prehistoric Site (26-Do-4)

The site was originally documented in 1953 as a bedrock mortar complex with three boulders, each containing a single mortar hole. One artifact (basalt "blade fragment") was found in association. While some Washoe place names refer to specific locales (e.g., outstanding topographic features and singular cultural landmarks such as Cave Rock), many place names refer to broader areas, more appropriately described as ethnographic landscapes. Confusion arises when researchers query Washoe consultants about a specific and tightly bounded location. While Washoes might respond to an outsider with the name for the specific feature or resource target, such as a waterfall, the name may actually designate a stretch of stream including several camping spots associated with the "place." For example, along the lower stretch of Edgewood Creek, three distinct areas have been designated as 26-Do-4. A fourth locale, a bedrock milling complex located upstream from Friday's Station (#RA-1, Matranga 2008), may also be part of the larger 26-Do-4 ethnographic landscape. The attempt by archaeologists to limit "place" to a single spot may simply be a misunderstanding of the geographic and cultural scale of the true Washoe meaning of "place," where a single term can connote multiple and undifferentiated geographic scales.

Since 1953, a number of efforts to relocate any archaeological remains or surface evidence of "site" 26-Do-4 have failed. Earlier reports from the greens keeper at the Edgewood Tahoe Golf Course indicate that the site may have been destroyed or at least buried during grading and landscaping of the course. Blanchard thought it likely that the "bedrock arrangement remains but no mortars are visible." Three locales have been documented for 26-Do-4. One is located near the existing Edgewood Tahoe Golf Course clubhouse and the other two are located in the northeast corner of the golf course near the U.S. 50 crossing of Edgewood Creek. Although multiple efforts to relocate surface manifestations of 26-Do-4 were unsuccessful, the potential for intact subsurface archaeological deposits remains somewhere within the lower Edgewood Creek corridor.

Linear Features

Friday's Station Pond and Dam (EW-LF1)

The age of the dam and associated pond are somewhat uncertain and information is conflicting, as noted in a report by Nichols Consulting Engineers (2012):

> Although Friday's Station Dam (dam) was constructed prior to 1951, the actual date of construction is unknown. Based on information from Edgewood Companies [the owner of the property], the dam was most likely constructed in the 1940s with the purpose of impounding water for irrigation of downstream pastures. Management of the dam and associated pond has typically consisted of periodic repair of the valve that releases water from the pond. Based on available information, the sediment accumulated in the pond has not been removed in the last 40 years and may never have been removed since the dam was built.

This information is confirmed by the caretaker of the estate, Jim Summers (Appendix I).

"Ponds" are called out on the 1954 BLM Map, indicating that this type of water management feature was noteworthy enough to be included on the map; however, the Friday's Station Pond does not appear. An informant who resided on the Friday's Station property as a boy in the mid-1940s recalled that the dam and pond were not in existence at that time, as he and his brother played in Edgewood Creek in its present location (Appendix I). On Google Earth historic imagery, which dates back at least to 1940 for the area, the pond first appears in 1969 and again in 1987. A review of the website www.historicaerials.com disclosed that as of 1940, the area now occupied by the pond appeared more like a meadow. Mr. Summers, however, noted that the dam and pond were constructed by Wallace Park as irrigation for his cattle in the meadow now occupied by the Edgewood Tahoe Golf Course. The North Ditch (EW-LF2) was also constructed at the same time, to carry a portion of the water from Edgewood Creek directly to the meadow without impounding it behind the dam. Summers also recalled seeing a photograph in Brooks Park's house of a roughhewn log bridge across the creek, in the approximate location of the present dam, also noted in another account as dog-legging across the creek on to join the Kingsbury Grade's western approach (Appendix I).

By the time aerials were flown in 1969, a possible basin is visible in the pond location, one that appears to be freshly deposited rock and/or earth suggesting that at the time the aerial photo was taken, dam and pond construction were in process or were only recently completed. The pond does not appear on the USFS 1978 quad, but it does appear on the 1985 edition. Field impressions tend to favor an early era of construction, as least in terms of the vintage of the dam works. However, it is possible that dam works (valve, etc.) are older than the dam and are merely recycled parts from an older dam located elsewhere. Although it is most likely that the dam was constructed ca. 1969, given the discrepancy between the oral history record and the historic map search, the dam was formally recorded and evaluated.

The Friday's Station Pond is the first in a series of ponds along Edgewood Creek on Edgewood Companies property. Several other ponds are located downstream and within the Edgewood Tahoe Golf Course. Construction began on the golf course in 1966 and it was opened in 1968. This time frame is consistent with the initial appearance of the pond on the 1969 aerial photos and maps. Based upon the bulk of available evidence, the Friday's Station Pond and Dam appear to be a late 1960s irrigation feature associated with the Edgewood Tahoe Golf Course.

The north-south-trending earth and rock dam is about 150 feet in overall length (measured along the surface roadway across the dam), with a maximum height of approximately 15 feet above stream level on its western side. The dam is situated immediately to the north of Friday's Station and retains a pool measuring a total of about 2.5 acres. A control gate or valve with above-ground (road surface) hand-turned gear/handle is located near the center of the dam and on the east side of the pond. The outlet to the pond is a pipe with a slide gate that releases water from the bottom of the pond.

Friday's Station North Ditch (EW-LF2)

An earthen ditch meanders along north and west side of the flood pool of Friday's Station pond. The takeout from Edgewood Creek (possibly an earthen weir) is subtle and located in an area overgrown with willows and other riparian vegetation. The ditch exits the project area on the Friday's Station property at a metal fence and disappears into U.S. 50. A long section of culvert or pipe is contained within the ditch near the metal fence. The recorded segment is about 1,500 feet (450 meters) long. The section that falls within the project area is about 800 feet (245 meters) long. The ditch is 2 to 4 feet deep and 6 feet wide (measured between the mid-berm). According to caretaker, Jim Summers, the ditch was built at the same time as the reservoir/pond to carry irrigation water from Edgewood Creek westerly to the fields across U.S. 50 into the present site of the Edgewood Tahoe Golf Course.

Friday's Station South Ditch (EW-LF3)

An irrigation ditch diverted water from Edgewood Creek upstream of the Friday's Station pond. It flowed on an east-west trend before crossing a dirt road, after which point it turned sharply to the southwest to irrigate a large meadow. A long section of culvert or pipe is contained within the ditch at this point. (The entire segment is outside but in proximity to the Edgewood project area.) The Google Earth Map shows the ditch extending at least to the "Loop Road" at Stateline. The Park family had an ice house at the location of the present-day Harvey's parking lot. It is possible, though unconfirmed, that the ditch may also have supplied water to the ice house. The recorded segment of ditch is about 250 feet (75 meters) long. The ditch is approximately 5 feet (1.5 meters) from edge to edge with a depth not exceeding approximately 2 to 3 feet. No artifacts or other features were found along or within the vicinity of the ditch. The ditch was part of a larger ditch system operated as part of the Park family grazing operations that irrigated the meadow between Friday's Station and the Stateline casinos and it was in operation until ca. 1990 (Appendix I).

Road over Friday's Station Dam (EW-LF4)

A dirt road (about 9 to 12 feet wide) stretches from Friday's Station, over the dam and to the north where it connects with several additional unpaved roads extending north and east in the immediate vicinity of present-day U.S. 50 and SR 207. The historic Lincoln Highway once crossed through Friday's Station. The route heads southeast from the intersection of U.S. 50 and SR 207 and continues south of Friday's Station into the meadow where it angles to the southwest and through the present casino complex before joining U.S. 50 near the California-Nevada State line.

IMACS site record updates for the Lincoln Highway (26-Do-451) and for an auto "cut-off" branching from the Lincoln Highway (26-Do-726, KGB-3 component) were prepared by Charles Zeier et al. (2006) and Pete Matranga (2008) (Appendix I). From the junction of these two roads, 26-Do-726 (KBG-3 component) angled northeastward to its gated terminus 0.05 miles east of the US 50/SR 207 intersection. Road 26-Do-451 trended due north from this junction and intersected with SR 207 due west of 26-Do-726 (KGB-3 component). South of this junction, both road segments combined into a single corridor that crosses over the Friday's Station dam.

Although recorded segments of 26-Do-451 and 26-Do-726 (KGB-3 component) are located north and outside the Edgewood project area, they are addressed in order to gain perspective on the origins and nature of the road segment (EW-LF4) that crosses the Friday's Station dam. Oral history accounts and map research regarding the Friday's Station pond indicates that the present road across the dam (EW-LF4) is either contemporaneous with or post dates the construction of the dam and pond, thereby giving it a bracketed date of ca. 1940s-1950s to ca. 1969. The route of the Lincoln Highway was in use from ca. 1913-1914 up until it was abandoned ca. 1932 with the paving of U.S. 50. Usage is before the earliest possible construction date of the pond and dam and it is likely that construction of the pond, dam and road across the dam obliterated all traces of the Lincoln Highway at the creek crossing. Although the road (EW-LF4) across the dam appears to fall within the historic Lincoln Highway corridor (26-Do-451/726), it is not part of the original route and grade of the historic highway (Appendix I). Therefore, road EW-LF4 is recorded as a road separate from the Lincoln Highway, one that may date from ca. 1950s but more likely from ca. 1969.

Available data from historic maps confirm that road EW-LF4 is not part of the original Bonanza Road system (i.e., Pony Express Route, Kingsbury Grade, or Lake Tahoe Wagon Road); they show the Bonanza Road trending well to the east and trending southwest-northeast up a shallow draw.

Isolates

Nevada-California Boundary Monument (EW-IF1)

A California-Nevada boundary monument is located at the interface between the sandy lakeshore beach and the landscaped backyard of the southernmost lakefront residence located in the southwestern corner of the

Edgewood project area. The feature is a granite obelisk that exhibits a 1946 brass cap hung by wire chain at its base. It is unknown whether this is the original monument set in 1899. A marker in this location appears on the 1898-1899 US Coast and Geodetic Survey Map as "No. 1." It is shown as "MP 1" on Tahoe National Forest maps dating from 1921, 1926 and 1930. On the 1945 map of the Carson Ranger District, the feature is designated as "Bdry Mon No. 2."

Architectural Resources

Friday's Station Buildings

Friday's Station is the oldest documented commercial inn on Lake Tahoe and it is listed on the NRHP. The NRHP nomination form, prepared 26 years ago, is in need of updating. Property boundaries are only cursorily defined and this information does not meet current professional standards.

Of the 30 Pony Express stops in Nevada, Friday's Station is the only stop which has not undergone reconstruction. Although the exterior of old Friday's Station has been modernized and the wing that formerly stood to the west has been removed, the ridge pole, rafters and hand-hewn interior walls and floor are intact. Friday's Station is characterized as an excellent sample of classically inspired frontier architecture. The massive Wells Fargo and Pioneer Stage Lines' barn was torn down by David Wallace Park in the 1940s, but one of the log cabins that served as a blacksmith shop nearly 100 years ago still stands to the east of the main building. The original turnpike was traceable where it ran north through the upper meadow from Stateline past the station, and dog-legged across the creek on a rough hewn log bridge to join the Kingsbury Grade's western approach (Appendix I). The inn, recently restored, is in excellent condition and is currently maintained by the Edgewood Companies (former Park Cattle Company).

Although one architectural resource and three archaeological resources were identified within the project boundaries of the Friday's Station NRHP site boundaries, none are contributing elements, postdating the resources by over 90 years, and outside its 1860's period of significance. Any alteration to these newly recorded features would not adversely affect Friday's Station's eligibility to the NRHP.

A former bunkhouse, used as the Edgewood Water Company Office in the 1950s, is located on the southwest side of the pond and within the project boundaries. Of Vernacular Craftsman architectural style, it appears to date to the 1920s. It has a front-gable shingle roof, exposed rafter tails, gabled portico, board and batten siding, six-light fixed windows, and two five cross-panel doors, with primary entry on the southwest façade (Appendix I). Although located within the 1986 NRHP site boundary, it is not a contributor to that resource, is outside its period of significance, and any alterations to the building would not adversely affect the eligibility of Friday's Station to the NRHP.

A slaughter house was located southeast of the creek and pond on an earthen road and structure pad, down the hill slope from a cabin. David Brooks Park operated the butcher shop in the summers from 1918-1920, delivering meat to various commercial enterprises around Stateline, but closing it in the winter. The slaughter house and its road are outside the project area boundaries, below the blacksmith shop by about 45 feet.

Lakefront Residences

Two residences belonging to members of the Park family are located on the southeast shore of Lake Tahoe, immediately north of the California-Nevada state line and south of the golf course clubhouse.

Pruett House (190 Lake Parkway, APN 1318-27-001-002)

The Pruett House is a one-story California Ranch Style residence built in 1960. It was built for Robert and Margaret Pruett; the sister of Brooks Park and granddaughter of David Brooks Park, who purchased the property in the 1890s.

The residence has an L-shaped mass, with a medium-pitched end-gabled roof and cross-gabled garage; an extension on the south elevation has an intersecting gable roof. The roofs are covered with wood shakes and feature eave boards and exposed rafter tails. The walls are clad in 2 x 12-inch vertical board and batten siding, with horizontal lapped boards in the gable ends, and a used-brick wainscoting (common bond) at the ground level. The house has a perimeter concrete foundation. A two-car garage forms the northern portion of the L, facing Lake Parkway, and has multi-paneled roll-up doors.

Primary entry to the house is via a frame door in the intersection of the L on the east primary façade, accessed by a concrete pathway. A frame door with one light provides access to the kitchen on the southwest corner of the main structure. The west façade, consisting of a front-gabled room on the north, features a rectangular bay with picture window beneath a shed-roof overhang with exposed rafters. The remainder of the west façade features an enclosed porch, with two sets of sliding glass and aluminum doors, a concrete floor, and aluminum slider door and windows to the interior of the house. Two brick chimneys pierce the roof.

A lawn, concrete terrace, and concrete swimming pool are located west of the house, and a small frame pier projects into the lake from the sandy beach. The pier was constructed in 1978. A pool and party house is located northwest of the house, adjacent to the pool. It has a shed roof with exposed rafter tails, plywood siding with bats, and a curved rear (north) wall with used-brick wainscoting. Two sets of aluminum and glass sliding doors on the south façade provide access to the interior room with bar and pool heater.

The house is situated on a level lot, facing east towards Lake Parkway, set in a yard with a lawn, ornamental trees and shrubbery, concrete pathways, and enclosed with a cyclone fence (Appendix I).

Dingman Home (192 Lake Parkway, APN 1318-27-001-003)

The Dingman Home, built for Zoe Dingman daughter of Robert and Margaret Pruett, was constructed in 1978; this residence has been used as a vacation rental for the past 2 years. Prior to 2009 the residence was leased to a third party for an extended period of time.

This architectural resource is a large Modern two and one-half story frame residence with an irregular mass. It has multiple intersecting shed roofs with painted fascia along all roof lines. The walls are clad in unpainted redwood siding, vertical boards on the front and rear walls and diagonal on the south elevation. Primary entry is located on the east façade, accessed via a frame door with Art Deco detailing, reached by a stairway faced with mortared stone. A double garage is located on the first floor, with a band of single light windows and a small deck with wood railing on the second. The west façade, of two and one-half stories, features large vertical windows on the first story, a band of windows and a deck on the second, and a band of clerestory windows on the upper floor.

A wood deck extends from the first floor of the west façade, accessed via double metal and glass doors. A swimming pool is located inside the northern portion of the building, which features large metal-clad windows facing Lake Tahoe. The house is situated on a level lot, facing Lake Parkway, with a small lawn, and native conifers and shrubs.

Heritage Themes, Research Issues, and Data Requirements

Archaeological properties within the project area have the potential to address heritage themes regarding prehistory and historic-era themes involving transportation and ranching. These themes and their associated property types are discussed below. Appendix I also includes a discussion of relevant research issues and the archaeological, archival and oral history data needed to address them.

Prehistoric Resources

Although surface physical remains representative of Native American occupation were not encountered within the project area, the project contains at least three locales where a prehistoric site (26-Do-4) is allegedly located. These three locales are undoubtedly part of a larger prehistoric site complex known to exist in lower Edgewood Creek drainage and surrounding region, such as the Washoe site of *lamwO'tha* in the nearby Burke Creek drainage. Some of these sites are large in area and intra-site activity loci are recognizable and the presence of subsurface remains has been documented. Artifacts encountered are in sufficient quantity and variety and include diagnostic tools. Variable material types are present, including obsidian and visually distinctive varieties of fine-grained basalt. Basalt and obsidian sourcing technology (X-ray fluorescence or XRF sourcing) have proven to be productive in verifying source-specific locations of the stone and thereby identifying patterns of prehistoric trade relations and population movements. The obsidian artifacts that are suitable for obsidian hydration analysis have allowed for dating both horizontal and vertical stratigraphy at these sites, and thereby have served to document general trends in adaptive behavior that have evolved over millennia. Furthermore, ethnographic accounts and oral traditions provided by descendents of pioneer families and Washoe elders indicate that there is the potential for a protohistoric and/or ethnohistoric component at archaeological sites in South Lake Tahoe and bear further investigation.

Historic Resources

The theoretical orientation guiding an evaluation of historic-period resources involves a contextual or interpretive approach. The following describes transportation and ranching themes within the project area.

Transportation Theme

The project area is an important historic transportation corridor, witnessing the passage of Bonanza Road in the late 1850s, the Pony Express in 1860, the Kingsbury Grade over Daggett Pass in 1861, the Lake Tahoe Wagon Road in 1862, and the Lincoln Highway in 1913-1914 until 1932 when the road was abandoned as traffic shifted to newly paved U.S. 50. The evolution of road systems along Tahoe's south shore mirrors the initial development of its forest lands for logging, grazing and subsequent expansion to adjacent residential/commercial communities. Road systems dating from the 19th century and earlier were developed as a means of ingress and egress to the Basin. With the growth of residential and resort communities around the lake, these early roads increasingly served intra-basin transportation needs. After the turn of the century, the intra-basin system was enlarged to link lakeshore communities and open access into back country areas for logging, recreation and USFS administration. Some sections of these pioneer trails and wagon roads were later transformed into major trans-Sierran highways.

Ranching Theme

The seasonal resource base necessitated that some ranchers acquire large acreages with summer pastures in the higher elevations in order to sustain livestock. Prominent families in the Carson Valley region, such as the Dangbergs and later the Park family bought out and consolidated their ranching empires primarily on the beef and dairy business. With the help of outside labor, stock was grazed on winter holdings in the foothills and on summer holdings in the mountains.

The archaeological record of ranching and grazing operations can reflect basic ties to outside trade and communication networks and may represent a variety of adaptive strategies in response to environmental, economic, temporal, social, and ethnic diversity of the region. The typical early 20th century livestock-grazing operation consisted of a home ranch with outlying camps and other temporary sites used for corralling, watering, and shipping the animals. Livestock production required that stock be moved from one grazing area to another. Research into this dispersed pattern of ranching focuses on an investigation of adaptive strategies whereby the type of livestock, climate/growing season, elevation, topography, soils, ethnic identity of herders, water availability, and the personal experience and skills of the rancher influenced the structure and layout of the grazing operation.

Archaeological data requirements involve a variety of structural and landscape features or property types associated with ranching and grazing. Water management features include: water works to control and distribute water (irrigation ditches, canals, reservoirs, spring improvements, troughs, etc.); animal husbandry features (barns, corrals, branding and shearing stations, lambing grounds and sheds, etc.); and managed habitats (cultivated fields, orchards, seeded grazing lands, etc.). Domestic structural remains entail: earthen pads; foundations; cuts/dugouts; and chimney/ovens, which often coincide with trash disposal areas (e.g., sheet refuse; hollow-filled features, etc.).

FINDINGS

Significance assessments of heritage resources inventoried within the project area boundaries are presented in Table 5.9-3 and justification regarding their eligibility or non-eligibility to the NRHP.

Until SHPO concurrence has been obtained, the findings regarding eligibility are considered recommendations on resource eligibility and not absolute determinations of eligibility.

Table 5.9-3. Summary of Heritage Resources within the Project Area, Potential Impacts and Significance

Resource Number	Description	Potential Impacts	*NRHP Eligibility
26-Do-4	Prehistoric site	Yes	Maybe
No number	Friday's Station	No	*Yes
EW-LF1	Friday's Station Dam and Pond	Yes	No
EW-LF2	Friday's Station North Ditch	Yes	No
EW-LF3	Friday's Station South Ditch	Yes	No
EW-LF4	Road over Friday's Station Dam	Yes	No
EW-IF1	CA/NV boundary monument	No	Yes
No number	Park Cattle Company Bunkhouse	No	No
No number	Pruett House	Yes	No

*resource determined eligible by Nevada Office of Historic Preservation; all other eligibility statements are recommendations.
Source: Appendix I.

Archaeological Sites

Prehistoric Site (26-Do-4)

This archaeological site or ethnographic "place" is a Washoe encampment that, prior to construction of the Edgewood Tahoe Golf Course, was marked by a bedrock milling complex (Appendix I). This Washoe "place" shares characteristics with another locale also identified as a Washoe camp (*lamwO'tha)* that is located on the lower reaches of nearby Burke Creek and is currently interpreted by the USFS as a key Washoe traditional camp. The presence of site bedrock milling features at both the Burke Creek and Edgewood Creek camps connotes that both locales may have sustained permanent occupation. Due to probable construction disturbances or destruction, the condition of 26-Do-4 is not presently known and resource potential and integrity is provisional. The site has lost all integrity in terms of surface remains and on that basis it is recommended not eligible to the NRHP; however, there is the possibility that subsurface and/or near surface site deposits may remain intact. Future confirmation of this fact could qualify the site for the NRHP under Criterion D. If subsurface remains are encountered, the eligibility of 26-Do-4 should be reassessed.

Linear Features

Although linear features were identified within the project boundaries of the Friday's Station NRHP site boundaries, none are contributing elements, postdating the resources by over 90 years, and outside its 1860s period of significance. Any alteration to these features would not adversely affect Friday's Station's eligibility to the NRHP.

Friday's Station Pond/Dam (EW-LF1) and Friday's Station North Ditch (EW-LF2)

Available information argues for a fairly recent date of pond, dam, and ditch construction as ca. 1969. As such, none meet the 50-year threshold for consideration as a historic resource as per NRHP or TRPA guidelines and they are recommended as not eligible to the NRHP. Other information, however, places the date of construction as the early 1950s, long postdating the period of significance for Friday's Station. Primary associations are with the former irrigated meadow and the downstream ponds within the Edgewood Tahoe Golf Course, which was constructed in 1968. The purpose of these pond ditch features seems to have been irrigation and erosion/sediment control. Apart from their young age, current research does not indicate these features to be directly associated with important historical events or personalities (NRHP criteria A and B). None characterize the work of a recognized master and none represent the earliest of its kind or a particularly outstanding example of regional dam/pond/ditch construction (NRHP Criterion C). In addition, their full data potential has been realized through their documentation on IMACS records and they do not appear to possess any further information that could significantly contribute to research on important local issues regarding water management (NRHP Criterion D).

Friday's Station South Ditch (EW-LF3)

This ditch may be older than 50 years. Although incomplete, it is likely part of a larger water-conveyance system associated with 20th century grazing operations by the Park family. Although the irrigation ditch may be associated with events and personalities of local importance, these events or persons are not comparable on a NRHP scale (NRHP Criteria A and B). The segment is short and its integrity has been compromised so that any noteworthy engineering and construction methods (size and length, presence of distinctive engineering features and associated properties, structural integrity, and setting) are indeterminate (Criteria C and D). Given the lack of important historical associations and integrity, the linear feature no longer contains important information towards an understanding of any of the research questions outlined above and it is recommended as not eligible to the NRHP. All of its potentially significant information has been recovered with the completion of archaeological site records and their data potential has been exhausted.

Road over Friday's Station Dam (EW-LF4)

The area in the vicinity of Friday's Station falls within an important historic transportation corridor, as described above. Archival research and archaeological field surveys indicate that the road (EW-LF4) over the Friday's Station dam is not part of the historic Bonanza Road system, the Pony Express, the Kingsbury Grade, or the Lake Tahoe Wagon Road. Rather, the road across Friday's Station Dam (EW-LF4) is associated with the Lincoln Highway in that it is contained within the Lincoln Highway corridor.

A segment of the Lincoln Highway (site 26-Do-451), located north and outside of the project area boundaries, was previously recommended eligible to the NRHP and the Nevada SHPO concurred with the recommendation on eligibility (Appendix I).

Site 26-Do-726 (KBG-3 component) is a short auto "cutoff" branching from the Lincoln Highway. It has also been recorded north of Friday's Station and outside the Edgewood project area. This segment is a minor alignment of the interchange at the western end of SR 207. It has been realigned several times, lacks integrity and was recommended as not eligible for listing to the NRHP, to which the Nevada SHPO has concurred (Appendix I).

In light of the above, the road (EW-LF4) across the Friday's Station dam and pond may be potentially associated with heritage resources that have been inventoried and evaluated and whose recommended determinations of eligibility to the NRHP have been confirmed by the Nevada SHPO.

However, EW-LF4 is not part of the original route or grade of the Lincoln Highway. EW-LF4 post dates the Lincoln Highway, with a bracketed construction date of ca. 1940s-1950s to ca. 1969 and its associations are with construction of the Friday's Station pond and dam not the Lincoln Highway. Construction of the dam, pond and road across the dam would have obliterated any traces of the Lincoln Highway over the Edgewood Creek crossing and within the project area. Any traces of the Lincoln Highway south of the dam, through the Friday's Station complex and within the project area are non-recognizable given the amount of disturbance of the last several decades. Therefore, the road (EW-LF4) across the dam and southward through the Friday's Station complex is not a contributing element to the significance of the Lincoln Highway (26-Do-451). The original route and grade of this section of the Lincoln Highway has lost all integrity and so has retained none of the vital characteristics as an historical entity. It is recommended that road EW-LF4 is not eligible for the NRHP.

Isolates

Isolated artifacts/features are not typically considered significant in terms of NRHP criteria unless they are of exceptional importance. The 1946 monument marking the boundary line between California and Nevada is of exceptional importance, not only for its historical associations, but also as a significant cadastral survey monument. It is associated with important events in state and national history (NRHP Criterion A) and it embodies characteristics of design and construction, in that it may be the original monument placed in 1899 (NRHP Criterion C). Therefore, this resource is recommended eligible for the NRHP.

Architectural Resources

Friday's Station and Blacksmith/Pony Express Cabin

Friday's Station and the Blacksmith/Pony Express Cabin were previously determined eligible for listing on the NRHP in 1986. Friday's Station is significant for its association with the Pony Express (Criterion A) and as a survivor of the early inns of the Lake Tahoe area (Criterion C). Of the thirty Pony Express stops in Nevada, Friday's Station is intact and the only one which has not been reconstructed. Not only was Friday's Station a stop for the Pony Express, but it also served James McClean's Pioneer Stage Line and the Wells Fargo Express, as well as many travelers between California and the Comstock. Built in 1860, it is one of the oldest, if not the oldest, inn on Lake Tahoe. It served as a resort, known as the "Buttermilk Bonanza Ranch," until 1888. Friday's Station was listed on the NRHP in 1986.

Bunkhouse/Edgewood Water Company Office

The former bunkhouse, later the water company office, does not appear eligible for listing on the National or Nevada Registers under any of the criteria. Under Criteria A and B, it appears to date to the 1920s, is not associated with the National Register-eligible 1860s Friday's Station or Pony Express Cabin, nor is it associated with any events or persons important in history. Under Criterion C, it is a typical example of a common resource type, not the work of a master, nor does it possess high artistic values. Its information potential has been exhausted through its recordation its recordation and evaluation on the Nevada SHPO Historic Resources Inventory Form (Criterion D).

Pruett House

The Pruett House does not appear eligible for listing on the NRHP or Nevada Register under any of the criteria. Under Criterion A, although it is associated with the 1960s development of the Lake Tahoe Basin, it is not an important contributor to that event, nor is it associated with any persons important in history. Under Criterion C, it is a typical example of the California Ranch style of architecture, the most popular for design for residential development in the Lake Tahoe Basin in Olympics and winter sports-based developments

(Appendix I). It is a common resource type, not the work of a master, nor does it possess high artistic values. Under Criterion D, its information potential has been exhausted through its recordation and evaluation on the Nevada SHPO Historic Resources Inventory Form (Appendix I).

Dingman House

The Dingman House was constructed in 1978. As such, it does not meet the 50-year threshold for consideration as a historic resource per NRHP or TRPA guidelines and is recommended as not eligible for listing on the NRHP.

Edgewood Tahoe Golf Course Clubhouse

The Edgewood Tahoe Golf Course clubhouse was constructed in the 1960s and completely remodeled from its structural elements out before the opening of the 1993 season by San Francisco architect Shay Zak, winning the Gold Nugget Award and a TRPA Certificate of Excellence. It features elements of the Craftsman and Alpine modern styles, while the uplifted beam structure borrows from Faye Jones's Thorncrown Chapel. It is recommended as not eligible for listing on the NRHP as it does not meet the 50-year threshold for consideration as a historic resource per NRHP or TRPA guidelines.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.9.1-1	**Effects on Known Archeological and Historical Resources.** Over 20 prehistoric and historic-era cultural resources have been identified within the project vicinity (within 0.5 mile) and nine are known to be located within the project area boundaries. Three of these resources are either eligible or may be eligible for NRHP listing and as such are considered significant heritage resources per federal and TRPA regulations. Prehistoric site 26-Do-4 is reported to be in at least three locales throughout the project area. Surface remains of the site(s) have not been observed and are believed to have been destroyed, therefore, the site has been recommended as not-eligible to the NRHP based upon its surface component. However, subsurface and/or near surface intact archaeological deposits may exist and if encountered, this site may be eligible for NRHP listing and consequently considered significant historic resource per federal and TRPA regulations. Because construction associated with Alternative 1 has the potential to affect the integrity of this resource, this impact would be **significant**. Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The CA/NV boundary monument in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. If construction associated with Alternative 1 affected the integrity of these resources, the impact would be **significant**.

Four linear features comprising the Friday's Station Dam and Pond (EW-LF1), two ditches (EW-LF2 and –LF3) and a road (EW-LF4) and two architectural resources including the bunkhouse/Edgewood Water Company Office and Pruett House occur within the project area. These resources are recommended as not-eligible to the NRHP (Table 5.9-3). All of their potentially significant information has been recovered with the completion of IMACS archaeological site records and the Nevada SHPO Historic Resources Inventory forms and their data potential has been exhausted. Therefore, because these resources are not identified as significant heritage resources by federal and TRPA regulations, Alternative 1 would have no adverse effect on these resources.

Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The 1946 CA/NV boundary monument (EW-IF1) in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. If the proposed project affected the integrity of these resources, the impact would be **significant**.

Prehistoric site 26-Do-4 is reported to be in at least three generalized locales throughout the project site: one in the vicinity of the clubhouse, a second in the northeastern portion of the golf course and a third in proximity to Friday's Station. Surface remains of the site(s) have not been observed and are believed to have been destroyed. However, subsurface and/or near surface intact archaeological deposits may exist. Given the ethnographic context of Washoe traditional land use, where the tightly bounded archaeological concept of "site" may instead connote the more generalized concept of "place" and refer to broader areas that are more appropriately described as an ethnographic landscape, it is likely that the entire lower reach of Edgewood Creek may be culturally sensitive to contain buried Native American resources. In addition, the project area between U.S. 50 and Friday's Station may be sensitive to contain buried historic resources associated with the Friday's Station complex, as well as multiple generations of road/trail building (i.e., Pony Express Trail, Bonanza Road System, Lincoln Highway, and precursor routes of U.S. 50 and SR 207). If the proposed project affected the integrity of these resources, the impact would be **significant**.

Mitigation Measure 5.9.1-1: Archaeological Monitoring of Known Heritage Resources During Project Construction.

Prior to construction, the project applicant shall prepare an Archaeological Monitoring Plan in consultation with and subject to review by the Washoe Tribe, TRPA, and the Nevada SHPO. The archaeological monitoring of the project area shall include the area located between Friday's Station and U.S. 50 and areas contained within the golf course west of U.S. 50. Archaeological monitoring shall be conducted during all initial project ground disturbance activities (e.g., grading, utilities trenching, and landscaping). Because the project includes a multi-phase/multi-year construction program, the monitoring plan shall incorporate flexibility so that archaeological field decisions can be adjusted adaptively to reflect the presence or absence of archaeological remains. For example, if no subsurface deposits are encountered during the first phase of project construction, monitoring activities may be scaled-back. On the other hand, if buried artifacts/features are discovered, monitoring can be intensified. Any modifications to the Archaeological Monitoring Plan shall be developed in consultation with and subject to review by the Washoe Tribe, TRPA, and the Nevada SHPO.

During the course of archaeological monitoring activities, periodic monitoring of buildings and standing structures associated with the Friday's Station complex shall be performed to ensure that no other ground disturbances or equipment or material storage inadvertently occur outside the project impact zone and in close proximity to this NRHP property. During dredging and/or construction activities at the dam and pond, temporary fencing (Type ESA) shall be furnished, installed, maintained, and later removed in conformance with the details shown on the Edgewood Lodge and Golf Course Improvement Project Conceptual Site Plan dated September 30, 2011. Barricade fencing shall also be installed around the 1946 CA/NV boundary monument to protect it from inadvertent impact. No project work, staging activities, or parking shall be allowed within the barricade fencing.

A qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology shall monitor ground-disturbing activities in order to confirm compliance. If appropriate, the archaeologist may delimit a buffer or exclusion zone, which is established adjacent to ground disturbance activities and marked by flagging or plastic barricade fencing if necessary. The archaeological monitor shall also have the authority to temporarily halt project activities in the event of a discovery of heritage finds.

Implementation of Mitigation Measure 5.9.1-1 would reduce Impact 5.9.1-1 to a **less-than-significant** level because known heritage resources would be protected in accordance with federal, TRPA, and County regulations.

Impact 5.9.1-2	**Effects on Previously Undiscovered Heritage Resources or Human Remains.** Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features, artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. If previously undiscovered and significant (per NRHP/TRPA criteria) archaeological or historical resources or human remains are disturbed by construction associated with Alternative 1, this would be a **significant** impact.

Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features, artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. If previously undiscovered and significant (per NRHP/TRPA criteria) archaeological or historical resources or human remains are disturbed by construction, this would be a **significant** impact.

Mitigation Measure 5.9.1-2: Previously Undiscovered Heritage Resources and Human Remains.

If previously unknown archaeological or historical resources or human remains are discovered during any project-related ground-disturbing activities, the construction crew shall immediately cease ground-disturbing activities in the vicinity of the find. A qualified archaeologist (see Mitigation Measures 5.9.1-1) shall be consulted to evaluate the resource in accordance with federal, TRPA and County guidelines. If the discovered resource is determined to be significant per NHPA and TRPA criteria, mitigation measures consistent with Section 106 of the NHPA and the TRPA Code shall be devised and a mitigation plan submitted for approval by TRPA and/or the USACE representative (if appropriate). Any necessary archaeological excavation and monitoring activities shall be conducted in accordance with prevailing professional standards and the federal Secretary of the Interior's Standards and Guidelines for Identification of Cultural Resources and Professional Qualifications. Mitigation, in accordance with a plan approved by TRPA and the County and/or the USACE representative (if appropriate), shall be implemented before ground-disturbing work in the area of the resource find can continue.

The State of Nevada Revised Statutes Section 383.170 requires a person to report to the Office of Historic Preservation immediately upon discovery of a previously unreported Native American interment inadvertently disturbed by ground-disturbing activities such as construction, logging, or farming. The Office of Historic Preservation must consult immediately with the Nevada Indian Commission and notify the appropriate Indian tribe. The authorized tribe or their representative, with the permission of the landowner, must inspect the burial site and recommend an appropriate means for the treatment and disposition of the site and all associated artifacts and human remains. If the burial site is located on private land, Section 383.170 allows, at the owner's expense, the re-interment of all human remains and associated artifacts in a location not subject to further disturbance if the Indian tribe fails to make a recommendation within 48 hours after it receives notification of the find.

Implementation of Mitigation Measure 5.9.1-2 would reduce Impact 5.9.1-2 to a **less-than-significant** level because previously undiscovered archaeological or historical resources or human remains would be protected in accordance with federal, TRPA, and county guidelines.

Impact 5.9.1-3	Effects on Paleontological Resources. The project area is located within Holocene (10,000 years ago to present) and Pleistocene (1.8 million to 10,000 years ago) geologic formations. Because an object must be 10,000 years old to be considered a fossil, project activities in the Holocene formations would have no impact on paleontological resources. Marine deposits may occur in lacustrine terrace deposits and older beach deposits within the project area; however, these types of fossils are not considered to be a unique paleontological resource. Further, no fossils have been recorded in Pleistocene-era formations in Douglas County, Nevada. Therefore, project-related construction activities associated with Alternative 1 would have a less-than-significant impact on unique, scientifically-important paleontological resources.

Geologic mapping indicates that the project area is located within Holocene- and Pleistocene-age geologic formations. An object must be more than 10,000 years old to be a fossil. Therefore, project activities in the Holocene rock formations would have no impact on paleontological resources. Marine deposits may occur in lacustrine terrace deposits and older beach deposits within the project area; however, these types of fossils are not considered to be a unique paleontological resource. Further, no fossils have been recorded in Pleistocene-era formations in Douglas County, Nevada. The project area where the Pleistocene-age alluvium is located (Friday's Station pond) has been heavily disturbed in the past century and any new fossil discovery is unlikely. For these reasons, project-related construction activities would have a **less-than-significant** impact on unique, scientifically-important paleontological resources.

Mitigation Measure

No mitigation required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.9.2-1	Effects on Known Archeological and Historical Resources. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 2 would be the same as Alternative 1. Prehistoric site 26-Do-4 is reported to be in at least three locales throughout the project area. Surface remains of the site(s) have not been observed and are believed to have been destroyed, therefore, the site has been recommended as not-eligible to the NRHP based upon its surface component. However, subsurface and/or near surface intact archaeological deposits may exist and if encountered, this site may be eligible for NRHP listing and consequently considered significant historic resource per federal and TRPA regulations. Because construction associated with Alternative 2 has the potential to affect the integrity of this resource, this impact would be significant. Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The CA/NV boundary monument in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. If construction associated with Alternative 2 affected the integrity of these resources, the impact would be significant.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.9.1-1.

Mitigation Measure 5.9.2-1: Archaeological Monitoring of Known Heritage Resources During Project Construction.

See Mitigation Measure 5.9.1-1 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.9.2-1 would reduce Impact 5.9.2-1 to a **less-than-significant** level because known heritage resources would be protected in accordance with federal, TRPA, and County regulations.

Impact 5.9.2-2	Effects on Previously Undiscovered Heritage Resources or Human Remains. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 2 would be the same as Alternative 1. Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features, artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. If previously undiscovered and significant (per NRHP/TRPA criteria) archaeological or historical resources or human remains are disturbed by construction associated with Alternative 2, this would be a **significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.9.1-2.

Mitigation Measure 5.9.2-2: Previously Undiscovered Heritage Resources and Human Remains.

See Mitigation Measure 5.9.1-2 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.9.2-2 would reduce Impact 5.9.2-2 to a **less-than-significant** level because previously undiscovered archaeological or historical resources or human remains would be protected in accordance with federal, TRPA, and county guidelines.

Impact 5.9.2-3	Effects on Paleontological Resources. Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 2 would be the same as Alternative 1. The project area is located within Holocene (10,000 years ago to present) and Pleistocene (1.8 million to 10,000 years ago) geologic formations. Because an object must be 10,000 years old to be considered a fossil, project activities in the Holocene formations would have no impact on paleontological resources. Marine deposits may occur in lacustrine terrace deposits and older beach deposits within the project area; however, these types of fossils are not considered to be a unique paleontological resource. Further, no fossils have been recorded in Pleistocene-era formations in Douglas County, Nevada. Therefore, project-related construction activities would have a **less-than-significant** impact on unique, scientifically-important paleontological resources.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.9.1-3.

Mitigation Measure

No mitigation required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.9.3-1	**Effects on Known Archeological and Historical Resources.** Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 3 would be the same as Alternative 1. Prehistoric site 26-Do-4 is reported to be in at least three locales throughout the project area. Surface remains of the site(s) have not been observed and are believed to have been destroyed, therefore, the site has been recommended as not-eligible to the NRHP based upon its surface component. However, subsurface and/or near surface intact archaeological deposits may exist and if encountered, this site may be eligible for NRHP listing and consequently considered significant historic resource per federal and TRPA regulations. Because construction associated with Alternative 3 has the potential to affect the integrity of this resource, this impact would be **significant**. Friday's Station is currently listed on the NRHP. Contributing elements of this NRHP property are outside the project area and no project-related impacts are anticipated. The CA/NV boundary monument in the southern part of the project area near the lakeshore is recommended eligible for listing on the NRHP. The boundary marker is outside the area of disturbance and no project-related impacts are anticipated. Although these heritage resources are outside the area of ground disturbance, given their close proximity to project construction activities, disturbance could inadvertently occur. If construction associated with Alternative 3 affected the integrity of these resources, the impact would be **significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.9.1-1.

Mitigation Measure 5.9.3-1: Archaeological Monitoring of Known Heritage Resources During Project Construction.

See Mitigation Measure 5.9.1-1 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.9.3-1 would reduce Impact 5.9.3-1 to a **less-than-significant** level because known heritage resources would be protected in accordance with federal, TRPA, and County regulations.

Impact 5.9.3-2	**Effects on Previously Undiscovered Heritage Resources or Human Remains.** Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 3 would be the same as Alternative 1. Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features,

artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. If previously undiscovered and significant (per NRHP/TRPA criteria) archaeological or historical resources or human remains are disturbed by construction associated with Alternative 3, this would be a **significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.9.1-2.

Mitigation Measure 5.9.3-2: Previously Undiscovered Heritage Resources and Human Remains.

See Mitigation Measure 5.9.1-2 described above for Alternative 1. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.9.3-2 would reduce Impact 5.9.3-2 to a **less-than-significant** level because previously undiscovered archaeological or historical resources or human remains would be protected in accordance with federal, TRPA, and county guidelines.

Impact 5.9.3-3	**Effects on Paleontological Resources.** Because the project area and location and extent of grading and excavation would generally be the same as Alternative 1, the impact associated with Alternative 3 would be the same as Alternative 1. The project area is located within Holocene (10,000 years ago to present) and Pleistocene (1.8 million to 10,000 years ago) geologic formations. Because an object must be 10,000 years old to be considered a fossil, project activities in the Holocene formations would have no impact on paleontological resources. Marine deposits may occur in lacustrine terrace deposits and older beach deposits within the project area; however, these types of fossils are not considered to be a unique paleontological resource. Further, no fossils have been recorded in Pleistocene-era formations in Douglas County, Nevada. Therefore, project-related construction activities would have a **less-than-significant** impact on unique, scientifically-important paleontological resources.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.9.1-3.

Mitigation Measure

No mitigation required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the project area would remain in its current state and existing operation of the golf course, clubhouse, snowmobile operations, lakefront residences, and pier would be projected into the future. Because there would be no ground disturbance within the project area under Alternative 4, there would be no potential disturbance of known or unknown archaeological or historical resources.

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5.10 TRAFFIC, PARKING, AND CIRCULATION

This section describes the existing traffic, parking, and circulation system in the vicinity of the project site, presents the regulations applicable to the study area, identifies significance criteria for traffic, parking, and circulation impacts; and evaluates the potential impacts associated with "no project" and "plus project" conditions. Cumulative transportation and parking impacts are presented in Section 5.15, "Cumulative Impacts."

5.3.1 REGULATORY BACKGROUND

Numerous transportation-related standards and criteria apply to the study area, as shown in Table 5.10-1. Standards and performance targets are identified in various plans provided by the Tahoe Regional Planning Agency (TRPA) and Douglas County. Of these plans, the *Lake Tahoe Regional Transportation Plan – Mobility 2030 (RTP)* (Tahoe Metropolitan Planning Organization [TMPO] 2008) provides the most detailed direction for transportation program development within the project study area. Its provisions are discussed below.

STATE

Although the Nevada Department of Transportation (NDOT) and California Department of Transportation (Caltrans) provide Level of Service (LOS) standards for intersection and roadway operations, the standards set forth by the TRPA typically govern over the state standards for projects located within the Tahoe Basin, but any projects affecting a state highway are also subject to NDOT and Caltrans review. The standards set forth by Caltrans and NDOT are similar to those established by TRPA. The LOS standards set forth by the TRPA are applied in the analysis herein.

TAHOE REGIONAL PLANNING AGENCY

REGIONAL TRANSPORTATION PLAN - AIR QUALITY PLAN (GOALS AND POLICIES, ACTION ELEMENT)

The Tahoe Regional Planning Compact (the Compact) states that the goals of transportation planning shall be to reduce to the extent feasible, air pollution caused by motor vehicles, and to reduce dependency on the automobile by making more effective use of existing transportation modes and of public transit to move people and goods within the Tahoe Region (TRPA 1980). The purpose of the RTP is to attain and maintain the environmental threshold carrying capacities (thresholds) established by TRPA in 1982, and all applicable federal, state, and local standards established for transportation and air quality (TMPO 2008).

The TRPA transportation thresholds contained in the RTP address carbon monoxide, ozone, regional and sub-regional visibility, and nitrate deposition. There are numerical standards for each of these parameters, in addition to management standards that are intended to assist in attaining the thresholds. The management standards include the reduction of wood smoke, maintenance of oxides of nitrogen (NO_X) levels, reduction of U.S. 50 traffic volumes, and reduction of Vehicle Miles Traveled (VMT). The Compact also states that the Regional Plan shall provide for attaining and maintaining federal, state, or local air quality standards, whichever are strictest, in the respective portions of the region for which the standards are applicable.

Table 5.10-1. Transportation and Circulation Standards	
Plan/Policy	**Standard/Criteria**
Tahoe Regional Planning Compact (TRPA 1980)	Transportation planning in the Tahoe Region is required: (a) to reduce dependency on the automobile by making more effective use of existing transportation modes and of public transit to move people and goods within the region; and (b) to reduce to the extent feasible air pollution which is caused by motor vehicles.
TRPA Thresholds (TRPA 2007)	The thresholds that involve transportation are intended to reduce air pollution. The air quality thresholds address visibility, atmospheric deposition, and vehicle miles traveled (VMT). These thresholds are discussed in detail in Section 5.11, "Air Quality."
TRPA Goals and Policies (TRPA 2006)	The Transportation Element of the Goals and Policies establish general goals to be further defined by the Regional Transportation Plan (RTP). This element sets level of service (LOS) standards that include LOS D for urban roads and LOS D, with brief periods (no more than 4 hours) of LOS E, for signalized intersections. There are no LOS standards for unsignalized intersections.
TRPA Regional Transportation Plan (RTP)(TMPO 2008)	*Goals and Policies Element* (of the RTP): includes sub-elements applicable to all projects in the Region. Some policies relevant to community plans: (1) Community...plans shall make specific recommendations for locating mass transit terminals and transfer points within the community plan...boundaries; (2) The TRPA shall encourage large employers to provide incentives to increase automobile vehicle occupancies; and (3) The TRPA shall assist in the location and development of out-of-basin and in-basin Park-and-Ride lots.
TRPA Code of Ordinances (TRPA 2011)	Adherence to Chapter 12 requirements for traffic considerations, including vehicle trip reduction targets, and Section 65.2 requirements for traffic analyses; these Code sections require reducing significant impacts to a less-than-significant level.
Stateline Community Plan (TRPA and Douglas County 1993a)	The plan's overall goal for transportation is to reduce dependency on the automobile by making effective use of existing transportation modes and of public transit to move people and goods.
Douglas County Consolidated Development Code	Zoning regulations are established and enforced by Douglas County. Applicable parking standards are provided by Douglas County.
Douglas County Design Criteria and Improvement Standards (Douglas County 2007b)	Applicable roadway and intersection design standards are provided by Douglas County.
Douglas County Master Plan (Douglas County 2007a)	Douglas County provides traffic capacity and LOS criteria for various types of highways, and an operational LOS for signalized intersections.
Source: Compiled by LSC Transportation Consultants, Inc. in 2011	

TRPA Level of Service Standards

The Transportation Element of TRPA's *RTP* establishes traffic capacity and LOS criteria for various types of highways, and an operational LOS for signalized intersections. The LOS describes the quality of traffic flow through intersections, using a scale from A to F. This analysis procedure is a measure of several factors, including operating speeds, freedom to maneuver, traffic interruptions, and average delay for vehicles at intersections. The LOS descriptions provided in Appendix F summarize the quality of traffic flow for each LOS rating. Intersections operating at LOS A, B, or C function effectively. At LOS D, the traffic condition is characterized by heavy but stable traffic flows; typically LOS D is considered the minimum level of service appropriate for an urban setting. This is consistent with the standards set forth TRPA's Regional Transportation Plan. An LOS E represents operating conditions at or near capacity and results in notable delays, frequently requiring motorists to wait more than one signal cycle. Finally, LOS F represents traffic volumes in excess of the intersection capacity, indicates extreme vehicle delay, and is characterized by long traffic queues. The LOS standards for the Lake Tahoe Basin, established by TRPA, require that the following LOS not be exceeded during peak-period traffic flow:

- LOS C on rural scenic/recreational roads
- LOS D in rural developed areas
- LOS D on urban roads
- LOS D for signalized intersections—LOS E may be acceptable during peak periods not to exceed 4 hours per day

TRPA does not have a specific adopted standard for unsignalized intersections. For purposes of this EIS and consistent with the approach used in other traffic analyses conducted for projects in the Tahoe Region, an approach or movement of an unsignalized intersection operating at LOS F would be identified as a concern.

Environmental Threshold Carrying Capacities

Two threshold standards pertaining to air quality are set forth in terms of basin-wide VMT. These thresholds are applicable to transportation analyses.

Vehicle Miles Traveled

VMT is a computed value which correlates to the extent of an area's reliance on the private automobile for trip-making. The TRPA TRANPLAN transportation model provides a forecast of the number of trips made on the highway network and the distance between trip origins and destinations for each trip purpose. Total VMT is the sum of all these trip lengths.

The *Environmental Threshold Carrying Capacity Study Report* includes two air quality management threshold standards that relate to transportation facilities in the region: (1) the reduction in VMT by 10 percent from 1981 base year conditions to reduce nitrate deposition; and (2) the reduction in VMT by 10 percent from 1981 base year conditions to improve visibility. Since then, and since completion of the most recent TRPA Threshold Evaluation Report in 2006, traffic volumes in the Tahoe Basin have continued an overall declining trend, indicating that the basin-wide VMT threshold has now been achieved.

The best available real-world data used to assess region-wide VMT is provided by counts of total daily traffic volumes (during the peak summer month) conducted by Caltrans and NDOT at a total of 20 locations along U.S. 50, SR 89, and SR 28 throughout the Tahoe Basin. (Due to changes in the computer traffic model program used by TRPA, it is not possible to directly compare the estimate of VMT generated by the TRANPLAN software model output from the mid-1980s to the TransCAD software model output from the current model.) Based on this data, the best available annual estimate of basin-wide VMT dropped below the 10 percent reduction threshold

in 2007, and as of 2008 stood at a level 12.5 percent below the 1981 value (1,648,466 VMT). Considering that traffic volumes have not increased since 2008 (NDOT continuous traffic count data taken at the station on U.S. 50 between Lake Parkway and SR 207 shows the 2008 annual average daily traffic [AADT] volume was 28,000, and in 2009 and 2010 the AADT at this location was 27,000) it can be concluded that the region is currently in attainment of the VMT threshold. If traffic volumes do not "rebound" as a result of an improving economy, this indicates that VMT for the basin as a whole could increase by 40,920 while still being in attainment of this key regional threshold standard.

DOUGLAS COUNTY

DOUGLAS COUNTY LEVEL OF SERVICE STANDARDS

Applicable roadway standards are provided in the Douglas County Design Criteria and Improvement Standards (Douglas County 2007b), as follows:

- A traffic LOS C or better, in the context of providing a safe, efficient, and convenient transportation system, shall be maintained through mitigation of impacts from all conditions on all county, town, and district maintained arterial and collector roads and at county road intersections, except as noted in implementation strategies 12.11.01.2 and 12.11.01.3 of the Douglas County Master Plan.

The Douglas County Master Plan (DCMP)(Douglas County 2007a) also establishes traffic capacity and LOS criteria for various types of highways and an operational LOS for signalized intersections, as discussed below:

- LOS C on all arterial and collector roads maintained by the county, town, and district (Implementation Strategy 12.11.01.1)
- LOS D on all principal arterial roads maintained by NDOT (Implementation Strategy 12.11.01.2)
- In the Tahoe Basin, accept the designated standard for principal arterial roads included in the RTP (LOS D for signalized intersections, although LOS E may be acceptable during peak periods not to exceed four hours per day) (Implementation Strategy 12.11.01.3)

The TRPA LOS standards govern over the county standards for projects located in the Tahoe Basin.

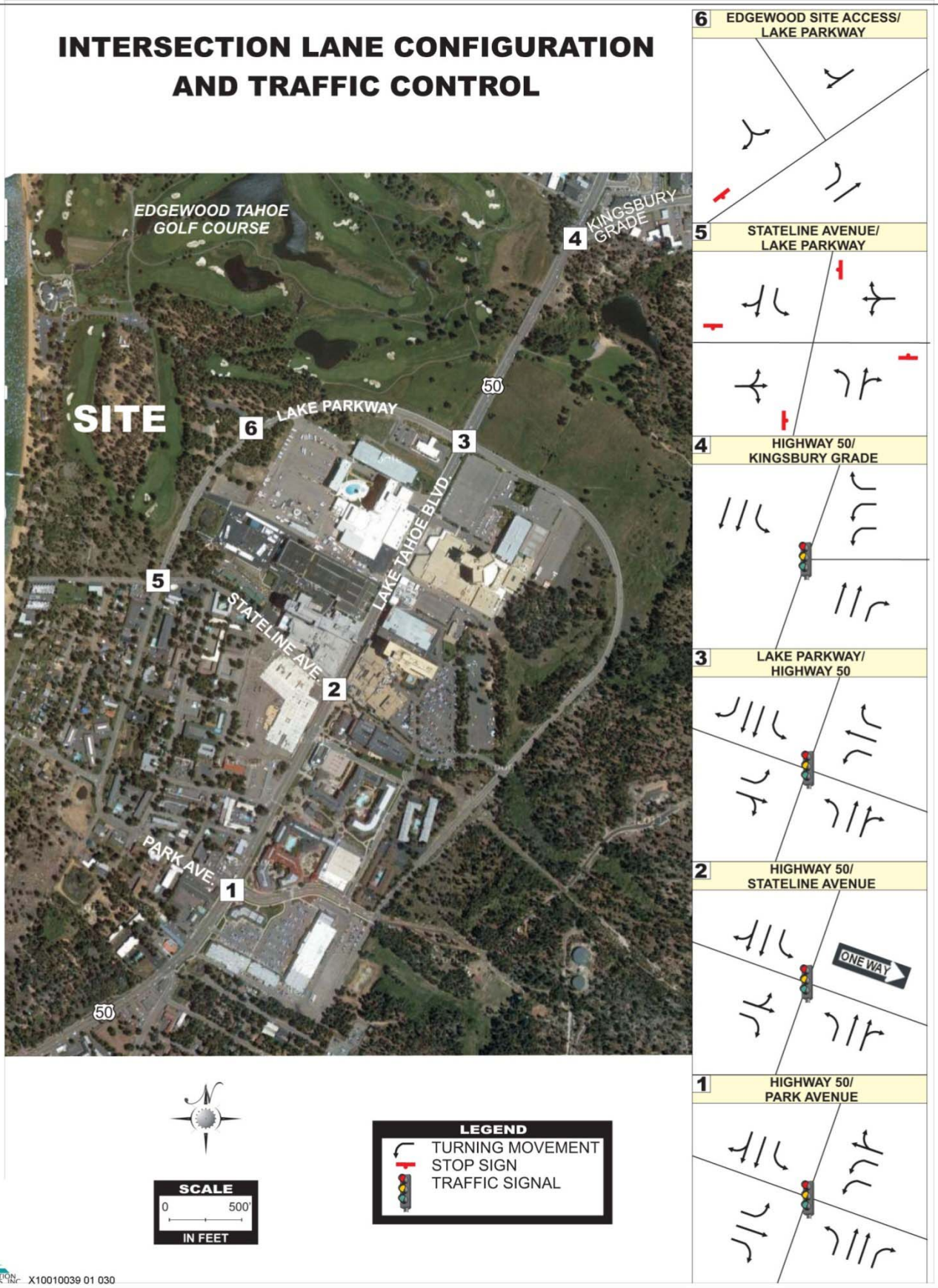
A draft update of the DCMP was released in November 2011, and approved on January 5, 2012 by the County Board of Commissioners. The DCMP has not been finalized, however, to reflect the requested changes of the Board, so the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

DOUGLAS COUNTY PARKING STANDARDS

Because the project site is located outside the boundaries of the Stateline Community Plan, the existing applicable parking standards for the project are those presented in the *Douglas County Consolidated Development Code* (Douglas County 2001).

5.3.2 AFFECTED ENVIRONMENT

This section identifies the existing transportation facilities and describes traffic conditions for the roadway network within the vicinity of the project site. The private automobile is the primary mode of transportation in the Lake Tahoe Basin. Exhibit 5.10-1 illustrates the site location, the study area intersection configurations, and traffic controls. Existing transit, pedestrian, and bicycle facilities are also described.



Source: Appendix F

Exhibit 5.10-1. Existing Lane Configuration and Traffic Controls at Study Intersections

EXISTING ROADWAYS AND STUDY INTERSECTIONS

The following is a description of the key roadways within the study area:

- **U.S. 50** connects the City of South Lake Tahoe over Echo Summit with Sacramento to the west, and over Spooner Summit with Carson City to the east. Although U.S. 50 is primarily aligned east-west, it assumes an orientation closer to north-south throughout the study area. Therefore, for the purposes of this study, U.S. 50 is assumed to be aligned in the north-south direction within the study area. Within the vicinity of the project, U.S. 50 has two through lanes in each direction and exclusive left-turn lanes at major intersections. A central two-way left-turn lane is provided south of Lake Parkway through the study area. The posted speed limit throughout the study area is 35 miles per hour (mph).
- **Kingsbury Grade (Nevada SR 207)** serves as the major access to commercial and residential areas along the Kingsbury corridor, as well as the Nevada base of Heavenly Ski Resort. In addition, this road serves as regional access between the Tahoe Basin and the Minden/Gardnerville area to the east. Near U.S. 50, this roadway consists of a single travel lane in each direction, with a center two-way, left-turn lane, and a grade of approximately 6 percent. The posted speed limit on Kingsbury Grade is 35 mph.
- **Park Avenue** is a two-lane roadway providing access to lodging and residential properties west of U.S. 50. Park Avenue also provides access to the west side of the Lake Parkway loop.
- **Heavenly Village Way** is a two-lane roadway providing access to the Heavenly Village and the Raley's shopping area on the west side of U.S. 50. Heavenly Village Way also provides access to the east side of the Lake Parkway loop, the residential neighborhood along Montreal Road, and Van Sickle Bi-State Park.
- **Stateline Avenue** is a two-lane roadway located immediately adjacent to and parallel to the California-Nevada state line. Stateline Avenue provides access to Harvey's Resort and Casino on the northeast side and to motel properties and residences, located in California, on the southwest side. East of U.S. 50, Stateline Avenue is a one-way eastbound access road to the Harrah's parking lot and Embassy Suites.
- **Lake Parkway** is a loop roadway that provides access to the project site. Lake Parkway also provides access to the casino properties on both sides of U.S. 50. East of U.S. 50, Lake Parkway is a two-lane roadway with left-turn lanes at the Harrah's and MontBleu parking lot entrances on the Nevada side. On the California side, Lake Parkway is continuous with Montreal Road, which intersects Heavenly Village Way to complete the loop. West of U.S. 50, Lake Parkway has a three-lane cross section with one through lane for each direction of travel, and a two-way left-turn lane along the segment in Nevada from the state line to U.S. 50. On the California side, Lake Parkway is continuous with Pine Boulevard, which intersects Park Avenue to complete the loop.

The following study intersections are included in this EIS analysis:

- U.S. 50/Park Avenue/Heavenly Village Way
- U.S. 50/Stateline Avenue
- U.S. 50/Lake Parkway
- U.S. 50/Kingsbury Grade
- Stateline Avenue/Pine Boulevard/Lake Parkway
- Site Access/Lake Parkway

The existing lane configuration and traffic controls at these study intersections are illustrated in Exhibit 5.10-1.

EXISTING TRAFFIC VOLUMES

EXISTING TRAFFIC VOLUME TRENDS

NDOT maintains a permanent automatic traffic recorder (ATR) count station at a point on U.S. 50 located 0.6 mile east (north) of the state line (between Lake Parkway and Kingsbury Grade) that yields useful information regarding traffic patterns in the project area. The monthly variation in average daily traffic (ADT) volumes is presented in Table 5.10-2. Traffic levels are highest in July (133.2 percent of annual average) and August (124.6 percent of annual average). In comparison, the average daily traffic volume in the winter month of greatest daily traffic activity (February) is 94.7 percent of annual average. As summer traffic conditions on U.S. 50 represent the peak season, winter traffic volumes are not analyzed in this EIS. Also, as the area experiences the highest traffic volume during the PM peak hour, this study focuses on PM peak hour traffic only.

Table 5.10-2. Monthly Traffic Volumes on U.S. 50 (0.6 Mile North of the State Line)

Month	Monthly Average Daily Traffic Volume (Total of Both Directions)	Percent of Annual Average Daily Traffic (%)
January	23,809	89.2
February	25,278	94.7
March	25,191	94.3
April	23,352	87.5
May	24,437	91.5
June	30,122	112.8
July	35,563	133.2
August	33,270	124.6
September	29,845	111.8
October	24,742	92.7
November	21,215	79.5
December	23,292	87.2

Source: NDOT 2010

EXISTING (2009) INTERSECTION VOLUMES

LSC Transportation Consultants (LSC) conducted intersection turning movement counts at all six study intersections on Friday, July 10, 2009 between 3:30 and 5:30 PM. Given that Basin traffic volumes have been in steady decline in recent years, these counts are expected to be representative, if not conservative, of current conditions at the time of EIS circulation. TRPA also conducted turning movement counts at U.S. 50/Park Avenue and U.S. 50/Kingsbury Grade on Friday, August 7, 2009. The count data is included in Appendix F. The TRPA August counts occurred during a busier traffic period and are used to provide a conservative analysis for the two intersections for which they are available. The LSC July counts are used for the remaining four intersections. Note that the existing traffic volumes reflect the vacant Redevelopment Project 3 site (southwest corner of the intersection of Stateline Avenue and U.S. 50). The Redevelopment Project 3 foundations were under construction during the periods when the traffic counts were performed, and as of early 2012, no land uses have been constructed on the site.

Consistent with other recent studies conducted in the south shore area, the 30th-highest traffic hour of the summer season is used as the design period for determining the need for intersection and roadway improvements. Caltrans maintains a permanent count station on U.S. 50 at a point between Pioneer Trail and

Park Avenue. Traffic count data for the entire summer season (June through September 2008, the most recent full summer season data available at the time of report preparation) was obtained from Caltrans in order to determine the 30th highest traffic hour. A review of this data indicates that the 30th highest hour on U.S. 50 at this location occurred from 3:00 to 4:00 PM on Friday, August 15, 2008. The total two-way traffic volume during the 30th highest hour was approximately 5 percent lower than the corresponding hour of the July 2009 turning movement counts, and approximately 4 percent lower than the traffic volumes recorded during the August 2009 traffic counts. The respective traffic counts were adjusted accordingly to match the 30th highest traffic hour along U.S. 50 using the following adjustment factors: the July counts were factored by 0.95 and the August counts were factored by 0.96 to estimate traffic conditions on the design day. The resulting adjusted 2009 intersection volumes are illustrated in Exhibit 5.10-2.

EXISTING (2009) DAILY TRAFFIC VOLUMES

ADT volumes on Lake Parkway and Stateline Avenue in 2009 without the project were estimated based on the 2009 peak-hour volumes and the ratio of daily to peak-hour volumes. Based upon a review of the Caltrans hourly traffic volumes on U.S. 50 during the summer of 2008, the ratio of daily to peak-hour volumes in the study area during the summer season is approximately 13.1. Applying this factor to the peak-hour volumes along Lake Parkway yields an estimated ADT of approximately 5,010 at a point east of the site driveway and 4,160 at a point west of the site driveway. Similarly, the estimated ADTs on Stateline Avenue are approximately 3,290 immediately east of Pine Boulevard and approximately 4,340 immediately west of U.S. 50.

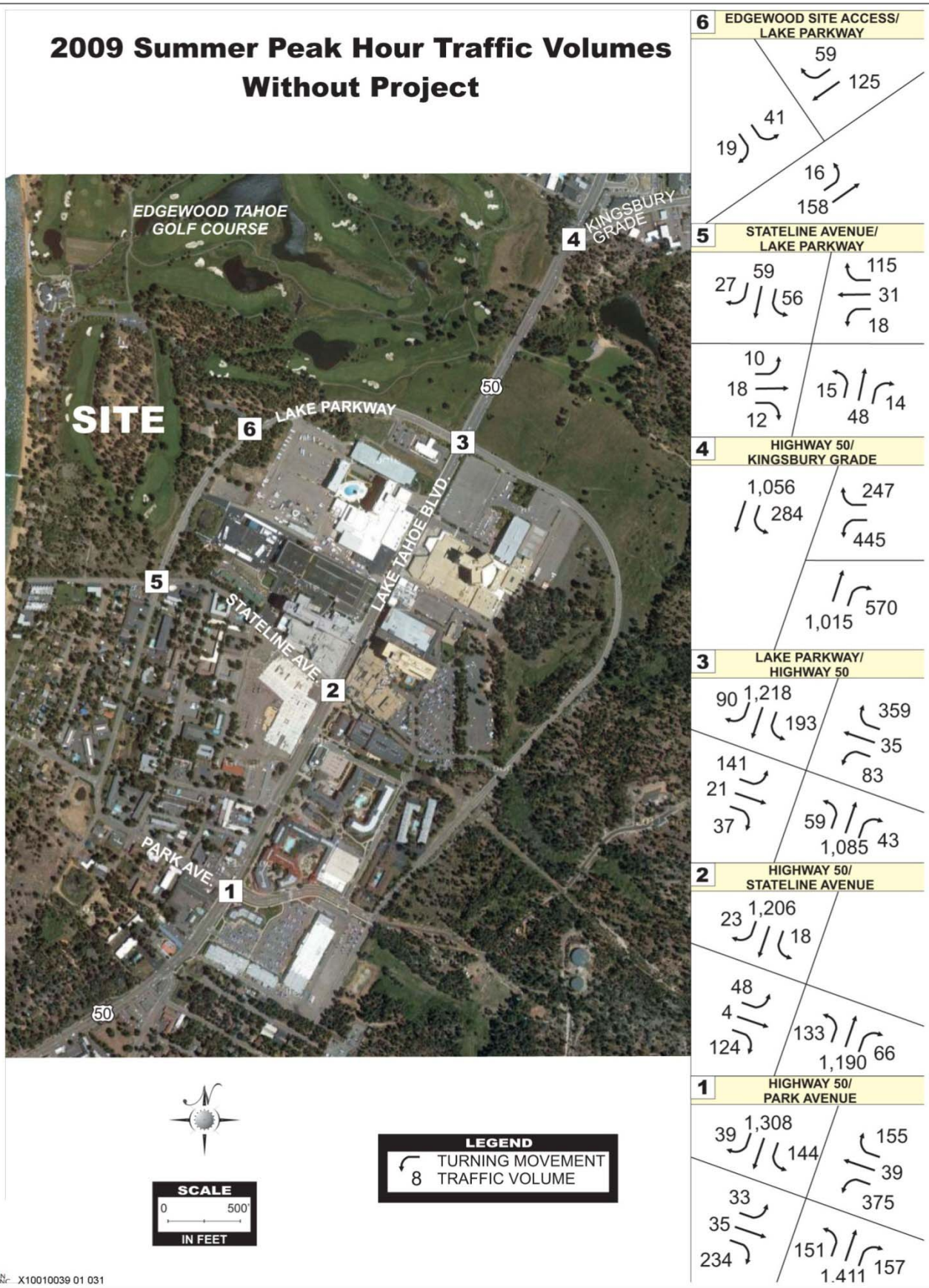
EXISTING INTERSECTION LEVEL OF SERVICE

LOS at each study intersection in 2009 without the proposed project was evaluated using the Traffix software package, which implements the *Highway Capacity Manual* (Transportation Research Board 2000) methodologies. The results are shown in Table 5.10-3, and the LOS model output is included in Appendix F. All study intersections currently operate at an acceptable level of service (LOS D or better).

Table 5.10-3. Existing Intersection LOS

Intersection	Type of Control	2009 Without Project			
		Worst Movement		Total Intersection	
		Delay (sec)	LOS	Delay (sec)	LOS
U.S. 50 / Park Avenue	Signal	--	--	35.3	D
U.S. 50 / Stateline Avenue	Signal	--	--	12.3	B
U.S. 50 / Lake Parkway	Signal	--	--	27.2	C
U.S. 50 / Kingsbury Grade	Signal	--	--	17.2	B
Lake Parkway / Stateline Avenue	All-Way Stop	9.0	A	8.5	A
Edgewood Access / Lake Parkway	Stop Controlled	10.3	B	1.8	A

Source: Appendix F



Source: Appendix F

Exhibit 5.10-2. 2009 Summer Peak Hour Traffic Volumes Without Project

5.3.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Based on TRPA's Initial Environmental Checklist, an alternative was determined to result in a significant impact to traffic, parking, and circulation if it would:

- cause LOS standards to be exceeded at study intersections,
- increase the potential for traffic accidents,
- result in inadequate emergency access,
- conflict with adopted policy, plans or programs supporting transit, bicycle, and pedestrian facilities,
- result in an increase in VMT that is substantial in relation to the regional VMT threshold standard,
- result in inadequate parking capacity, or
- result in inadequate transportation conditions due to construction traffic.

METHODS AND ASSUMPTIONS

The following key assumptions are applied in this analysis:

- Because both traffic volumes on the surrounding roadway network and traffic generation at the site are greater in the summer than in the winter, the analysis is conducted for summer conditions only.
- Because traffic volumes in the area are substantially greater in the PM peak hour than in the AM peak hour, the operational analysis is conducted for the PM peak-hour period only, for the busiest day of the week.
- The analysis is conducted to reflect peak (100 percent occupancy) use levels of the project site.
- The "design day" for this study assumes summer wedding events are occurring in the banquet facilities. Under existing conditions without the project, four events are assumed to occur over the course of the day (two in the North Room and two in the South Room of the clubhouse). With the project, a total of six events are assumed (four at the clubhouse and two at the proposed banquet facilities associated with the lodge). Up to three events are assumed to occur simultaneously on the site. During the peak hour it is assumed that one event begins and one event ends. As the event lawn is designed to be used in conjunction with the South Room, an event would not occur in the South Room at the same time there was another event on the event lawn. This is considered a reasonably conservative set of assumptions regarding the use of the event facilities.
- This analysis does not consider unique special events, such as a golf tournament generating spectators, because these events are not typical of daily conditions.
- Potential traffic, parking, and circulation impacts associated with the potential provision of waterborne transit service at the project site in the future unrelated to the proposed project are not addressed in this study.
- The first step in the analysis of project-related traffic impacts on LOS at study intersections is to prepare an estimate of the number of trips generated by the proposed project. Next, an estimated distribution pattern for trips arriving and departing the site is developed. The project-generated traffic volumes are assigned to the study intersections, based upon the distribution pattern and travel route assumptions. The resulting increase in 2009 peak-hour and daily traffic volumes on project access roadways is estimated. Finally, the PM peak-hour LOS at each study intersection is evaluated under existing (2009) conditions with each of the action alternatives. This methodology applies to the impact analysis below.

- To address the potential for the project to cause traffic accidents, first, the driver sight distance at the site access point on Lake Parkway is evaluated. Next, the site access location and internal circulation are discussed. The traffic queue lengths at the site access intersection with Lake Parkway are evaluated in order to identify any operational concerns resulting from implementation of each of the action alternatives. Finally, a gate queuing analysis is performed to assess the potential for traffic queues at the proposed gatehouse to interfere with traffic operations along Lake Parkway under Alternatives 1, 2, and 3.
- Because the lodge complex development under Alternatives 1, 2, and 3 would share parking with the golf course/clubhouse uses, the parking analysis herein considers all of the parking needs at the site, with the exception of unique special events (such as large golf tournaments that generate spectators). First, the parking demand of the individual land uses proposed as part of each action alternative is estimated. Next, reductions for internal capture, non-auto travel, and the effect of shared parking are considered. Finally, the peak parking demand is compared to the proposed parking supply, in order to determine the overall parking balance.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.10.1-1	**Intersection LOS Under Existing (2009) Plus Project Conditions – Alternative 1.** Although implementation of Alternative 1 would result in increased vehicular delays at the study intersections, all intersections would continue to operate at an acceptable LOS under existing (2009) plus project conditions. This impact is considered **less than significant**.

Trip Generation

Trip generation is the evaluation of the number of vehicle-trips that would have either an origin or destination at the project site. Daily vehicle-trip ends (DVTE) and peak hour vehicle-trip ends (PHVTE) are determined in order to analyze the potential impacts from the proposed project. The trip generation analysis for the existing and proposed uses at the project site is presented in Table 5.10-4. Standard trip rates provided in the ITE *Trip Generation, 8th Edition* manual (ITE 2008) are used for the calculation of daily and PM peak-hour trip generation. As the ITE *Trip Generation* manual does not provide daily trip rates for bars, the daily trip generation rate provided in the *TRPA Trip Table* is applied to Brooks Bar (within the existing clubhouse) and the proposed lodge bar. These analyses are conducted to reflect peak (100 percent occupancy) use levels of the project site.

Trip Generation — Existing Land Uses

Trip generation for the existing land uses at the site is shown in Table 5.10-4, and is based on the following additional information/assumptions:

- Clubhouse bar – trips associated with the existing clubhouse bar are accounted for in the “Golf Course” line item, because the golf course land use (ITE Land Use Code 430) is defined to include sites having clubhouses with a lounge. However, the Edgewood Restaurant and Brooks Bar are treated as separate line items, because they are assumed to attract a high proportion of external patrons or those not also playing golf.
- Clubhouse banquet rooms – two banquet events per day are assumed to occur in each existing banquet room. During the PM peak hour, it is assumed that one event starts in one banquet room and one event ends in the other banquet room. For the purposes of trip generation, an average vehicle occupancy rate of 2.5 persons per vehicle is assumed for banquet attendees.

Reductions for Internal Trips

Although the on-site Brooks Bar is open to the general public, a substantial number of patrons of these types of facilities typically consist of persons already on the site. In order to estimate the number of Brooks Bar patrons who are also associated with the golf course, an intercept survey was conducted by LSC staff on Friday, July 18,

2008 from 12:30 to 2:00 PM. No special events, such as a golf tournament generating spectators, occurred on this day. A total of 103 patrons were surveyed. The results of the survey indicate approximately 51 percent of Brooks Bar patrons also used the golf course over the course of the day. Therefore, the existing sports bar trip generation is reduced by 50 percent to reflect internal trips made between the bar and the golf course, which do not affect the site access intersection. The Edgewood Restaurant is only open for dinner. Because evening dining occurs largely after the peak in golf use, the proportion of restaurant patrons that are also golfers is assumed to be lower, by 20 percent. The corresponding reduction in the golf course line item equates to approximately 8 percent. These reductions are shown in Table 5.10-4.

Reductions for Non-Auto Travel

Some trips associated with the existing uses are made via non-auto modes (transit, pedestrian, bicycle). A modest level (5 percent) of bicycle, pedestrian and shuttle travel is assumed for trips associated with Edgewood Restaurant and Brooks Bar, such as Stateline visitors walking to and from the site. It is assumed that 20 percent of event attendees currently access the site via non-auto transportation modes. Based upon the observed proportion of Stateline area employees commuting by auto (82 percent; City of South Lake Tahoe and TRPA 2007) divided by the average vehicle occupancy for resident work trips in the Tahoe Region (1.26 employees per vehicle), approximately 35 percent of banquet employee trips are assumed to be made via non-auto modes. No reduction is applied for non-auto trips made to/from the golf course, in order to remain conservative in this analysis.

External Trip Generation of Existing Uses

As indicated in Table 5.10-4, the existing uses are estimated to generate approximately 2,075 DVTE at the site driveway, 261 of which occur during the PM peak hour (113 entering and 148 exiting).

Trip Generation — Alternative 1 Development

The trip generation of the proposed land uses is shown in Table 5.10-4, and is based on the following additional information/assumptions:

- Lodge units – trip generation for the proposed hotel-style lodging units is based on the ITE “hotel” land use. Trip generation for the proposed multiple-bedroom interval ownership units is based on the ITE “timeshare” land use.
- Health spa – trips associated with the proposed spa and wellness center are based on the ITE “health/fitness club” land use.
- Lodge restaurant and bar – trip generation for the lodge restaurant and bar are estimated separately. Trip generation for the lodge restaurant is based on the ITE “high-turnover sit-down restaurant” land use, and trip generation for the lodge bar is based on the “drinking place” land use in TRPA’s Trip Table.
- Lodge banquet room – trip generation for the lodge banquet room is estimated based on the same assumptions used to estimate the trip generation for the existing clubhouse banquet rooms. Although the lodge banquet room would have a total capacity of 500 seats, a 500-seat event is not anticipated to occur during the summer season. Rather, the room is assumed to be partitioned for two separate and non-simultaneous events with capacities of 250 seats each.
- Single-family residences – the project would result in the removal two existing single-family homes and retain rights to reconstruct two new replacement single-family homes on relocated parcels within the Edgewood property. At this time, the project does not include the construction of new homes; however, the two replacement, single-family homes could be constructed at some point in the future. The trip generation associated with the proposed relocated homes would be the same as presently occurs with the existing homes. Therefore, it is assumed that trip generation would not change, as shown in Table 5.10-4.

Table 5.10-4. Alternative 1 Proposed Project (194 Units) – Trip Generation Analysis

Description	ITE Land Use	ITE Code	Quantity	Variable	Trip Rates [1]					Reduction for Non-Auto Trips	Daily Vehicle Trip Ends (DVTE)	External Trip Generation		
					Daily	Peak Hour			Reduction for Internal Trips			Peak Hour		
						IN	OUT	TOTAL				IN	OUT	TOTAL
EXISTING LAND USES														
Golf Course [2]	Golf Course	430	18	Holes	40.63	2.25	2.34	4.59	8%	0%	673	37	39	76
Clubhouse														
Edgewood Restaurant	Quality Restaurant	931	100	Seats	2.81	0.19	0.14	0.33	20%	5%	214	14	11	25
Brooks Bar	Drinking Place	936	7.26	KSF	205.36	7.48	3.86	11.34	50%	5%	708	26	13	39
North Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.00	0.40	0.40	0%	20%	320	0	80	80
South Banquet Room [4,5]	N/A	N/A	100	Seats	1.6	0.40	0.00	0.40	0%	20%	128	32	0	32
Banquet Employees [6]	N/A	N/A	10	Employees	2	0.50	0.50	1.00	0%	35%	13	3	4	7
Total Clubhouse											*1,383*	*75*	*108*	*183*
Single-Family Residences	Single-Family Detached Housing	210	2	DU	9.57	0.64	0.37	1.01	0%	0%	19	1	1	2
TOTAL EXISTING USES											*2,075*	*113*	*148*	*261*
PROPOSED LAND USES														
Lodge														
Hotel	Hotel	310	154	Rooms	8.92	0.34	0.36	0.70	14%	25%	886	34	36	70
Multiple-Bedroom Interval Ownership Units	Timeshare	265	40	Units	10.56	0.39	0.40	0.79	14%	25%	272	10	11	21
Subtotal Lodging Units			*194*	*Units*							*1,158*	*44*	*47*	*91*
Health Spa	Health/Fitness Club	492	12.90	KSF	32.93	2.01	1.52	3.53	90%	5%	40	2	2	4
Lodge Restaurant [3]	High-Turnover (Sit-Down) Restaurant	932	3.00	KSF	127.15	6.58	4.57	11.15	90%	5%	36	2	1	3
Lodge Bar [3]	Drinking Place	925	0.80	KSF	205.36	7.48	3.86	11.34	90%	5%	16	1	0	1
Lodge Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.40	0.00	0.40	10%	10%	324	81	0	81
Lodge Banquet Employees [6]	N/A	N/A	14	Employees	2	0.50	0.50	1.00	0%	35%	18	5	4	9
Subtotal Lodge Amenities											*434*	*91*	*7*	*98*
Total Lodge											*1,592*	*135*	*54*	*189*
Golf Course [2]	Golf Course	430	18	Holes	40.63	2.25	2.34	4.59	25%	0%	548	30	32	62
Clubhouse														
Edgewood Restaurant	Quality Restaurant	931	100	Seats	2.81	0.19	0.14	0.33	25%	5%	200	14	10	24
Brooks Bar	Drinking Place	925	7.26	KSF	205.36	7.48	3.86	11.34	60%	5%	567	21	10	31
North Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.00	0.40	0.40	10%	10%	324	0	81	81
South Banquet Room [4,5]	N/A	N/A	200	Seats	1.6	0.00	0.00	0.00	10%	10%	259	0	0	0
Clubhouse Banquet Employees [6]	N/A	N/A	13	Employees	2	0.50	0.50	1.00	0%	35%	17	5	3	8
Total Clubhouse											*1,367*	*40*	*104*	*144*
Single-Family Residences	Single-Family Detached Housing	210	2	DU	9.57	0.64	0.37	1.01	0%	0%	19	1	1	2
Public Beach and Pier [7]	N/A	N/A	60	Persons	3.55	0.34	0.34	0.68	25%	50%	80	8	7	15
Shuttle Vehicle Trips			--	--	--	--	--	--	--	--	96	4	4	8
Total Proposed Uses											**3,702**	**218**	**202**	**420**
Net Impact of Development at Site Driveway											***1,627***	***105***	***54***	***159***

[1] Daily and peak hour trip generation rates are based on the ITE Trip Generation Manual, 8th Edition (ITE, 2008) unless noted otherwise.
[2] This line item includes trips associated with existing Clubhouse Bar.
[3] Restaurant and bar included in ITE definition of Hotel, but 10% external trips assumed due to relatively large floor area.
[4] Two events per day are assumed to occur in each banquet room. During the peak hour, it is assumed that an event in one banquet room would start and one event in another banquet room would end.
[5] A vehicle occupancy rate of 2.5 persons per vehicle was assumed for banquet room event attendees, for the purposes of trip generation.
[6] A vehicle occupancy of one person per vehicle is assumed for banquet room employees. It is assumed that 50% of the banquet room employees would either arrive or depart during the peak hour.
[7] Standard trip rates are not provided for the Edgewood Beach. Beach trip generation is estimated by assuming a maximum occupancy of 60 persons during busy periods when the event facilities are in full swing, with an average of 3 persons per vehicle.
Source: LSC Transportation Consultants, Inc. 2012

- Public beach – standard trip generation rates are not provided for a public beach and pier. Trip generation for the public beach and pier is estimated based upon the estimated number of persons using the beach area. Based on the design capacity of an urban public beach, which should accommodate approximately one person per 50 square feet of beach (TRPA 2005), the proposed beach could accommodate up to 310 people while sustaining the desired user experience associated with an urban beach recreation area. Based on the analysis in Section 5.4, "Public Recreation and Access," during certain special events at the clubhouse south room and event lawn, access to portions of the public beach and lakefront recreation area could be restricted. Edgewood Companies proposes to take an adaptive management approach to public use of the lakefront recreation area through such measures as limiting access during peak periods. For example, all public lakefront recreation users would need to pass through the gate house area at the entry from Lake Parkway. To facilitate event control and security for large crowds, Edgewood Companies would need to restrict access to the lakefront recreation area to ticketed members of the public during extraordinary events such as the Celebrity Golf Event and the 4th of July. The trip generation rates assume 8 hours of beach use during the day and a 3-hour turnover time per beach user. Because parking for the public beach would not be provided on-site, beach users arriving via automobile are assumed to enter the site to drop-off their party, exit the site to park their vehicles, and make an additional round-trip to pick up their party. The average vehicle occupancy rate for beach users is estimated to be approximately 3 persons per vehicle. Lastly, any potential beach concessions are assumed to be an accessory use to the lodge (with no external advertising and no signage visible from Lake Parkway), and would therefore have a negligible impact on traffic generation.
- Shuttle vehicles – a shuttle service would be provided by the project applicant to transport guests and employees to/from the casino corridor, Heavenly Village, and other nearby destinations. The proposed shuttle service would operate based on demand in a fashion that would serve guest needs, but not result in unnecessary shuttle trips and associated VMT. For the purposes of the trip generation analysis, the shuttle is assumed to make 4 clockwise loops per hour (via Lake Parkway – U.S. 50 – Stateline Avenue). Turning movements made by shuttle vehicles at the site driveway are shown as a separate line item in the trip generation table.

Reductions for Internal Uses

- The proposed spa and wellness center, lodge restaurant, and lodge bar would be open to the general public. Because these facilities would be readily accessible to lodge guests and residents, most of the users of these facilities would consist of persons already on-site. The ITE definition of the "hotel" land use includes supporting facilities, such as restaurants, cocktail lounges, and limited recreational facilities (health spa). Therefore, some level of trip generation associated with these types of facilities is already reflected in the hotel line item. However, to be conservative in this analysis, 10 percent of the trip generation of these uses is assumed to be external, given the relatively large floor area of these amenities and the proximity to the lake.
- Some of the golfers would consist of lodging guests and residents already on-site, who would thus not generate external vehicle trips associated with the golf course. Lodging/golf course developments typically market vacation packages that tend to encourage this "internal" use. Comparing the total number of golfers that could play the course over a day and the population of the lodging/residential land uses, at least 25 percent of golfers are estimated to consist of lodging guests on peak season days when the lodging occupancy is high.
- Because the existing Edgewood restaurant in the clubhouse would continue to be only open for dinner, and evening dining occurs largely after the peak period of golf course use, the portion of clubhouse restaurant patrons that make trips internal to the site is assumed to be 25 percent.
- With the proposed development, approximately 60 percent of the Brooks Bar patrons are assumed to make trips internal to the site.

- Ten percent of the banquet room event attendees are assumed to stay overnight on-site, reflecting a conservative assumption that a small portion of banquet room guests would also be Lodge guests.
- Approximately 25 percent of persons using the public beach are assumed to make trips to/from another use on the project site.

Reductions for Non-Auto Travel

Some of the trips associated with the lodging uses would be made via non-auto modes. Guests of the lodge are anticipated to walk, bicycle or take shuttle services to nearby activity centers, such as the Stateline casinos, while staying in the area. The non-auto mode split of hotel trips in the casino core area, such as the Project 3 site, is estimated to be approximately 44 percent. Because the project site is farther from the casino corridor, it is conservatively estimated that 25 percent of the lodging/residential trips would be made via non-auto modes.

It is assumed that 10 percent of banquet event attendees would arrive at the site via non-auto modes, such as on a shuttle bus from a nearby resort. This is a smaller percentage than the 20 percent assumed for the existing banquet rooms, reflecting the fact that some of the event attendees who currently would stay in the Stateline area and use a shuttle to access the Edgewood site would opt to stay at the proposed Edgewood Lodge instead.

According to the project description, the public beach area would be accessible via a paved pedestrian/bicycle path paralleling the site access roadway. In order to encourage the use of transportation shuttles and non-motorized travel to/from the Stateline casino corridor area, public parking for users of the beach would not be provided on the project site, although public beach users could be dropped off at the public beach access drop-off area. Consequently, approximately half of the trips associated with the public beach are expected to be made via non-auto modes. (These trips would not use the drop-off area.) For instance, beach users parking elsewhere in the casino corridor and then walking through the project site to access the beach are included in this calculation.

The remaining reductions for non-auto modes are based on the same assumptions applied to the existing land uses.

External Trip Generation of Proposed Uses

As indicated in Table 5.10-4, the proposed land uses are estimated to generate approximately 3,702 DVTE at the site driveway, 420 of which occur during the peak hour (218 entering and 202 exiting).

Net Impact on Trip Generation at the Site Access

Subtracting the existing trip generation from that of the proposed development indicates that the proposed project would result in a net increase of approximately 1,627 DVTE and 159 PHVTE (105 inbound and 54 outbound) at the site access point over the course of a peak summer day.

Trip Generation — TAU Sending Parcels

None of the proposed lodging/residential units would be “new” development in the south shore area. A total of 194 tourist accommodation units (TAUs) would be transferred from sending parcels located in the South Lake Tahoe area (see Chapter 3, “Project Description,” for a description of TAU transfers and sending parcels). It is necessary to estimate the daily trip generation of the TAU units to be transferred, for use in the VMT analysis. The trip generation analysis of the sending parcels is summarized in Table 5.10-5.

The ITE “motel” trip rate is applied to all of the units to be transferred except those at the Tahoe Beach & Ski Club, for which the ITE “hotel” trip rate is applied. According to the ITE *Trip Generation* manual (ITE 2008), the definition of the motel land use differs from that of a hotel in that motels have “few (if any) supporting facilities” (e.g., restaurants, lounges, meeting space, etc.). Motels are generally characterized by “exterior corridors accessing rooms – immediately adjacent to a parking lot.” Some of the trips associated with the units to be transferred are made via non-auto modes. The non-auto mode split of trips in the casino corridor area, such as trips made to/from the Project 3 site, is estimated to be approximately 40 percent. Therefore, approximately 40

percent of the trips made by sending parcels located in the Project 3 and Heavenly Village area are estimated to be made via non-auto modes. Approximately 25 percent of trips generated by the Tahoe Beach & Ski Club units are assumed to be made via non-auto modes, because they are located within convenient walking distance of the Ski Run Marina, and they are served by a public transit program and the casino shuttles. Only 5 percent of trips to/from the C&M Lodge are assumed to be made by non-auto modes, as the Y area does not provide convenient walking and transit opportunities. Applying these reductions to the trip generation yields a total of approximately 1,298 DVTE generated by the sending parcels. The traffic associated with the sending parcels does not affect the operational analysis in this EIS, as the operational analysis focuses on local traffic impacts resulting from the proposed site development. However, these figures are used in the VMT discussion under Impact 5.10.1-5.

Table 5.10-5. Trip Generation Analysis of TAU Sending Parcels Under Alternative 1

Description[1]	ITE Land Use	ITE Code	Quantity	Variable	Daily Trip Rate[2]	Reduction for Non-Auto Trips	Trip Generation Daily Vehicle Trip Ends (DVTE)
Carousel Motel	Motel	320	27	Rooms	9.11	40%	148
Thunderbird Motel	Motel	320	20	Rooms	9.11	40%	109
Tahoe Beach and Ski Club	Hotel	310	63	Rooms	8.92	25%	422
Colony Inn	Motel	320	34	Rooms	9.11	40%	186
C&M Lodge	Motel	320	50	Rooms	9.11	5%	433
Total Units to be Transferred			194				1,298

[1] The location of these sending parcels is shown in Table 3-7 in Chapter 3, "Project Description."
[2] Daily trip generation rates are based on ITE 2008 unless noted otherwise.
Source: LSC Transportation Consultants, Inc. 2012

Trip Distribution and Assignment

The distribution of traffic arriving and leaving the project site is identified based upon existing traffic patterns and the location of recreational, residential/lodging, and commercial land uses within the vicinity of the site. A separate trip distribution pattern is provided for the lodging and golf course/amenities land uses within the proposed development reflecting that the lodging land uses would have a slightly greater trip distribution to/from points to the south than the golf course and amenities. The estimated distribution of the project traffic during the summer peak hours is summarized in Table 5.10-6. As shown, project trips are heavily distributed to/from points south of the site, such as the casino corridor and the City of South Lake Tahoe.

Table 5.10-6. Alternative 1 Proposed Project (194 Units) Trip Distribution

Location	Distribution of PM Peak Hour Vehicle Trips		
	Lodging Only	Golf Course and Amenities	Weighted Average of All Project Trips[1]
U.S. 50, south of Park Avenue	71%	68%	69%
U.S. 50, north of Kingsbury Grade	13%	15%	15%
Kingsbury Grade	7%	9%	8%
Lake Parkway, east of U.S. 50	5%	4%	4%
California Side, north of Park Avenue, west of U.S. 50	2%	2%	2%
Lake Parkway, west of U.S. 50, north of Stateline Avenue	2%	2%	2%
Total	100%	100%	100%

[1] Does not Includes Edgewood shuttle vehicle trips.
Source: LSC Transportation Consultants, Inc. 2012.

The project-generated trips are assigned to the study intersections by applying the distribution pattern to the traffic generation. The resulting "project net impact" on peak-hour traffic volumes is illustrated on Exhibit 5.10-

3. Adding these volumes to the existing traffic volumes without the project yields the existing 2009 "with project" peak-hour traffic volumes illustrated on Exhibit 5.10-4.

Project Impact on Traffic Volumes

A comparison with the existing 2009 summer peak-hour volumes indicates that implementation of Alternative 1 would increase the total peak-hour traffic volumes at the study intersections along U.S. 50 by an average of approximately 2 percent. Furthermore, Alternative 1 would result in an increase in total two-way, peak-hour traffic volumes on nearby roadway segments as follows:

- Lake Parkway between U.S. 50 and Site Access – 27 percent increase
- Lake Parkway between Site Access and Stateline Avenue – 14 percent increase
- Stateline Avenue immediately east of Pine Boulevard – 2 percent increase
- Stateline Avenue immediately west of U.S. 50 – 1 percent increase

The project's impact on existing ADT along Lake Parkway and Stateline Avenue were estimated, and the results are shown in Table 5.10-7. Implementation of Alternative 1 would result in an increase in ADT along Lake Parkway ranging from 14 to 21 percent under 2009 conditions. The increase in ADT along Stateline Avenue would range from 1 to 2 percent.

Table 5.10-7. ADT Impact on Nearby Roadways Under Existing (2009) Conditions - Alternative 1

Road Segment	Average Daily Traffic Volume (ADT)			
	2009 Without Project	Project Generated	2009 with Project	Percent Increase
Lake Parkway, east of Edgewood	5,010	1,035	6,045	21%
Lake Parkway, west of Edgewood	4,160	592	4,752	14%
Stateline Avenue, east of Pine Boulevard	3,290	60	3,350	2%
Stateline Avenue, west of U.S. 50	4,340	48	4,388	1%

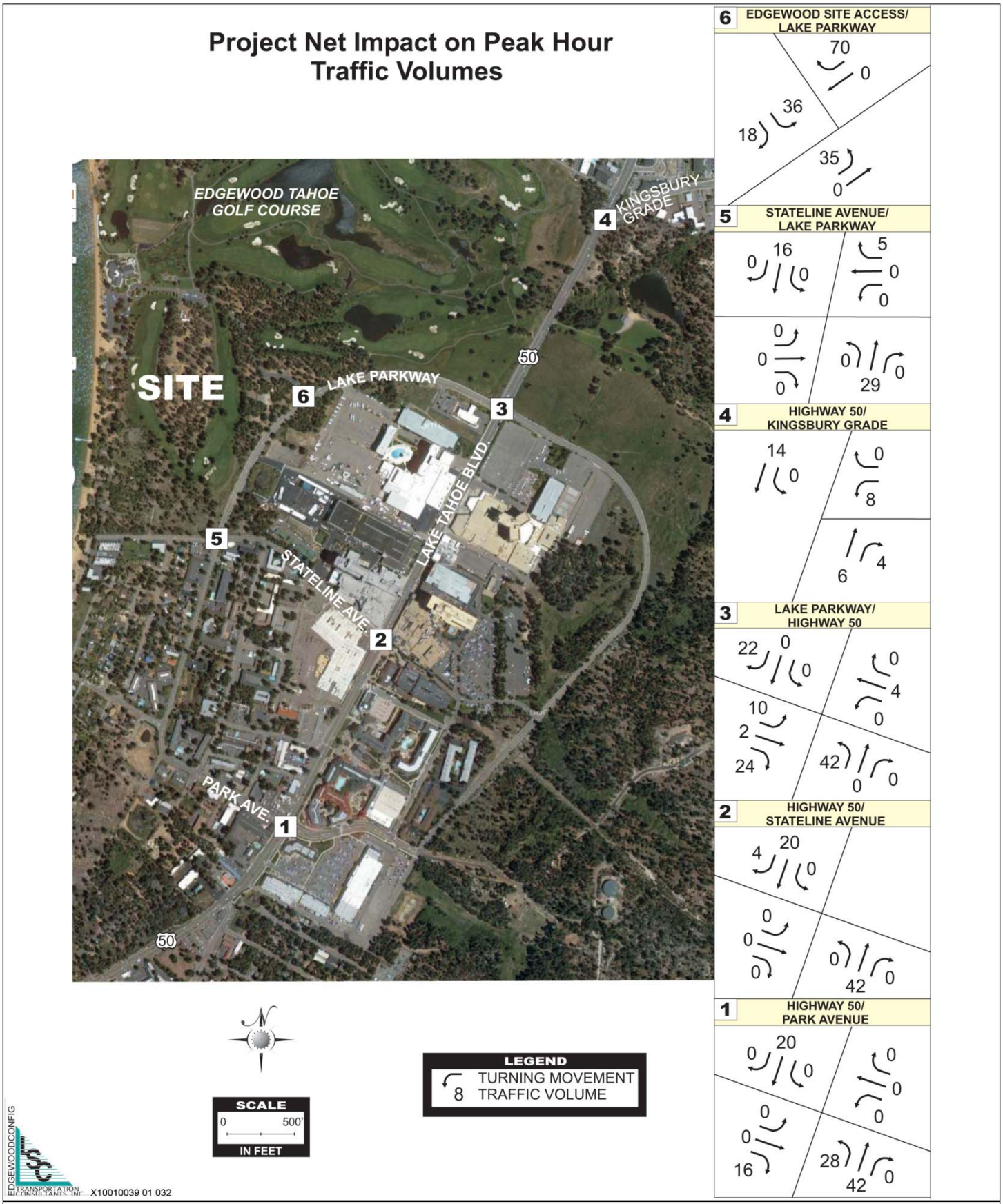
Project Impact on Intersection Level of Service

The LOS at each study intersection was then evaluated using the *Traffix 8.0* software, based upon the *Highway Capacity Manual* (Transportation Research Board *2000*) methodologies. Appendix F contains the LOS output under Alternative 1. Table 5.10-8 presents existing (2009) intersection LOS with and without Alternative 1. As shown, all study intersections would continue to operate at acceptable levels (LOS D or better) under existing (2009) conditions with the addition of traffic generated by Alternative 1. Therefore, this impact is considered **less than significant**.

Table 5.10-8. Existing (2009) Intersection LOS with Alternative 1

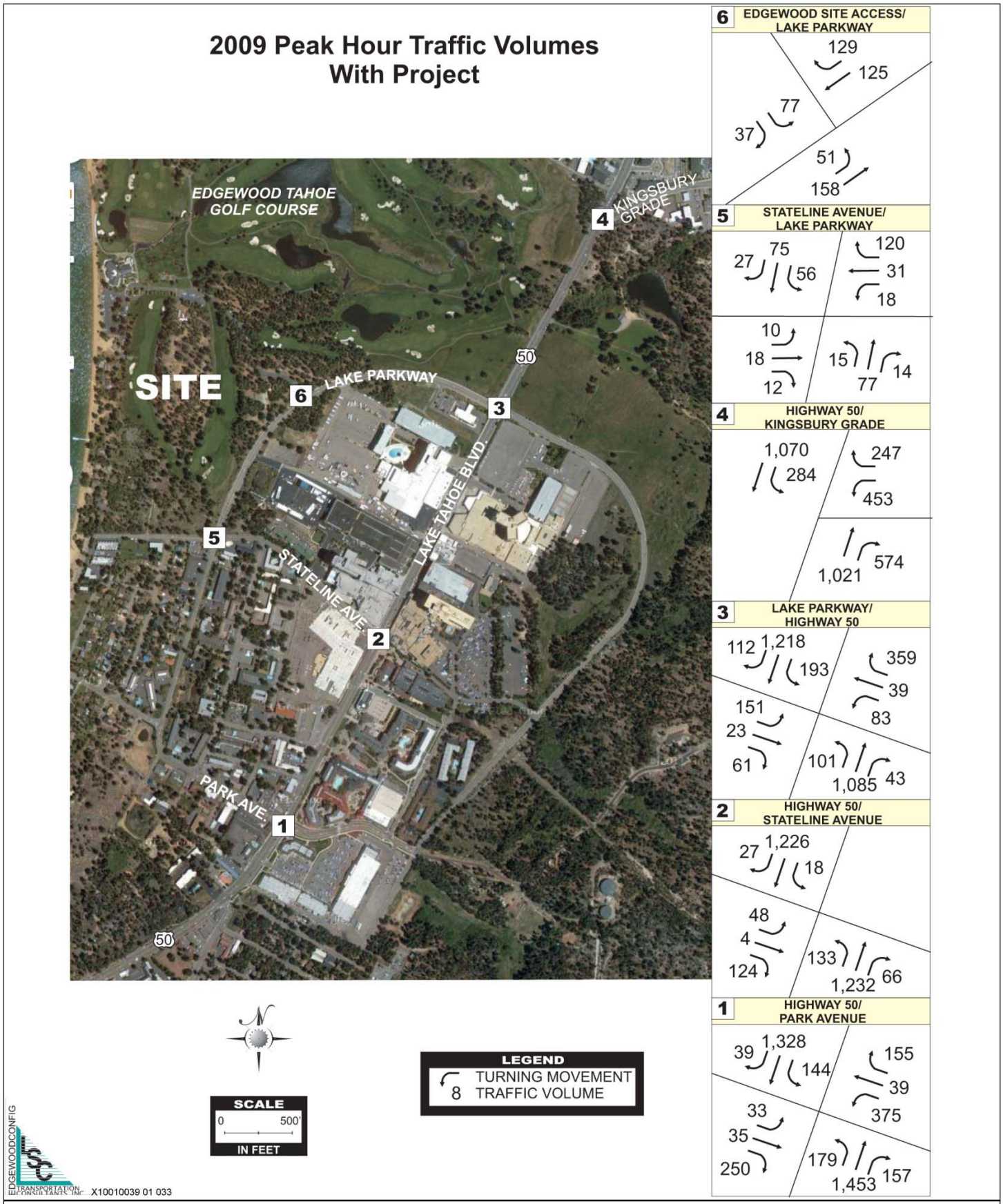
Intersection	Type of Control	Without Project				With Project [1]			
		Worst Movement		Total Intersection		Worst Movement		Total Intersection	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
U.S. 50 / Park Avenue	Signal	--	--	35.3	D	--	--	42.8	D
U.S. 50 / Stateline Avenue	Signal	--	--	12.3	B	--	--	12.9	B
U.S. 50 / Lake Parkway	Signal	--	--	27.2	C	--	--	30.5	C
U.S. 50 / Kingsbury Grade	Signal	--	--	17.2	B	--	--	17.9	B
Lake Parkway / Stateline Avenue	All-Way Stop	9.0	A	8.5	A	9.4	A	9.1	A
Edgewood Access / Lake Parkway	Stop Controlled	10.3	B	1.8	A	16.7	C	6.1	A

[1] The calculated delays shown in this table are based upon a previous version of the trip generation analysis, which utilized overly conservative assumptions. The delays based upon the current trip generation analysis would be less than or equal to those shown in this table.
Source: LSC Transportation Consultants, Inc. 2012.



Source: Appendix F

Exhibit 5.10-3. Project Net Impact on PM Peak Hour Traffic Volumes with Alternative 1



Source: Appendix F

Exhibit 5.10-4. Existing (2009) PM Peak Hour Traffic Volumes with Alternative 1

Mitigation Measure

No mitigation is required.

Impact 5.10.1-2	**Potential for Traffic Accidents Under Existing (2009) Plus Project Conditions.** Alternative 1 is not expected to result in any driver sight distance deficiencies or other characteristics that would create a potential safety hazard provided that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. However, the traffic queues forming at the gatehouse could interfere with traffic operations along Lake Parkway during periods when a large banquet event begins. This is a **potentially significant** impact.

Driver Sight Distance

According to the Douglas County Design Criteria and Improvement Standards, the driver sight distance values presented in the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets* (AASHTO 2004) should be met. There are two prevalent types of driver sight distance standards that should be met. Intersection sight distance (also known as corner sight distance) is the distance a driver waiting at a cross street should be able to see in either direction along the main roadway in order to accurately identify an acceptable gap in through traffic. A clear line of sight should be maintained between the driver pulling out of the site driveway and any approaching vehicles on the major street. Sight distance should be sufficient to provide at least 7.5 seconds for the driver on the crossroad to complete the necessary maneuver while the approaching vehicle travels at the assumed design speed of the main roadway. The second type of driver sight distance is stopping sight distance, which is the distance required by the driver of a vehicle moving along the main roadway (Lake Parkway) to safely bring a vehicle to a stop after an object on the road becomes visible. This is the minimum distance needed for a driver to see an object in his/her path, such as a vehicle turning onto the roadway, and safely come to a stop.

Based upon a design speed of 40 miles per hour along Lake Parkway, the required corner and stopping sight distances are 445 feet and 305 feet, respectively. Adequate driver sight distance is expected to be provided at the proposed site access intersection, so long as the final landscape and tree removal plans provide at least 445 feet of corner sight distance at this location.

Site Access/Internal Circulation

The project includes the relocation of the existing site driveway along Lake Parkway to a point approximately 67.5 feet northeast of its present day location. The resulting offset between the site driveway and the existing access to Horizon Casino, which is located on the opposite side of Lake Parkway, is approximately 260 feet (centerline to centerline distance). The distance between these offset intersections is considered to be adequate, and no operational concerns are associated with the offset intersections. A two-way internal roadway would serve the project. No significant site access/internal circulation impacts would result.

Traffic Queuing Analysis

The 95th-percentile traffic queue lengths at the study intersections under existing (2009) PM peak-hour conditions with Alternative 1 were reviewed by LSC as part of this traffic analysis. No operational concerns related to intersection traffic queuing were identified as the existing lane storage lengths could accommodate the traffic queues associated with Alternative 1.

Gatehouse Queuing Analysis

The Alternative 1 site plan indicates that the gatehouse would be relocated and reconstructed slightly to the north from its current location. The existing gatehouse is currently manned during peak event times and seasons (e.g., summer). With Alternative 1, there would be an attendant at the gatehouse as needed and determined by

the project applicant. A key question is whether adequate space is provided for entering traffic to queue outside this gatehouse during peak periods without blocking other vehicle movements on Lake Parkway. An analysis of potential traffic queues waiting to enter this gate was conducted using the methodology presented in the *Traffic Engineering Handbook* (ITE 2009). The analysis output is contained in Appendix F Using an average time taken to service one vehicle at the gatehouse, it is estimated that approximately 12 seconds of delay would occur per vehicle.

On a busy summer day with one banquet event starting during the peak hour the 95th-percentile queue length would be approximately 125 feet. As the gatehouse is proposed to be located approximately 55 feet from the edge of curb on Lake Parkway, this distance is not sufficient to accommodate the expected queue. Consequently, the queue could interfere with vehicle movements on Lake Parkway. This is considered a **potentially significant** impact.

Mitigation Measure 5.10.1-2: Design Final Landscape and Tree Removal Plan to Provide Adequate Corner Sight Distance at the Realigned Site Driveway on Lake Parkway, and Relocate Gatehouse and Either Provide Two Lanes or Stagger Events.

Prior to TRPA permit acknowledgement, the project applicant shall demonstrate that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. In addition, the mitigation measures below provide options to resolve traffic queuing impacts on Lake Parkway. The measures below are mutually exclusive – implementation of either one of these measures alone would mitigate this impact to a less-than-significant level.

Mitigation Measure 5.10.1-2a: Relocate Entry Gatehouse.

The site plan shall be revised in subsequent design phases to relocate the entry gatehouse to a point at least 125 feet from the edge of curb on Lake Parkway.

Mitigation Measure 5.10.1-2b: Expand Site Access Road to the Gatehouse and Provide Two Attendants at the Gatehouse During Peak Use Periods.

To address potential queuing conflicts on Lake Parkway, the site plan shall be revised in subsequent design phases to expand the inbound site access road between Lake Parkway and the gatehouse to include two northbound lanes. Also, during any peak day, the gatehouse shall be staffed with at least two attendants. The provision of a second lane leading up to the gatehouse from Lake Parkway with a second attendant at the gatehouse would result in a 95th-percentile traffic queue length at the gatehouse of less than 50 feet during peak periods with a banquet event starting.

Mitigation Measures 5.10.1-2a and 5.10.1-2b are mutually exclusive. Implementation of either of these mitigation measures would reduce gatehouse queue lengths and minimize the potential for the queues to interfere with traffic operations on Lake Parkway. Further, this measure would eliminate driver sight distance concerns at the realigned site driveway on Lake Parkway. Implementation of either Mitigation Measure 5.10.1-2a or 5.10.1-2b would mitigate this impact to a less-than-significant level.

Impact 5.10.1-3	**Emergency Access.** Because Alternative 1 would provide primary and secondary emergency access that has been deemed adequate by the Tahoe Douglas Fire Protection District, and emergency responders have confirmed their ability to serve the proposed development, this impact would be **less than significant**.

According to the *Design Standards and Guidelines for the Lake Tahoe Region of Douglas County* (TRPA and Douglas County 1993b), the project should "provide adequate access for emergency vehicles and for those persons attempting to render emergency services." Primary access to the project site is proposed to be provided via the main site access roadway off of Lake Parkway. Additional secondary emergency access would be provided via an emergency-access-only roadway located at a point along Lake Parkway approximately 900 feet southwest of the main site access roadway (Exhibits 3-7 and 3-8). This secondary emergency access path would remain gated except in the event of an emergency. As discussed in Section 5.14, "Public Services and Utilities," emergency responders have indicated that current staffing and equipment is sufficient to serve the proposed project. Tahoe Douglas Fire Protection District (TDFPD) staff provided preliminary plan check approval as it relates to emergency access by stamping the project design plans in June 2008 (Design Workshop, CCY Architects, Nichols Consulting Engineers 2011). Because Alternative 1 would provide both primary and secondary emergency access that has been deemed adequate by TDFPD, and emergency responders have confirmed their ability to serve the Alternative 1 development, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.10.1-4	Transit, Pedestrian, and Bicycle Facilities. Adequate transit and bicycle facilities are provided under Alternative 1. However, because no pedestrian facilities are proposed to be provided along the project frontage to the west of the site access driveway, there is no pedestrian connectivity between the project site and the off-site employee parking lot. This is a significant impact.

The project proposes to provide a shuttle service for trips made between the project site and the casino corridor area. The proposed shuttle service would operate based on demand in a fashion that would serve guest needs, but not result in unnecessary shuttle trips and associated VMT. A non-motorized access pathway would be provided along the site access roadway for bicycle and pedestrian use. Lake Parkway is currently served by a sidewalk on the north side of the roadway between the site entrance road and U.S. 50 to the east. Adequate crossing of U.S. 50 is provided at the U.S. 50/Lake Parkway traffic signal. Alternative 1 would not conflict with any existing or planned pedestrian or bicycle facilities. However, no pedestrian facilities are provided for employees parking in the off-site lot on the south side of Lake Parkway to walk to/from the project site, creating potentially hazardous conditions for site employees. This impact is **significant.**

Mitigation Measure 5.10.1-4: Provide Safe Access from the Off-Site Employee Parking Lot to the Site.

The mitigation measures below provide options to provide safe access from the employee lot to the site. The measures are mutually exclusive – implementation of either of these measures alone would mitigate this impact to a less-than-significant level.

Mitigation Measure 5.10.1-4a: Provide ADA-Accessible Path and Crossing on Lake Parkway to Off-Site Employee Parking Lot.

A marked crosswalk with potential signage and lighting shall be provided on Lake Parkway adjacent to the off-site employee parking lot. The project applicant shall coordinate with Douglas County staff regarding the design of this crossing. In addition, if the proposed project is implemented before the South Demonstration Project shared-use path (a separate project that has undergone separate environmental review and received TRPA approval—see Section 5.15, "Cumulative Impacts," for more details) is constructed adjacent to the site,

the project applicant shall construct an ADA-accessible path along the portion of the project frontage between the off-site employee parking lot and the site access driveway.

Mitigation Measure 5.10.1-4b: Provide Shuttle Service to Off-Site Employee Parking Lot.

The project applicant shall provide convenient shuttle service for employees using the off-site employee parking lot on the south side of Lake Parkway, in order to provide connectivity between the project site and the off-site lot.

Mitigation Measures 5.10.1-4a and b are mutually exclusive. Implementation of either of these mitigation measures would provide safe access between the off-site employee parking lot and the site. Implementation of Mitigation Measure 5.10.1-4a or b would mitigate this impact to a **less-than-significant level.**

Impact 5.10.1-5	**Vehicle Miles Traveled (VMT).** Alternative 1 would result in an increase of approximately 501 VMT over the course of a peak summer day, or a 0.03-percent increase in existing region-wide VMT. Based on Subsection 65.2.4(C) of the TRPA Code of Ordinances, an air quality mitigation fee of $8,434.60 is required. Because the increase in VMT resulting from Alternative 1 is not substantial in relation to the VMT threshold, this impact is **less than significant**.

The effect of Alternative 1 on VMT is dependent on the origin and destination of persons traveling to and from the site. Project-related VMT is estimated based on project trip generation and estimated average trip lengths. The increase in VMT resulting from implementation Alternative 1 is estimated based upon the trip types and average trip lengths identified in the TRPA regional transportation model, and the net increase in regional vehicle trips generated by Alternative 1. The VMT calculations are presented in Table 5.10-9. As shown, the existing uses at the project site are estimated to generate approximately 7,494 VMT over the course of a peak day. With implementation of Alternative 1, the existing plus proposed uses would generate a total of approximately 15,232 VMT.

None of the proposed lodging/residential units would be “new” development in the South Shore area. A total of 194 TAUs would be transferred from sending parcels located in the South Lake Tahoe area. As shown in Table 5.10-9, the sending parcels are estimated to have the potential to generate approximately 7,237 VMT in the Tahoe Basin over the course of a peak day. Subtracting the existing VMT at the project site (7,494) and the VMT potential associated with the TAU sending parcels (7,237) from the VMT with Alternative 1 (15,232) yields a net increase of up to 501 VMT under Alternative 1 on a peak summer day. In comparison with TRPA’s most recent assessment of VMT in the Tahoe Basin (Norberg, pers. comm., 2011), Alternative 1 is estimated to increase region-wide VMT by approximately 0.03 percent.

Pursuant to Subsection 65.2.4(C) of the TRPA Code, an air quality mitigation fee of $36.20 per daily vehicle trip end is required for new trips associated with the nonresidential land uses and $325.84 per daily vehicle trip end for new trips associated with residential land uses to “offset the potential traffic and air quality impacts” of a project. The Air Quality Mitigation Fund provides for regional and cumulative mitigation measures that may include, but are not limited to:

- transit facility construction;
- Transportation Systems Management (TSM) measures, including, but not limited to, bicycle facilities, pedestrian facilities, and use of alternative fuels in fleet vehicles; or
- transfer and retirement of off-site development rights.

Alternative 1 would result in a net increase of 233 vehicle trips in the region, all of which are associated with non-residential uses. At $36.20 per trip, the air quality mitigation fee associated with this increase is calculated to be $8,434.60.

As the net increase in region-wide VMT resulting from Alternative 1 (501) is not substantial in relation to the Regional Plan threshold, this impact is considered **less than significant**.

Table 5.10-9. Alternative 1 - Vehicle Miles Traveled (VMT) Calculations

Land Use	TRPA Trip Type [1]	Daily Vehicle Trip Ends (DVTE) [2]	Average Trip Length (mi) [3]	VMT
Existing Land Uses				
Golf Course	Average of All HBR, NHB, and RHBW	673	3.92	2,636
Clubhouse				
Edgewood Restaurant	Average of All HBO, NHB, and RHBW	214	3.47	742
Brooks Bar	Average of All HBO, NHB, and RHBW	708	3.47	2,454
North Banquet Room	Average of All HBO, NHB, and RHBW	320	3.47	1,109
South Banquet Room	Average of All HBO, NHB, and RHBW	128	3.47	444
Banquet Employees	Average of RHBW and RNHB	13	3.13	41
Total Clubhouse		*1,383*		*4,790*
Single-Family Residences	Average of All Resident Home-Based Trips	19	3.60	68
Total Existing Development		*2,075*		*7,494*
Proposed Land Uses				
Lodge				
Hotel	Average of All Visitor Types Except NHB, RHBW, and RNHB	886	5.58	4,940
Multiple-Bedroom Units	Average of All Visitor Types Except NHB, RHBW, and RNHB	272	5.58	1,517
Subtotal Lodging Units		*1,158*		*6,457*
Health Spa	Average of All HBR, NHB, and RHBW	40	3.92	157
Lodge Restaurant	Average of All HBO, NHB, and RHBW	36	3.47	125
Lodge Bar	Average of All HBO, NHB, and RHBW	16	3.47	55
Lodge Banquet Room	Average of All HBO, NHB, and RHBW	324	3.47	1,123
Lodge Banquet Employees	Average of RHBW and RNHB	18	3.13	56
Subtotal Lodge Amenities		*434*		*1,516*
Total Lodge		*1,592*		*7,973*
Golf Course	Average of All HBR, NHB, and RHBW	548	3.92	2,146
Clubhouse				
Edgewood Restaurant	Average of All HBO, NHB, and RHBW	200	3.47	693
Brooks Bar	Average of All HBO, NHB, and RHBW	567	3.47	1,965
North Banquet Room	Average of All HBO, NHB, and RHBW	324	3.47	1,123
South Banquet Room	Average of All HBO, NHB, and RHBW	259	3.47	898
Clubhouse Banquet Employees	Average of RHBW and RNHB	17	3.13	53
Subtotal Clubhouse		*1,367*		*4,732*
Public Beach and Pier	Average of All HBR, NHB, and RHBW	80	3.92	313
Single-Family Residences	Average of All Resident Home-Based Trips	19	3.60	68
Total Proposed Development		**3,606**		**15,232**

Table 5.10-9. Alternative 1 - Vehicle Miles Traveled (VMT) Calculations				
Units to be Transferred from Other Parcels				
Carousel Motel	Average of All Visitor Types Except NHB, RHBW, and RNHB	148	5.58	825
Thunderbird Motel	Average of All Visitor Types Except NHB, RHBW, and RNHB	109	5.58	608
Tahoe Beach and Ski Club	Average of All Visitor Types Except NHB, RHBW, and RNHB	422	5.58	2,353
Colony Inn	Average of All Visitor Types Except NHB, RHBW, and RNHB	186	5.58	1,037
C&M Lodge	Average of All Visitor Types Except NHB, RHBW, and RNHB	433	5.58	2,414
Total Units to be Transferred		*1,298*		*7,237*
Impact of Alternative 1 on Tahoe Region (Proposed Minus Existing Minus Transferred)		**233**		**501**
Region Wide VMT [4]				1,987,794
Percent Increase Due to Alternative 1				0.03%

[1] HBR = Home Based Recreation, NHB = Non-Home Based, RHBW = Resident Home Based Work, HBO = Home Based Other, RNHB = Resident Non-Home Based.
[2] Reference Trip Generation Tables 5.10-4 and 5.10-5.
[3] Based on TRPA's 1995 TRANPLAN Trip Length data.
[4] Based on TRPA 2010 TransCAD Model.
Source: LSC Transportation Consultants, Inc.2012

Mitigation Measure

No mitigation is required.

Impact 5.10.1-6	**Parking Conditions.** Alternative 1 would result in an overall parking surplus of up to 50 spaces during peak periods. Therefore, this alternative would result in a **less-than-significant** parking impact.

Parking Demand

Table 5.10-10 presents the evaluation of the peak parking demand associated with the individual land uses under Alternative 1. In general, the parking rates for each use are based upon the parking standards set forth in the *Douglas County Consolidated Development Code* (Douglas County 2001), given that the project site is located outside the Community Plan boundary. Additional assumptions and exceptions are as follows.

Consistent with other Tahoe Basin development projects in Douglas County (such as the Roundhill Timeshare project and the Beach Club on Lake Tahoe project), parking rates for multiple-bedroom units are based on the *Round Hill Timeshare Traffic, Air Quality, and Parking Analysis* (LSC Transportation Consultants, Inc. 1998). According to this study, 25 percent of two-bedroom units are estimated to generate a requirement for two parking spaces, and 75 percent are estimated to generate a requirement for one parking space. As such, a total of 1.25 parking spaces would be required per two-bedroom unit. Moreover, an increase in parking demand of 0.5 spaces per bedroom is assumed for a unit with more than two bedrooms. Therefore, a three-bedroom unit would require 1.75 parking spaces, and a four-bedroom unit would require 2.25 parking spaces.

Some of the parking standard requirements are based in part on the number of employees on-site at peak times. Employment forecasts were provided by the project applicant (see Chapter 3, “Project Description”).

Conservatively, although the event start times would be staggered by at least one hour, up to three maximum attendance banquet events are assumed to occur concurrently. The lodge banquet room is assumed to be partitioned into two separate rooms with a capacity of up to 250 seats each. However, two events would not occur simultaneously in the lodge banquet rooms. As standard parking rates are not provided for banquet facilities, the parking requirements of the banquet facilities are based upon the parking requirement for an "eating or drinking place" (one space per every four customers or seats, plus one space for each employee on-site during the peak shift, as specified in the Stateline Community Plan parking standards).

Table 5.10-10. Peak Parking Demand of Individual Uses - Alternative 1

Description	Quantity	Unit	Parking Rate [1]	Reduction for Captive Market [2]	Reduction for Travel Via Non-Auto Modes	Peak Parking Demand of Individual Land Use (Without Shared Parking)
ALTERNATIVE 1 LAND USES						
Lodge						
Hotel [3]	154	Hotel Units	1 space per unit plus 1 space for every 15 units	0%	0%	164
Multiple-Bedroom Units	40					
Studio Units	0	Studio Units/ 1 br Units	1 space per unit	0%	0%	0
1-Bedroom Units	0	Studio Units/ 1 br Units	1 space per unit	0%	0%	0
2-Bedroom Units	20	2 br Units	1.25 spaces per unit	0%	0%	25
3-Bedroom Units	18	3 br Units	1.75 spaces per unit	0%	0%	32
4-Bedroom Units	2	4 br Units	2.25 spaces per unit	0%	0%	5
Subtotal Lodge	*194*	*Units*				*226*
Health Spa [3]	12,900	Square Feet	1 space per 300 sf	90%	5%	4
Lodge Restaurant [3]	3,000	Square Feet	1 space per 100 sf	90%	5%	3
Lodge Bar [3]	800	Square Feet	1 space per 75 sf	90%	5%	1
Lodge Banquet Room [4]	250	Seats	1 space per 4seats	10%	10%	51
Lodge Banquet Employees	14	Employees at Peak	1 space per employee	0%	35%	9
Subtotal Lodge Amenities						*68*
Total Lodge						*294*
Golf Course [3]	18	Holes	6 spaces per hole	25%	0%	81
Clubhouse						
Edgewood Restaurant [3]	100	Seats	1 space per 4 seats	25%	5%	18
Brooks Bar [3]	7,260	Square Feet	1 space per 75 sf	60%	5%	37
North Banquet Room [4]	250	Seats	1 space per 4 seats	10%	10%	51
South Banquet Room [4]	200	Seats	1 space per 4 seats	10%	10%	41
Clubhouse Banquet Employees	13	Employees at Peak	1 space per employee	0%	35%	8
Total Clubhouse						*155*

[1] Based on Douglas County Consolidated Development Code, except where noted.
[2] No reduction is applied to the residential/lodging uses, in order to avoid duplicating the reductions applied to other land uses.
[3] Parking rate includes associated employees.
[4] Parking rate based on Stateline Community Plan, as Douglas County Code does not provide an applicable parking rate for this land use.
Source: LSC Transportation Consultants, Inc. 2012

Public access to the beach would be managed by Edgewood staff during periods when the event venues are in full swing. In order to encourage the use of transportation shuttles and non-motorized travel to/from the Stateline casino corridor area, public parking for users of the beach would not be provided on the project site, although public beach users could be dropped off at the public beach access drop-off area. As such, the parking demand associated with the public beach area would be nominal. Finally, any potential beach concessions are assumed to be an accessory use to the lodge (with no external advertising and no signage visible from Lake Parkway), and would therefore have a negligible impact on parking demand.

Reductions for Internal Capture

The proposed spa and wellness center and restaurant and bar would be open to the general public. Because these facilities would be very convenient to lodge guests and residents, a majority of the users of these facilities would typically consist of persons already on the site. Furthermore, according to ITE's *Parking Generation, 4th Edition* (ITE 2010), these amenities are typically accessory uses to a hotel that do not generate additional parking demand. However, to be conservative, 10 percent of the parking demand for these uses is assumed to be generated by external vehicles (90 percent captive market).

Similarly, although Brooks Bar is open to the general public, golf course clubhouse bars are mostly used by golfers. An intercept survey was conducted at Brooks Bar by LSC staff on Friday, July 18, 2008, in order to estimate the portion of sports bar patrons who are also associated with the golf course. The results of the survey indicate approximately 51 percent of sports bar patrons also used the golf course over the course of the day. With the proposed lodge development, the portion of sports bar patrons who also use the on-site lodging facilities or golf facilities is expected to increase. Therefore, an estimated reduction factor of 60 percent is applied to the sports bar parking demand to reflect internal capture.

Because the golf course restaurant would be open for dinner only, and evening dining occurs largely after the peak in golf course use, the proportion of restaurant patrons that are also golfers is assumed to be lower, at 25 percent.

Ten percent of the banquet room event attendees are assumed to stay overnight on-site, reflecting a conservative assumption that a small portion of banquet room guests would also be lodge guests.

Some of the golfers would consist of lodging guests already on-site, and who would thus not generate parking demand associated with the golf course. Lodging/golf course developments typically market vacation packages that tend to encourage this "internal" use. Comparing the total number of golfers that could play the course over a day and the population of the lodging/residential land uses, at least 25 percent of golfers are estimated to consist of lodging guests on peak season days when the lodging occupancy is high.

The reductions for internal capture are shown in Table 5.10-10.

Reductions for Non-Auto Travel

The parking ratios already account for some level of non-auto travel. However, given the relatively high level of non-auto travel in the Stateline area, additional parking reductions for non-auto modes are applied, as shown in Table 5.10-10.

Employee parking demand rates are based upon the observed proportion of Stateline area employees commuting by auto (82 percent; City of South Lake Tahoe and TRPA 2007), and dividing by the average vehicle occupancy for resident work trips in the Tahoe Region (1.26). This results in an overall 35 percent reduction in employee parking demand.

No reductions are assumed for non-auto access for lodging guests. While guests of the lodge can be expected to walk, bicycle or take shuttle services to nearby activity centers, such as the Stateline casinos, while staying in the area, their vehicles would remain parked at Edgewood. Though a substantial proportion of visitors to the

Stateline hotels arrive in the Tahoe area without a car using services such as the South Tahoe Express bus service from the Reno-Tahoe International Airport, it is conservatively assumed that all such regional access would be by car.

It is assumed that 10 percent of banquet event attendees would arrive at the site via non-auto modes, such as on a shuttle bus from a nearby resort.

Parking Demand of Individual Uses

The peak parking demand of the individual land uses is shown in Table 5.10-10. These figures do not reflect any reductions for shared use of parking facilities. Note that parking for future residences on the relocated single-family residential parcels would be subject to subsequent TRPA environmental review and permitting, and is, therefore, not addressed in this study.

Shared Parking Analysis

The mix of land uses at the site are such that a substantial reduction in overall parking demands could be realized through shared use of parking facilities, particularly as the recreational golf course parking demand peaks in the daytime and the lodging land uses peak in the evening. Factors reflecting the proportion of peak demand occurring in these periods were developed based upon the Urban Land Institute's *Shared Parking* data (Urban Land Institute 2005), as well as LSC's knowledge of parking patterns in the Tahoe Region. The hour-by-hour analysis of parking demand for the various land uses over a peak day is shown in Table 5.10-11 and illustrated in Exhibit 5.10-5. Over the entire peak day, a maximum of 448 vehicles would be on-site, occurring during the hour starting at 5:00 PM. During this time, the golf course and clubhouse would generate up to approximately 202 parked cars, while the lodge and associated amenities would generate approximately 246 parked cars. Parking demand for the lodge and amenities would reach a maximum parking demand of 247 in the hours starting at 9:00 AM and at 6:00 PM, while the overnight lodging demand would be 191 parked vehicles. As shown in Table 5.10-11 and Exhibit 5.10-5, the minimum parking supply needed to accommodate the total parking demand (with proper management) is 448 spaces under Alternative 1.

Parking Supply

On-site parking is proposed to be provided in the main lodge building (184 spaces), in a surface lot adjacent to the lodge (24 spaces), and in a two-story parking structure near the site entrance (230 valet spaces). The existing lakefront parking lot (134 spaces) would be removed as a part of Alternative 1. The proposed parking supply under Alternative 1 is summarized in Table 5.10-12. A total of 438 parking spaces are proposed to be provided on the project site. In addition, parking for site employees would be provided in the off-site property (60 spaces), located along Lake Parkway at a point opposite the southernmost portion of the project site. The total proposed parking supply is therefore 498 spaces (438 on-site plus 60 off-site spaces). Note that the dedication of the off-site spaces to Edgewood employees could potentially affect the parking necessary to accommodate the parking needs of the potential Project 3 Development in the future. However, this issue would be addressed as a part of the entitlement process for the potential future Project 3 Development, should it ever occur. Note that additional parking for Project 3 could potentially be provided elsewhere, or the schedule of uses at Project 3 could be restricted such that additional parking spaces would not be needed during peak periods.

In order to encourage the use of transportation shuttles and non-motorized travel to/from the Stateline casino corridor area, public parking for users of the beach and pier would not be provided on the project site. Public beach users arriving via automobile could be dropped off at the beach at the public beach access drop-off area. During peak periods, parking would be managed such that no beach users are allowed to park on-site.

Parking Balance

Comparing the proposed parking supply (498 spaces) with the peak parking demand (448 spaces) assuming shared parking among the proposed mix of land uses, Alternative 1 would result in an overall parking surplus of

up to 50 spaces during peak periods. As adequate parking conditions are expected to be provided, This impact is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.10.1-7	Construction Traffic Impacts. Construction of Alternative 1 would result in temporary construction traffic, which would access the site via Lake Parkway. The project would be constructed over a total of five construction seasons. Because construction-related traffic volumes (including employee and truck haul trips) would be substantially lower than traffic volumes associated with operation of Alternative 1, the corresponding effects on intersection delays during construction would be less than those under full buildout of Alternative 1 such that all study intersections would be expected to operate at an acceptable LOS during construction. Further, the project applicant would be required to prepare a Traffic Control Plan (TCP) for review and approval by TRPA, NDOT, and Douglas County prior to construction activities. This impact is less than significant.

Construction of the proposed project is estimated to be completed over a span of 5 construction seasons (generally May through October). Construction activities would generally occur between the hours of 7:00 AM and 6:30 PM. Construction traffic would access the site via Lake Parkway. Up to 100 construction employees are expected to report to the site over the course of any one day. Assuming each employee makes a round-trip commuting to/from the site, and half of the employees make one round-trip off-site (for lunch, errands, etc.), a total of up to 300 daily one-way person-trips would be made by construction employees. Dividing by an average vehicle occupancy rate of approximately 1.26 employees per vehicle yields a total of about 238 one-way vehicle-trips generated per day. Assuming a daily-to-peak hour traffic volume factor of approximately 13 yields about 18 one-way trips occurring during the peak hour of adjacent street traffic activity. In addition, it is anticipated that vendor deliveries of construction materials via large trucks would occur an average of 25 times per week, generating an average of 10 one-way truck trips per day, two of which are estimated to occur during the peak hour. The resulting total daily one-way vehicle trips estimated to be generated over the course of a busy construction day, excluding truck hauling trips, is approximately 248, with about 20 one-way trips occurring during the peak traffic hour on adjacent streets.

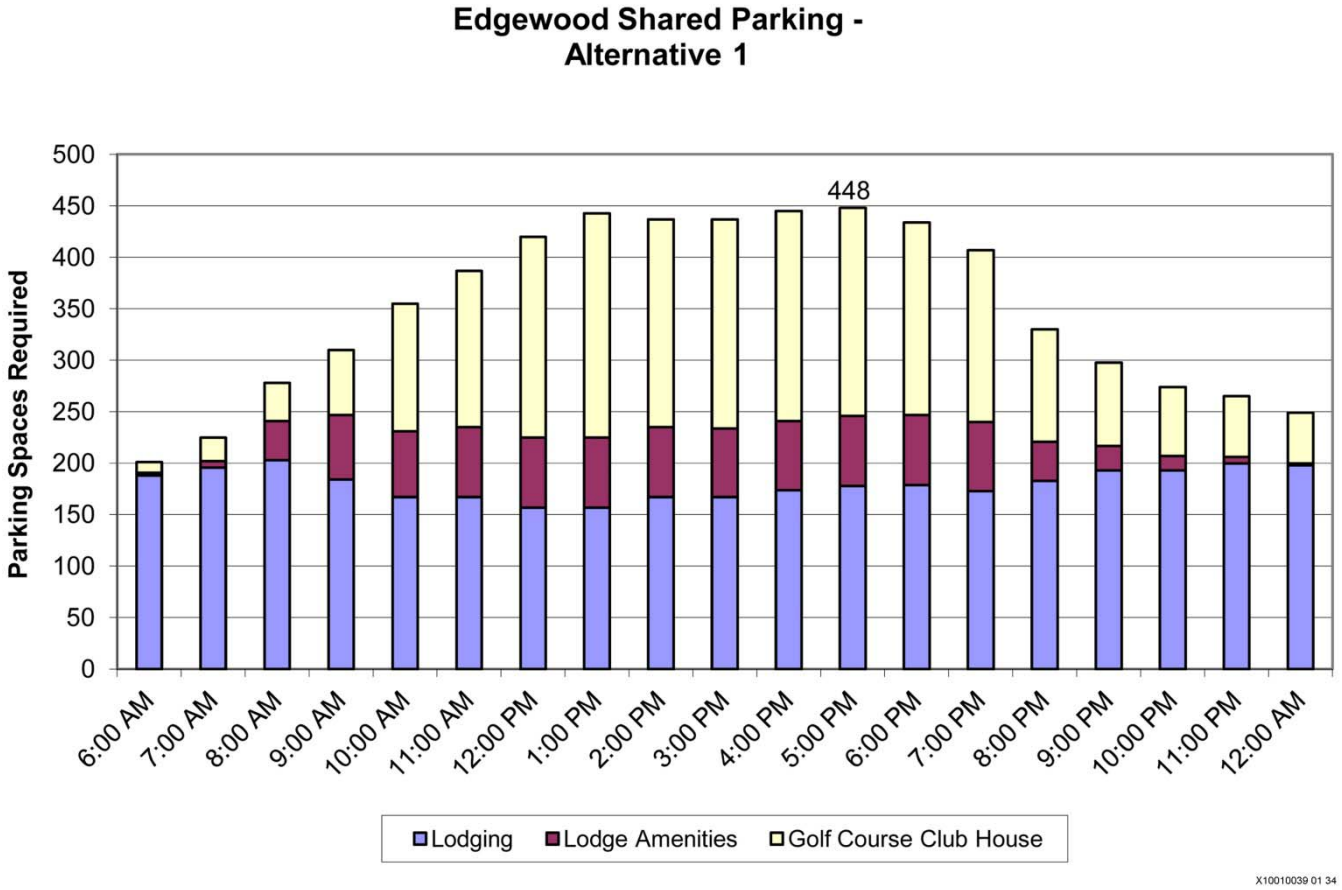
Because the amount of native material excavated is planned to balance with the amount of fill on-site (balanced cut and fill), the number of truck hauling trips associated with exported native material is expected to be minimal. The majority of truck hauling trips would occur during Phase 1 (Table 3-9), with several large truck trips per day. Adding these truck trips to the trips made by construction employees would result in traffic volumes that are substantially lower than the traffic impacts of Alternative 1 at buildout (Table 5.10-4, Exhibit 5.10-3, etc.). Consequently, the impacts on intersection delays during the construction phases would be less than those under full buildout of Alternative 1. All study intersections are expected to operate at an acceptable LOS during the construction phases.

As described in Chapter 3, “Project Description,” adequate emergency access would be provided at all times and local emergency service providers would be notified of any potential road closures or detours at least 48 hours in advance. Further, the project applicant would be required to prepare a Traffic Control Plan (TCP) for review and approval by TRPA, NDOT, and Douglas County prior to construction activities. The TCP would address project construction traffic and parking. At a minimum, the plan would address truck haul routes, truck turning movements at the project driveway(s), traffic control signage, bicycle and pedestrian traffic, restriction of hauling activities to off-peak periods, on-site circulation and staging areas, and monitoring of the in-place traffic control to implement traffic control revisions if necessary.

Table 5.10-11. Alternative 1 - Shared Parking Analysis

Hour of Day	Lodge								Golf Course / Clubhouse									Total
	Lodging		Restaurant / Bar		Health Spa	Banquet Room		Subtotal	Golf Course		Brooks Bars		Edgewood Restaurant		Banquet Rooms		Subtotal	
	Guest	Employee	Customer	Employee		Guest	Employee		Customer	Employee	Customer	Employee	Customer	Employee	Guest	Employee		
Hourly Variation in Parking Demand (Percent of Peak Demand)																		
6:00 AM	95%	5%	25%	50%	33%	0%	0%		0%	50%	0%	0%	0%	0%	0%	0%		
7:00 AM	95%	30%	50%	75%	67%	0%	0%		6%	100%	0%	0%	0%	0%	0%	0%		
8:00 AM	90%	90%	60%	90%	67%	50%	50%		28%	100%	0%	0%	0%	0%	0%	0%		
9:00 AM	80%	90%	75%	90%	67%	100%	50%		50%	100%	0%	25%	0%	0%	10%	25%		
10:00 AM	70%	100%	85%	100%	100%	100%	50%		72%	100%	25%	50%	0%	0%	50%	50%		
11:00 AM	70%	100%	90%	100%	100%	100%	100%		94%	100%	50%	75%	0%	0%	50%	100%		
12:00 PM	65%	100%	100%	100%	100%	100%	100%		100%	100%	100%	100%	0%	0%	75%	100%		
1:00 PM	65%	100%	90%	100%	100%	100%	100%		100%	100%	100%	100%	0%	0%	100%	100%		
2:00 PM	70%	100%	50%	100%	100%	100%	100%		100%	100%	50%	100%	0%	25%	100%	100%		
3:00 PM	70%	100%	45%	85%	100%	100%	100%		100%	100%	50%	100%	0%	75%	100%	100%		
4:00 PM	75%	90%	45%	85%	100%	100%	100%		89%	80%	75%	100%	25%	75%	100%	100%		
5:00 PM	80%	70%	75%	95%	100%	100%	100%		64%	60%	100%	100%	75%	100%	100%	100%		
6:00 PM	85%	40%	100%	95%	100%	100%	100%		39%	40%	100%	100%	100%	100%	100%	100%		
7:00 PM	85%	20%	100%	95%	67%	100%	100%		14%	20%	100%	100%	100%	100%	100%	100%		
8:00 PM	90%	20%	80%	95%	67%	50%	50%		0%	20%	100%	100%	100%	100%	50%	50%		
9:00 PM	95%	20%	60%	80%	67%	25%	50%		0%	0%	100%	100%	90%	100%	25%	50%		
10:00 PM	95%	20%	55%	65%	33%	10%	50%		0%	0%	100%	100%	90%	100%	10%	50%		
11:00 PM	100%	10%	50%	65%	0%	5%	5%		0%	0%	100%	100%	90%	85%	5%	5%		
12:00 AM	100%	5%	25%	35%	0%	2%	2%		0%	0%	100%	100%	50%	50%	2%	2%		
Hourly Parking Demand																		
Individual Land Use Peak	*197*	*29*	*1*	*3*	*4*	*51*	*9*	*294*	*61*	*20*	*35*	*2*	*15*	*3*	*92*	*8*	*236*	*530*
6:00 AM	187	1	0	2	1	0	0	191	0	10	0	0	0	0	0	0	10	201
7:00 AM	187	9	1	2	3	0	0	202	3	20	0	0	0	0	0	0	23	225
8:00 AM	177	26	1	3	3	26	5	241	17	20	0	0	0	0	0	0	37	278
9:00 AM	158	26	1	3	3	51	5	247	31	20	0	1	0	0	9	2	63	310
10:00 AM	138	29	1	3	4	51	5	231	44	20	9	1	0	0	46	4	124	355
11:00 AM	138	29	1	3	4	51	9	235	58	20	18	2	0	0	46	8	152	387
12:00 PM	128	29	1	3	4	51	9	225	61	20	35	2	0	0	69	8	195	420
1:00 PM	128	29	1	3	4	51	9	225	61	20	35	2	0	0	92	8	218	443
2:00 PM	138	29	1	3	4	51	9	235	61	20	18	2	0	1	92	8	202	437
3:00 PM	138	29	0	3	4	51	9	234	61	20	18	2	0	2	92	8	203	437
4:00 PM	148	26	0	3	4	51	9	241	54	16	26	2	4	2	92	8	204	445
5:00 PM	**158**	**20**	**1**	**3**	**4**	**51**	**9**	**246**	**39**	**12**	**35**	**2**	**11**	**3**	**92**	**8**	**202**	**448**
6:00 PM	167	12	1	3	4	51	9	247	24	8	35	2	15	3	92	8	187	434
7:00 PM	167	6	1	3	3	51	9	240	8	4	35	2	15	3	92	8	167	407
8:00 PM	177	6	1	3	3	26	5	221	0	4	35	2	15	3	46	4	109	330
9:00 PM	187	6	1	2	3	13	5	217	0	0	35	2	14	3	23	4	81	298
10:00 PM	187	6	1	2	1	5	5	207	0	0	35	2	14	3	9	4	67	274
11:00 PM	197	3	1	2	0	3	0	206	0	0	35	2	14	3	5	0	59	265
12:00 AM	197	1	0	1	0	1	0	200	0	0	35	2	8	2	2	0	49	249

Source: Shared Parking (Urban Land Institute, 2005); Parking Generation, 3rd Edition (Institute of Transportation Engineers, 2004); LSC Transportation Consultants, Inc. 2012



Source: LSC Transportation Consultants, Inc.

Exhibit 5.10-5. Alternative 1 – Shared Parking Demand

Table 5.10-12. Alternative 1 - Parking Balance	
Parking Lot Location	**Spaces**
Parking Supply	
Main Lodge Building	184
Surface Lot Spaces	24
Remote Parking Structure (valet)	230
Total On-Site Spaces	438
Offsite Employee Parking Spaces	60
Total Parking Supply	498
Parking Demand During Peak Period with Shared Parking	
Lodge and Amenities	246
Golf Course and Clubhouse	202
Total Parking Demand	448
Overall Parking Balance	**+50**
Source: LSC Transportation Consultants, Inc. 2012	

During the 5-year construction period, construction of other projects may be in progress in the area. Some of these projects (such as the U.S. 50/South Shore Community Revitalization Project, Lake Tahoe Waterborne Transit, and the South Demonstration Bikeway) could generate construction-traffic along the study area roadways including Lake Parkway. These other projects are anticipated to also provide on-site construction staging and parking, Traffic Control Plans, and to implement measures to minimize heavy equipment trips on surrounding roadways.

This impact would be **less than significant.**

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

The evaluation of Alternative 2 is based on the same methods and assumptions used for Alternative 1. Note that the construction traffic impacts are identical to those under Alternative 1, given that the analysis is based on a worst-case scenario regarding construction traffic. Therefore, construction impacts are not included in this section.

Impact 5.10.2-1	Intersection LOS Under Existing (2009) Plus Project Conditions – Alternative 2. Although implementation of Alternative 2 would result in increased vehicular delays at the study intersections relative to Alternative 1, all intersections would continue to operate at an acceptable LOS under existing (2009) plus project conditions. The intersection LOS with Alternative 2 is the same as with Alternative 1, although the average delays are the same or slightly higher. This impact is less than significant.

Trip Generation

The trip generation analysis for Alternative 2 is based on the same methodology and key assumptions as those for Alternative 1. The land use quantities and assumptions pertaining to the banquet/event facilities under Alternative 2 are identical to those under Alternative 1. The existing and proposed uses at the project site under Alternative 2 are presented in Table 5.10-13. The trip generation of the proposed uses is compared to that of the existing uses, in order to determine the net impact of the project on trip generation.

Trip Generation — Existing Land Uses

The trip generation for the existing land uses at the site, which was shown previously in Table 5.10-4, is also shown in Table 5.10-13. The existing uses are estimated to generate approximately 2,075 DVTE at the site driveway, 261 of which occur during the PM peak hour (113 entering and 148 exiting).

Trip Generation — Alternative 2 Development

The trip generation for the proposed land uses under Alternative 2 is shown in Table 5.10-13, and is based on the same trip assumptions and reductions as that for Alternative 1. The Alternative 2 land uses are estimated to generate a total of approximately 3,751 DVTE at the site driveway, 442 of which occur during the peak hour (228 entering and 214 exiting).

Net Impact on Trip Generation at Site Access

Subtracting the existing trip generation from that of the proposed development indicates that Alternative 2 would result in a net increase of approximately 1,676 DVTE and 181 PHVTE (115 inbound and 66 outbound) at the site access point over the course of a peak summer day. The net impact of Alternative 2 on daily and peak-hour trip generation at the site driveway is approximately 3 percent and 14 percent higher than Alternative 1, respectively.

Trip Generation — TAU Sending Parcels

As with Alternative 1, none of the proposed lodging/residential units associated with Alternative 2 would be "new" development in the south shore area. A total of 230 TAUs would be transferred from sending parcels located in the South Lake Tahoe area. Specific sending parcels have not been identified for Alternative 2, beyond the same 194 TAUs that would be transferred for Alternative 1. As described in the analysis of Alternative 1, the 194 TAUs to be transferred are assumed to generate 1,298 DVTE. The remaining 36 TAUs to be transferred are assumed to be hotel units located within the Stateline area. These assumptions are conservative with respect to the VMT analysis, as they yield a relatively small credit for daily trips and VMT associated with the sending parcels (rather than assuming the TAUs are located near the "Y" where there is a lower level of non-auto travel). Multiplying 36 TAUs by the ITE hotel trip generation rate (8.92 daily trips per unit) and applying a 40-percent reduction for non-auto travel yields approximately 193 DVTE. Adding the 193 DVTE to the 1,298 DVTE yields a total of 1,491 DVTE associated with the sending parcels. The traffic associated with the sending parcels does not affect the operational analysis in this EIS, as the operational analysis focuses on local traffic impacts resulting from the Alternative 2 site development. However, these figures are used in the VMT discussion under Impact 5.10.2-5.

Trip Distribution and Assignment

The estimated distribution of the project traffic during the summer peak hours under Alternative 2 is the same as that under Alternative 1. The project-generated trips are assigned to the study intersections by applying the distribution pattern to the traffic generation. The resulting "project net impact" on peak-hour traffic volumes is slightly greater than that under Alternative 1. Adding these volumes to the existing traffic volumes without the project yields the existing 2009 "with Alternative 2" peak-hour traffic volumes.

Project Impact on Traffic Volumes

Alternative 2's impact on existing ADT volumes along Lake Parkway and Stateline Avenue is estimated to be up to approximately one percent higher than that under Alternative 1.

Intersection LOS

The LOS at each study intersection was evaluated using the same methodologies as that for Alternative 1. Appendix F contains the LOS output for Alternative 2. Table 5.10-14 presents existing (2009) intersection LOS with and without Alternative 2. The addition of traffic generated by the project would result in an acceptable LOS (LOS D or better) at all study intersections. The intersection LOS is the same as with Alternative 1, although the average delays are the same or slightly higher with Alternative 2. All intersections would operate acceptably; therefore, this impact is considered **less than significant**.

Mitigation Measure

No mitigation is required.

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Table 5.10-13. Alternative 2 - Trip Generation Analysis

Description	ITE Land Use	ITE Code	Quantity	Variable	Trip Rates [1]					Reduction for Non-Auto Trips	Daily Vehicle Trip Ends (DVTE)	External Trip Generation		
					Daily	Peak Hour			Reduction for Internal Trips			Peak Hour		
						IN	OUT	TOTAL				IN	OUT	TOTAL
EXISTING LAND USES														
Golf Course [2]	Golf Course	430	18	Holes	40.63	2.25	2.34	4.59	8%	0%	673	37	39	76
Clubhouse														
Edgewood Restaurant	Quality Restaurant	931	100	Seats	2.81	0.19	0.14	0.33	20%	5%	214	14	11	25
Brooks Bar	Drinking Place	936	7.26	KSF	205.36	7.48	3.86	11.34	50%	5%	708	26	13	39
North Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.40	0.40	0.80	0%	20%	320	0	80	80
South Banquet Room [4,5]	N/A	N/A	100	Seats	1.6	0.40	0.40	0.80	0%	20%	128	32	0	32
Banquet Employees [6]	N/A	N/A	10	Employees	2	0.50	0.50	1.00	0%	35%	13	3	4	7
Total Clubhouse											*1,383*	*75*	*108*	*183*
Single-Family Residences	Single-Family Detached Housing	210	2	DU	9.57	0.64	0.37	1.01	0%	0%	19	1	1	2
TOTAL EXISTING USES											**2,075**	**113**	**148**	**261**
PROPOSED LAND USES														
Lodge														
Hotel	Hotel	310	123	Rooms	8.92	0.34	0.36	0.70	14%	25%	708	27	28	55
Multiple-Bedroom Units	Timeshare	265	107	Units	10.56	0.39	0.40	0.79	14%	25%	729	26	29	55
Subtotal Lodging Units			*230*	*Units*							*1,437*	*53*	*57*	*110*
Health Spa	Health/Fitness Club	492	14.00	KSF	32.93	2.01	1.52	3.53	90%	5%	44	3	2	5
Lodge Restaurant [3]	High-Turnover (Sit-Down) Restaurant	932	3.30	KSF	127.15	6.58	4.57	11.15	90%	5%	40	2	2	4
Lodge Bar [3]	Drinking Place	925	1.90	KSF	205.36	7.48	3.86	11.34	90%	5%	37	1	1	2
Lodge Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.40	0.40	0.80	10%	10%	324	81	0	81
Lodge Banquet Employees [6]	N/A	N/A	14	Employees	2	0.50	0.50	1.00	0%	35%	18	5	4	9
Subtotal Lodge Amenities											*463*	*92*	*9*	*101*
Total Lodge											*1,900*	*145*	*66*	*211*
Golf Course [2]	Golf Course	430	18	Holes	40.63	2.25	2.34	4.59	25%	0%	548	30	32	62
Clubhouse														
Edgewood Restaurant	Quality Restaurant	931	100	Seats	2.81	0.19	0.14	0.33	25%	5%	200	14	10	24
Brooks Bar	Drinking Place	925	7.26	KSF	205.36	7.48	3.86	11.34	60%	5%	567	21	10	31
North Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.40	0.40	0.80	10%	10%	324	0	81	81
South Banquet Room [4,5]	N/A	N/A	200	Seats	1.6	0.40	0.40	0.80	10%	10%	0	0	0	0
Clubhouse Banquet Employees [6]	N/A	N/A	13	Employees	2	0.50	0.50	1.00	0%	35%	17	5	3	8
Total Clubhouse											*1,108*	*40*	*104*	*144*
Single-Family Residences	Single-Family Detached Housing	210	2	DU	9.57	0.64	0.37	1.01	0%	0%	19	1	1	2
Public Beach & Pier [7]	N/A	N/A	60	Persons	3.55	0.34	0.34	0.68	25%	50%	80	8	7	15
Shuttle Vehicle Trips			--	--	--	--	--	--	--	--	96	4	4	8
Total Proposed Uses											**3,751**	**228**	**214**	**442**
Net Impact of Development at Site Driveway											***1,676***	***115***	***66***	***181***

[1] Daily and peak hour trip generation rates are based on the ITE Trip Generation Manual, 8th Edition (ITE, 2008) unless noted otherwise.
[2] This line item includes trips associated with the existing Clubhouse Bar.
[3] Restaurant and bar included in ITE definition of Hotel, but 10% external trips assumed due to relatively large floor area.
[4] Two events per day are assumed to occur in each banquet room. During the peak hour, it is assumed that an event in one banquet room would start and one event in another banquet room would end.
[5] A vehicle occupancy rate of 2.5 persons per vehicle was assumed for banquet room event attendees.
[6] A vehicle occupancy of one person per vehicle is assumed for banquet room employees. It is assumed that 50% of the banquet room employees would either arrive or depart during the peak hour.
[7] Standard trip rates are not provided for the Edgewood Beach. Beach trip generation is estimated by assuming a maximum of 60 persons could be accommodated during periods when the event facilities are in full swing, with an average of 3 persons per vehicle.
Source: LSC Transportation Consultants, Inc.2012

Table 5.10-14. Existing (2009) Intersection LOS with Alternative 2									
Intersection	Type of Control	Without Project				With Alternative 2 [1]			
		Worst Movement		Total Intersection		Worst Movement		Total Intersection	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
U.S. 50 / Park Avenue	Signal	--	--	35.3	D	--	--	43.4	D
U.S. 50 / Stateline Avenue	Signal	--	--	12.3	B	--	--	12.9	B
U.S. 50 / Lake Parkway	Signal	--	--	27.2	C	--	--	30.8	C
U.S. 50 / Kingsbury Grade	Signal	--	--	17.2	B	--	--	17.9	B
Lake Parkway / Stateline Avenue	All-Way Stop	9.0	A	8.5	A	9.5	A	9.2	A
Edgewood Access / Lake Parkway	Stop Controlled	10.3	B	1.8	A	17.5	C	6.5	A

[1] The calculated delays shown in this table are based upon a previous version of the trip generation analysis, which utilized overly conservative assumptions. The delays based upon the current trip generation analysis would be less than or equal to those shown in this table.
Source: Appendix F

Impact 5.10.2-2 **Potential for Traffic Accidents Existing (2009) Conditions.** Similar to Alternative 1, Alternative 2 is not expected to result in any driver sight distance deficiencies or other characteristics that would create a potential safety hazard provided that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the driveway on Lake Parkway. However, the traffic queues forming at the gatehouse could interfere with traffic operations along Lake Parkway during periods when a large banquet event begins. This is a **potentially significant** impact.

Driver Sight Distance and Site Access/Internal Circulation

The location of the site access point and internal circulation roadways under Alternative 2 are the same as under Alternative 1. Therefore, the driver sight distance evaluation is the same as under Alternative 1. That is, adequate driver sight distance is expected to be provided at the Alternative 2 site access intersection with Lake Parkway, so long as the final landscape and tree removal plans provide at least 445 feet of corner sight distance at this location. No operational concerns are identified at the site access intersection location along Lake Parkway relative to other nearby driveways and intersections. A final site plan would be reviewed by the Douglas County Engineering Department prior to permit issuance.

Traffic Queuing Analysis

The 95th-percentile traffic queue lengths at the study intersections under existing (2009) PM peak-hour conditions with Alternative 2 were reviewed by LSC as part of this traffic analysis. No operational concerns related to intersection traffic queuing were identified as the existing lane storage lengths could accommodate the traffic queues associated with Alternative 2.

Gatehouse Queuing Analysis

An analysis of potential traffic queues waiting to enter the gatehouse under Alternative 2 was conducted using the same methodology as that used to evaluate conditions with Alternative 1. The analysis output is contained in Appendix F. On a busy summer day with a large banquet event starting during the peak hour, the 95th-percentile traffic queue at the gatehouse would extend up to approximately 150 feet from the gatehouse. Because the gatehouse is proposed to be located approximately 55 feet from the edge of curb on Lake Parkway, this distance is not sufficient to accommodate the expected queue. Consequently, the queue could interfere with vehicle movements on Lake Parkway. This is considered a **potentially significant** impact.

Mitigation Measure 5.10.2-2: Design Final Landscape and Tree Removal Plan to Provide Adequate Corner Sight Distance at the Realigned Site Driveway on Lake Parkway, and Either Relocate Gatehouse or Provide Two Lanes.

Prior to TRPA permit acknowledgement, the project applicant shall demonstrate that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. In addition, the mitigation measures below provide options to resolve traffic queuing impacts on Lake Parkway. The measures below are mutually exclusive – implementation of either one of these measures alone would mitigate this impact to a less-than-significant level.

Mitigation Measure 5.10.2-2a: Relocate Entry Gatehouse.

The site plan shall be revised in subsequent design phases to relocate the entry gatehouse to a point at least 150 feet from the edge of curb on Lake Parkway.

Mitigation Measure 5.10.2-2b: Expand Site Access Road to the Gatehouse and Provide Two Attendants at the Gatehouse During Peak Use Periods.

To address potential queuing conflicts on Lake Parkway, the site plan shall be revised in subsequent design phases to expand the inbound site access road between Lake Parkway and the gatehouse to include two northbound lanes. Also, during any peak day, the gatehouse shall be staffed with at least two attendants. The provision of a second lane leading up to the gatehouse from Lake Parkway with a second attendant at the gatehouse would result in a 95th-percentile traffic queue length at the gatehouse of less than 50 feet during peak periods with a banquet event starting.

Mitigation Measures 5.10.2-2a and 5.10.2-2b are mutually exclusive. Implementation of either of these mitigation measures would reduce gatehouse queue lengths and minimize the potential for the queues to interfere with traffic operations on Lake Parkway. Further, this measure would eliminate driver sight distance concerns at the realigned site driveway on Lake Parkway. Implementation of either Mitigation Measure 5.10.2-2a or 5.10.2-2b would mitigate this impact to a **less-than-significant** level.

Impact 5.10.2-3	**Emergency Access.** Because Alternative 2 would provide the same primary and secondary emergency access as Alternative 1 that has been deemed adequate by the Tahoe Douglas Fire Protection District, and emergency responders have confirmed their ability to serve the proposed development, this impact would be the same as Alternative 1 and would be **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.10.1-3.

Mitigation Measure

No mitigation is required.

Impact 5.10.2-4	**Impact on Transit, Pedestrian, and Bicycle Facilities.** This impact under Alternative 2 would be the same as Alternative 1. Adequate transit and bicycle facilities are provided under Alternative 2. However, because no pedestrian facilities are proposed to be provided along the project frontage to the west of the site access driveway, there is no pedestrian connectivity between the project site and the off-site employee parking lot. This is a **significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.10.1-4.

Mitigation Measure 5.10.2-4: Provide Safe Access from the Off-Site Employee Parking Lot to the Site.

The mitigation measures below provide options to provide safe access from the employee lot to the site. The measures are mutually exclusive – implementation of either of these measures alone would mitigate this impact to a less-than-significant level.

Mitigation Measure 5.10.2-4a: Provide ADA-Accessible Path and Crossing on Lake Parkway to Off-Site Employee Parking Lot.

See Mitigation Measure 5.10.1-4a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.10.2-4b: Provide Shuttle Serving Off-Site Employee Parking Lot.

See Mitigation Measure 5.10.1-4b described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measures 5.10.2-4a and b are mutually exclusive. Implementation of either of these mitigation measures would provide safe access between the off-site employee parking lot and the site. Implementation of Mitigation Measure 5.10.2-4a or b would mitigate this impact to a **less-than-significant** level.

Impact 5.10.2-5	Vehicle Miles Traveled (VMT). Alternative 2 would result in a net increase of approximately 185 VMT over the course of a peak summer day, or a 0.01-percent increase in existing region-wide VMT. In comparison with Alternative 1, Alternative 2 would generate a smaller increase in existing region-wide VMT. Based on Subsection 65.2.4(C) of the TRPA Code, an air quality mitigation fee of $3,221.80 is required. As the increase in VMT resulting from Alternative 2 is not substantial in relation to the VMT threshold, this impact is less than significant.

The effect of Alternative 2 on VMT is summarized in Table 5.10-15. With implementation of Alternative 2, the existing plus proposed uses would generate a total of approximately 15,992 VMT.

None of the proposed lodging units would be “new” development in the South Shore area. A total of 230 TAUs would be transferred from sending parcels located in the South Lake Tahoe area. As shown in Table 5.10-15, the sending parcels are estimated to have the potential to generate approximately 8,313 VMT in the Tahoe Basin. Subtracting the existing VMT at the project site (7,494) and the VMT potential associated with the TAU sending parcels (8,313) from the VMT with Alternative 2 (15,992) yields a net increase of up to 185 VMT on a peak summer day. In comparison with the TRPA’s most recent assessment of approximately 1,987,794 existing VMT in the Tahoe Basin (Norberg, pers. comm., 2011), Alternative 2 is estimated to increase region-wide VMT by approximately 0.01 percent. In comparison with Alternative 1, Alternative 2 would generate a smaller (approximately 0.02 percent lower) increase in existing region-wide VMT, given that Alternative 2 would result in a smaller increase in daily vehicle trips in the region.

Pursuant to Subsection 65.2.4(C)of the TRPA Code, an air quality mitigation fee of $36.20 per daily vehicle trip end is required for new trips associated with the non-residential land uses and $325.84 per daily vehicle trip end for new trips associated with residential land uses. Alternative 2 would result in a net increase of 89 daily vehicle trips in the region, all of which are associated with non-residential uses. At $36.20 per trip, the air quality mitigation fee associated with this increase is calculated to be $3,221.80.

Table 5.10-15. Alternative 2 - Vehicle Miles Traveled (VMT) Calculations

Land Use	TRPA Trip Type [1]	Daily Vehicle Trip Ends (DVTE) [2]	Average Trip Length (mi) [3]	VMT
Existing Land Uses				
Golf Course	Average of All HBR, NHB, and RHBW	673	3.92	2,636
Clubhouse				
Edgewood Restaurant	Average of All HBO, NHB, and RHBW	214	3.47	742
Brooks Bar	Average of All HBO, NHB, and RHBW	708	3.47	2,454
North Banquet Room	Average of All HBO, NHB, and RHBW	320	3.47	1,109
South Banquet Room	Average of All HBO, NHB, and RHBW	128	3.47	444
Banquet Employees	Average of RHBW and RNHB	13	3.13	41
Total Clubhouse		*1,383*		*4,790*
Single-Family Residences	Average of All Resident Home-Based Trips	19	3.60	68
Total Existing Development		*2,075*		*7,494*
Proposed Land Uses				
Lodge				
Hotel	Average of All Visitor Types Except NHB, RHBW, and RNHB	708	5.58	3,948
Multiple-Bedroom Units	Average of All Visitor Types Except NHB, RHBW, and RNHB	729	5.58	4,065
Subtotal Lodging Units		*1,437*		*8,013*
Health Spa	Average of All HBR, NHB, and RHBW	44	3.92	172
Lodge Restaurant	Average of All HBO, NHB, and RHBW	40	3.47	139
Lodge Bar	Average of All HBO, NHB, and RHBW	37	3.47	128
Lodge Banquet Room	Average of All HBO, NHB, and RHBW	324	3.47	1,123
Lodge Banquet Employees	Average of RHBW and RNHB	18	3.13	56
Subtotal Lodge Amenities		*463*		*1,618*
Total Lodge		*1,900*		*9,631*
Golf Course	Average of All HBR, NHB, and RHBW	548	3.92	2,146
Clubhouse				
Edgewood Restaurant	Average of All HBO, NHB, and RHBW	200	3.47	693
Brooks Bar	Average of All HBO, NHB, and RHBW	567	3.47	1,965
North Banquet Room	Average of All HBO, NHB, and RHBW	324	3.47	1,123
South Banquet Room	Average of All HBO, NHB, and RHBW	0	3.47	0
Clubhouse Banquet Employees	Average of RHBW and RNHB	17	3.13	53
Subtotal Clubhouse		*1,108*		*3,834*
Public Beach and Pier	Average of All HBR, NHB, and RHBW	80	3.92	313
Single-Family Residences	Average of All Resident Home-Based Trips	19	3.60	68
Total Proposed Development		**3,655**		**15,992**
Units to be Transferred from Other Parcels [5]		1,491	5.58	8,313
Net Increase in Region-Wide VMT with Alternative 2 (Proposed Minus Existing Minus Transferred)		**89**		**185**
Region Wide VMT [4]				**1,987,794**
Percent Increase Attributable to Alternative 2				**0.01%**

[1] HBR = Home Based Recreation, NHB = Non-Home Based, RHBW = Resident Home Based Work, HBO = Home Based Other, RNHB = Resident Non-Home Based.
[2] Reference Trip Generation Table
[3] Based on TRPA's 1995 TRANPLAN Trip Length data.
[4] Based on TRPA 2010 TransCAD Model.
Source: LSC Transportation Consultants, Inc. 2012

As the net increase in region-wide VMT resulting from Alternative 2 (185) is not substantial in relation to the Regional Plan threshold, this impact is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.10.2-6	**Parking Conditions.** Alternative 2 would result in an overall parking surplus of up to 11 spaces during peak periods. Therefore, this alternative would result in a **less-than-significant** parking impact.

Parking Demand

Table 5.10-16 presents the evaluation of the peak parking demand associated with the individual land uses under Alternative 2. The parking rates, assumptions, and reductions are the same as those for Alternative 1. These figures do not reflect any reductions for shared use of parking facilities.

Shared Parking Analysis

A shared parking analysis was conducted for Alternative 2, based upon the same methods and assumptions applied under Alternative 1. The hour-by-hour analysis of parking demand for the various land uses over a peak day is shown in Table 5.10-17 and illustrated in Exhibit 5.10-6. As indicated, over the entire peak day, a maximum of 493 vehicles would be on-site, occurring during the period from 5:00 PM to 6:00 PM. During this time, the golf course and clubhouse would generate up to approximately 202 parked cars and the lodge and associated amenities would generate approximately 291 parked cars. Parking demand for the lodge and amenities would reach a maximum of 293 in the hour starting at 9:00 AM, while the overnight lodging demand would be 239 parked vehicles. As shown in Table 5.10-17, the minimum parking supply needed to accommodate the total parking demand (with proper management) is 493 spaces under Alternative 2. This is approximately 45 more spaces than required under Alternative 1.

Parking Supply

On-site parking is proposed to be provided within the lodge complex buildings (126 spaces), in a surface lot adjacent to the Lodge (88 spaces), and in a two-story parking structure near the site entrance (230 valet spaces). The existing lakefront parking lot (134 spaces) would be removed as a part of Alternative 2. The proposed parking supply under Alternative 2 is summarized in Table 5.10-18. As shown, a total of 444 parking spaces are proposed to be provided on the project site. In addition, parking for site employees would be provided in the off-site lot on the south side of Lake Parkway (60 spaces). The total proposed parking supply is therefore 504 spaces (444 on-site plus 60 off-site spaces). This is six more spaces than that proposed under Alternative 1.

Parking Balance

Comparing the proposed parking supply (504 spaces) with the peak parking demand (493 spaces) assuming shared parking among the proposed mix of land uses, Alternative 2 would result in an overall parking surplus of up to 11 spaces during peak periods. As adequate parking conditions are expected to be provided, this impact is considered **less-than-significant**.

Mitigation Measure

No mitigation is required.

Table 5.10-16. Peak Parking Demand of Individual Uses - Alternative 2

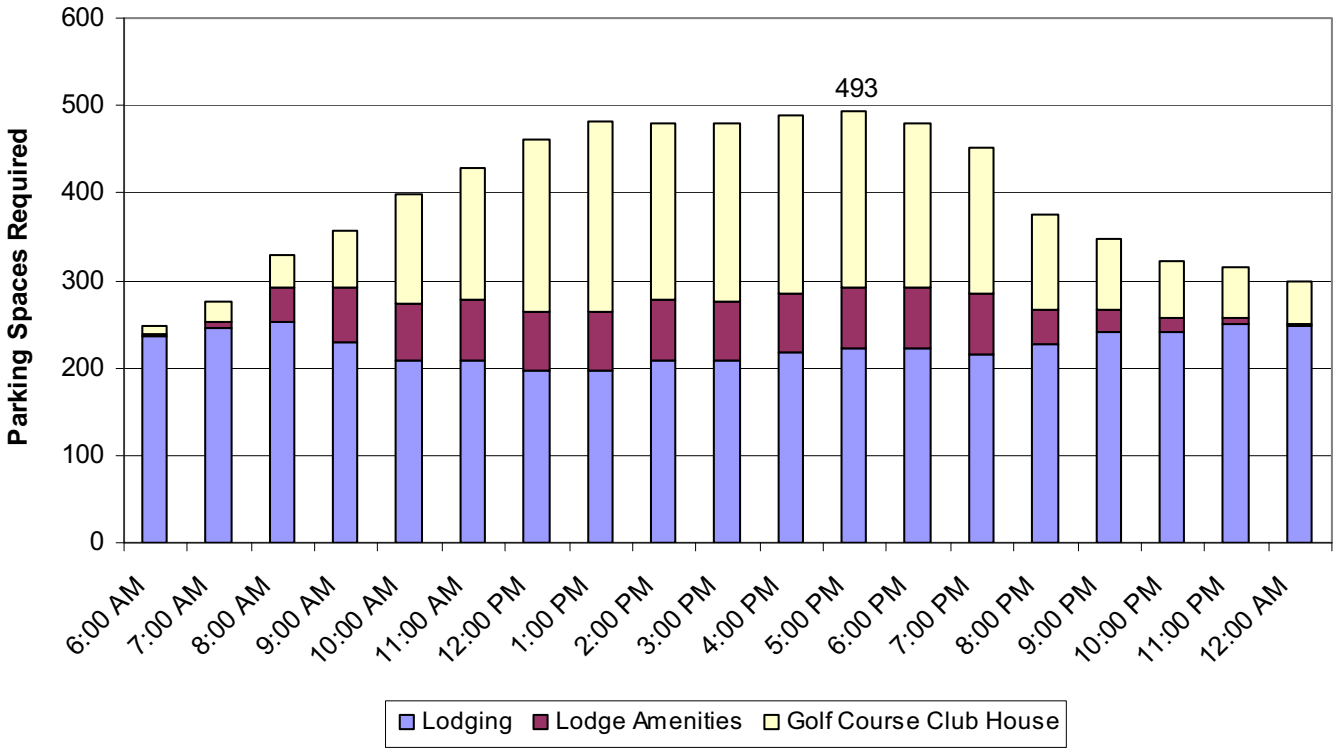
Description	Quantity	Unit	Parking Rate [1]	Reduction for Captive Market [2]	Reduction for Travel Via Non-Auto Modes	Peak Parking Demand of Individual Use (Without Shared Parking)
ALTERNATIVE 2 LAND USES						
Lodge						
Hotel [3]	123	Hotel Units	1 space per unit plus 1 space for every 15 units	0%	0%	131
Multiple-Bedroom Units	107					
Studio Units	4	Studio Units/ 1 br Units	1 space per unit	0%	0%	4
1-Bedroom Units	14	Studio Units/ 1 br Units	1 space per unit	0%	0%	14
2-Bedroom Units	51	2 br Units	1.25 spaces per unit	0%	0%	64
3-Bedroom Units	33	3 br Units	1.75 spaces per unit	0%	0%	58
4-Bedroom Units	5	4 br Units	2.25 spaces per unit	0%	0%	11
Subtotal Lodge	*230*	*Units*				*282*
Health Spa [3]	14,000	Square Feet	1 space per 300 sf	90%	5%	4
Lodge Restaurant [3]	3,300	Square Feet	1 space per 100 sf	90%	5%	3
Lodge Bar [3]	1,900	Square Feet	1 space per 75 sf	90%	5%	2
Lodge Banquet Room [4]	250	Seats	1 space per 4seats	10%	10%	51
Lodge Banquet Employees	14	Employees at Peak	1 space per employee	0%	35%	9
Subtotal Lodge Amenities						*69*
Total Lodge						*351*
Golf Course [3]	18	Holes	6 spaces per hole	25%	0%	81
Clubhouse						
Edgewood Restaurant [3]	100	Seats	1 space per 4 seats	25%	5%	18
Brooks Bar [3]	7,260	Square Feet	1 space per 75 sf	60%	5%	37
North Banquet Room [4]	250	Seats	1 space per 4 seats	10%	10%	51
South Banquet Room [4]	200	Seats	1 space per 4 seats	10%	10%	41
Clubhouse Banquet Employees	13	Employees at Peak	1 space per employee	0%	35%	8
Total Clubhouse						*155*

[1] Based on Douglas County Consolidated Development Code, except where noted.
[2] No reduction is applied to the residential/lodging uses, in order to avoid duplicating the reductions applied to other land uses.
[3] Parking rate includes associated employees.
[4] Parking rate based on Stateline Community Plan, as Douglas County Code does not provide an applicable parking rate for this land use.
Source: LSC Transportation Consultants, Inc. 2012

Table 5.10-17. Alternative 2 - Shared Parking Analysis

Hour of Day	Lodge								Golf Course / Clubhouse									Total
	Lodging		Restaurant / Bar		Health Spa	Banquet Room		Subtotal	Golf Course		Brooks Bars		Edgewood Restaurant		Banquet Rooms		Subtotal	
	Guest	Employee	Customer	Employee		Guest	Employee		Customer	Employee	Customer	Employee	Customer	Employee	Guest	Employee		
Hourly Variation in Parking Demand (Percent of Peak Demand)																		
6:00 AM	95%	5%	25%	50%	33%	0%	0%		0%	50%	0%	0%	0%	0%	0%	0%		
7:00 AM	95%	30%	50%	75%	67%	0%	0%		6%	100%	0%	0%	0%	0%	0%	0%		
8:00 AM	90%	90%	60%	90%	67%	50%	50%		28%	100%	0%	0%	0%	0%	0%	0%		
9:00 AM	80%	90%	75%	90%	67%	100%	50%		50%	100%	0%	25%	0%	0%	10%	25%		
10:00 AM	70%	100%	85%	100%	100%	100%	50%		72%	100%	25%	50%	0%	0%	50%	50%		
11:00 AM	70%	100%	90%	100%	100%	100%	100%		94%	100%	50%	75%	0%	0%	50%	100%		
12:00 PM	65%	100%	100%	100%	100%	100%	100%		100%	100%	100%	100%	0%	0%	75%	100%		
1:00 PM	65%	100%	90%	100%	100%	100%	100%		100%	100%	100%	100%	0%	0%	100%	100%		
2:00 PM	70%	100%	50%	100%	100%	100%	100%		100%	100%	50%	100%	0%	25%	100%	100%		
3:00 PM	70%	100%	45%	85%	100%	100%	100%		100%	100%	50%	100%	0%	75%	100%	100%		
4:00 PM	75%	90%	45%	85%	100%	100%	100%		89%	80%	75%	100%	25%	75%	100%	100%		
5:00 PM	80%	70%	75%	95%	100%	100%	100%		64%	60%	100%	100%	75%	100%	100%	100%		
6:00 PM	85%	40%	100%	95%	100%	100%	100%		39%	40%	100%	100%	100%	100%	100%	100%		
7:00 PM	85%	20%	100%	95%	67%	100%	100%		14%	20%	100%	100%	100%	100%	100%	100%		
8:00 PM	90%	20%	80%	95%	67%	50%	50%		0%	20%	100%	100%	100%	100%	50%	50%		
9:00 PM	95%	20%	60%	80%	67%	25%	50%		0%	0%	100%	100%	90%	100%	25%	50%		
10:00 PM	95%	20%	55%	65%	33%	10%	50%		0%	0%	100%	100%	90%	100%	10%	50%		
11:00 PM	100%	10%	50%	65%	0%	5%	5%		0%	0%	100%	100%	90%	85%	5%	5%		
12:00 AM	100%	5%	25%	35%	0%	2%	2%		0%	0%	100%	100%	50%	50%	2%	2%		
Hourly Parking Demand																		
Individual Land Use Peak	*246*	*36*	*1*	*4*	*4*	*51*	*9*	*351*	*61*	*20*	*32*	*5*	*15*	*3*	*92*	*8*	*236*	*587*
6:00 AM	234	2	0	2	1	0	0	239	0	10	0	0	0	0	0	0	10	249
7:00 AM	234	11	1	3	3	0	0	252	3	20	0	0	0	0	0	0	23	275
8:00 AM	221	32	1	4	3	26	5	292	17	20	0	0	0	0	0	0	37	329
9:00 AM	197	32	1	4	3	51	5	293	31	20	0	2	0	0	9	2	64	357
10:00 AM	172	36	1	4	4	51	5	273	44	20	8	3	0	0	46	4	125	398
11:00 AM	172	36	1	4	4	51	9	277	58	20	16	4	0	0	46	8	152	429
12:00 PM	160	36	1	4	4	51	9	265	61	20	32	5	0	0	69	8	195	460
1:00 PM	160	36	1	4	4	51	9	265	61	20	32	5	0	0	92	8	218	483
2:00 PM	172	36	1	4	4	51	9	277	61	20	16	5	0	1	92	8	203	480
3:00 PM	172	36	0	3	4	51	9	275	61	20	16	5	0	2	92	8	204	479
4:00 PM	185	32	0	3	4	51	9	284	54	16	24	5	4	2	92	8	205	489
5:00 PM	**197**	**25**	**1**	**4**	**4**	**51**	**9**	**291**	**39**	**12**	**32**	**5**	**11**	**3**	**92**	**8**	**202**	**493**
6:00 PM	209	14	1	4	4	51	9	292	24	8	32	5	15	3	92	8	187	479
7:00 PM	209	7	1	4	3	51	9	284	8	4	32	5	15	3	92	8	167	451
8:00 PM	221	7	1	4	3	26	5	267	0	4	32	5	15	3	46	4	109	376
9:00 PM	234	7	1	3	3	13	5	266	0	0	32	5	14	3	23	4	81	347
10:00 PM	234	7	1	3	1	5	5	256	0	0	32	5	14	3	9	4	67	323
11:00 PM	246	4	1	3	0	3	0	257	0	0	32	5	14	3	5	0	59	316
12:00 AM	246	2	0	1	0	1	0	250	0	0	32	5	8	2	2	0	49	299

Source: Shared Parking (Urban Land Institute, 2005); Parking Generation, 3rd Edition (Institute of Transportation Engineers, 2004); LSC Transportation Consultants, Inc. 2012



Source:

Exhibit 5.10-6 Edgewood Shared Parking – Alternative 2

Table 5.10-18. Alternative 2 – Parking Balance	
Parking Lot Location	**Spaces**
Parking Supply	
Lodge Buildings	126
Surface Lot Spaces	88
Remote Parking Structure (valet)	230
Total On-Site Spaces	444
Offsite Employee Parking Spaces	60
Total Parking Supply	504
Parking Demand During Peak Period with Shared Parking	
Lodge and Amenities	291
Golf Course and Clubhouse	202
Total Parking Demand	493
Overall Parking Balance	11
Source: Appendix F	

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

The evaluation of Alternative 3 is based on the same methods and assumptions used for Alternative 1. Note that the construction traffic impacts are identical to those under Alternative 1, given that the analysis is based on a worst-case scenario regarding construction traffic. Therefore, construction impacts are not included in this section.

Impact 5.10.3-1	**Intersection LOS Under Existing (2009) Conditions.** Although implementation of Alternative 3 would result in increased vehicular delays at the study intersections relative to Alternative 1, all intersections would continue to operate at an acceptable LOS under existing (2009) conditions. The intersection LOS with Alternative 3 is the same as with Alternative 1, although the average delays are the same or slightly higher. This impact is **less than significant**.

Trip Generation

The trip generation analysis for Alternative 3 is based on the same methodology and key assumptions as those for Alternative 1. The land use quantities and assumptions pertaining to the banquet/event facilities under Alternative 3 are identical to those under Alternative 1. The existing and proposed uses at the project site under Alternative 3 are presented in Table 5.10-19. The trip generation of the proposed uses is compared to that of the existing uses, in order to determine the net impact of the project on trip generation.

Trip Generation — Existing Land Uses

The trip generation for the existing land uses at the site, which was shown previously in Table 5.10-4, is replicated in Table 5.10-19. The existing uses are estimated to generate approximately 2,075 DVTE at the site driveway, 261 of which occur during the PM peak hour (113 entering and 148 exiting).

Trip Generation — Alternative 3 Development

The trip generation for the proposed land uses under Alternative 3 is shown in Table 5.10-19, and is based on the same trip assumptions and reductions as that for Alternative 1. The Alternative 3 land uses are estimated to generate a total of approximately 4,142 DVTE at the site driveway, 452 of which occur during the peak hour (234 entering and 218 exiting).

Net Impact on Trip Generation at Site Access

Subtracting the existing trip generation from that of the proposed development indicates that Alternative 3 would result in a net increase of approximately 2,067 DVTE and 191 PHVTE (121 inbound and 70 outbound) at the site access point over the course of a peak summer day. The net impact of Alternative 3 on daily and peak-hour trip generation is approximately 27 percent and 20 percent higher than Alternative 1, respectively.

Trip Generation — TAU Sending Parcels

As with Alternative 1, none of the proposed lodging/residential units would be “new” development in the South Shore area. A total of 250 TAUs would be transferred from sending parcels located in the South Lake Tahoe area. Specific sending parcels have not been identified for Alternative 3, beyond the same 194 TAUs that would be transferred for Alternative 1. As described in the analysis of Alternative 1, the 194 TAUs to be transferred are assumed to generate 1,298 DVTE. The remaining 56 TAUs to be transferred are assumed to be hotel units located within the Stateline area. These assumptions are conservative with respect to the VMT analysis, as they yield a relatively small credit for daily trips and VMT associated with the sending parcels (rather than assuming the TAUs are located near the “Y” where there is a lower level of non-auto travel). Multiplying 56 TAUs by the ITE hotel trip generation rate (8.92 daily trips per unit) and applying a 40-percent reduction for non-auto travel yields approximately 300 DVTE. Adding the 300 DVTE to the 1,298 DVTE yields a total of 1,598 DVTE associated with the sending parcels. The traffic associated with the sending parcels does not affect the operational analysis in this study, as the operational analysis focuses on local traffic impacts resulting from the Alternative 3 site development. However, these figures are used in the VMT discussion under Impact 5.10.3-5.

Table 5.10-19. Alternative 3 - Trip Generation Analysis

Description	ITE Land Use	ITE Code	Quantity	Variable	Trip Rates [1]					Reduction for Non-Auto Trips	Daily Vehicle Trip Ends (DVTE)	External Trip Generation		
					Daily	Peak Hour			Reduction for Internal Trips			Peak Hour		
						IN	OUT	TOTAL				IN	OUT	TOTAL
EXISTING LAND USES														
Golf Course [2]	Golf Course	430	18	Holes	40.63	2.25	2.34	4.59	8%	0%	673	37	39	76
Clubhouse														
Edgewood Restaurant	Quality Restaurant	931	100	Seats	2.81	0.19	0.14	0.33	20%	5%	214	14	11	25
Brooks Bar	Drinking Place	936	7.26	KSF	205.36	7.48	3.86	11.34	50%	5%	708	26	13	39
North Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.40	0.40	0.80	0%	20%	320	0	80	80
South Banquet Room [4,5]	N/A	N/A	100	Seats	1.6	0.40	0.40	0.80	0%	20%	128	32	0	32
Banquet Employees [6]	N/A	N/A	10	Employees	2	0.50	0.50	1.00	0%	35%	13	3	4	7
Total Clubhouse											*1,383*	*75*	*108*	*183*
Single-Family Residences	Single-Family Detached Housing	210	2	DU	9.57	0.64	0.37	1.01	0%	0%	19	1	1	2
Total Existing Uses											**2,075**	**113**	**148**	**261**
PROPOSED LAND USES														
Lodge														
Hotel	Hotel	310	127	Rooms	8.92	0.34	0.36	0.70	14%	25%	731	28	29	57
Multiple-Bedroom Units	Timeshare	265	123	Units	10.56	0.39	0.40	0.79	14%	25%	838	31	32	63
Subtotal Lodging Units			*250*	*Units*							*1,569*	*59*	*61*	*120*
Health Spa	Health/Fitness Club	492	14.00	KSF	32.93	2.01	1.52	3.53	90%	5%	44	3	2	5
Lodge Restaurant [3]	High-Turnover (Sit-Down) Restaurant	932	3.30	KSF	127.15	6.58	4.57	11.15	90%	5%	40	2	2	4
Lodge Bar [3]	Drinking Place	925	1.90	KSF	205.36	7.48	3.86	11.34	90%	5%	37	1	1	2
Lodge Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.40	0.40	0.80	10%	10%	324	81	0	81
Lodge Banquet Employees [6]	N/A	N/A	14	Employees	2	0.50	0.50	1.00	0%	35%	18	5	4	9
Subtotal Lodge Amenities											*463*	*92*	*9*	*101*
Total Lodge											*2,032*	*151*	*70*	*221*
Golf Course [2]	Golf Course	430	18	Holes	40.63	2.25	2.34	4.59	25%	0%	548	30	32	62
Clubhouse														
Edgewood Restaurant	Quality Restaurant	931	100	Seats	2.81	0.19	0.14	0.33	25%	5%	200	14	10	24
Brooks Bar	Drinking Place	925	7.26	KSF	205.36	7.48	3.86	11.34	60%	5%	567	21	10	31
North Banquet Room [4,5]	N/A	N/A	250	Seats	1.6	0.40	0.40	0.80	10%	10%	324	0	81	81
South Banquet Room [4,5]	N/A	N/A	200	Seats	1.6	0.40	0.40	0.80	10%	10%	259	0	0	0
Clubhouse Banquet Employees [6]	N/A	N/A	13	Employees	2	0.50	0.50	1.00	0%	35%	17	5	3	8
Total Clubhouse											*1,367*	*40*	*104*	*144*
Single-Family Residences	Single-Family Detached Housing	210	2	DU	9.57	0.64	0.37	1.01	0%	0%	19	1	1	2
Public Beach and Pier [7]	N/A	N/A	60	Persons	3.55	0.34	0.34	0.68	25%	50%	80	8	7	15
Shuttle Vehicle Trips			--	--	--	--	--	--	--	--	96	4	4	8
Total Proposed Uses											**4,142**	**234**	**218**	**452**
Net Impact of Development at Site Driveway											***2,067***	***121***	***70***	***191***

[1] Daily and peak hour trip generation rates are based on the ITE Trip Generation Manual, 8th Edition (ITE, 2008) unless noted otherwise.
[2] This line item includes trips associated with the existing Clubhouse Bar.
[3] Restaurant and bar included in ITE definition of Hotel, but 10% external trips assumed due to relatively large floor area.
[4] Two events per day are assumed to occur in each banquet room. During the peak hour, it is assumed that an event in one banquet room would start and one event in another banquet room would end.
[5] A vehicle occupancy rate of 2.5 persons per vehicle was assumed for banquet room event attendees.
[6] A vehicle occupancy of one person per vehicle is assumed for banquet room employees. It is assumed that 50% of the banquet room employees would either arrive or depart during the peak hour.
[7] Standard trip rates are not provided for the Edgewood Beach. Beach trip generation is estimated by assuming a maximum of 60 persons could be accommodated during periods when the event facilities are in full swing, with an average of 3 persons per vehicle.
Source: LSC Transportation Consultants, Inc.2012

Trip Distribution and Assignment

The estimated distribution of the project traffic during the summer peak hours under Alternative 3 is the same as that under Alternative 1. The project-generated trips are assigned to the study intersections by applying the distribution pattern to the traffic generation. The resulting "project net impact" on peak-hour traffic volumes is higher than that under Alternative 1. Adding these volumes to the existing traffic volumes without the project yields the existing 2009 "with Alternative 3" peak-hour traffic volumes.

Project Impact on Traffic Volumes

Alternative 3's impact on existing ADT volumes along Lake Parkway is estimated to be up to 5 percent higher than that under Alternative 1. However, the increase in ADT along Stateline Avenue would range from 1 to 2 percent, which is the same as that under Alternative 1.

Intersection LOS

The LOS at each study intersection was evaluated using the same methodologies as that for Alternative 1. Appendix F contains the LOS output for Alternative 3. Table 5.10-20 presents existing (2009) intersection LOS with and without Alternative 3. The addition of traffic generated by the project would result in an acceptable LOS (LOS D or better) at all study intersections. The intersection LOS is the same as with Alternative 1, although the average delays are the same or slightly higher with Alternative 3. This impact is considered **less than significant**.

Table 5.10-20. Existing (2009) Intersection LOS with Alternative 3

Intersection	Type of Control	Without Project				With Alternative 3 [1]			
		Worst Movement		Total Intersection		Worst Movement		Total Intersection	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
U.S. 50 / Park Avenue	Signal	--	--	35.3	D	--	--	43.5	D
U.S. 50 / Stateline Avenue	Signal	--	--	12.3	B	--	--	12.9	B
U.S. 50 / Lake Parkway	Signal	--	--	27.2	C	--	--	30.9	C
U.S. 50 / Kingsbury Grade	Signal	--	--	17.2	B	--	--	17.9	B
Lake Parkway / Stateline Avenue	All-Way Stop	9.0	A	8.5	A	9.5	A	9.2	A
Edgewood Access / Lake Parkway	Stop Controlled	10.3	B	1.8	A	17.9	C	6.6	A

[1] The calculated delays shown in this table are based upon a previous version of the trip generation analysis, which utilized overly –conservative assumptions. The delays based upon the current trip generation analysis would be less than or equal to those shown in this table.
Source: Appendix F

Mitigation Measure

No mitigation is required.

Impact 5.10.3-2 **Potential for Traffic Accidents Under Existing (2009) Conditions**. Similar to Alternative 1, Alternative 3 would not result in any driver sight distance deficiencies or other characteristics that would create a potential safety hazard provided that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the driveway on Lake Parkway. However, the traffic queues forming at the gatehouse could interfere with traffic operations along Lake Parkway during periods when a large banquet event begins. This is a **potentially significant** impact.

Driver Sight Distance and Site Access/Internal Circulation

The location of the site access point and internal circulation roadways under Alternative 3 are the same as under Alternative 1. Therefore, the driver sight distance evaluation is the same as under Alternative 1. That is, adequate driver sight distance is expected to be provided at the Alternative 3 site access intersection with Lake Parkway, so long as the final landscape and tree removal plans provide at least 445 feet of corner sight distance at this location. No operational concerns are identified at the site access intersection location along Lake Parkway relative to other nearby driveways and intersections. A final site plan would be reviewed by the Douglas County Engineering Department prior to permit issuance.

Traffic Queuing Analysis

The 95th-percentile traffic queue lengths at the study intersections under existing (2009) PM peak-hour conditions with Alternative 3 were reviewed by LSC as part of this traffic analysis. No operational concerns related to intersection traffic queuing were identified as the existing lane storage lengths could accommodate the traffic queues associated with Alternative 3.

Gatehouse Queuing Analysis

An analysis of potential traffic queues waiting to enter the gatehouse under Alternative 3 was conducted using the same methodology as that used to evaluate conditions with Alternative 1. The analysis output is contained in Appendix F. On a busy summer day with a large banquet event starting during the peak hour, the 95th-percentile traffic queue at the gatehouse would extend up to approximately 150 feet from the gatehouse. Because the gatehouse is proposed to be located approximately 55 feet from the edge of curb on Lake Parkway, this distance is not sufficient to accommodate the expected queue. Consequently, the queue could interfere with vehicle movements on Lake Parkway. This is considered a **potentially significant** impact.

Mitigation Measure 5.10.3-2: Design Final Landscape and Tree Removal Plan to Provide Adequate Corner Sight Distance at the Realigned Site Driveway on Lake Parkway, and Either Relocate Gatehouse or Provide Two Lanes.

Prior to TRPA permit acknowledgement, the project applicant shall demonstrate that the final landscape and tree removal plans provide at least 445 feet of corner sight distance at the site driveway on Lake Parkway. In addition, the mitigation measures below provide options to resolve traffic queuing impacts on Lake Parkway. The measures below are mutually exclusive – implementation of either one of these measures alone would mitigate this impact to a less-than-significant level.

Mitigation Measure 5.10.3-2a: Relocate Entry Gatehouse.

The site plan shall be revised in subsequent design phases to relocate the entry gatehouse to a point at least 150 feet from the edge of curb on Lake Parkway.

Mitigation Measure 5.10.3-2b: Expand Site Access Road to the Gatehouse and Provide Two Attendants at the Gatehouse During Peak Use Periods.

To address potential queuing conflicts on Lake Parkway, the site plan shall be revised in subsequent design phases to expand the inbound site access road between Lake Parkway and the gatehouse to include two northbound lanes. Also, during any peak day, the gatehouse shall be staffed with at least two attendants. The provision of a second lane leading up to the gatehouse from Lake Parkway with a second attendant at the gatehouse would result in a 95th-percentile traffic queue length at the gatehouse of less than 50 feet during peak periods with a banquet event starting.

Mitigation Measures 5.10.3-2a and 5.10.3-2b are mutually exclusive. Implementation of either of these mitigation measures would reduce gatehouse queue lengths and minimize the potential for the queues to

interfere with traffic operations on Lake Parkway. Further, this measure would eliminate driver sight distance concerns at the realigned site driveway on Lake Parkway. Implementation of either Mitigation Measure 5.10.3-2a or 5.10.3-2b would mitigate this impact to a **less-than-significant** level.

Impact 5.10.2-3	**Emergency Access.** Because Alternative 3 would provide the same primary and secondary emergency access as Alternative 1 that has been deemed adequate by the Tahoe Douglas Fire Protection District, and emergency responders have confirmed their ability to serve the proposed development, this impact would be the same as Alternative 1 and would be **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.10.1-3.

Mitigation Measure

No mitigation is required.

Impact 5.10.2-4	**Impact on Transit, Pedestrian, and Bicycle Facilities.** This impact under Alternative 3 would be the same as Alternative 1 above. Adequate transit and bicycle facilities are provided under Alternative 3. However, because no pedestrian facilities are proposed to be provided along the project frontage to the west of the site access driveway, there is no pedestrian connectivity between the project site and the off-site employee parking lot. This is a **significant** impact.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.10.1-4.

Mitigation Measure 5.10.3-4: Provide Safe Access from the Off-Site Employee Parking Lot to the Site.

The mitigation measures below provide options to provide safe access from the employee lot to the site. The measures are mutually exclusive – implementation of either of these measures alone would mitigate this impact to a less-than-significant level.

Mitigation Measure 5.10.3-4a: Provide ADA-Accessible Path and Crossing on Lake Parkway to Off-Site Employee Parking Lot.

See Mitigation Measure 5.10.1-4a described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measure 5.10.3-4b: Provide Shuttle Serving Off-Site Parking Lot.

See Mitigation Measure 5.10.3-4b described above for Alternative 1. The same mitigation measure would apply.

Mitigation Measures 5.10.3-4a and b are mutually exclusive. Implementation of either of these mitigation measures would provide safe access between the off-site employee parking lot and the site. Implementation of Mitigation Measure 5.10.3-4a or b would mitigate this impact to a **less-than-significant** level.

Impact 5.10.3-5	**Vehicle Miles Traveled (VMT).** Alternative 3 would result in a net increase of approximately 1,221 VMT over the course of a peak summer day, or a 0.06-percent increase in existing region-wide VMT. In comparison with Alternative 1, Alternative 3 would generate a slightly higher increase in existing region-wide VMT. Based on Subsection 65.2.4(C) of the TRPA Code of Ordinances, an air quality mitigation fee of $13,502.60 is required. As the increase in VMT resulting from Alternative 3 is not substantial in relation to VMT, this impact is **less than significant**.

The effect of Alternative 3 on VMT is summarized in Table 5.10-21. With implementation of Alternative 3, the existing plus proposed uses would generate a total of approximately 17,625 VMT.

None of the proposed lodging units would be "new" development in the South Shore area. A total of 250 TAUs would be transferred from sending parcels located in the South Lake Tahoe area. As shown in Table 5.10-21, the sending parcels are estimated to have the potential to generate approximately 8,910 VMT in the Tahoe Basin. Subtracting the existing VMT at the project site (7,494) and the VMT potential associated with the TAU sending parcels (8,910) from the VMT with Alternative 3 (17,625) yields a net increase of up to 1,221 VMT on a peak summer day. In comparison with the TRPA's most recent assessment of approximately 1,987,794 existing VMT in the Tahoe Basin, Alternative 3 is estimated to increase region-wide VMT by approximately 0.06 percent. In comparison with Alternative 1, Alternative 3 would generate a slightly higher (approximately 0.03 percent) increase in existing region-wide VMT. Pursuant to Subsection 65.2.4(C)of the TRPA Code, an air quality mitigation fee of $36.20 per daily vehicle trip end is required for new trips associated with the non-residential land uses and $325.84 per daily vehicle trip end for new trips associated with residential land uses. Alternative 3 would result in a net increase of 373 daily vehicle trips in the region, all of which are associated with non-residential uses. At $36.20 per trip, the air quality mitigation fee associated with this increase is calculated to be $13,502.60.

As the increase in VMT resulting from Alternative 3 (1,221) is not substantial in relation to the Regional Plan threshold, this impact is considered **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.10.3-6	**Parking Conditions.** With Alternative 3, there would be a parking shortfall of up to 5 spaces during peak periods. This is a **significant** impact.

Parking Demand

Table 5.10-22 presents the evaluation of the peak parking demand associated with the individual land uses under Alternative 3. The parking rates, assumptions, and reductions are the same as those for Alternative 1. These figures do not reflect any reductions for shared use of parking facilities.

Shared Parking Analysis

A shared parking analysis was conducted for Alternative 3, based upon the same methods and assumptions applied under Alternative 1. The hour-by-hour analysis of parking demand for the various land uses over a peak day is shown in Table 5.10-23 and illustrated in Exhibit 5.10-7. As indicated, over the entire peak day, a maximum of 509 vehicles would be on-site, occurring during the period from 5:00 PM to 6:00 PM. During this time, the golf course and clubhouse would generate up to approximately 202 parked cars, and the lodge and associated amenities would generate approximately 307 parked cars. Parking demand for the lodge and amenities would reach a maximum of 312 in the hour starting at 8:00 AM, while the overnight lodging demand

would be 254 parked vehicles. As shown in Table 5.10-23, the minimum parking supply needed to accommodate the total parking demand (with proper management) is 509 spaces under Alternative 3. This is approximately 61 more spaces than required under Alternative 1.

Table 5.10-21. Alternative 3 - Vehicle Miles Traveled (VMT) Calculations

Land Use	TRPA Trip Type [1]	Daily Vehicle Trip Ends (DVTE) [2]	Average Trip Length (mi) [3]	VMT
Existing Land Uses				
Golf Course	Average of All HBR, NHB, and RHBW	673	3.92	2,636
Clubhouse				
Edgewood Restaurant	Average of All HBO, NHB, and RHBW	214	3.47	742
Brooks Bar	Average of All HBO, NHB, and RHBW	708	3.47	2,454
North Banquet Room	Average of All HBO, NHB, and RHBW	320	3.47	1,109
South Banquet Room	Average of All HBO, NHB, and RHBW	128	3.47	444
Banquet Employees	Average of RHBW and RNHB	13	3.13	41
Total Clubhouse		*1,383*		*4,790*
Single-Family Residences	Average of All Resident Home-Based Trips	19	3.60	68
Total Existing Development		*2,075*		*7,494*
Proposed Land Uses				
Lodge				
Hotel	Average of All Visitor Types Except NHB, RHBW, and RNHB	731	5.58	4,076
Multiple-Bedroom Units	Average of All Visitor Types Except NHB, RHBW, and RNHB	838	5.58	4,672
Subtotal Lodging Units		*1,569*		*8,748*
Health Spa	Average of All HBR, NHB, and RHBW	44	3.92	172
Lodge Restaurant	Average of All HBO, NHB, and RHBW	40	3.47	139
Lodge Bar	Average of All HBO, NHB, and RHBW	37	3.47	128
Lodge Banquet Room	Average of All HBO, NHB, and RHBW	324	3.47	1,123
Lodge Banquet Employees	Average of RHBW and RNHB	18	3.13	56
Subtotal Lodge Amenities		*463*		*1,618*
Total Lodge		*2,032*		*10,366*
Golf Course	Average of All HBR, NHB, and RHBW	548	3.92	2,146
Clubhouse				
Edgewood Restaurant	Average of All HBO, NHB, and RHBW	200	3.47	693
Brooks Bar	Average of All HBO, NHB, and RHBW	567	3.47	1,965
North Banquet Room	Average of All HBO, NHB, and RHBW	324	3.47	1,123
South Banquet Room	Average of All HBO, NHB, and RHBW	259	3.47	898
Clubhouse Banquet Employees	Average of RHBW and RNHB	17	3.13	53
Subtotal Clubhouse		*1,367*		*4,732*
Public Beach and Pier	Average of All HBR, NHB, and RHBW	80	3.92	313
Single-Family Residences	Average of All Resident Home-Based Trips	19	3.60	68
Total Proposed Development		**4.046**		**17,625**
Units to be Transferred from Other Parcels [5]		1,598	5.58	8,910
Net Increase in Region-Wide VMT with Alternative 2 (Proposed Minus Existing Minus Transferred)		**373**		**1,221**
Region Wide VMT [4]				**1,987,794**
Percent Increase Attributable to Alternative 2				**0.06%**

[1] HBR = Home Based Recreation, NHB = Non-Home Based, RHBW = Resident Home Based Work, HBO = Home Based Other, RNHB = Resident Non-Home Based.
[2] Reference Trip Generation Table
[3] Based on TRPA's 1995 TRANPLAN Trip Length data.
[4] Based on TRPA 2010 TransCAD Model.
[5] Units to be transferred includes all of the units for the preferred alternative. Trip generation of remaining units is based on hotel land use and high transit use (near Stateline area).
Source: LSC Transportation Consultants, Inc.2012

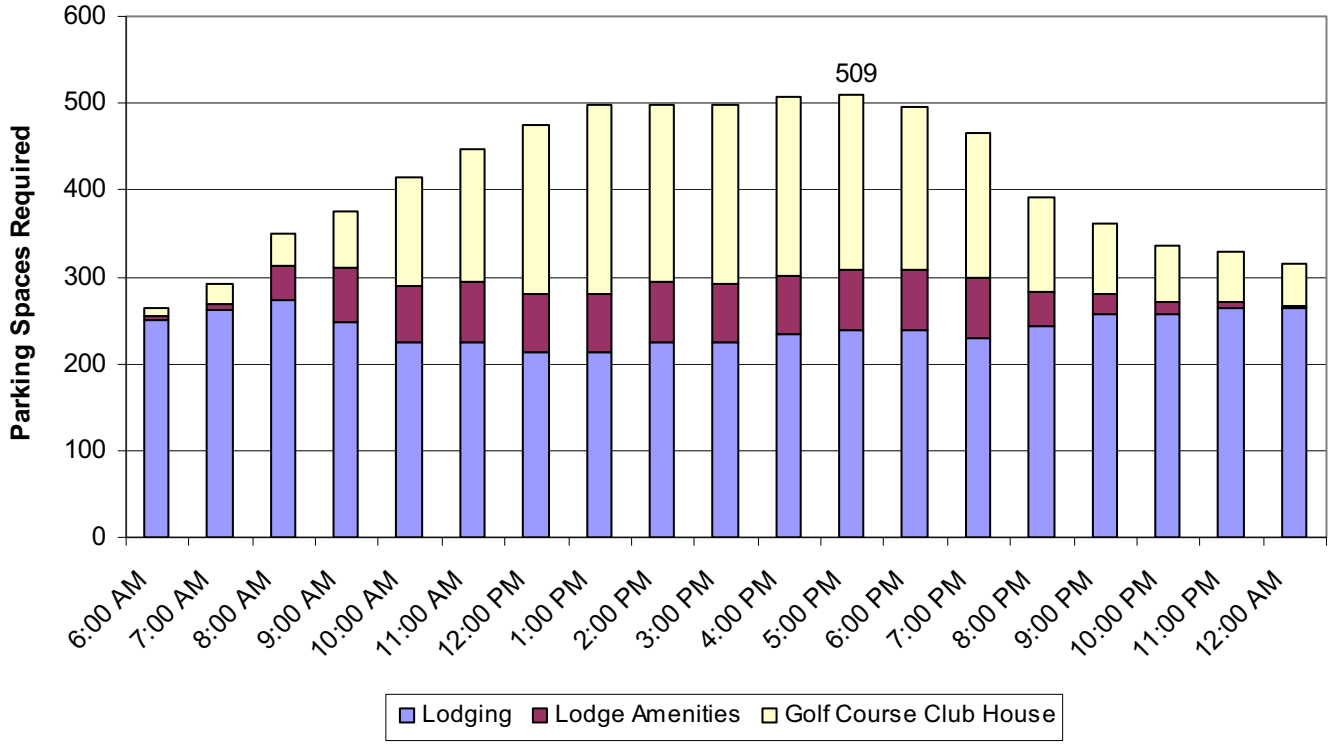
Table 5.10-22. Peak Parking Demand of Individual Uses - Alternative 3						
Description	Quantity	Unit	Parking Rate [1]	Reduction for Captive Market [2]	Reduction for Travel Via Non-Auto Modes	Peak Parking Demand of Individual Use (Without Shared Parking)
ALTERNATIVE 3 LAND USES						
Lodge						
Hotel [3]	127	Hotel Units	1 space per unit plus 1 space for every 15 units	0%	0%	135
Multiple-Bedroom Units	123					
Studio Units	4	Studio Units/ 1 br Units	1 space per unit	0%	0%	4
1-Bedroom Units	28	Studio Units/ 1 br Units	1 space per unit	0%	0%	28
2-Bedroom Units	51	2 br Units	1.25 spaces per unit	0%	0%	64
3-Bedroom Units	36	3 br Units	1.75 spaces per unit	0%	0%	63
4-Bedroom Units	4	4 br Units	2.25 spaces per unit	0%	0%	9
Subtotal Lodge	*250*	*Units*				*303*
Health Spa [3]	14,000	Square Feet	1 space per 300 sf	90%	5%	4
Lodge Restaurant [3]	3,300	Square Feet	1 space per 100 sf	90%	5%	3
Lodge Bar [3]	1,900	Square Feet	1 space per 75 sf	90%	5%	2
Lodge Banquet Room [4]	250	Seats	1 space per 4seats	10%	10%	51
Lodge Banquet Employees	14	Employees at Peak	1 space per employee	0%	35%	9
Subtotal Lodge Amenities						*69*
Total Lodge						*372*
Golf Course [3]	18	Holes	6 spaces per hole	25%	0%	81
Clubhouse						
Edgewood Restaurant [3]	100	Seats	1 space per 4 seats	25%	5%	18
Brooks Bar [3]	7,260	Square Feet	1 space per 75 sf	60%	5%	37
North Banquet Room [4]	250	Seats	1 space per 4 seats	10%	10%	51
South Banquet Room [4]	200	Seats	1 space per 4 seats	10%	10%	41
Clubhouse Banquet Employees	13	Employees at Peak	1 space per employee	0%	35%	8
Total Clubhouse						*155*

[1] Based on Douglas County Consolidated Development Code, except where noted.
[2] No reduction is applied to the residential/lodging uses, in order to avoid duplicating the reductions applied to other land uses.
[3] Parking rate includes associated employees.
[4] Parking rate based on Stateline Community Plan, as Douglas County Code does not provide an applicable parking rate for this land use.
Source: LSC Transportation Consultants, Inc. 2012

Table 5.10-23. Alternative 3- Shared Parking Analysis

Hour of Day	Lodge								Golf Course / Clubhouse									Total
	Lodging		Restaurant / Bar		Health Spa	Banquet Room		Subtotal	Golf Course		Brooks Bars		Edgewood Restaurant		Banquet Rooms		Subtotal	
	Guest	Employee	Customer	Employee		Guest	Employee		Customer	Employee	Customer	Employee	Customer	Employee	Guest	Employee		
Hourly Variation in Parking Demand (Percent of Peak Demand)																		
6:00 AM	95%	5%	25%	50%	33%	0%	0%		0%	50%	0%	0%	0%	0%	0%	0%		
7:00 AM	95%	30%	50%	75%	67%	0%	0%		6%	100%	0%	0%	0%	0%	0%	0%		
8:00 AM	90%	90%	60%	90%	67%	50%	50%		28%	100%	0%	0%	0%	0%	0%	0%		
9:00 AM	80%	90%	75%	90%	67%	100%	50%		50%	100%	0%	25%	0%	0%	10%	25%		
10:00 AM	70%	100%	85%	100%	100%	100%	50%		72%	100%	25%	50%	0%	0%	50%	50%		
11:00 AM	70%	100%	90%	100%	100%	100%	100%		94%	100%	50%	75%	0%	0%	50%	100%		
12:00 PM	65%	100%	100%	100%	100%	100%	100%		100%	100%	100%	100%	0%	0%	75%	100%		
1:00 PM	65%	100%	90%	100%	100%	100%	100%		100%	100%	100%	100%	0%	0%	100%	100%		
2:00 PM	70%	100%	50%	100%	100%	100%	100%		100%	100%	50%	100%	0%	25%	100%	100%		
3:00 PM	70%	100%	45%	85%	100%	100%	100%		100%	100%	50%	100%	0%	75%	100%	100%		
4:00 PM	75%	90%	45%	85%	100%	100%	100%		89%	80%	75%	100%	25%	75%	100%	100%		
5:00 PM	80%	70%	75%	95%	100%	100%	100%		64%	60%	100%	100%	75%	100%	100%	100%		
6:00 PM	85%	40%	100%	95%	100%	100%	100%		39%	40%	100%	100%	100%	100%	100%	100%		
7:00 PM	85%	20%	100%	95%	67%	100%	100%		14%	20%	100%	100%	100%	100%	100%	100%		
8:00 PM	90%	20%	80%	95%	67%	50%	50%		0%	20%	100%	100%	100%	100%	50%	50%		
9:00 PM	95%	20%	60%	80%	67%	25%	50%		0%	0%	100%	100%	90%	100%	25%	50%		
10:00 PM	95%	20%	55%	65%	33%	10%	50%		0%	0%	100%	100%	90%	100%	10%	50%		
11:00 PM	100%	10%	50%	65%	0%	5%	5%		0%	0%	100%	100%	90%	85%	5%	5%		
12:00 AM	100%	5%	25%	35%	0%	2%	2%		0%	0%	100%	100%	50%	50%	2%	2%		
Hourly Parking Demand																		
Individual Land Use Peak	*261*	*42*	*0*	*5*	*4*	*51*	*9*	*372*	*61*	*20*	*32*	*5*	*15*	*3*	*92*	*8*	*236*	*608*
6:00 AM	248	2	0	3	1	0	0	254	0	10	0	0	0	0	0	0	10	264
7:00 AM	248	13	0	4	3	0	0	268	3	20	0	0	0	0	0	0	23	291
8:00 AM	235	38	0	5	3	26	5	312	17	20	0	0	0	0	0	0	37	349
9:00 AM	209	38	0	5	3	51	5	311	31	20	0	2	0	0	9	2	64	375
10:00 AM	183	42	0	5	4	51	5	290	44	20	8	3	0	0	46	4	125	415
11:00 AM	183	42	0	5	4	51	9	294	58	20	16	4	0	0	46	8	152	446
12:00 PM	170	42	0	5	4	51	9	281	61	20	32	5	0	0	69	8	195	476
1:00 PM	170	42	0	5	4	51	9	281	61	20	32	5	0	0	92	8	218	499
2:00 PM	183	42	0	5	4	51	9	294	61	20	16	5	0	1	92	8	203	497
3:00 PM	183	42	0	4	4	51	9	293	61	20	16	5	0	2	92	8	204	497
4:00 PM	196	38	0	4	4	51	9	302	54	16	24	5	4	2	92	8	205	507
5:00 PM	**209**	**29**	**0**	**5**	**4**	**51**	**9**	**307**	**39**	**12**	**32**	**5**	**11**	**3**	**92**	**8**	**202**	**509**
6:00 PM	222	17	0	5	4	51	9	308	24	8	32	5	15	3	92	8	187	495
7:00 PM	222	8	0	5	3	51	9	298	8	4	32	5	15	3	92	8	167	465
8:00 PM	235	8	0	5	3	26	5	282	0	4	32	5	15	3	46	4	109	391
9:00 PM	248	8	0	4	3	13	5	281	0	0	32	5	14	3	23	4	81	362
10:00 PM	248	8	0	3	1	5	5	270	0	0	32	5	14	3	9	4	67	337
11:00 PM	261	4	0	3	0	3	0	271	0	0	32	5	14	3	5	0	59	330
12:00 AM	261	2	0	2	0	1	0	266	0	0	32	5	8	2	2	0	49	315

Source: Shared Parking (Urban Land Institute, 2005); Parking Generation, 3rd Edition (Institute of Transportation Engineers, 2004); LSC Transportation Consultants, Inc. 2012



Source:

Exhibit 5.10-7 Edgewood Shared Parking – Alternative 3

Parking Supply

On-site parking is proposed to be provided within the lodge complex buildings (126 spaces), in a surface lot adjacent to the Lodge (88 spaces), and in a two-story parking structure near the site entrance (230 valet spaces). The existing lakefront parking lot (134 spaces) would be removed as a part of Alternative 3. The proposed parking supply under Alternative 3 is summarized in Table 5.10-24. As shown, a total of 444 parking spaces are proposed to be provided on the project site. In addition, parking for site employees would be provided in the off-site lot on the south side of Lake Parkway (60 spaces). The total proposed parking supply is, therefore, 504 spaces (444 on-site plus 60 off-site spaces). This is six more spaces than that proposed under Alternative 1.

Parking Balance

Comparing the proposed parking supply (504 spaces) with the peak parking demand (509 spaces) assuming shared parking among the proposed mix of land uses, Alternative 3 would result in an overall parking shortfall of up to 5 spaces during peak periods. This would be a **significant** impact.

Mitigation Measure 5.10.3-6: Implement Parking Strategy to Address Parking Shortfall.

The mitigation measures below provide options to resolve the projected parking shortfall. The measures are mutually exclusive – implementation of any one of these measures alone would mitigate this impact to a less-than-significant level.

Mitigation Measure 5.10.3-6a: Provide Additional Valet Parking During Peak Periods.

The project applicant shall use one of the other Edgewood parking lots (in addition to the Remote Parking Structure, which is proposed for valet parking) for valet parking during peak periods. With this additional valet

parking, an additional 5 parking spaces could be accommodated. This would eliminate the parking shortfall. This option would result in operational changes only. No physical changes would be necessary.

Mitigation Measure 5.10.3-6b: Provide an Additional 5 Spaces During Peak Periods.

The project applicant shall expand the proposed parking supply to provide an additional 5 spaces. For instance, the off-site parking lot on the south side of Lake Parkway could be configured to provide a total of 65 spaces. This would eliminate the parking shortfall during peak periods.

Implementation of either of the above mitigation options would eliminate the projected parking shortfall for Alternative 3 during peak periods. Therefore, this impact would be reduced to a **less-than-significant level**.

Table 5.10-24. Parking Balance - Alternative 3

Parking Lot Location	Spaces
Parking Supply	
Lodge Buildings	126
Surface Lot Spaces	88
Remote Parking Structure (valet)	230
Total On-Site Spaces	444
Offsite Employee Parking Spaces (on south side of Lake Parkway)	60
Total Parking Supply	504
Parking Demand During Peak Period with Shared Parking	
Lodge and Amenities	307
Golf Course and Clubhouse	202
Total Parking Demand	509
Overall Parking Balance	-5

Source: LSC Transportation Consultants, Inc. 2012

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the No Project Alternative, the project site would remain in its existing condition. No hotel development or golf course modifications would occur. The two existing single-family residences would remain at their existing lakefront location. The existing surface parking lot would remain, and no water quality improvements would occur. The project site would retain existing conditions with ongoing operations and maintenance of the existing Edgewood Tahoe Golf Course, restaurant/bar uses, and clubhouse.

Considering that there would be no change in land use, there would be no change in site-generated traffic volumes. Consequently, there would be no change in intersection LOS, and all study intersections would continue to operate at an acceptable LOS under existing conditions. Because the site access would remain the same, no driver sight distance deficiencies would occur, and no intersection queuing or gatehouse queuing concerns are expected.

A sidewalk is currently provided along the north side of Lake Parkway between the Edgewood site access and U.S. 50 to the east. Adequate crossing of U.S. 50 is provided at the U.S. 50/Lake Parkway traffic signal. Alternative 4 would not conflict with any existing or planned pedestrian or bicycle facilities, because this alternative is a continuation of existing conditions. VMT for the Tahoe Basin as a whole is currently in attainment

of the regional threshold standard. Because the number of vehicle trips would not change under Alternative 4, there would be no impact on VMT.

No existing parking deficiencies are identified, based upon informal observations as well as parking count data provided by the project applicant. Furthermore, the potential for the parking demand to exceed the on-site parking supply during peak periods with large events occurring on-site is minimal under Alternative 4, as the existing parking facilities and operations would remain the same.

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5.11 AIR QUALITY

This section includes a description of applicable air quality regulations and existing air quality conditions, and an analysis of potential short-term and long-term air quality impacts associated with implementation of Alternatives 1 through 4. Mitigation measures are recommended, as necessary, to reduce potentially significant adverse air quality impacts.

5.11.1 REGULATORY BACKGROUND

The project site is located in Douglas County, Nevada, within the Lake Tahoe Air Basin (LTAB). Air quality within the Douglas County portion of the LTAB is regulated by the U.S. Environmental Protection Agency (EPA), TRPA, and the Nevada Division of Environmental Protection (NDEP) Bureau of Air Pollution Control (BAPC) and Bureau of Air Quality Planning (BAQP). Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

Air quality regulations focus on the following air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as “criteria air pollutants.”

FEDERAL

At the federal level, EPA has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the federal Clean Air Act (CAA), enacted in 1970. The most recent major amendments made by Congress were in 1990.

The CAA required EPA to establish national ambient air quality standards (NAAQS). As shown in Table 5.11-1, EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, NO_2, SO_2, $PM_{10,}$ $PM_{2.5}$, and lead. The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with non-attainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformance with the mandates of the CAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions with regard to funding for transportation and stationary air pollution source improvements in the air basin.

EPA has programs for identifying and regulating hazardous air pollutants (HAPs). Title III of the CAAA directed EPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP may differ for major sources and area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources. The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), EPA developed technology-based emission standards designed to produce the maximum emission

Table 5.11-1. Ambient Air Quality Standards

Pollutant	Averaging Time	TRPA	Nevada[2]	National[1]	
				Primary[2,3]	Secondary[2,4]
Ozone	1-hour	0.08 ppm	0.10 ppm[5] (195 µg/m^3)	–	Same as Primary Standard
	8-hour	–	–	0.075 ppm (157 µg/m^3)	
Carbon Monoxide (CO)	1-hour	–	35 ppm (40 mg/m^3)	35 ppm (40 mg/m^3)	Same as Primary Standard
	8-hour	6 ppm	6 ppm[6] (7 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	–	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1-hour	–		100 ppm (188 µg/m^3)	–
Sulfur Dioxide (SO_2)	24-hour	–	0.030 ppm (80 µg/m^3)	–	–
	3-hour	–	0.14 ppm (365 µg/m^3)	–	0.5 ppm (1,300 µg/m^3)
	1-hour	–	0.5 ppm (1300 µg/m^3)	75 ppb (196 µg/m^3)	
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	–	50 µg/m^3	–	Same as Primary Standard
	24-hour		150 µg/m^3	150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	–	–	15.0 µg/m^3	Same as Primary Standard
	24-hour	–	–	35 µg/m^3	
Lead	Calendar Quarter	–	1.5 µg/m^3	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-Month Average	–	–	0.15 µg/m^3	–

Table 5.11-1. Ambient Air Quality Standards

Pollutant	Averaging Time	TRPA	Nevada[2]	National[1]	
				Primary[2,3]	Secondary[2,4]
Hydrogen Sulfide	1-hour	–	0.08 ppm[7] (112 µg/m^3)	No National Standards	
Visibility-Reducing Particle Matter	8-hour	Regional: 25 Mm^{-1} (157 km, 97 miles) 50 percent of the year, 34 Mm^{-1} (115 km, 71 miles) 90% of the year. Subregional: 50 Mm^{-1} (31 km, 19 miles) 90 percent of the year, 125 Mm^{-1} (31 km, 19 miles) 50 percent of the year.	–		

Notes: mg/m^3 = milligram per cubic meter; ppm = parts per million; µg/m^3 = microgram per cubic meter.
[1] National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.
[2] Concentration expressed first in units in which it was adopted. Equivalent units given in parentheses are based on a reference temperature of 25 °C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
[3] National primary standards: the levels of air quality necessary, with an adequate margin of safety, to protect the public health.
[4] National Secondary Standards: the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[5] For the LTAB.
[6] At or greater than 5,000 feet above mean sea level.
[7] The ambient air quality standard for hydrogen sulfide does not include naturally occurring background concentrations.
Sources : ARB 2010a; TRPA 2007; NAC 2008

reduction achievable. These standards are generally referred to as requiring maximum available control technology for toxics (MACT). For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), EPA was required to promulgate health risk-based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The CAAA also required EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum for benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected areas with the most severe ozone non-attainment conditions to further reduce mobile-source emissions.

STATE

At the state level, the Nevada BAPC and BAQP are the agencies responsible for coordination and oversight of state air pollution control programs, including the Chemical Accident Prevention Program (CAPP), and air quality surveillance in Nevada, except Washoe and Clark counties. The authority for the BAPC and BAQP to implement air pollution control programs is drawn from the Nevada Revised Statutes (NRS) 445B.100 through 445B.825 and 486A.010 through 486A.180. The agencies achieve and maintain air-quality conditions in Douglas County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy of the BAPC and BAQP include the preparation of plans and programs for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAPC and BAQP also oversee compliance with Nevada and federal laws; prepare SIPs; conduct inspections; observe and review source test data, excess emission reports, and compliance certification reports; investigate air quality complaints; operate an ambient air quality monitoring network; develop and implement strategies to control air pollution from motor vehicles, convert motor vehicle fleets to use cleaner-burning alternative fuels; and coordinate and facilitate prescribed outdoor burning.

In addition, as shown Table 5.11-1, the Nevada Administrative Code (NAC) 445B.22097 establishes the Nevada State ambient air quality standards (NSAAQS). The following NAC sections apply to construction activities:

- NAC 445B.7665 Standards of Opacity, Heavy Duty Equipment limits visible emissions from heavy-duty vehicle operation for:
  - (a) a 1991 or newer model-year engine to an opacity of 40 percent or less
  - (b) a 1977 to 1990 model-year engine to an opacity of 55 percent or less
  - (c) a 1970 to 1976 model-year engine to an opacity of 70 percent or less
- NAC 445B.22037 Emissions of Particulate Matter: Fugitive Dust.
  - Prohibits the handling, transporting or storing of any material in a manner which allows or may allow controllable particulate matter to become airborne, and
  - Requires the use of the best practical methods to prevent particulate matter from becoming airborne, including but not limited to paving, chemical stabilization, watering, phased construction and revegetation.

TAHOE REGIONAL PLANNING AGENCY

REGIONAL PLAN

TRPA implements its authority to regulate growth and development in the Lake Tahoe region through the *Regional Plan for the Lake Tahoe Basin* (Regional Plan). TRPA's Regional Plan, adopted in 1987, consists of several documents with elements pertaining to air quality: the Goals and Policies, Code of Ordinances, and Regional Transportation Plan—Air Quality Plan. These documents are described separately below. The 1987 Regional Plan is currently being reviewed and is scheduled for update at the end of 2012.

Goals and Policies

The Goals and Policies document of the 1987 Regional Plan establishes an overall framework for development and environmental conservation in the Lake Tahoe region. These goals and policies are designed to achieve and maintain adopted environmental threshold carrying capacities (thresholds) and are implemented through the TRPA Code of Ordinances (Code). Chapter II (Land Use Element) of the Goals and Policies document consists of seven sub-elements, including the Air Quality Sub-element (TRPA 2006). However, the Air Quality Sub-element does not contain any specific goals or policies applicable to the proposed project. It focuses instead on achieving the NAAQS, as well as special TRPA-adopted regional and subregional visibility standards, and on reducing the deposition of nitrate from oxides of nitrogen (NO_X) emitted by vehicles. The TRPA Code and Regional Transportation Plan contain specific measures designed to monitor and achieve the air quality objectives of the Regional Plan.

Code of Ordinances

TRPA adopted Chapter 65, "Air Quality /Transportation," Sections 65.1, "Air Quality Control" and 65.2, "Traffic and Air Quality Mitigation Program" of the TRPA Code (TRPA 2011). The applicable provisions of these chapters are described below.

Section 65.1—Air Quality Control

The provisions of Section 65.1 apply to direct sources of air pollution in the Lake Tahoe region, including certain motor vehicles registered in the region, combustion heaters installed in the region, open burning and stationary sources of air pollution, and idling combustion engines:

- Subsection 65.1.3, "Vehicle Inspection and Maintenance Program," states that to avoid duplication of effort in implementation of an inspection/maintenance program for certain vehicles registered in the CO non-attainment area, TRPA shall work with the affected state agencies to plan for applying state inspection/maintenance programs to the Lake Tahoe region.
- Subsection 65.1.4, "Combustion Appliances," establishes emissions standards for wood heaters, as well as natural gas– or propane-fired water heaters and central furnaces.
- Subsection 65.1.6, "New Stationary Source Review," states that any new stationary source of air pollution that produces emissions for the peak 24-hour period beyond any of the limits in Table II, reproduced as Table 5.11-2 below, shall be considered to have a significant adverse environmental impact. New stationary sources that have a significant adverse environmental impact shall be prohibited.

Table 5.11-2. TRPA Peak 24-Hour Period Limits for Stationary Sources		
Pollutant	Kilograms	Pounds
Nitrogen Dioxide	11.0	24.2
PM_{10}	10.0	22.0
Volatile Organic Compounds (Reactive Organic Gases)	57.0	125.7
Sulfur Dioxide	6.0	13.2
Carbon Monoxide	100.0	220.5

Notes: PM_{10} = respirable particulate matter; TRPA = Tahoe Regional Planning Agency
Source: TRPA 2004

Chapter 93—Traffic and Air Quality Mitigation Program

The purpose of Chapter 65 of the TRPA Code is to establish fees and other procedures to offset impacts from indirect sources of air pollution. As part of a project application for any additional development that would result in an increase of more than 200 daily vehicle trips, a technically adequate analysis of potential traffic and air quality impacts must be prepared (Subsection 65.2.4(B). To offset regional and cumulative impacts, project proponents must contribute to the air quality mitigation fund, or they may provide mitigation measures that cost at least as much as the required contribution to the air quality mitigation fund (Subsection 65.2.4(C)[1]). Such regional and cumulative mitigation measures may include transportation systems management measures such as bicycle and pedestrian facilities. The required contribution for residential, tourist accommodation unit, or campground projects is $325.84 per daily vehicle trip. For all other types of development, the required contribution would be $36.20 per daily vehicle trip (Subsection 65.2.4(D)).

Regional Transportation Plan—Air Quality Plan (Goals and Policies, Action Element)

The purpose of the *Regional Transportation Plan—Air Quality Plan* (RTP-AQP) is to attain and maintain the thresholds established by TRPA in 1982, and all applicable federal, state, and local standards established for transportation and air quality. The RTP-AQP contains specific measures designed to monitor and achieve the air quality objectives of its Regional Plan and to attain and maintain the TRPA thresholds (TMPO 2008).

TRPA thresholds address CO, ozone, regional and subregional visibility, and nitrate deposition. There are numerical standards for each of these parameters, in addition to management standards that are intended to assist in attaining the thresholds. The management standards include reducing wood smoke, maintaining NO_X levels, reducing traffic volumes on U.S. 50, and reducing vehicle miles of travel. These thresholds and associated management standards are described in more detail in the following section. In addition, the Compact states that the Regional Plan shall provide for attaining and maintaining federal, state, or local air quality standards, whichever are strictest, in the respective portions of the region for which the standards are applicable.

Environmental Threshold Carrying Capacities

In August 1982, TRPA adopted Resolution No. 82-11, which included thresholds related to air quality, and other resource topics, for the Lake Tahoe region (TRPA 1982). TRPA conducts a comprehensive evaluation every 5 years as to whether each threshold is being achieved and/or maintained, makes specific recommendations to address problem areas, and directs general planning efforts for the next 5-year period. The most recent evaluation was completed in 2006 (TRPA 2007) and an evaluation is currently in process, but not complete at the time of this writing. Table 5.11-3 provides an overview of TRPA's air quality threshold indicators applicable to the proposed project and their 2006 attainment status. Table 5.11-4 shows the attainment status and trends for the last four threshold updates.

Table 5.11-3. TRPA Air Quality Thresholds

Threshold	Description	Parameter	Standard	2006 Status
AQ-1	Carbon Monoxide	Second highest CO concentration measured at Stateline, CA air quality monitoring station (measured in ppm)	Federal: 9 ppm (8-hour avg.) States and TRPA: 6 ppm (8-hour avg.) Federal and Nevada: 35 ppm (1-hour avg.)	Non-Attainment
AQ-2	Ozone	Number of 1-hour periods that equal or exceed the applicable federal, Nevada or TRPA standards at any permanent monitoring site.	Federal: 0.12 ppm (1-hour avg.) Nevada: 0.10 ppm (1-hour avg.) TRPA: 0.08 ppm (1-hour avg.) not to be equaled to or exceeded	Non-Attainment
AQ-3	Particulate Matter$_{10}$	Number of 24 hour periods exceeding the applicable federal or state standards at any permanent monitoring station; Annual average PM_{10} concentrations at any permanent monitoring station (ug/m^3)	24-Hour Federal : 150 ug/m^3 (24-hr mean, 3 yrs running) Annual Geometric Mean Federal: 50 ug/m^3 (ann. avg., 3 yrs running)	Non-Attainment
AQ-4	Visibility	Regional Visibility Visual range calculated from speciated aerosol and nephelometer data from the TRPA visibility-monitoring program Sub-regional Visibility Visual change calculated from speciated aerosol and nephelometer data collected at the Lake Tahoe Blvd. station (km). For state visibility standards, visual range calculated from nephelometer data collected at Bliss State Park and Lake Tahoe Blvd. for periods in which relative humidity is less than 70 percent (miles)	Regional Visibility Numerical standard: achieve an extinction coefficient of 25 Mm^{-1} at least 50 per cent of the time as calculated form aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 156 km, 97 miles); and achieve an extinction coefficient of 34 Mm^{-1} at least 90 percent of the time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 115 km, 71 miles). Calculations will be made on 3 yr running periods using the existing 1991-1993 monitoring data as the performance standards to be met or exceeded. Sub-regional Visibility Numerical standard: Achieve an extinction coefficient of 50 Mm^{-1} at least 50 per cent of the time as calculated form aerosol species concentrations measured at the South Lake Tahoe monitoring site (visual range of 78 km, 48 miles); and achieve an extinction coefficient of 125 Mm^{-1} at least 90 percent of the time as calculated from aerosol species concentrations measured at the South Lake Tahoe monitoring site (visual range of 31 km, 19 miles).	Attainment

Table 5.11-3. TRPA Air Quality Thresholds

Threshold	Description	Parameter	Standard	2006 Status
AQ-5	U.S. 50 Traffic Volumes	Measurements to assess progress at reducing winter traffic volumes is based on: traffic volumes at Park Ave. and U.S. 50 from 4:00 PM to 12:00 AM for all days during the winter months of November – February, and on the Saturday of President' Day weekend, coinciding with the period of the most frequent exceedences of the CO standards, historically. The latter measurement has been used as the indicator to determine compliance with the threshold.	7 percent reduction in traffic volume on the U.S. 50 corridor from 1981 values, winter, 4:00 PM to 12:00 AM Traffic counts conducted by Caltrans in 1981 indicate that at the Park Ave/U.S. 50 Intersection 25,173 vehicles were counted between 4:00 PM and 12:00 AM. Attainment of this standard requires traffic volumes to be less than 23,411 vehicles on Saturday of President's Day holiday between 4:00 PM and 12:00 AM. This traffic volume includes the count in both directions during this day and time period.	Attainment
AQ-6	Wood Smoke	Aerosol samples analyzed for organic and light-absorbing carbon collected in South Lake Tahoe and at Bliss State Park serve as indirect indicators	Reduce wood smoke emissions by 15 percent of the 1981 base values through technology, management practices, and education al programs	Unknown
AQ-7	VMT	VMT calculated by TRPA staff for peak summer day using modeling.	10 percent reduction of the 1981 VMT modeled estimate of 1,648,466 VMT: 1,483,619 VMT for a peak summer day	Non-Attainment
AQ-8	Atmospheric Deposition	Annual average concentration of particulate NO_3 at the Lake Tahoe Blvd air quality monitoring station (ug/m^3)	Reduction in direct dissolved inorganic nitrogen load on Lake Tahoe from atmospheric sources by approx. 20 percent of the 1973-annual average.	Unknown

Ppm=parts per million, Ug/m^3 = milligrams per cubic meter; VMT = vehicle miles traveled
Source: TRPA 2007:2-3

Table 5.11-4. 2006 Air Quality Indicator Attainment Status and Trends

#	Threshold Name	1991 Attainment Status	1996 Attainment Status	2001 Attainment Status	2006 Attainment Status	5-Year Trend
AQ-1	Carbon Monoxide	Non-Attainment	Attainment	Attainment	Attainment[1]	Positive
AQ-2	Ozone	Non-Attainment	Non-Attainment	Non-Attainment	Non-Attainment	Unknown[2]
AQ-3	Particulate Matter	Non-Attainment	Non-Attainment	Attainment	Non-Attainment	Unknown
AQ-4	Visibility	Attainment	Non-Attainment	Non-Attainment	Attainment	Positive
AQ-5	Traffic Volume	Non-Attainment	Attainment	Unknown	Attainment	Positive
AQ-6	Wood Smoke	Non-Attainment	Non-Attainment	Unknown	Unknown	Unknown
AQ-7	Vehicle Miles Traveled	Non-Attainment	Non-Attainment	Non-Attainment	Attainment[3]	Positive
AQ-8	Atmospheric Deposition	Unknown	Unknown	Unknown	Unknown	Unknown

Notes:
[1] The Basin was designated non-attainment for federal CO standards from 1975 through 1979, at which time it was re-designated as a CO maintenance area. Since 1979, no exceedances of the NAAQS for CO have occurred. According to the 2006 Threshold Evaluation Report, the region was designated non-attainment for CO, but according to TRPA staff will be re-designated attainment in the 2011 Threshold Evaluation currently underway.
[2] More stringent ozone standards became effective in May 2006. This could result in additional ozone violations in the future.
[3] According to the 2006 Threshold Evaluation Report, the region was designated non-attainment for VMT, but according to Section 5.10, "Traffic, Parking, and Circulation," the best available annual estimate of basin-wide VMT indicated a drop below the 10 percent reduction threshold in 2007, and as of 2008 stood at a level 12.5 percent below the 1981 value.
Source: TRPA 2007:2-8

LOCAL

At the local level, Douglas County has identified in its Master Plan the following applicable policies to maintain or improve existing air quality (Douglas County 2007):

- **Policy 5.18.01:** Pursue cost effective air quality management strategies that contribute to improved local and regional air quality.
- **Policy 5.18.05:** Maintain regulations which require the upgrade of existing wood burning devices and fireplaces and control the numbers of and set strict performance standards for other wood burning devices in new housing construction.
- **Policy 5.18.06:** Promote reduced wood burning by encouraging use of solar and geothermal resources and the use of other energy-efficient strategies.

A draft update of the DCMP was released in November 2011, and approved on January 5, 2012 by the County Board of Commissioners. The DCMP has not been finalized, however, to reflect the requested changes of the Board, so the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

5.11.2 AFFECTED ENVIRONMENT

The project site is located within the LTAB. The LTAB includes portions of El Dorado and Placer counties on the California side; and Washoe County, Douglas County, and Carson City Rural District on the Nevada side. The ambient concentrations of air pollutants are determined by the volume of emissions released by pollutant sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the emissions released by existing air pollutant sources, discussed below.

TOPOGRAPHY, METEOROLOGY, AND CLIMATE

Lake Tahoe lies in a depression between the crests of the Sierra Nevada and Carson ranges on the California–Nevada border at a surface elevation of approximately 6,230 feet above mean sea level (msl). The LTAB is defined by the 7,000-foot contour, which is continuous around the lake, except near Tahoe City. The mountains surrounding the lake are approximately 8,000 to 9,000 feet in height on average, with some reaching 10,000 feet.

The constant water temperature of Lake Tahoe, at 600 feet below the surface, is approximately 39 degrees Fahrenheit (ºF). This characteristic, in combination with the topographic location of the lake, define one of the LTAB's most important atmospheric regimes, that in the absence of strong synoptic weather systems, shallow subsidence and radiation inversions occur throughout the year. In addition, the rapid radiation cooling at night regularly generates gentle down-slope nocturnal winds draining from the mountain ridges to the shore and then fanning across the lake (Cahill and Cliff 2000).

Pollutants from local sources are trapped by frequent inversions in the LTAB, greatly limiting the volume of air into which the pollutants are mixed (e.g., diluted) resulting in accumulation and elevated concentrations. Further, each night the down-slope winds transport local pollutants from nearby developed areas out over the lake, increasing the opportunity for pollutants to deposit. This meteorological regime, characterized by weak or calm winds and a strong inversion, is the most common pattern at all times of the year (Cahill and Cliff 2000).

A second important meteorological regime is the transport of pollutants from the Sacramento Valley and San Francisco Bay by upslope winds. This pattern develops when the western slopes of the Sierra Nevada are heated, causing the air to rise in a chimney effect and move upslope to the Sierra crest and over into the LTAB. The strength of this pattern depends on the amount of heating, and thus is strongest in summer, beginning in April and essentially ceasing in late October (Cahill and Cliff 2000).

Other regimes in the LTAB are defined by strong synoptic weather patterns that overcome the dominant terrain-defined meteorology regimes discussed above. The most important is the winter storm regime, which is responsible for precipitation primarily in the form of snow (Cahill and Cliff 2000).

Each of the meteorological regimes has the potential to influence pollution concentrations in the LTAB. Pollution episodes typically occur when local inversions are present, which trap emissions and when conditions allow for the transport of pollution from the western slopes of the Sierra Nevada, the Sacramento Valley, and the San Francisco Bay. Periods of low pollution concentration are associated with winter storms and high winds. Winter storms dilute the local and upwind pollution with strong vertical mixing and the incorporation of clean North Pacific air (Cahill and Cliff 2000).

Local meteorological conditions representative of the study area are recorded at the South Lake Tahoe Airport Station. The annual normal precipitation is approximately 15 inches and occurs primarily from November through March in the form of snowfall. January temperatures average approximately 26ºF and August temperatures average approximately 63ºF (WRCC 2011a). The annual predominant wind direction and mean speed is from the south at 6 miles per hour (mph) (WRCC 2011b).

CRITERIA AIR POLLUTANTS

Concentrations of ozone, CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead are used as indicators of ambient air quality conditions. A brief description of each criteria air pollutant, source types, and health effects is included in Table 5.11-5.

MONITORING STATION DATA AND ATTAINMENT AREA DESIGNATIONS

Concentrations of criteria air pollutants are measured at two monitoring stations in the LTAB: the South Lake Tahoe–Sandy Way station, which measures PM_{10}; and the South Lake Tahoe–1901 Airport Road station, which measures ozone. (As of 2010, the Airport Road monitoring station was closed and ozone is now being monitored at 128 Market Street in Stateline.) In addition, Placer County now monitors ozone at a monitoring site at the Placer County Department of Public Works offices located at 565 West Lake Blvd in Tahoe City. In general, the measurements of ambient air quality from these monitoring stations are representative of the air quality in the vicinity of the study area. Table 5.11-6 summarizes 3-years worth of air quality data from these stations, 2008–2010.

EPA, NDEP, and TRPA use this type of monitoring data to designate areas according to attainment status for criteria air pollutants established by the agencies. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are “non-attainment,” “attainment,” and “unclassified.” “Unclassified” is used in areas that cannot be classified on the basis of available information as meeting or not meeting the standards. The most current national, state, and TRPA attainment designations for the LTAB are shown in Table 5.11-7 for each criteria air pollutant.

Table 5.11-5. Sources and Health Effects of Criteria Air Pollutants			
Pollutant	**Sources**	**Acute[1] Health Effects**	**Chronic[2] Health Effects**
Ozone	Secondary pollutant resulting from reaction of reactive organic gas (ROG) and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	Increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	Permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	Headache, dizziness, fatigue, nausea, vomiting, death	Permanent heart and brain damage
Nitrogen dioxide (NO_2)	Combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	Coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	Chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	Coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}), Fine particulate matter ($PM_{2.5}$)	Fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO2 and ROG	Breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	Alterations to the immune system, carcinogenesis
Lead	Metal processing	Reproductive/ developmental effects (fetuses and children)	Numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases.
[1] "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.
[2] "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.
Source: EPA 2011

Table 5.11-6. Summary of Annual Air Quality Data (2008–2010)[1]			
	2008	**2009**	**2010**
Ozone [2]			
Maximum concentration (1-hour/8-hour, ppm)	0.091/0.077	0.077/0.071	—
Number of days state standard exceeded (1-hour/8-hour)	0/5	0/1	—
Number of days national standard exceeded (1-hour/8-hour)	0/1	0/0	—
Respirable particulate matter (PM_{10}) [3]			
Maximum concentration ($\mu g/m^3$)	96.7	52.8	71.4
Number of days state standard exceeded (measured[4])	10	1	2
Number of days national standard exceeded (measured[4])	*	*	*

Notes: $\mu g/m^3$ = micrograms per cubic meter,— = data not available; ppm = parts per million; * = Insufficient data to determine the value.
[1] Data provided from the South Lake Tahoe–Sandy Way and the South Lake Tahoe–1901 Airport Road monitoring stations. Data on carbon monoxide, nitrogen dioxide, sulfur dioxide, and fine particulate matter not available for the LTAB.
[2] Data from the South Lake Tahoe–1901 Airport Road Station; data not available after 2009.
[3] Data from the South Lake Tahoe–Sandy Way Station.
[4] Measured days are those days that an actual measurement was greater than the level of the State daily standard or the national daily standard. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.
Source: ARB 2011a

Table 5.11-7. Attainment Status Designations for Ambient Air Quality Standards

Pollutant	National Designation	State Designation	TRPA Designation
Ozone	Attainment/Unclassified	Non-Attainment	Non-Attainment
PM_{10}	Unclassified	Non-Attainment	Non-attainment
$PM_{2.5}$	Attainment/Unclassified	Attainment	–
CO	Attainment/Unclassified	Attainment	Non-Attainment
NO_2	Attainment/Unclassified	Attainment	–
SO_2	Attainment	Attainment	–
Lead (Particulate)	Attainment/Unclassified	Attainment	–
Hydrogen Sulfide	–	Unclassified	–
Sulfates	–	Attainment	–
Visibility Reducing Particulates	–	Unclassified	Attainment

Notes:
CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = fine particulate matter; PM_{10} = respirable particulate matter; SO_2 = sulfur dioxide
This table reflects attainment status with respect to the standards identified in Table 5.11-1.
Sources: ARB 2010b, TRPA 2007: 2-8

ATMOSPHERIC DEPOSITION

Lake Tahoe's clarity varies somewhat on a yearly basis, but has been generally declining since regular monitoring began over 40 years ago. Clarity loss has historically been attributed to increased inputs of nitrogen and phosphorous, which fuels the growth of algae and in turn, reduces clarity. Recent data indicate that fine particles in the water also have a significant effect on lake clarity, and possibly even more than algal growth. Data from the late 1970s and early 1980s found that nitrogen deposition from the atmosphere was contributing to the nutrient load in the lake. At that time, it was believed that excess nitrogen was having the largest impact on the loss of lake clarity. Therefore, TRPA adopted a threshold indicator for nitrogen deposition to the lake. However, data collected in the 1980s and 1990s indicated that phosphorous also plays a significant role in lake clarity, and in some years its role was equal to or more significant than nitrogen. Research published in 1994 found that phosphorous is also depositing from the air into the lake (Jassby et al. 1994). This has prompted further study into the role of atmospheric deposition, with data indicating that phosphorous loading to the lake must also be reduced if the loss of clarity is to be slowed and, hopefully, reversed. Although TRPA has not yet adopted indicators for deposition of phosphorous, it is expected that as the indicator update process gets underway, an indicator will be included for this nutrient. As discussed above, particle deposition to the lake is also important to clarity.

Management standards currently used for atmospheric deposition are as follows:

- Reduce dissolved inorganic nitrogen loads from surface runoff by approximately 50 percent, from groundwater approximately 30 percent, and from atmospheric sources approximately 20 percent of the 1973–1981 annual average. This threshold relies on predicted reductions in pollutant loadings from out-of-basin sources as part of the total pollutant loading reduction.
- Reduce the transport of nitrates into the LTAB and reduce oxides of nitrogen produced in the LTAB consistent with water quality thresholds.
- Reduce vehicles miles of travel in the Lake Tahoe Basin by 10 percent of the 1981 base year values.

HAZARDOUS AIR POLLUTANTS

Concentrations of hazardous air pollutants are also used to indicate the quality of ambient air. A hazardous air pollutant is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. Hazardous air pollutants are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

The majority of the estimated health risks from hazardous air pollutants can be attributed to relatively few compounds, the most important being diesel PM (ARB 2009). Diesel PM differs from other hazardous air pollutants in that it is not a single substance, but rather a complex mixture of hundreds of substances.

There are no major stationary sources of hazardous air pollutants in the project vicinity (ARB 2011b). Major highways and roadways are also considered sources of hazardous air pollutants emissions, associated with the presence of diesel PM emissions from vehicle exhaust. U.S. 50 bisects the project area; at its closest point U.S. 50 is located approximately 2,000 feet from project structures where people would reside.

ODORS

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). There are no major odor sources (e.g., landfills, composting facilities, etc.) in the project vicinity.

SENSITIVE LAND USES

Sensitive land uses are generally considered to include those uses where exposure to pollutants could result in health-related risks to individuals. Sensitive receptors are people, or facilities that generally house people (e.g., schools, hospitals, residences), that may experience adverse effects from unhealthful concentrations of air pollutants. Existing sensitive land uses throughout the plan area include residences, schools, hospitals, daycare centers, parks and playgrounds. Sensitive receptors in the vicinity of the project site include residential land uses immediately to the south and north of the project site. The 4-H camp located immediately to the north of the project site, and hotel uses located to the north and south of the project site are also considered sensitive land uses.

5.11.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

For the purpose of this analysis, the following significance criteria, as identified by TRPA, have been used to determine whether implementation of the proposed project would result in significant air quality impacts. The proposed project would result in significant air quality impacts if implementation would:

- conflict with or obstruct implementation of an applicable air quality plan, violate any air quality standard or contribute substantially to an existing or projected air quality violation (Table 5.11-1),
- expose sensitive receptors to substantial pollutant concentrations (including HAPs),
- create objectionable odors affecting a substantial number of people,

- cause construction-generated emissions to exceed NAC 445B.7665 (Heavy-duty Equipment Opacity) or NAC 445B.22037 (PM Emissions-Fugitive Dust) standards, or
- cause construction-generated or long-term operational (regional) emissions of ROG, NO_x, or PM_{10} to exceed mass emissions of 82 lb/day,
- cause long-term operational (e.g., regional and local) emissions to exceed TRPA's numerical ETCC thresholds (e.g., 6 ppm [CO, 8-hr], 0.08 ppm [ozone, 1-hr]),
- cause project-generated stationary-source emissions to exceed TRPA's peak 24-hour period significance criteria established by Section 65.1 of the TRPA Code (Table 5.11-2).

Although mass emissions significance criteria have not been adopted by the state of Nevada air quality agencies or Douglas County, a criterion of 82 lb/day of construction-generated or long-term operational (regional) emissions of ROG, NO_X, or PM_{10} is used by other jurisdictions in the LTAB (i.e., the Placer County Air Pollution Control District and El Dorado Air Quality Management District) to determine whether a project would contribute substantially to a violation of applicable ambient air quality standards, and is appropriate for use in this context.

In addition, the required contribution to the Air Quality Mitigation Fund for the net increase in vehicle trips in the region associated with the project, pursuant to Subsection 65.2.4(C) of the TRPA Code, is discussed in Section 5.10, "Traffic, Parking, and Circulation."

METHODS AND ASSUMPTIONS

This analysis is based on the net increase in emissions associated with proposed land uses (e.g., hotel and interval ownership units, spa and wellness center, restaurant and bar, and banquet facilities). Emissions were estimated using the Urban Emissions Model (URBEMIS) 2007 version 9.2.4, which is widely-used to model land use-related emissions. The emission factors in the model are representative of conditions affecting the project site (such as vehicle fleet and energy consumption). Model inputs are based on information contained in the project description (Chapter 3, "Project Description"), transportation analysis (Section 5.10, "Traffic, Parking, and Circulation"), or model defaults where project-specific information was not available. In addition, the required contribution to the Air Quality Mitigation Fund for new tourist accommodation units, pursuant to TRPA Code (Subsection 65.2.4(C) is discussed in Section 5.10, "Traffic, Parking, and Circulation," because it is a direct function of the number of daily vehicle trips generated by the project and does not concern emissions from stationary and area sources.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.11.1-1	**Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.** Unmitigated PM_{10} emissions would exceed the significance criteria of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative 1 could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to TRPA standards. This would be a **potentially significant** impact.

Construction emissions are short-term or temporary in duration and have the potential to represent a significant impact with respect to air quality. ROG and NO_X emissions are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings. Fugitive PM_{10} dust emissions are primarily

associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and vehicle miles traveled (VMT) by construction vehicles on- and off-site.

Site preparation and building phases of the proposed project would result in the temporary generation of ROG, NO_X, or PM_{10} emissions from demolition, excavation, grading, and clearing; use of off-road equipment; material import/export; worker commute exhaust emissions; paving; application of architectural coatings; and other miscellaneous activities.

Short-term construction emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ for Alternative 1 were modeled using the widely-accepted URBEMIS 2007 Version 9.2.4 computer program and EMFAC 2007 emission factors. URBEMIS is designed to model construction emissions for land use development projects and allows for the input of project-specific information. Input parameters were based on default model settings and information provided in Chapter 3, "Project Description." The modeled maximum daily construction emissions are summarized in Table 5.11-8, described in more detail below, and provided in Appendix G. The construction emissions estimates shown in Table 5.11-8 reflect construction starting in 2013 with completion in 2017.

Based on the modeling conducted, project construction would result in worst-case maximum unmitigated daily emissions of approximately 12 lb/day of ROG, 42 lb/day of NO_X, 99 lb/day of PM_{10}, and 22 lb/day of $PM_{2.5}$ (Table 5.11-8). Daily unmitigated construction-generated emissions would exceed the significance criterion of 82 lb/day for PM_{10}. Construction-generated emissions, specifically PM_{10}, could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to the TRPA standards (e.g., visibility-reducing particulate standards). This would be a **potentially significant** impact.

Table 5.11-8. Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative 1

Source	lb/day[1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
2013 Phase				
Demolition (2013)	1.0	7.0	1.4	0.6
Site Grading (2013-2014)	2.6	20.6	95.8	20.0
Trenching (2013)	1.8	14.2	0.7	0.6
Maximum 2013 Emissions	**5.4**	**41.8**	**98.9**	**22.2**
2014 Phase				
Building Construction (2014-2017)	3.0	14.1	0.9	0.8
Site Grading (2013-2014)	2.5	19.1	95.8	20.0
Maximum 2014 Emissions	**5.5**	**33.3**	**97.6**	**21.6**
2015 Phase				
Asphalt Paving (2015-2017)	2.0	12.2	1.0	0.9
Building Construction (2014-2017)	2.8	13.1	0.8	0.8
Maximum 2015 Emissions	**4.8**	**25.2**	**1.8**	**1.7**

Table 5.11-8. Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative 1				
Source	lb/day[1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
2016 Phase				
Asphalt Paving (2015-2017)	1.9	11.4	0.9	0.8
Building Construction (2014-2017)	2.5	12.1	0.7	0.7
Architectural Coating (2016-2017)	6.4	-	-	-
Maximum 2016 Emissions	**10.8**	**23.5**	**1.6**	**1.5**
2017 Phase				
Asphalt Paving (2015-2017)	1.8	10.7	0.8	0.8
Building Construction (2014-2017)	2.3	11.2	0.7	0.6
Architectural Coating (2016-2017)	6.4	-	-	-
Maximum 2017 Emissions	**10.5**	**23.4**	**1.5**	**1.3**
Significance Criteria	82	82	82	-
Exceed Significance Criteria?	No	No	Yes	No

Notes: Notes: CO = carbon monoxide; lb/day = pounds per day; NOX = oxides of nitrogen; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases.
Totals may not sum exactly due to rounding.
Underlined values indicate emissions that would exceed local significance criteria.
[1] Modeled emissions were based on URBEMIS 2007 Version 9.2.4 default model settings and EMFAC 2007 emission factors. Hours of equipment operation per day assumes compliance with TRPA Code Section 68.9 and TRPA's exemption for construction noise between 8:00 AM and 6:30 PM, as discussed in Section 5.13, "Noise." Construction activities that involve soil disturbance must occur between May 1 and October 15 to comply with TRPA Code Subsection 33.3.1 unless special approval has been granted by TRPA.
See Appendix G for detailed input parameters and modeling results.
Source: Modeling performed by Ascent Environmental, Inc. in 2011

Mitigation Measure 5.11.1-1: Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.

In accordance with TRPA Code, the project applicant shall implement the following mitigation measures during construction. In addition to the mitigation measures identified below, construction of the project is required to comply with all applicable TRPA, BAQP, and BAPC codes, particularly TRPA Code Chapter 60 (Best Management Practices), Section 33.3 (Grading Standards), and Chapter 91 (Air Quality Control), and NAC 445B.22037.

- *Soil disturbing activities shall not occur between October 15 and May 1 of each year, unless approval has been granted by TRPA. Prior to October 15, all construction sites shall be winterized.*
- *Dust control measures shall be required for any grading activity creating substantial quantities of dust. Dust control measures shall be approved by TRPA prior to groundbreaking and shall include:*
  - *Earth-moving construction equipment shall be cleaned with water once per day.*
  - *Soil binders shall be spread on unpaved roads and employee/equipment parking areas.*
  - *Apply approved chemical soil stabilizers according to manufacturer specifications, to all-inactive construction areas (previously graded areas which remain inactive for 96 hours).*

- *The contractor shall wet broom or wash streets if silt is carried over to adjacent public thoroughfares.*
- *All grading operations shall be suspended when wind speeds (as instantaneous gusts measured by an on-site anemometer) exceed 25 mph and dust is impacting adjacent properties. Wind speeds shall be measured with an anemometer on-site a minimum of once per day. Additional anemometer measurements shall be conducted if wind conditions noticeably increase or are forecast to be greater than 15 mph.*
- *The area and extent of all excavation and soil disturbance shall be minimized.*
- *The speed of any vehicles and equipment traveling across unpaved areas shall not exceed 15 miles per hour (mph) unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 mph from emitting dust exceeding Ringlemann 2 or visible emissions from crossing the property boundary line. [Note: The Ringlemann Chart/System is a scheme, developed by a Maximillian Ringlemann, to determine the "density" of a smoke plume whereby graduated shades of gray, varying by five equal steps between white and black, may be accurately reproduced by means of a rectangular grill of black lines of definite width and spacing on a white background. Opacity is a visual evaluation of the amount of one's view that is obscured by a dust plume (i.e., the amount of visible light that does not pass through the dust plume).]*
- *The applicant shall limit the opacity of fugitive dust resulting from construction operations such that dust leaving the project site boundary shall not obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on the Ringlemann Chart (i.e., 40 percent opacity). Refer to above mitigation measure for definition of the Ringlemann Chart/System and opacity.*

〉 *The prime contractor shall comply with NAC 445B.7665 standards of opacity for heavy-duty equipment.*

〉 *No open burning of removed vegetation shall occur during infrastructure improvements. Vegetative material shall be chipped or delivered to waste-to-energy facilities.*

〉 *Construction contracts shall include language that prohibits the use of all heavy duty off-road diesel equipment on days when air quality advisories are issued because of special circumstances such as high levels of particulate matter generated by wildfires circumstances.*

Modeling indicates that implementation of Mitigation Measure 5.11.1-1 would reduce emissions of respirable particulate matter (PM_{10}) from fugitive dust by a minimum of 50 percent and prevent dispersion, thereof, beyond the property boundary (Appendix G). Also based on the URBEMIS modeling, implementation of Mitigation Measure 5.11.1-1 would also reduce diesel equipment exhaust emissions of ROG, NO_X, and PM_{10} by a minimum of 5 percent, 20 percent, and 45 percent, respectively (Appendix G). Therefore, project construction would result in worst-case mitigated daily emissions of approximately 10 lb/day of ROG, 33 lb/day of NO_X, and 50 lb/day of PM_{10}. With implementation of Mitigation Measure 5.11.1-1, Impact 5.11.1-1 would be **less than significant.**

Impact 5.11.1-2	**Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.** Because long-term operational emissions would not exceed TRPA's stationary source significance criteria or the mass emission significance criteria, implementation of Alternative 1 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.

Regional area- and mobile-source emissions of ROG, NO_X, PM_{10}, $PM_{2.5}$, CO, and SO_X associated with implementation of the proposed project were also estimated using URBEMIS 2007 Version 9.2.4, which is designed to model emissions for land use development projects. URBEMIS allows land use selections that include project location specifics and trip generation rates. URBEMIS estimates area-source emissions from estimated use of natural gas, fireplaces, landscape maintenance equipment, and consumer products; and mobile-source emissions associated with vehicle trips. Project-generated emissions were estimated based on proposed land uses presented in Chapter 3, "Project Description," projected trip generation presented in Section 5.10, "Traffic, Parking, and Circulation," (e.g., increase of 1,627 project-generated daily vehicle trip ends on a peak summer day, less 1,298 trip ends associated with transferred tourist accommodation units [TAUs] for a net increase of 329 trips added to the regional roadway network), and default model setting for 2017 conditions. It was assumed that all of the TAUs would include natural gas fireplaces. Project-related stationary sources (e.g., natural gas fired water heaters and central furnaces) would comply with Subsection 65.1.4 of the TRPA Code. Project implementation would not include the construction or operation of any major stationary sources of emissions.

The modeled maximum daily operational emissions under Alternative 1 are summarized in Table 5.11-9, described in more detail below, and provided in Appendix G.

Based on the modeling conducted, project operations would result in worst-case net maximum unmitigated daily emissions of approximately 7 lb/day of ROG, 7 lb/day of NO_X, 43 lb/day of CO, a negligible amount (less than 0.1 lb/day) of SO_X, 6 lb/day of PM_{10}, and 1 lb/day of $PM_{2.5}$, which would not exceed any of the applicable significance criteria as shown in Table 5.11-9. In addition, because the significance criteria applied approximately correlate with reductions from heavy-duty vehicles and land use project emission reduction requirements in local air quality plans, project implementation would not conflict with any air quality planning efforts. Furthermore, because the project's operational emissions of NO_X would not exceed the NO_X significance criterion, Alternative 1 would not affect TRPA's attainment designation for atmospheric deposition. Thus, long-term operational emissions under Alternative 1 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.

The traffic analysis in Section 5.10, "Traffic, Parking, and Circulation," discusses the contribution to the Air Quality Mitigation Fund, as required by Subsection 65.2.4(D) of the TRPA Code. This discussion is included in the traffic analysis because the contribution amount is a direct function of the number of daily vehicle trips generated by the project, rather than the actual emissions from stationary, area, and mobile sources.

Table 5.11-9. Summary of Modeled Long-Term Operational (Regional) Emissions under Alternative 1

Source-Type	lb/day					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
Area Source[1,2]	3.6	1.8	10.6	-	-	-
Mobile Source[3]	17.9	11.6	110.3	0.1	17.9	3.4
Total	**21.6**	**13.4**	**120.9**	**0.1**	**17.9**	**3.4**
Transferred TAU Emissions[4]	-21.2	-7.9	-74.4	-0.1	-12.3	-2.4
Net New Emissions	**0.4**	**5.5**	**46.5**	**0.0**	**5.6**	**1.0**
WINTER						
Area Source[1,2]	2.9	1.9	1.4	-	-	-
Mobile Source[3]	12.7	17.2	128.1	0.1	17.9	3.4
Total	**15.7**	**19.2**	**129.5**	**0.1**	**17.9**	**3.4**
Transferred TAU Emissions[4]	-8.7	-11.8	-87.0	-0.1	-12.3	-2.4
Net New Emissions	**7.0**	**7.4**	**42.5**	**0.0**	**5.6**	**1.0**
SIGNIFICANCE CRITERIA						
Mass Emissions[5]	82.0	82.0	—	—	82.0	—
TRPA (stationary sources only)[6]	125.7	24.2	220.5	13.2	22.0	—

Notes:
CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases; SO_X = oxides of sulfur; TAU = tourist accommodation unit.
Totals may not sum exactly due to rounding
1 Area-source emissions estimates do not account for the fact that the project would be LEED® certified; the model is not set up to readily evaluate such conditions.
2 Area-source emissions include natural gas consumption, emissions from landscaping, application of architectural coatings, and consumer products, and are estimated based on default model settings. It was assumed that all of the TAUs would be equipped with natural gas fireplaces.
3 Mobile-source emissions were estimated based on default model settings and trip generation rates and trip lengths obtained from the traffic analysis prepared for this project under buildout conditions for 2017.
4 Transferred TAU emissions refers to emissions from vehicle trips associated with existing TAU land uses that would be decommissioned and development allocations transferred to the proposed project.
5 Mass emission significance criteria apply to the sum of stationary, area, and mobile sources.
6 TRPA significance criteria apply to stationary-source emissions only.
See Appendix G for detailed input parameters and modeling results. Note: The modeling results reflect trip generation estimates from Section 5.10, "Traffic, Parking, and Circulation," prior to refinement for this public Draft EIS. The modeled operational emissions shown here are more conservative (higher) than if they had been remodeled in accordance with the updated trip generation analysis.
Source: Modeling conducted by Ascent Environmental, Inc. in 2011

Mitigation Measure

No mitigation is required.

Impact 5.11.1-3	**Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions.** Because the traffic analysis indicates that all area intersections would continue to operate at acceptable levels of service, long-term operational (local) mobile-source CO emissions under Alternative 1 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant**.

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions), particularly during peak commute hours, and meteorological conditions. Under specific meteorological

conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land-uses such as residential areas, schools, and hospitals. As a result, the analysis of CO emissions is at a local level.

The Transportation Project-Level Carbon Monoxide Protocol (Garza et al. 1997) states that a signalized intersection that operates at an unacceptable level of service (LOS) represents a potential for a CO violation, also known as a "hotspot," and must undergo a quantitative screening-level analysis. Thus, an analysis of CO concentrations is typically recommended for receptors located near signalized intersections that are projected to operate at LOS E or F.

According to the traffic analysis conducted for the project (Section 5.10 of this EIS), all signalized intersections affected by the project would operate at acceptable LOS (i.e., LOS D or better) with or without the proposed project. Long-term operational (local) mobile-source CO emissions under Alternative 1 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.11.1-4	Odor Emissions. Neither construction nor operation of Alternative 1 would create objectionable odors affecting a substantial number of people, because the proposed development does not include construction and operation of the types of facilities that are known to produce odors and any diesel exhaust odors generated by construction equipment would be intermittent and temporary, and would dissipate rapidly from the source with an increase in distance. This impact would be less than significant.

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

Project implementation would not result in any major sources of odor as it is not proposed to include any features or facilities known to produce objectionable odors (e.g., landfill, wastewater treatment plant, compost facility). The nearest potential source of odor would be the Douglas County Sewer Improvement District pump station, located just north of the project site. However, the pump station is enclosed; therefore, potential odorous emissions would be contained, and would not disperse in the direction of, or otherwise affect, the proposed project site. The Douglas County Sewer Improvement District's wastewater treatment plant, located at Round Hill, is approximately 2 miles from the project site. Because of the distance from the project site, the treatment plant also would not pose a significant source of odor. Diesel exhaust from the use of on-site construction equipment would be intermittent and temporary, and would dissipate rapidly from the source with an increase in distance. Thus, neither construction nor operation of Alternative 1 would create objectionable odors affecting a substantial number of people. This impact would be **less than significant.**

Mitigation Measure

No mitigation is required.

Impact 5.11.1-5	**Hazardous Air Pollutant Emissions.** Neither construction nor operation of Alternative 1 would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be **less than significant**.

The exposure of sensitive receptors to emissions of HAP can occur during both the construction and operational phases of a project, as discussed separately below.

Construction of the proposed project would result in short-term diesel exhaust emissions from use of on-site heavy duty equipment. Construction of Alternative 1 would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities. Because the potential cancer risk from inhalation of diesel PM outweighs its potential non-cancer health impacts (ARB 2003), the discussion below focuses on cancer rather than non-cancer risks.

The dose of HAPs to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to HAP emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. The risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the California EPA (Cal/EPA), Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to HAP emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (Cal/EPA 2001:9-10). Because the use of off-road construction equipment would be temporary in combination with the highly dispersive properties of diesel PM (Zhu et al. 2002), future reductions in exhaust emissions, and the small scale of the proposed construction-related activities, short-term construction activities would not expose sensitive receptors to substantial HAP emissions.

The proposed project would not include the construction or operation of any major stationary sources of HAP emissions, or result in an increase in mobile-source HAP emissions (e.g., diesel truck traffic) beyond that associated with the increases in trucks accessing the site for deliveries to the lodge or trash removal. In addition, there are no major existing sources of HAPs in the vicinity of the project site. Nonetheless, all sources having the potential to emit HAPs are required to obtain permits. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including specifically Subsections 65.1.6(C), “Offsets” and 65.1.6(D), “Best Available Control Technology” of the TRPA Code. Given that compliance with applicable standards is required for the development and operation of facilities that may emit HAPs, the HAP emissions at the project site are expected to be within established standards. Thus, neither construction nor operation of Alternative 1 would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be **less than significant.**

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.11.2-1	**Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.** As with Alternative 1, unmitigated PM_{10} emissions would exceed the significance criterion of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative 2 could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to TRPA standards. This would be a **potentially significant** impact.

Alternative 2 would have similar effects as described in Impact 5.11.1-1 above for Alternative 1. However, the lodge complex with Alternative 2 would have a slightly larger footprint (an additional 1.5 acres) and would result in an incremental increase in construction-related emissions relative to Alternative 1.

Similar methods and assumptions to those discussed above under Alternative 1 were used to estimate emissions associated with Alternative 2. The key differences are that Alternative 2 would result in 36 fewer hotel units, and 67 more interval ownership units than Alternative 1. The modeled maximum daily construction emissions are summarized in Table 5.11-10 and described in more detail below and in Appendix G.

Table 5.11-10. Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative 2

Source	lb/day[1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
2013 Phase				
Demolition (2013)	1.0	7.0	1.4	0.6
Site Grading (2013-2014)	2.6	20.6	98.6	20.6
Trenching (2013)	1.8	14.2	0.7	0.6
Maximum 2013 Emissions	**5.3**	**41.8**	**101.7**	**22.8**
2014 Phase				
Building Construction (2014-2017)	3.2	14.9	0.9	0.8
Site Grading (2013-2014)	2.5	19.1	98.6	20.6
Maximum 2014 Emissions	**5.7**	**34.0**	**100.4**	**22.2**
2015 Phase				
Asphalt Paving (2015-2017)	2.3	13.8	1.1	1.0
Building Construction (2014-2017)	2.9	13.8	0.9	0.8
Maximum 2015 Emissions	**5.2**	**27.5**	**2.0**	**1.8**
2016 Phase				
Asphalt Paving (2015-2017)	2.1	12.9	1.0	0.9
Building Construction (2014-2017)	2.7	12.7	0.8	0.7
Architectural Coating (2016-2017)	9.4	-	-	-
Maximum 2016 Emissions	**14.2**	**25.6**	**1.8**	**1.6**

Table 5.11-10. Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative 2				
2017 Phase				
Asphalt Paving (2015-2017)	2.0	12.1	0.9	0.9
Building Construction (2014-2017)	2.4	11.8	0.7	0.6
Architectural Coating (2016-2017)	9.4	-	-	-
Maximum 2017 Emissions	**13.8**	**23.9**	**1.6**	**1.5**
Significance Criteria	82	82	82	-
Exceed Significance Criteria?	No	No	Yes	No

Notes: Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases.
Totals may not sum exactly due to rounding.
Underline values indicate emissions that would exceed local significance criteria.
[1] Modeled emissions were based on URBEMIS 2007 Version 9.2.4 default model settings, EMFAC 2007 emission factors. Hours of equipment operation per day assumes compliance with TRPA Code Section 68.9 and TRPA's exemption for construction noise between 8:00 AM and 6:30 PM. Construction activities that involve soil disturbance must occur between May 1 and October 15 to comply with Subsection 33.3.1 of the TRPA Code unless special approval has been granted by TRPA.
See Appendix G for detailed input parameters and modeling results.
Source: Modeling performed by Ascent Environmental, Inc. in 2011

Based on the modeling conducted, construction of Alternative 2 would result in worst-case unmitigated daily emissions of approximately 14 lb/day of ROG, 42 lb/day of NO_X, and 102 lb/day of $PM_{10,}$ and 23 lb/day of $PM_{2.5}$. Daily unmitigated construction-generated emissions would exceed the significance criterion of 82 lb/day for PM_{10}. Construction-generated emissions under Alternative 2, specifically PM_{10}, could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to the TRPA standards (e.g., visibility-reducing particulate standards). This would be a **potentially significant** impact**.**

Mitigation Measure 5.11.2-1: Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.

Implement Mitigation Measure 5.11.1-1 described above for Alternative 1. The same mitigation measure would apply.

For the same reasons described above under Alternative 1, implementation of Mitigation Measure 5.11.2-1 would reduce Impact 5.11.2-1, to a **less-than-significant** level.

Impact 5.11.2-2	**Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.** Because long-term operational emissions would not exceed TRPA's stationary source significance criteria or the mass emission significance criteria, implementation of Alternative 2 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.

Regional area- and mobile-source emissions of ROG, NO_X, PM_{10}, $PM_{2.5}$, CO, and SO_X associated with implementation of Alternative 2 were estimated in the same manner as described under Alternative 1. Project-generated emissions were estimated based on proposed land uses presented in Chapter 4, "Alternatives," projected trip generation presented in Section 5.10, "Traffic, Parking, and Circulation," (e.g., increase of 1,676 project-generated daily vehicle trip ends, less 1,491 trip ends associated with transferred TAUs for a net

increase of 185 trips added to the regional roadway network), and default model setting for 2017 conditions. It was assumed that all of the TAUs would include natural gas fireplaces. Project-related stationary sources (e.g., natural gas fired water heaters and central furnaces) would comply with Subsection 65.1.4 of the TRPA Code. As with Alternative 1, Alternative 2 would not include the construction or operation of any major stationary sources of emissions.

The modeled maximum daily operational emissions under Alternative 2 are summarized in Table 5.11-11, described in more detail below, and provided in Appendix G.

Table 5.11-11. Summary of Modeled Long-Term Operational (Regional) Emissions under Alternative 2

Source-Type	lb/day					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
Area Source[1,2]	7.3	2.1	10.6	-	-	-
Mobile Source[3]	20.2	13.5	130.6	0.1	20.8	4.0
Total	**27.5**	**15.6**	**141.2**	**0.1**	**20.8**	**4.0**
Transferred TAU Emissions[4]	-21.2	-7.9	-74.4	-0.1	-12.3	-2.4
Net New Emissions	**6.3**	**7.7**	**66.8**	**0.0**	**8.5**	**1.6**
WINTER						
Area Source[1,2]	6.6	2.6	1.6	-	0.1	0.1
Mobile Source[3]	14.9	20.1	150.8	0.1	20.8	4.0
Total	**21.5**	**22.7**	**152.4**	**0.1**	**20.9**	**4.0**
Transferred TAU Emissions[4]	-8.7	-11.8	-87.0	-0.1	-12.3	-2.4
Net New Emissions	**12.8**	**10.9**	**65.4**	**0.0**	**8.6**	**1.6**
SIGNIFICANCE CRITERIA						
Mass Emissions[5]	82.0	82.0	—	—	82.0	—
TRPA (stationary sources only)[6]	125.7	24.2	220.5	13.2	22.0	—

Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases; SO_X = oxides of sulfur; TAU = tourist accommodation unit.
Totals may not sum exactly due to rounding.
[1] Area-source emissions estimates do not account for the fact that the project would be LEED® certified; the model is not set up to readily evaluate such conditions.
[2] Area-source emissions include natural gas consumption, emissions from landscaping, application of architectural coatings, and consumer products, and are estimated based on default model settings. It was assumed that all of the TAUs would be equipped with natural gas fireplaces.
[3] Mobile-source emissions were estimated based on default model settings and trip generation rates and trip lengths obtained from the traffic analysis prepared for this project under buildout conditions for 2017.
[4] Transferred TAU emissions refers to emissions from vehicle trips associated with existing TAU land uses that would be decommissioned and development allocations transferred to the proposed project.
[5] Mass emission significance criteria apply to the sum of stationary, area, and mobile sources.
[6] TRPA significance criteria apply to stationary-source emissions only.
See Appendix G for detailed input parameters and modeling results. Note: The modeling results reflect trip generation estimates from Section 5.10, "Traffic, Parking, and Circulation," prior to refinement for this public Draft EIS. The modeled operational emissions shown here are more conservative (higher) than if they had been remodeled in accordance with the updated trip generation analysis in Section 5.10.
Source: Modeling conducted by Ascent Environmental, Inc. in 2011

Based on the modeling conducted, operation of Alternative 2 would result in worst-case net maximum unmitigated daily emissions of approximately 13 lb/day of ROG, 11 lb/day of NO_X, 67 lb/day of CO, a negligible amount (less than 0.1 lb/day) of SO_X, 9 lb/day of PM_{10}, and 2 lb/day of $PM_{2.5}$, which would not exceed any of the applicable significance criteria shown in Table 5.11-11. In addition, because the significance criteria applied approximately correlate with reductions from heavy-duty vehicles and land use project emission reduction

requirements in local air quality plans, project implementation would not conflict with any air quality planning efforts. Furthermore, because Alternative 2's operational emissions of NO_X would not exceed the NO_X significance criterion, Alternative 2 would not affect TRPA's attainment designation for atmospheric deposition. Therefore, long-term operational emissions under Alternative 2 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**. This impact would be similar to that of Alternative 1.

Mitigation Measure

No mitigation is required.

Impact 5.11.2-3	Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Because the traffic analysis indicates that all area intersections would continue to operate at acceptable levels of service, long-term operational (local) mobile-source CO emissions under Alternative 2 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

As with Alternative 1, no signalized intersections would operate at LOS E or F under existing plus Alternative 2 project conditions. For the same reasons described under Alternative 1, long-term operational (local) mobile-source CO emissions under Alternative 2 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant.**

Mitigation Measure

No mitigation is required.

Impact 5.11.2-4	Odor Emissions. Because implementation of Alternative 2 would result in similar types of proposed uses on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-4. Neither construction nor operation of Alternative 2 would create objectionable odors affecting a substantial number of people. This impact would be considered less than significant.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.11.1-4.

Mitigation Measure

No mitigation is required.

Impact 5.11.2-5	Hazardous Air Pollutant Emissions. Because implementation of Alternative 2 would result in similar types of proposed uses on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-5. Neither construction nor operation of Alternative 2 would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be less than significant.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.11.1-5.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.11.3-1	**Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.** As with Alternative 1, unmitigated PM_{10} emissions would exceed the significance criterion of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative 3 could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to TRPA standards. This would be a **potentially significant** impact.

Alternative 3 would have similar effects as described in Impact 5.11.1-1 above for Alternative 1. However, the lodge complex with Alternative 3 would have a slightly larger footprint (an additional 1.6 acres) and would result in an incremental increase in construction-related emissions relative to Alternative 1.

Similar methods and assumptions to those discussed above under Alternative 1 were used to estimate emissions associated with Alternative 3. The key differences are that Alternative 3 would result in 27 fewer hotel units, and 83 more fractional ownership units than Alternative 1. The modeled maximum daily construction emissions are summarized in Table 5.11-12 and described in more detail below and in Appendix G.

Table 5.11-12. Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative 3

Source	lb/day[1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
2013 Phase				
Demolition (2013)	1.0	7.0	1.4	0.6
Site Grading (2013-2014)	2.6	20.6	99.8	21.5
Trenching (2013)	1.8	14.2	0.7	0.6
Maximum 2013 Emissions	**5.3**	**41.8**	**99.8**	**22.8**
2014 Phase				
Building Construction (2014-2017)	3.3	15.1	1.0	0.8
Site Grading (2013-2014)	2.5	19.1	99.7	21.5
Maximum 2014 Emissions	**5.7**	**34.3**	**100.6**	**22.3**
2015 Phase				
Asphalt Paving (2015-2017)	2.3	13.8	1.1	1.0
Building Construction (2014-2017)	3.0	14.0	0.9	0.8
Maximum 2015 Emissions	**5.3**	**27.7**	**2.0**	**1.8**

Table 5.11-12. Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative 3				
2016 Phase				
Asphalt Paving (2015-2017)	2.1	12.9	1.0	0.9
Building Construction (2014-2017)	2.7	12.9	0.8	0.7
Architectural Coating (2016-2017)	10.3	-	-	-
Maximum 2016 Emissions	**15.2**	**25.8**	**1.8**	**1.6**
2017 Phase				
Asphalt Paving (2015-2017)	2.0	12.1	0.9	0.9
Building Construction (2014-2017)	2.5	11.9	0.7	0.6
Architectural Coating (2016-2017)	10.3	-	-	-
Maximum 2017 Emissions	**14.8**	**23.4**	**1.7**	**1.5**
Significance Criteria	82	82	82	-
Exceed Significance Criteria?	No	No	Yes	No

Notes: Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases.
Totals may not sum exactly due to rounding.
Underline values indicate emissions that would exceed local significance criteria.
[1] Modeled emissions were based on URBEMIS 2007 Version 9.2.4 default model settings, EMFAC 2007 emission factors. Hours of equipment operation per day assumes compliance with TRPA Code Section 68.9 and TRPA's exemption for construction noise between 8:00 AM and 6:30 PM. Construction activities that involve soil disturbance must occur between May 1 and October 15 to comply with Subsection 33.3.1 of the TRPA Code unless special approval has been granted by TRPA.
See Appendix G for detailed input parameters and modeling results.
Source: Modeling performed by Ascent Environmental, Inc. in 2011

Based on the modeling conducted, Alternative 3 construction would result in worst-case maximum daily emissions of approximately 15 lb/day of ROG, 42 lb/day of NO_X, 101 lb/day of PM_{10}, and 23 lb/day of $PM_{2.5}$. Daily unmitigated construction-generated emissions would exceed the significance criterion of 82 lb/day for PM_{10}. Construction-generated emissions under Alternative 3, specifically PM_{10}, could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the non-attainment status of the LTAB with respect to TRPA standards (e.g., visibility-reducing particulate standards). This would be a **potentially significant** impact**.** This impact would be similar to that under Alternative 1.

Mitigation Measure 5.11.3-1: Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.

Implement Mitigation Measure 5.11.1-1 described above for Alternative 1. The same mitigation measure would apply.

For the same reasons described under Alternative 1, implementation of Mitigation Measure 5.11.3-1 would reduce Impact 5.11.3-1, to a **less-than-significant** level.

Impact 5.11.3-2	Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions. Because long-term operational emissions would not exceed *TRPA's stationary source significance criteria or the mass emission significance criteria*, implementation of Alternative 3 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.

Regional area- and mobile-source emissions of ROG, NO_X, PM_{10}, $PM_{2.5}$, CO, and SO_X associated with implementation of Alternative 3 were estimated in the same manner as described under Alternative 1. Project-generated emissions were estimated based on proposed land uses presented in Chapter 4, "Alternatives," projected trip generation presented in Section 5.10, "Traffic, Parking, and Parking," (e.g., increase of 2,067 project-generated daily vehicle trip ends, less 1,598 trip ends associated with TAUs for a net increase of 469 trips added to the regional roadway network), and default model setting for 2017 conditions. It was assumed that all of the TAUs would include natural gas fireplaces. Project-related stationary sources (e.g., natural gas fired water heaters and central furnaces) would comply with Subsection 65.1.4 of the TRPA Code. As with Alternative 1, Alternative 3 would not include the construction or operation of any major stationary sources of emissions.

The modeled maximum daily operational emissions under Alternative 3 are summarized in Table 5.11-13, described in more detail below, and provided in Appendix G.

Table 5.11-13. Summary of Modeled Long-Term Operational (Regional) Emissions under Alternative 3

Source-Type	lb/day					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
Area Source[1,2]	8.2	2.3	10.7	-	-	-
Mobile Source[3]	21.1	14.3	138.8	0.1	22.1	4.2
Total	**29.4**	**16.6**	**149.5**	**0.1**	**22.1**	**4.3**
Transferred TAU Emissions[4]	-21.2	-7.9	-74.4	-0.1	-12.3	-2.4
Net New Emissions	**8.2**	**8.7**	**75.1**	**0.0**	**9.8**	**1.9**
WINTER						
Area Source[1,2]	7.5	2.8	1.7	-	0.1	0.1
Mobile Source[3]	15.8	21.3	160.2	0.1	22.1	4.2
Total	**23.4**	**24.2**	**161.9**	**0.1**	**22.1**	**4.3**
Transferred TAU Emissions[4]	-8.7	-11.8	-87.0	-0.1	-12.3	-2.4
Net New Emissions	**14.7**	**12.4**	**74.9**	**0.0**	**9.8**	**1.9**
SIGNIFICANCE CRITERIA						
Mass Emissions[5]	82.0	82.0	—	—	82.0	—
TRPA (stationary sources only)[6]	125.7	24.2	220.5	13.2	22.0	—

Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ROG = reactive organic gases; SO_X = oxides of sulfur; TAU = tourist accommodation unit.
Totals may not sum exactly due to rounding.
[1] Area-source emissions estimates do not account for the fact that the project would be LEED® certified; the model is not set up to readily evaluate such conditions.
[2] Area-source emissions include natural gas consumption, emissions from landscaping, application of architectural coatings, and consumer products, and are estimated based on default model settings. It was assumed that all of the TAUs would be equipped with natural gas fireplaces.
[3] Mobile-source emissions were estimated based on default model settings and trip generation rates and trip lengths obtained from the traffic analysis prepared for this project under buildout conditions for 2017.
[4] Transferred TAU emissions refers to emissions from vehicle trips associated with existing TAU land uses that would be decommissioned and development allocations transferred to the proposed project.
[5] Mass emission significance criteria apply to the sum of stationary, area, and mobile sources.
[6] TRPA significance criteria apply to stationary-source emissions only.
See Appendix G for detailed input parameters and modeling results. Note: The modeling results reflect trip generation estimates from Section 5.10, "Traffic, Parking, and Circulation," prior to refinement for this public Draft EIS. The modeled operational emissions shown here are more conservative (higher) than if they had been remodeled in accordance with the updated trip generation analysis in Section 5.10.
Source: Modeling conducted by Ascent Environmental, Inc. in 2011

Based on the modeling conducted, operation of Alternative 3 would result in worst-case maximum daily emissions of approximately 15 lb/day of ROG, 12 lb/day of NO_X, 75 lb/day of CO, a negligible amount (less than 0.1 lb/day) of SO_X, 10 lb/day of PM_{10}, and 2 lb/day of $PM_{2.5}$, which would not exceed any of the applicable significance criteria shown in Table 5.11-12. In addition, because the significance criteria applied approximately correlate with reductions from heavy-duty vehicles and land use project emission reduction requirements in local air quality plans, project implementation would not conflict with any air quality planning efforts. Furthermore, because Alternative 3's operational emissions of NO_X would not exceed the NO_X significance criterion, Alternative 3 would not affect TRPA's attainment designation for atmospheric deposition. Also, because Alternative 3's operational emissions of NO_X would not exceed the NO_X significance criterion, Alternative 3 would not affect TRPA's attainment designation for atmospheric deposition. Therefore, long-term operational emissions under Alternative 3 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant.** This impact would be similar to that under Alternative 1.

Mitigation Measure

No mitigation is required.

Impact 5.11.3-3	Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Because the traffic analysis indicates that all area intersections would continue to operate at acceptable levels of service, long-term operational (local) mobile-source CO emissions under Alternative 3 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

As with Alternative 1, no signalized intersections would operate at LOS E or F under existing plus Alternative 3 project conditions. For the same reasons described under Alternative 1, long-term operational (local) mobile-source CO emissions under Alternative 3 would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.11.3-4	Odor Emissions. Because implementation of Alternative 3 would result in the same type of proposed uses on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-4. Neither construction nor operation of Alternative 3 would create objectionable odors affecting a substantial number of people. This impact would be less than significant.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.11.1-4.

Mitigation Measure

No mitigation is required.

Impact 5.11.3-5	**Hazardous Air Pollutant Emissions.** Because implementation of Alternative 3 would result in the same type of proposed uses and on the same project site as Alternative 1, this impact would be the same as Impact 5.11.1-5. Neither construction nor operation of Alternative 3 would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be **less than significant**.

This impact and impact conclusion would be the same as that described for Alternative 1. Please refer to the full discussion under Impact 5.11.1-5.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the project site would remain in operation and existing site conditions would remain the same. There would be **no** air quality **impacts** associated with implementation of Alternative 4**.**

5.11.4 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

This section summarizes the effects of implementing the proposed project on the environmental thresholds established by TRPA for air quality that are applicable to the proposed project. As shown in Table 5.11-3, the following eight air quality thresholds established by TRPA are applicable to the proposed project:

- AQ-1, Carbon Monoxide
- AQ-2, Ozone
- AQ-3, Particulate Matter
- AQ-4, Visibility
- AQ-5, Traffic Volume
- AQ-6, Wood Smoke
- AQ-7, VMT
- AQ 8, Atmospheric Deposition

Implementation of Alternatives 1, 2, and 3 would include a similar level of development. Alternative 4 is the no project alternative and would not affect TRPA environmental thresholds for air quality.

AQ-1

Threshold indicator AQ-1 pertains to CO concentrations. According to the traffic analysis conducted for this EIS (see Section 5.10, “Traffic, Parking, and Circulation”), all signalized intersections affected by the project would operate at acceptable LOS (i.e., LOS D or better) without and with project implementation. Long-term operational (local) mobile-source CO emissions under any of the three project alternatives, would not violate an air quality standard (i.e., 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. Therefore, operation of the any of the three action alternatives would not exceed the applicable significance criteria, and it would not be expected that the project would affect attainment of relevant TRPA thresholds for CO.

AQ-2, AQ-3, AQ-4, and AQ-6

Implementation of Mitigation Measure 5.11.1-1 would reduce emissions of PM_{10} from fugitive dust by a minimum of 50 percent and prevent dispersion beyond the property boundary. Implementation of Mitigation Measure 5.11.1-1 would also reduce diesel equipment exhaust emissions of ROG, NO_X, and PM_{10} by a minimum of 5 percent, 20 percent, and 45 percent, respectively. Temporary BMPs that have been incorporated into the project would also reduce particulate emissions. Long-term operation of the project would generate a net increase of 5.6 lbs/day of $PM_{10,}$ and 7.0 lbs/day and 7.4 lbs/day of ROG and NO_x (ozone precursors), respectively.

Because construction and operation of the three action alternatives would not exceed the local significance criteria with mitigation, and the net increase in long-term daily emissions of PM_{10} and ozone precursors would be nominal, the action alternatives would not affect attainment of relevant TRPA thresholds for ozone and particulate matter. In addition, because the project would not include wood-burning fireplaces and would only allow for natural gas fireplaces, the proposed project would not affect attainment of the TRPA thresholds for wood smoke and visibility.

AQ-5

The threshold indicator AQ-5 includes a standard that pertains to reduction in traffic volumes on U.S. 50. The AQ-5 indicator calls for a 7 percent reduction in the daily traffic volume on the U.S. 50 corridor from 1981 values. TRPA evaluates this indicator by measuring the traffic volume on the Saturday of President's Day weekend between 4:00 PM and 12:00 AM at a site immediately west of the intersection of U.S. 50 and Park Avenue. The 1981 traffic count was 25,173 vehicles; therefore attainment of this standard requires a daily traffic count of less than 23,411 vehicles. Traffic volumes on U.S. 50 have steadily declined relative to 1981 such that this threshold is now in attainment. The 2006 threshold evaluation report found that average traffic volumes on U.S. 50 had declined by 28.7 percent relative to the 1981 levels (TRPA 2007), which far exceeds the 7 percent reduction required by the AQ-5 threshold standard.

As discussed in Section 5.10, "Traffic, Parking, and Circulation," the action alternatives would result in an increase in ADT on Lake Parkway. Most of the vehicles accessing the site would also use U.S. 50, so the increase in ADT on Lake Parkway is likely similar to the increase on U.S. 50, though only a portion of the U.S. 50 traffic would come from areas that would cross the intersection of U.S. 50 and Park Avenue. Traffic associated with the action alternatives would increase the average daily traffic volume on Lake Parkway east of the main entrance to the project site (the most impacted section of Lake Parkway). The projected volumes reflect a whole day, and only a fraction of the trips would occur between 4:00 PM and 12:00 AM—the period during which the AQ-5 threshold is measured. These additional daily traffic volumes represent between five and six percent of the 1981 volumes on U.S. 50 that were set for the hours between 4:00 PM and 12:00 AM. Even at these levels, the additional traffic on U.S. 50 would not compromise continued attainment of this threshold given the level of reductions that have been recorded.

AQ-7 and AQ-8

TRPA adopted the VMT threshold (AQ-7) in 1982 as both a water quality and air quality threshold. The TRPA thresholds for air quality, under both visibility and nitrate deposition, include the following management standard: "reduce vehicle miles of travel by 10 percent of the 1981 base values." The indicator for TRPA's VMT threshold states that there shall be a 10 percent reduction in VMT below the 1981 peak summer day levels. The 1981 VMT was determined to be 1,648,466 and therefore the attainment level for this indicator would be 1,483,619 miles for a peak summer day. As described in Section 5.10, "Traffic, Parking, and Circulation," the best available annual estimate of basin-wide VMT dropped below the 10 percent reduction threshold in 2007, and as of 2008 stood at a level 12.5 percent below the 1981 value. Considering that traffic volumes have not increased since 2008, it can be concluded that the region is currently in attainment of the AQ-7 threshold. If traffic volumes do not "rebound" as a result of an improving economy, this indicates that VMT for the basin as a whole could increase by 40,920 while still being in attainment of this regional threshold standard.

The threshold indicator AQ-7 pertains to VMT and indicator AQ-8 pertains to atmospheric deposition. In general, gaseous emissions of nitrogen compounds are associated with combustion processes from automobiles and other sources. Management standards for atmospheric deposition include reduction of VMT in the Lake Tahoe Basin by 10 percent of the 1981 base year values, as described above. Alternatives 1 through 3 would result in an increase of approximately 501 VMT, 185 VMT, and 1,221 VMT, respectively. These VMT estimates reflect an increase of between 0.01 and 0.06 percent of the region-wide VMT relative to existing conditions. The increase in VMT for any of the alternatives would not be substantial in relation to the TRPA environmental thresholds for AQ-7 and AQ-8, and post project VMT would still remain far below volumes required for threshold attainment.

5.12 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

5.12.1 INTRODUCTION

Greenhouse gas (GHG) emissions have the potential to adversely affect the environment because they contribute, on a cumulative basis, to global climate change. Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). In turn, global climate change has the potential to result in rising sea levels, which can inundate low-lying areas; to affect rain and snow fall, leading to changes in water supply; and to affect habitat, leading to adverse effects on biological and other resources. Federal, state, and local regulations related to GHG emissions and climate change are summarized below. Potential impacts of the proposed alternatives are analyzed, and mitigation measures are recommended for those impacts determined to be significant. Because the nature of this issue is inherently cumulative, this section serves as the cumulative impact analysis related to GHGs and climate change.

5.12.2 REGULATORY BACKGROUND

This section summarizes relevant regulatory programs, plans, and policies that may apply to project-generated GHG emissions.

FEDERAL

SUPREME COURT RULING

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for implementing the federal Clean Air Act (CAA). The U.S. Supreme Court ruled on April 2, 2007 that carbon dioxide (CO_2) is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs. The ruling in this case resulted in EPA taking steps to regulate GHG emissions and lent support for state and local agencies' efforts to reduce GHG emissions.

EPA ACTIONS

In response to the mounting issue of climate change, EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO_2 per year. This publically available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85 percent of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

Proposed Greenhouse Gas Permitting Requirements on Large Industrial Facilities

On May 13, 2010, EPA issued the Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas Tailor Rule (EPA 2010a). This final rule sets thresholds of GHG emissions at which permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

The rule establishes a schedule that will initially focus permitting programs on the largest sources of GHG emissions and then expands to cover the largest sources of GHG that may not have been previously covered by the CAA for other pollutants (EPA 2010b). From January 2, 2011 to June 30, 2011, only those sources currently subject to the PSD permitting program (i.e., those that are newly-constructed or modified in a way that significantly increases emissions of a pollutant other than GHGs) would be subject to permitting requirements for their GHG emissions under PSD; and, for these projects, only GHG increases of 75,000 tons (68,039 MT) per year or more of total GHG, on a carbon dioxide equivalent (CO_2e) basis, would need to determine the Best Available Control Technology (BACT) for their GHG emissions. Similarly for the operating permit program, only sources currently subject to the program (i.e., newly constructed or existing major sources for a pollutant other than GHGs) would be subject to Title V requirements for GHG. During this time, no sources would be subject to Clean Air Act permitting requirements due solely to GHG emissions.

From July 1, 2011 to June 30, 2013, PSD permitting requirements will cover for the first time new construction projects that emit GHG emissions of at least 100,000 tons (90,718 MT) per year even if they do not exceed the permitting thresholds for any other pollutant. Modifications at existing facilities that increase GHG emissions by at least 75,000 tons (68,039 MT) per year will be subject to permitting requirements, even if they do not significantly increase emissions of any other pollutant. Operating permit requirements will, for the first time, apply to sources based on their GHG emissions even if they would not apply based on emissions of any other pollutant. Facilities that emit at least 100,000 tons (90,718 MT) per year of CO_2e will be subject to Title V permitting requirements.

As part of this rule, EPA also commits to undertake another rulemaking, to begin in 2011 and conclude no later than July 1, 2012. If established, this rule would not require permitting for sources with GHG emissions below 50,000 tons (45,359 MT) per year.

National Program to Cut Greenhouse Gas Emissions and Improve Fuel Economy for Cars and Trucks

On September 15, 2009, EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) proposed a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States. EPA proposed the first-ever national GHG emissions standards under the CAA, and NHTSA proposed Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. This proposed national program would allow automobile manufacturers to build a single light-duty national fleet that satisfies all requirements under both federal programs and the standards of several states. The President requested that EPA and NHTSA, on behalf of the Department of Transportation, develop, through notice and comment rulemaking, a coordinated National Program under the CAA and the Energy Policy and Conservation Act (EPCA), as amended by the Energy Independence and Security Act (EISA), to reduce fuel consumption by and GHG emissions of light-duty vehicles for model years 2017-2025.

The EPA and NHTSA are developing the proposal based on extensive technical analyses, an examination of the factors required under the respective statutes and on discussions with individual motor vehicle manufacturers and other stakeholders. The National Program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles (light-duty vehicles) built in those model years (76 FR 48758).

Endangerment and Cause or Contribute Findings

On December 7, 2009, EPA adopted its Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CAA (Endangerment Finding). The Endangerment Finding is based on Section 202(a) of the CAA, which states that the Administrator (of EPA) should regulate and develop standards for "emission[s] of air pollution from any class or classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." The rule addresses Section 202(a) in two distinct findings. The first addresses whether or not the concentrations of the six key GHGs (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten the public health and welfare of current and future generations. The second addresses whether or not the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and therefore the threat of climate change.

The Administrator found that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CAA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, which are very likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wild fires, droughts, sea level rise, and higher intensity storms) are a threat to the public health and welfare. Therefore, GHGs were found to endanger the public health and welfare of current and future generations.

The Administrator also found that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHGs fit within the CAA definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but rather allow EPA to finalize the GHG standards proposed earlier in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.

CLIMATE CHANGE ADAPTATION

Activities are already underway across the federal government to build adaptive capacity and increase resilience to climate change. These activities include efforts to improve understanding of climate science and impacts, to incorporate climate change considerations into policies and practices, and to strengthen technical support and capacity for adaptation decision making. Some efforts are large collaborative undertakings involving federal and non-federal partners while others are smaller and at the program-level. The Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), makes recommendations to President Obama for how federal agency policies and programs can better prepare the United States to respond to the impacts of climate change (CEQ 2011).

TAHOE REGIONAL PLANNING AGENCY

TRPA has not specifically identified any goals, policies, or environmental threshold carrying capacities related to GHG emissions or climate change. TRPA is currently initiating efforts, in coordination with partner agencies, to prepare a climate action plan for the Tahoe Basin, which includes a GHG emissions target and reduction strategies. In addition, consistent with California regulations, GHG reduction targets have been established for the California portion of the Tahoe Basin; however, these targets are not described in detail in this EIS because they do not apply to this project, as it is located in Douglas County, Nevada.

STATE

The Nevada Climate Change Advisory Committee (NCCAC) was created through an Executive Order signed in April 2007. The Executive Order directed the committee to propose recommendations for reducing GHG emissions in Nevada. The committee's final report included 28 recommendations related to reducing GHG emissions from the energy, transportation, waste, agriculture and other sectors. One of the committee's priority recommendations is to develop a State Climate Action Plan (NCCAC 2008: 7-9). However, at this time, the Nevada Division of Environmental Protection (NDEP) has not identified any GHG or climate change-related policies or regulations that would pertain to the proposed project.

LOCAL

There are currently no locally-adopted climate change or GHG-related polices, programs, or plans applicable to the proposed project.

5.12.3 AFFECTED ENVIRONMENT

EXISTING CLIMATE

Climate is the accumulation of daily and seasonal weather events over a long period of time, whereas weather is defined as the condition of the atmosphere at any particular time and place. Lake Tahoe lies in a depression between the crests of the Sierra Nevada and Carson Range on the California-Nevada border at a surface elevation of approximately 6,230 feet above sea level. The Lake Tahoe Air Basin (LTAB) is defined by the 7,000-foot contour, which is continuous around the lake, except near Tahoe City. The mountains surrounding Lake Tahoe are approximately 8,000–9,000 feet in height on average, with some reaching 10,000 feet.

The constant water temperature of Lake Tahoe at 600 feet below the surface is approximately 39 degrees Fahrenheit (°F). This characteristic and the lake's topographic location combine to define one of the LTAB's most important atmospheric regimes: in the absence of strong synoptic weather systems (large-scale system, 620 miles or more), the LTAB develops shallow subsidence and radiation inversions throughout the year (air temperature variations unique to the Tahoe Basin relative to surrounding areas). In addition, rapid radiation cooling at night regularly generates gentle nocturnal winds that blow downslope from the mountain ridges to the shore, then fan across the lake (Cahill and Cliff 2000: 1).

ATTRIBUTING CLIMATE CHANGE—THE PHYSICAL SCIENTIFIC BASIS

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth. Without the greenhouse effect, Earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's climate, known as global climate

change or global warming. It is unlikely that global climate change of the past 50 years can be explained without the contribution from human activities (Intergovernmental Panel on Climate Change [IPCC] 2007).

GHGs are global pollutants, and unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern, GHGs are a global issue. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact duration is dependent on multiple variables and cannot be determined, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 54 percent is sequestered through ocean uptake, uptake by northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO_2 emissions remains stored in the atmosphere (Seinfeld and Pandis 1998).

Similarly, impacts of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and TACs. The quantity of GHGs necessary to result in climate change is not precisely known, but the quantity is enormous, and no single project would measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro climate. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

ATTRIBUTING CLIMATE CHANGE—GREENHOUSE GAS EMISSION SOURCES

In Nevada, the electrical generation sector is the largest emitter of GHGs, followed by transportation (NDEP 2008: 12). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.

Nevada produced 51.3 net million MT (MMT) of CO_2e in 2005 (NDEP 2008: 12). CO_2e is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and to contribute to the greenhouse effect. This potential, known as the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, as described in Appendix C, "Calculation References," of the General Reporting Protocol of the California Climate Action Registry (CCAR 2009), 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. Expressing emissions in CO_2e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Nevada's emissions inventory and projections are summarized in Table 5.12-1 below.

Table 5.12-1. Nevada Greenhouse Gas Emissions Inventory and Projections

Emissions Sector	MMT CO_2e/year				
	1990	2000	2005	2010	2020
Electrical Generation[1]	16.9	24.8	26.2	22.5	36.0
Residential/Commercial/Industrial	4.4	6.0	6.8	6.9	6.9
Transportation	9.7	14.9	16.9	19.3	26.0
Industrial Process	0.2	2.1	2.5	3.1	4.6

Table 5.12-1. Nevada Greenhouse Gas Emissions Inventory and Projections					
Emissions Sector	MMT CO_2e/year				
	1990	2000	2005	2010	2020
Fossil Fuel Industry	0.4	0.6	0.8	0.9	0.9
Agriculture	1.6	1.8	1.6	1.7	1.8
Waste Management	0.8	1.4	1.4	1.5	2.2
Gross Total Emissions[2]	**34.1**	**51.5**	**56.3**	**55.8**	**78.4**
Carbon Sequestration	-5.0	-5.0	-5.0	-5.0	-5.0
Net Emissions[2]	**29.1**	**46.5**	**51.3**	**50.8**	**73.4**

Notes: MMT CO_2e/year = million metric tons carbon dioxide equivalent per year.
[1] Includes in-state-generated electricity production.
[2] Totals may not sum exactly due to rounding.
Source: Nevada Division of Environmental Protection 2008: 12

ADAPTATION TO CLIMATE CHANGE

According to the IPCC, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, the global average temperature is expected to increase by 3–7°F by the end of the century, depending on future GHG emission scenarios (IPCC 2007). Resource areas other than air quality and global average temperature could be indirectly affected by the accumulation of GHG emissions. For example, an increase in the global average temperature is expected to result in a decreased volume of precipitation falling as snow in the Tahoe Basin and an overall reduction in snowpack in the Sierra Nevada. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the region (including the project site). According to the California Energy Commission (CEC), the snowpack portion of the water supply could potentially decline by 30–90 percent by the end of the 21st century (CEC 2006).

Though not applicable in the Tahoe region, another outcome of global climate change is sea level rise. Sea level rose approximately 7 inches during the last century and it is predicted to rise an additional 7–22 inches by 2100, depending on the future levels of GHG emissions (IPCC 2007). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion, and disruption of wetlands (CEC 2006). As the existing climate changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct if suitable conditions are no longer available.

A recent report compiled the latest research of the effects of climate change on Lake Tahoe. The report uses downscaled climate model data to predict that the average snowpack in the northern Sierra Nevada would decline by 40-60 percent under the most optimistic projections, as warming temperatures could result in precipitation falling as rain instead of snow toward the end of the 21st century. Warmer temperatures could also result in accelerated runoff, erosion, and further impaired lake clarity. This would also result in water supply reliability issues and flooding for communities in California's central valley. Finally, disruptions to normal precipitation patterns could result in drought and increased risk of wildfire in the Tahoe Basin (Reuter, et. al. 2010).

According to Cal-Adapt, a climate change scenario planning tool developed by CEC, temperatures in the Lake Tahoe region, average are projected to rise between 4–7°F by 2100, based on low and high emissions scenarios (Cal-Adapt 2011). Cal-Adapt uses a method to downscale global climate model data to local and regional resolution under two emissions scenarios; the A-2 scenario represents a business-as-usual future emissions

scenario, and the B-1 scenario represents a lower GHG emissions future. Exhibits 5.12-1 and 5.12-2 illustrate graphical output from Cal-Adapt of future snowpack and wildfire risk in the Lake Tahoe region under both emissions scenarios. In either scenario, snowpack is projected to be reduced and wildfire risk is projected to increase by the end of the century.

5.12.4 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Neither TRPA nor NDEP has identified a significance threshold for analyzing GHG emissions generated by a proposed project, or a methodology for analyzing impacts related to GHG emissions or global climate change. However, the U.S. Supreme Court and CEQ have provided direction that GHG emissions and climate change warrant consideration as environmental impacts. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change.

CEQ has provided draft guidance for federal lead agencies to address impacts of GHG emissions. The draft guidelines include the following section:

> if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO_2 equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000 metric tons of CO_2 equivalent, CEQ encourages federal agencies to consider whether the action's long-term emissions should receive similar analysis. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs (CEQ 2010: 1-2).

For the purposes of this EIS, TRPA has quantified total GHG emissions from the proposed project, in order to determine whether the associated emissions would be substantial with respect to CEQ's draft recommendations.

METHODS AND ASSUMPTIONS

There is no recommended or adopted methodology for evaluating GHG emissions from new development in Nevada. In the case of the proposed project, CO_2 emissions associated with project operation were modeled using the Urban Emissions Model (URBEMIS) 2007, a model widely-used in regional air quality analysis.

It is important to note that all CO_2 emissions from project operation may not necessarily be considered "new" emissions, given that a project itself does not create "new" emitters (people) of GHGs, at least not in the traditional sense. Emissions of GHGs are, however, influenced by the location and design of projects, to the extent that they can influence travel to and from the projects, and to the degree the projects are designed to maximize energy efficiency.

The methodology used in this EIS to analyze the project's potential effect on climate change includes an inventory of project-generated GHG emissions and an evaluation of those emissions.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.12.1-1	**Greenhouse Gas Emissions.** The proposed project (Alternative 1) would result in less-than-cumulatively considerable GHG emissions and would have a **less-than-significant** impact on climate change.

The proposed project would result in GHG emissions during construction (short-term) and operation (long-term), described separately below.

Short-Term Construction-Related Emissions

Construction of the proposed project would include the main lodge (with guest rooms, health spa, restaurant and bar, and conference center), casita buildings with interval ownership (fractional) units, expansion of the existing clubhouse, water quality and golf course improvements, demolition of existing lakefront residences, and construction of a new relocated pier. Construction activities are anticipated to last approximately 5 years. For the purpose of this analysis, construction was assumed to start in April 2013 in accordance with the phasing schedule included in Chapter 3, "Project Description," and construction would be completed by October 2017. GHG emissions would not differ substantially if construction were to begin at a later time.

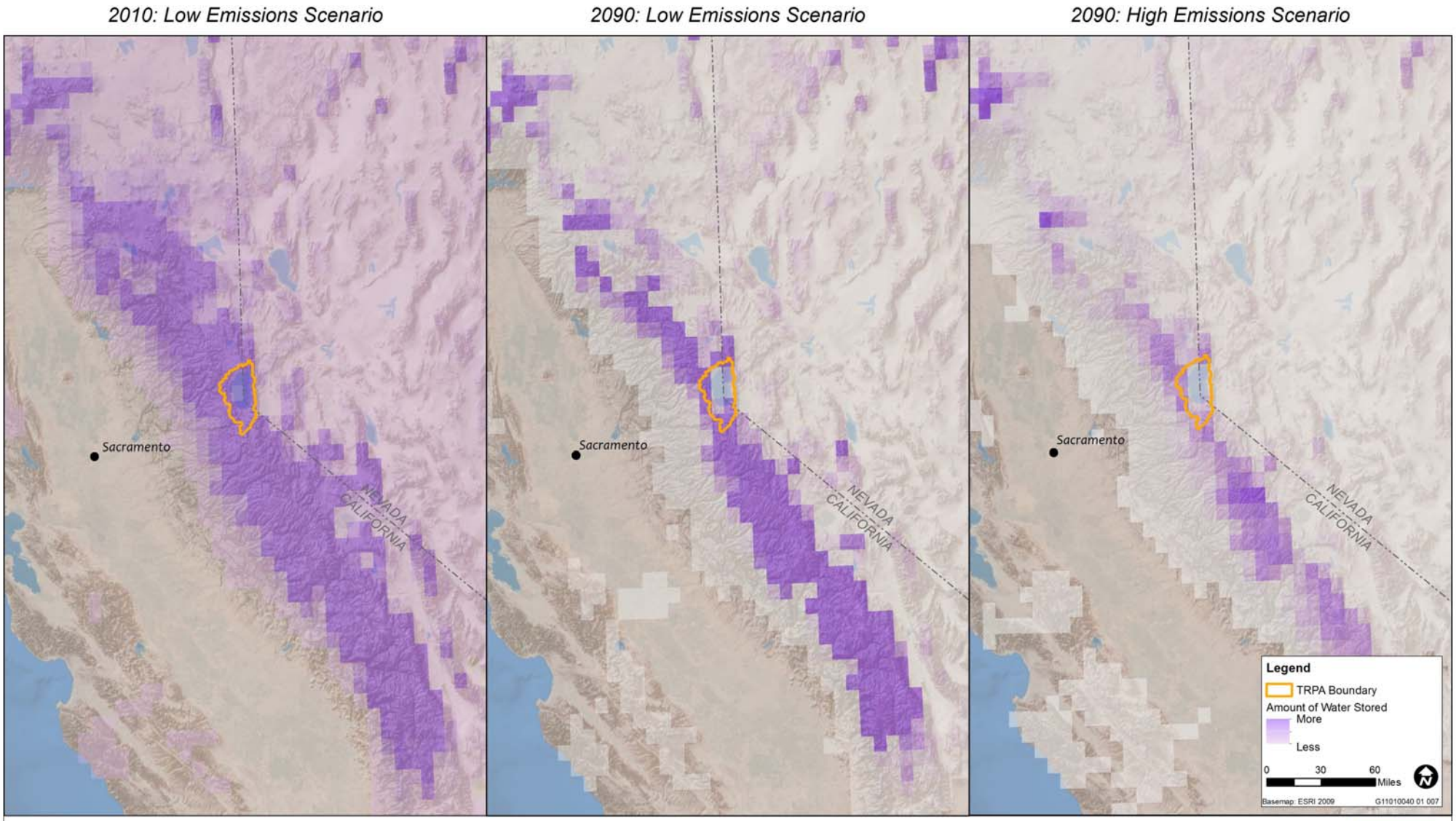
During construction of the proposed project, GHG emissions would be temporarily and intermittently-generated, associated primarily with exhaust emissions from heavy off-road equipment, on-road trucks, and construction employee vehicle trips. Construction emissions were estimated using emission factors from the URBEMIS model, based on information contained in the project description and model default settings where project-specific information was not available. Table 5.12-2 summarizes construction-related GHG emissions.

Table 5.12-2. Summary of Construction-Related GHG Emissions Associated with the Proposed Project

Construction Phase (Year)	CO_2e (MT/year)
Annual GHG Emissions during Year 1 (2013)	261
Annual GHG Emissions during Year 2 (2014)	400
Annual GHG Emissions during Year 3 (2015)	385
Annual GHG Emissions during Year 4 (2016)	440
Annual GHG Emissions during Year 5 (2017)	345
Total GHG Emissions During Construction Period (MT)	**1,831**

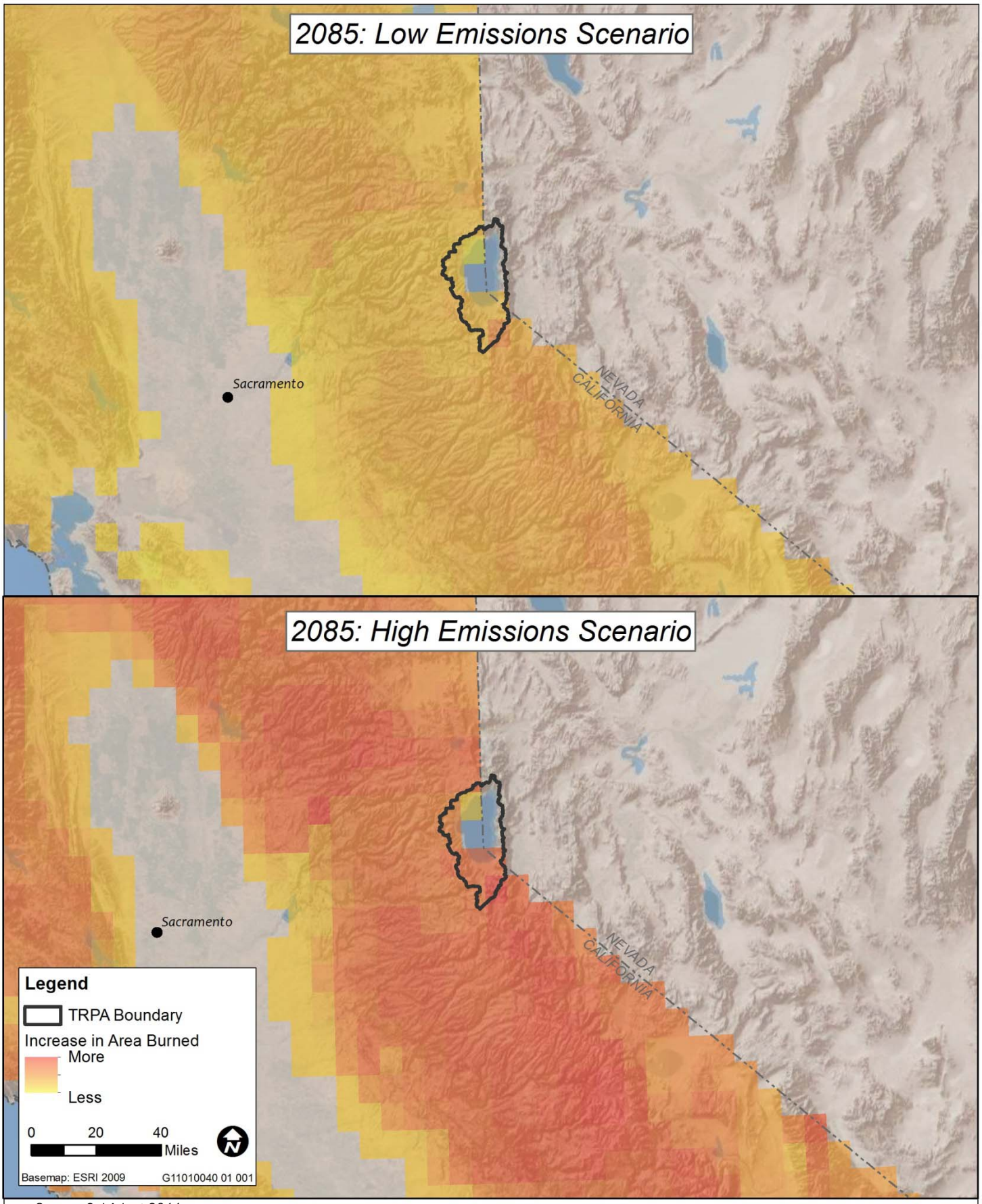
Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons.
Detailed assumptions and modeling output files are included in Appendix G.
Source: Modeled by Ascent Environmental, Inc. in 2011

Construction of the proposed project would result in approximately 1,831 MT of CO_2e over the construction period. Because construction would occur over a finite period of time (5 years) after which all construction-related GHG emissions would cease, and the construction phase would not be the dominant source of GHG emissions from the project, this quantity of emissions **would not make a considerable contribution** to the significant cumulative impact of climate change.



Source: Cal-Adapt 2011

Exhibit 5.12-1. **Average Snowpack under Low and High Emissions Scenarios in Year 2090 Compared to Year 2010 Conditions**



Source: Cal-Adapt 2011

Exhibit 5.12-2.

Increased Wildfire Risk Under Low and High Emissions Scenarios in Year 2085

Long-Term Operation-Related Emissions

The net increase in operational emissions (regional area-, mobile-, and indirect-source emissions of GHGs) associated with implementation of the proposed project was estimated using URBEMIS based on inputs from the Chapter 3, "Project Description," and default model settings where project-specific information was not available. Regional mobile-source emissions for the proposed project were estimated based on trip generation data provided in Section 5.10, "Traffic, Parking, and Circulation," and default settings and parameters contained in URBEMIS for the Mountain Counties Air Basin, which is representative of conditions in the project area. Indirect emissions are GHG emissions that would occur off-site at utility providers associated with the generation of electricity to serve the project, including electricity associated with conveyance of water to the project site.

In order to construct new TAUs in the Tahoe Basin outside of Community Plan areas, equivalent existing TAUs must be removed from operation and the development allocation must be transferred to the new project. According to the traffic analysis prepared for the project, the TAUs that would be transferred would account for 1,298 daily trip ends and 7,237 daily vehicle-miles-of travel (VMT) on a regional basis. Thus, the project's operational emissions GHG would be reduced by this amount associated with the daily trip ends and VMT that would otherwise occur at other locations in the region. The project-related net increase in operational emissions is presented in Table 5.12-3.

Table 5.12-3. Summary of Net Increase in Operational GHG Emissions Associated with the Proposed Project

Source	CO_2e (MT/year)
Area Sources	342
Mobile Sources	1,675
Electricity Consumption	416
Water Consumption	40
Total Project-Related GHG Emissions	**2,473**
Emissions from Transferred TAUs	-1,146
Total Net Increase in Operational Emissions	**1,327**

Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; TAUs = tourist accommodation units
Detailed assumptions and modeling output files are included in Appendix G.
Source: Modeled by Ascent Environmental, Inc. in 2011

As shown in Table 5.12-3, the operational emissions associated with implementation of the proposed project would be approximately 1,327 MT CO_2e/year. The proposed project would incorporate a sustainable and energy efficient design that achieves at a minimum a Leadership in Energy and Environmental Design (LEED®) Silver rating, which would reduce energy consumption beyond levels required by local building codes. These attributes are reflected in the GHG estimates in Table 5.12-3.

It is also worth noting here that the proposed lodge and casita units constructed at the project site would utilize much less water and energy resources than the older TAU units removed from offsite locations and transferred to the project site. Based on information provided by the project applicant, it is expected that the proposed units would reduce electricity use by 32 to 50 percent, natural gas use by 26 to 60 percent, and water consumption by 40 to 55 percent relative to the original TAU units that would be transferred (Thiel, pers. comm., 2012). These reductions would result in a commensurate decrease in greenhouse gas emissions from energy consumption relative to the original TAU units. While this comparison provides a meaningful description of the benefit associated with removal and replacement of older buildings with new more energy-efficient buildings, no

reductions in GHG emissions have been taken given that the TAUs from the sending parcels have already been demolished.

GHG emissions associated with the proposed project would be only a fraction (just over 5 percent) of the CEQ's draft recommendation of 25,000 MT CO_2e/year guideline for quantitative analysis. A quantitative analysis was provided here for informational purposes, though not required. Though it is not the intent of CEQ or TRPA to adopt 25,000 MT CO_2e/year as a threshold of significance, it is relevant that CEQ identifies 25,000 MT CO_2e/year as the level above which quantitative analysis is warranted, because this quantity of emission is recognized as substantial. EPA also uses 25,000 MT CO_2e/year as the level above which facilities are subject to mandatory GHG reporting. The project's GHG emissions and associated contribution to cumulative climate change impacts would be well below this level, and would be **less than significant**. This would constitute a less-than-considerable contribution to the significant adverse cumulative impact of climate change.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.12.1-2	Greenhouse Gas Emissions. Alternative 2 would result in less-than-cumulatively considerable GHG emissions and would have a less-than-significant impact on climate change.

Alternative 2 would result in GHG emissions during construction (short-term) and operation (long-term). GHG emissions from construction and operation of the Alternative 2 development are described separately below.

Short-Term Construction-Related Emissions

Construction of Alternative 2 would be similar to the proposed project. Similar methods and assumptions to those discussed above under the proposed project were used to estimate GHG emissions associated with Alternative 2. The key differences are that Alternative 2 would result in 36 more TAUs (31 fewer hotel units and 67 more interval ownership units) and a gross floor area that would be incrementally larger than the proposed project.

Table 5.12-4 summarizes construction-related GHG emissions associated with Alternative 2.

Table 5.12-4. Summary of Construction-Related GHG Emissions Associated with Alternative 2

Construction Phase (Year)	CO_2e (MT/year)
Annual GHG Emissions during Year 1 (2013)	261
Annual GHG Emissions during Year 2 (2014)	430
Annual GHG Emissions during Year 3 (2015)	444
Annual GHG Emissions during Year 4 (2016)	505
Annual GHG Emissions during Year 5 (2017)	396
Total GHG Emissions During Construction Period (MT)	**2,036**

Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons
Detailed assumptions and modeling output files are included in Appendix G.
Source: Modeled by Ascent Environmental, Inc. in 2011

Construction of Alternative 2 would result in approximately 2,036 MT of CO_2e over the construction period. As with Alternative 1, this quantity of emissions **would not make a considerable contribution** to the significant cumulative impact of climate change.

Long-Term Operation-Related Emissions

The net increase in operational emissions associated with implementation of Alternative 2 was estimated using the same methodology as the proposed project, including reduced GHG emissions from transferred TAUs. The net increase in operational emissions associated with Alternative 2 is presented in Table 5.12-5.

As shown in Table 5.12-5, the operational emissions associated with implementation of Alternative 2 would be approximately 1,783 MT CO_2e/year. As with Alternative 1, GHG emissions and associated contribution to cumulative climate change impacts would be **less than significant**. This would constitute a less-than-considerable contribution to the significant adverse cumulative impact of climate change.

Table 5.12-5. Summary of Net Increase in Operational GHG Emissions Associated with Alternative 2

Source	CO_2e (MT/year)
Area Sources	405
Mobile Sources	1,955
Electricity Consumption	529
Water Consumption	40
Total Project-Related GHG Emissions	**2,929**
Emissions from Transferred TAUs	-1,146
Total Net Increase in Operational Emissions	**1,783**

Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; TAUs = tourist accommodation units
Detailed assumptions and modeling output files are included in Appendix G.
Source: Modeled by Ascent Environmental, Inc. in 2011

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.12.1-3 **Greenhouse Gas Emissions.** Alternative 3 would result in less-than-cumulatively considerable GHG emissions and would have a **less-than-significant** impact on climate change.

Alternative 3 would result in GHG emissions during construction (short-term) and operation (long-term). GHG emissions from construction and operation of the Alternative 3 development are described separately below.

Short-Term Construction-Related Emissions

Construction of Alternative 3 would be similar to the proposed project. Similar methods and assumptions to those discussed above under the proposed project were used to estimate GHG emissions associated with Alternative 3. The key differences are that Alternative 3 would result in 56 more TAUs (27 fewer hotel units and 83 more interval ownership units) and a gross floor area that would be incrementally larger than the proposed project.

Table 5.12-6 summarizes construction-related GHG emissions associated with Alternative 3.

Construction of the Alternative 3 would result in approximately 2,297 MT of CO_2e over the construction period. As with Alternative 1, this quantity of emissions would not make a considerable contribution to the significant cumulative impact of climate change. This impact would be similar to that under the proposed project.

Long-Term Operation-Related Emissions

The net increase in operational emissions associated with implementation of Alternative 3 was estimated using the same methodology as the proposed project, including reduced GHG emissions from transferred TAUs. The net increase in operational emissions associated with Alternative 3 is presented in Table 5.12-7.

As shown in Table 5.12-7, the operational emissions associated with implementation of the Alternative 3 would be approximately 1,977 MT CO_2e/year. As with Alternative 1, GHG emissions and the associated contribution to cumulative climate change impacts from Alternative 3 would be **less than significant**. This would constitute a less-than-considerable contribution to the significant adverse cumulative impact of climate change.

Table 5.12-6. Summary of Construction-Related GHG Emissions Associated with Alternative 3

Construction Phase (Year)	CO_2e (MT/year)
Annual GHG Emissions during Year 1 (2013)	288
Annual GHG Emissions during Year 2 (2014)	485
Annual GHG Emissions during Year 3 (2015)	504
Annual GHG Emissions during Year 4 (2016)	572
Annual GHG Emissions during Year 5 (2017)	449
Total GHG Emissions During Construction Period (MT)	**2,297**

Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons
Detailed assumptions and modeling output files are included in Appendix G.
Totals may not sum exactly due to rounding.
Source: Modeled by Ascent Environmental, Inc. in 2011

Table 5.12-7. Summary of Net Increase in Operational GHG Emissions Associated with Alternative 3

Source	CO_2e (MT/year)
Area Sources	436
Mobile Sources	2,074
Electricity Consumption	573
Water Consumption	40
Total Project-Related GHG Emissions	**3,124**
Emissions from Transferred TAUs	-1,146
Total Net Increase in Operational Emissions	**1,977**

Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; TAUs = tourist accommodation units
Detailed assumptions and modeling output files are included in Appendix G.
Totals may not sum exactly due to rounding.
Source: Modeled by Ascent Environmental, Inc. in 2011

Mitigation Measure

No mitigation is required.

ALTERNATIVE 4: NO PROJECT ALTERNATIVE

Under Alternative 4, the No Project Alternative, there would be no net change in GHG emissions. There would be no impact on GHG emissions or climate change associated with Alternative 4.

5.13 NOISE

This section includes a description of acoustic fundamentals, applicable noise regulations, existing ambient noise conditions, and an analysis of potential short-term and long-term noise impacts associated with Alternatives 1 through 4. Mitigation measures are recommended, as necessary, to reduce potentially significant adverse noise impacts. The information contained in this section is based, in part, on documents prepared by TRPA and Douglas County, and data from Section 5.10, "Traffic, Parking, and Circulation."

5.13.1 ACOUSTIC FUNDAMENTALS

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise. Common sources of environmental noise and noise levels are presented in Table 5.13-1.

Table 5.13-1. Typical Noise Levels

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck moving at 50 mph at 50 feet	80	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	60	
Quiet urban daytime	50	Large business office, Dishwasher in next room
Quiet urban nighttime	40	Theater, Large conference room (background)
Quiet suburban nighttime	30	Library, Bedroom at night, Concert hall (background)
Quiet rural nighttime	20	Broadcast/Recording Studio
	10	
Threshold of Human Hearing	0	Threshold of Human Hearing

Notes: dB=A-weighted decibels; mph=miles per hour
Source: Caltrans 2009

SOUND PROPERTIES

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz.

Sound levels are typically expressed in decibels (dB). The decibel scale is logarithmic; it does not follow normal algebraic methods and cannot be directly summed. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source

strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100 fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels (dBA). For this reason the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes and stationary sources such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers. Noise generated from line sources (e.g., roadway traffic) generally attenuates at a rate of 4.5 dB per doubling of distance. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 to 7.5 dB per doubling of distance.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large barrier, topographic feature, or building between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction provided by a barrier primarily depends on the size of the barrier, its location in relation to the source and receivers, and the frequency spectra of the noise. Natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may be used as noise barriers.

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dB with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dB with its windows closed (Paul S. Veneklasen & Associates 1973, cited in Caltrans 2002).

COMMON NOISE DESCRIPTORS

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are commonly used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors used most often in relation to the environment are defined below (Caltrans 2009).

- Equivalent Noise Level (L_{eq}): The equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level).
- Maximum Noise Level (L_{max}): The highest instantaneous noise level during a specified time period.
- Minimum Noise Level (L_{min}): The lowest instantaneous noise level during a specified time period.
- Day-Night Noise Level (L_{dn}): The 24-hour L_{eq} with a 10-dB penalty applied during the noise-sensitive hours from 10:00 PM to 7:00 AM, which are typically reserved for sleeping.

- Community Noise Equivalent Level (CNEL): Similar to the L_{dn} described above with an additional 5-dB penalty applied during the noise-sensitive hours from 7:00 PM to 10:00 PM, which are typically reserved for relaxation, conversation, reading, and watching television.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the L_{eq} descriptor listed above, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, as defined above, and shows very good correlation with community response to noise.

EFFECTS OF NOISE ON HUMANS

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment to which an individual has become accustomed, the less tolerable the new noise source will be perceived.

With respect to the way in which humans perceive and react to changes in noise levels, a 1 dB increase is imperceptible, a 3 dB increase is barely perceptible, a 6 dB increase is clearly noticeable, and a 10 dB increase is subjectively perceived as approximately twice as loud (Egan 2007). These subjective reactions to changes in noise levels was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dB, as this is the usual range of voice and interior noise levels. For these reasons, a noise level increase of 3 dB or more is typically considered substantial in terms of the degradation of the existing noise environment.

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous.

Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 2009).

VIBRATION

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena, such as earthquakes, volcanic eruptions, sea waves, landslides, and those introduced by human activity, such as explosions, machinery, traffic, trains, and construction equipment). Vibration sources may be continuous, such as factory machinery or transient, such as explosions). Vibration levels can be described in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2006; Caltrans 2004). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006). This is based on a reference value of 1micro (µ) in/sec.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006).

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate groundborne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 5.13-2 describes the general human response to different levels of groundborne vibration-velocity levels.

Table 5.13-2. Human Response to Different Levels of Groundborne Noise and Vibration	
Vibration-Velocity Level	**Human Reaction**
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
Notes: VdB = vibration decibels referenced to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude. Source: FTA 2006	

5.13.2 REGULATORY BACKGROUND

Federal, state, and local governments have established noise standards and guidelines to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise. The federal government regulates noise levels in the work place, near aircraft, and for certain products. The State of Nevada regulates vehicular and freeway noise affecting sensitive land uses, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land use compatibility criteria. Local communities generally regulate land use/noise level compatibility by establishing allowable noise levels on private property and levels associated with the use of certain types of sources. The applicable standards and guidelines for the proposed project are discussed below.

FEDERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

The U.S. Environmental Protection Agency's (EPA's) Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated federal agencies where relevant.

U.S. DEPARTMENT OF TRANSPORTATION

Numerous public and private organizations and governing bodies have provided guidelines to assist in the analysis of groundborne noise and vibration; however, the federal, state, and local governments have yet to establish specific groundborne noise and vibration requirements. The U.S. Department of Transportation (DOT), Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* guidance document is one of the seminal works for the analysis of groundborne noise and vibration relating to transportation and construction-induced vibration (FTA 2006).

To address the human response to groundborne vibration, FTA's guidance sets forth maximum-acceptable vibration criteria for different types of land uses. These include 65 VdB referenced to 1 µin/sec and based on the RMS velocity amplitude for land uses where low ambient vibration is essential for interior operations, such as hospitals, high-tech manufacturing, laboratory facilities); 80 VdB for residential uses and buildings where people

normally sleep; and 83 VdB for institutional land uses with primarily daytime operations, such as schools, churches, clinics, offices (FTA 2006).

Standards have also been established to address the potential for groundborne vibration to cause structural damage to buildings. These standards were developed by the Committee of Hearing, Bio Acoustics, and Bio Mechanics (CHABA) at the request of EPA (FTA 2006). For fragile structures, CHABA recommends a maximum limit of 0.25 in/sec PPV (FTA 2006).

TAHOE REGIONAL PLANNING AGENCY

REGIONAL PLAN

The elements of the TRPA Regional Plan include the following related to noise: Goals and Policies, Noise Sub-element (TRPA 2006b); TRPA Code of Ordinances (Code), Chapter 23, "Noise Limitations" (TRPA 2011); Plan Area Statements (PASs); and environmental threshold carrying capacities (ETCCs), adopted in 1982 and evaluated every 5 years since 1991. These documents are described separately below.

The 1987 Regional Plan is currently being updated. The update does not affect the analysis herein.

Goals and Policies – Noise Sub-Element

The Tahoe Regional Planning Compact requires that thresholds be established for noise and that the Regional Plan and its implementing ordinances and regulations achieve and maintain such thresholds. The noise sub-element also establishes the following average noise level thresholds for transportation corridors near the project site:

- U.S. 50 = 65 dB CNEL
- State Route (SR) 207 = 55 dB CNEL

The highway thresholds override the land-use based CNEL thresholds and are limited to an area within 300 feet from the edge of the applicable roadway. The airport threshold applies to those areas affected by the approved flight plans.

The noise sub-element contains the following goals and policies relevant to the proposed project:

- **Goal 1**: Single-Event Noise Standards shall be attained and maintained.

  People can be annoyed by a specific noise source. Thresholds were adopted that apply to aircraft, boats, motor vehicles, off-road vehicles, and snowmobiles to reduce impacts associated with single noise events.

  - Policies:
    1. Motor vehicles and motorcycles shall comply with the appropriate noise thresholds.
    2. Off-road vehicle use is prohibited in the Lake Tahoe Basin except on specified roads, trails, or designated areas where the impacts can be mitigated.
    3. The use of snowmobiles will be restricted to designated areas.
    4. The plan will permit uses only if they are consistent with the noise standards. Sound proofing practices may be required on all structures containing uses that would otherwise adversely impact the prescribed noise levels.

- **Goal 2:** Community noise equivalent levels shall be attained and maintained.

  CNEL thresholds were adopted to reduce the annoyance associated with cumulative noise events on people and wildlife. In the Lake Tahoe Basin, the main sources of noise are attributed to the major transportation corridors and the airport.

  Therefore, the policies are directed towards reducing the transmission of noise from those sources. The CNEL thresholds will be attained upon implementation of the following policies.

  - Policies:
    1. Transmission of noise from transportation corridors shall be reduced. The noise associated with the transportation corridors can be decreased by reducing the number of trips and by installing mitigation measures. Trip reduction will be accomplished by the transit improvements identified in the Transportation Element. Ordinances will establish specific site design criteria for projects to help reduce the transmission of noise from the transportation corridors. The design criteria will also be incorporated into the water quality and transportation improvement programs. The mitigation measures may include setbacks, earth berms, and barriers.

Code of Ordinances – Noise Limitations

The purpose of Chapter 23, "Noise Limitations," is to implement the Goals and Policies and to attain and maintain the TRPA noise thresholds. Chapter 23 establishes noise limitations for single noise events from aircraft, motorized watercraft, motor vehicles, motorcycles, off-road vehicles, and oversnow vehicles. Section 23.2 states that TRPA shall use the maximum level recorded on a noise meter, L_{max}, for measuring single noise events. The noise levels set forth in Subsection 23.2.A are the maximum permissible noise levels for the types of operations listed, unless specifically exempted under Section 23.8. Section 23.3 also states that TRPA shall use CNELs, to measure community noise levels. The PASs shall set forth CNELs which shall not be exceeded by any one activity or combination of activities. In addition, community noise levels shall not exceed levels existing on August 26, 1982, where such levels are known. The CNELs set forth in the PASs are based on the land use classification, the presence of transportation corridors, and the applicable threshold. Chapter 23 also provides guidance on the measurement of noise levels (Section 23.4), noise monitoring (Section 23.5), and performance standards (Section 23.6). Section 23.8 (Exemptions to Noise Limitations) provides that the standards established in Chapter 23 shall not apply to noise from TRPA-approved construction or maintenance projects, or the demolition of structures, provided such activities are limited to the hours between 8:00 AM and 6:30 PM.

Plan Area Statements

The project area extends across two PASs (i.e., Edgewood PAS 070A and Kingsbury Drainage PAS 080) (Exhibit 3-6). The adjacent PASs, including PAS 089 (Lakeside Park), which is located south of the project site and PAS 077 (Oliver Park), which is located north of the project site, and the Stateline Community Plan also have noise standards. The maximum CNEL for each of these areas is listed below:

- PAS 070A (Edgewood) = 55 dB CNEL; the U.S. 50 corridor = 65 dB CNEL (TRPA 2002a)
- PAS 080 (Kingsbury Drainage) = 50 dB CNEL; the U.S. 50 corridor = 65 dB (TRPA 2002b)
- PAS 089 (Lakeside Park) = 55 dB CNEL (TRPA 2002c)
- PAS 077 (Oliver Park) = 55 dB CNEL (TRPA 2002d)
- Stateline Community Plan = 65 dB CNEL (TRPA and Douglas County 1993)

Environmental Threshold Carrying Capacities

In August 1982, TRPA adopted Resolution No. 82-11, which included thresholds related to noise, and other resource topics, for the Lake Tahoe Region (TRPA 1982). TRPA conducts a comprehensive evaluation of

threshold status every 5 years. The most recent evaluation was completed in 2006 (TRPA 2007) and an evaluation is currently in process, but not complete.

Table 5.13-3 summarizes the numerical single-event noise thresholds for aircraft and other vehicle types and Table 5.13-4 summarizes the CNEL thresholds for land use categories.

Table 5.13-3. Summary of Single-Event (L_{max}) Noise Thresholds

Single Events	ETCC Threshold
Aircraft	Departures (all aircraft): 80 dB at 6,500 meters (m) from start to takeoff roll. 77.1 dB at 6,500 m from start to takeoff roll between 8:00 PM and 8:00.AM. Arrivals: 84 dB at 2,000 m from the runway threshold approach (general aviation and commuter aircraft). 86 dB at 2,000 m from the runway threshold approach (transport category aircraft). 77.1 dB (all aircraft) 2,000 m from the runway threshold approach between 8:00 PM and 8:00 AM.
Watercraft	82.0 dB at 50 feet with the engine operating at 3,000 rotations per minute ("Pass-By Test"). 75.0 dB measured from shoreline, microphone 5 feet above water, 2 feet above curve of shore, dock or platform. Watercraft in Lake, no minimum distance ("Shoreline Test"). 88 dBA for boats manufactured before January 1, 1993, and 90 dBA for boats manufactured after January 1, 1993, both measured 5 feet above water, 3.3 feet from exhaust outlet ("Stationary Test").
Motor Vehicles	For motor vehicles less than or equal to 6,000 lbs in gross vehicle weight, 76.0 dB at 50 feet when traveling less than or equal to 35 mph. For motor vehicles greater than 6,000 lbs gross vehicle weight, 82.0 dB at 50 feet when traveling greater than 35 mph.
Motorcycles	For motorcycles traveling less than or equal to 35 mph, 77.0 dB when measured at 50 feet. For motorcycles traveling greater than 35 mph, 86.0 dB when measured at 50 feet.
Off-Road Vehicles	For off-road vehicles traveling less than or equal to 35 mph, 72.0 dB when measured at 50 feet. For off-road vehicles traveling greater than 35 mph, 86.0 dB when measured at 50 feet.
Over-Snow Vehicles (snowmobiles)	82.0 dB when measured at 50 feet.

Sources: TRPA 2002e, 2007

Table 5.13-4. Summary of Community Noise Equivalent Level (CNEL) Thresholds

Land Use Category	Background Noise Levels Shall Not Exceed the Following Average Noise Level or CNEL (dB
High Density Residential	55
Low Density Residential	50
Hotel	60
Commercial	60
Industrial	65
Urban Outdoor Recreation	55
Rural Outdoor Recreation	50
Wilderness and Roadless	45
Critical Wildlife Habitat	45

Sources: TRPA 2002e, 2007

DOUGLAS COUNTY

DOUGLAS COUNTY MASTER PLAN

Noise pollution originates from a variety of sources in Douglas County, such as major highways, airports, industrial areas, and mining operations). The following policies from the Conservation Element of the 2006 Douglas County Master Plan (Douglas County 2007) are applicable to the proposed project:

- **Policy 5.21.01:** The County shall adopt standards for maximum permissible levels and durations of noise emanating from various stationary sources by land use category. Standards may address general noise levels, as well as intermittent noise or noise occurring at inappropriate hours. Noise standards shall be used in evaluating proposals for new development and in establishing site and structural design requirements.
- **Policy 5.21.02**: Where possible, the County shall avoid locating noise-generating facilities in close proximity to areas planned for noise-sensitive land uses.
- **Policy 5.21.03:** The County shall avoid locating noise-sensitive land uses, such as hospitals, schools, and homes, in existing and anticipated noise impact areas.
- **Policy 5.21.04:** The County shall consider noise concerns in evaluating all development proposals and major roadway projects.
- **Policy 5.21.05:** The County shall consider establishing noise standards for construction-related activities, including limitations on hours of operation within the day.

A draft update of the DCMP was released in November 2011, and approved at the January 5, 2012 County Board of Commissioners (Board) meeting. However, the DCMP has not been finalized to reflect the requested changes of the Board. It may be several months before the updated DCMP is finalized. Because the DCMP update has not yet been finalized, the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

Residential uses are the most sensitive to sound because of interference with sleep and relaxation. 55 dB has been found to be an acceptable exterior residential noise level. Normal conversation is unimpaired, physiological and psychological reactions do not generally occur, task performance is nearly optimal, and annoyance is slight. However, interior noises at this level will awaken most people from sleep.

Based on the above information, some jurisdictions have established noise standards by zoning categories. These standards are goals to protect human health and welfare. Such standards are identified in Table 5.13-5 and are used by the County until a comprehensive set of standards is adopted.

Table 5.13-5. Douglas County Master Plan Noise Compatibility Guidelines

Zoning District	Exterior Sound Level (dB)	Indicator
Industrial	70	L_{eq} (24-hour)
Commercial	64	L_{dn}
Residential	55	L_{dn}

Source: Douglas County 2007

DOUGLAS COUNTY NOISE ORDINANCE

The following standards from the Douglas County Code are applicable to the proposed project:

- 20.702.180 Noise Standards.
  - Exterior noise levels must comply with the provisions in the PASs, Community Plans, or Sub-section N of Section 20.690.030, whichever is most restrictive.
  - Interior noise levels must comply with the provisions in sub-section N of section 20.690.030.
- 20.690.030 Section L, Hours of Construction.
  - The hours of operation for all building construction activities not within a dedicated road right-of-way are as follows: 7:00 AM to 7:00 PM Monday through Friday; 8:00 AM to 7:00 PM Saturday and Sunday.
- 20.690.030 Section N, Noise.

  The following provisions shall apply:

  1. No exterior noise level shall exceed 65 dB CNEL exterior and 45 dB CNEL interior in residential areas.
  2. All residential developments shall incorporate the following standards to mitigate noise levels:
     a. Increase the distance between the noise source and receiver;
     b. Locate land uses not sensitive to noise, which include but are not limited to parking lots, garages, maintenance facilities, and utility areas, between the noise source and the receiver;
  3. The minimum acceptable surface weight for a noise barrier is four pounds per square foot (equivalent to ¾-inch plywood). The barrier shall be of a continuous material which is resistant to sound including:
     a. Masonry block;
     b. Pre-cast concrete;
     c. Earth berm or a combination of earth berm with block concrete.
  4. Noise barriers shall interrupt the line-of-sight between noise source and receiver.
- 20.690.030 Section X, Vibration.
  - No vibration associated with any use shall be permitted which is discernible beyond the boundary line of the property.

5.13.3 AFFECTED ENVIRONMENT

EXISTING NOISE LEVELS AND SOURCES

The portion of the project area west of U.S. 50 is occupied by the existing Edgewood Tahoe Golf Course. Two banquet event rooms, retail pro-shop, formal dining restaurant, and Brooks Sports Bar & Grill are located within the existing clubhouse, and other supporting infrastructure (e.g., storage, locker rooms) exist on-site. Other existing noise sources on-site include landscape maintenance equipment, residential uses, pump houses, wintertime snowmobiling operations, and boating activities associated with the existing pier. The area east of U.S. 50 includes Friday's Station pond and dam and Edgewood Creek. Access to the project area is provided by U.S. 50, which is the dominant noise source in the project area, and Lake Parkway.

The existing noise environment within the project area is influenced by traffic on U.S. 50 and Lake Parkway at locations close to these roadways and natural sounds such as birds, rustling leaves, and wind at more distant locations. Motor boats on the lake and aircraft flyovers also influence the noise environment, but to a much lesser extent. Outdoor summer concert events at Harvey's and activities at the 4-H Camp can also be heard at

the site. Intermittent noise from outdoor activities (e.g., people talking, golf carts, and operation of landscaping equipment) though minor also influence the existing noise environment.

Short-term ambient-noise measurements were conducted on August 21, 2009 at the locations shown in Exhibit 5.13-1. The short-term L_{eq}, L_{max}, and L_{90} values for each ambient-noise-measurement location are presented in Table 5.13-6. These measurements are intended to provide a snapshot of ambient noise levels at a given time of day and to identify primary noise sources within the project area. Short-term noise level measurements were taken in accordance with the American National Standards Institute (ANSI) acoustic standards at two on-site locations using a Larson Davis Model 824 sound-level meter.

Table 5.13-6. Summary of Short-Term Ambient Noise Level Measurements

Measurement	Location[1]	Time	A-Weight Sound Level (dB)		
			L_{eq}	L_{max}[2]	L_{90}[3]
1	Pump house and on-site residences	12:55 – 1:10 PM	43.7	68.6 (utility cart)	44.2
2	Southern end of proposed lodge complex	1:20 – 1:35 PM	46.4	55.4 (utility cart)	41.2

[1] Refer to Exhibit 5.13-1 for ambient noise level measurement locations. All short-term measurements were collected on August 21, 2009.
[2] The L_{max} value shown is the maximum sound level recorded during the period.
[3] The L_{90} is the noise level that was exceeded 90 percent of the time during the period.
Source: AECOM 2009

Long-term, 24-hour continuous noise survey data were also collected at the project site in August 2009. These locations are also shown in Exhibit 5.13-1. The results of the 24-hour noise levels measurements for each noise measurement site are summarized in Table 5.13-7.

Table 5.13-7. Summary of Long-Term Ambient Noise Level Measurements

Measurement Location	Date	A-Weighted Sound Level (dB)	
		CNEL	L_{dn}
Location A – northern end of proposed lodge complex	Saturday, August 22, 2009	49.8	49.5
	Sunday, August 23, 2009	48.6	48.3
	Monday, August 24, 2009	50.1	49.9
Location B – adjacent to U.S. 50	Saturday, August 22, 2009	63.0	62.6
	Sunday, August 23, 2009	62.2	61.8
	Monday, August 24, 2009	62.6	62.2

Source: AECOM 2009

Table 5.13-8 summarizes the modeled existing traffic noise levels at 100 feet from the centerline of each major roadway in the project vicinity and lists distances from each roadway centerline to the 65-dB, 60-dB, and 55-dB CNEL/Ldn traffic noise contours. Traffic noise modeling results are based on existing average daily traffic (ADT) volumes and speeds obtained as part of the traffic analysis prepared for the project. No natural or human-made shielding (e.g., vegetation, berms, walls, and buildings) is assumed; thus, in reality, noise levels would be less than those shown in Table 5.13-8 because many of these features currently exist on-site. The extent to which existing land uses in the project vicinity are affected by existing traffic noise depends on their respective proximity to the roadways and their individual sensitivity to noise.

Source: Adapted by Ascent Environmental, Inc. in 2010

Exhibit 5.13-1. Location of Noise Level Measurements

Table 5.13-8. Summary of Modeled Existing Traffic Noise Levels					
Roadway	Segment	CNEL/L_{dn} (dB) at 100 feet from Roadway Centerline	Distance (feet) from Roadway Centerline to CNEL/L_{dn}(dB)		
			65	60	55
Lake Parkway	east of Edgewood entrance road	55.2	22	48	103
Lake Parkway	west of Edgewood entrance road	54.4	20	42	91
Stateline Avenue	east of Pine Boulevard	53.4	17	36	78
Stateline Avenue	west of U.S. 50	54.6	20	44	94

Notes: CNEL = Community Noise Equivalent Level; dB = A-weighted decibels; L_{dn} = day-night average noise level
Refer to Appendix H for detailed modeling input data and output results.
Source: Data modeled by Ascent Environmental, Inc. in 2011

EXISTING NOISE-SENSITIVE LAND USES

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, and/or uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other noise-sensitive land uses include schools, hospitals, convalescent facilities, parks, hotels, offices, places of worship, libraries, as well as other uses where low interior noise levels are essential.

Multiple existing noise-sensitive receptors are located in the project vicinity. Receptors located north of the site include the neighborhood of single-family residences and apartment complexes in Oliver Park between 4-H Road and Kahle Drive, the State of Nevada 4-H Camp, the Tahoe Shores Mobile Home Park, and Lakeside Inn. Receptors located south of the site include the single-family residences located along the shoreline just across the state border. Refer to Exhibit 5.13-1 for locations of nearby sensitive receptors. Noise-sensitive receptors associated with the proposed project include the lodge's hotel and interval ownership rooms, and residences.

5.13.4 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

TRPA includes the following three noise-related questions in its Initial Environmental Checklist for determination of environmental impacts (TRPA 2006a). The checklist asks whether a project would result in:

- increases in existing CNELs beyond those permitted in the applicable PAS, Community Plan, or Master Plan;
- exposure of people to severe noise levels; or
- single-event noise levels greater than those set forth in the TRPA noise thresholds.

For purposes of this analysis, the following standards, which are based on TRPA's Initial Environmental Checklist and noise policies established by Douglas County, have been used to determine whether implementation of project alternatives would result in significant noise impacts. An alternative would result in significant noise impacts if:

- Short-term project-generated construction source noise levels would exceed applicable TRPA thresholds (e.g., 55 dB CNEL in PAS 070A [Edgewood], PAS 089 [Lakeside Park], and PAS 077 [Oliver Park]; 50 dB CNEL in PAS 080 [Kingsbury Grade]; or 65 dB CNEL in areas within 300 feet of U.S. 50 or within the Stateline

Community Plan area) outside the hours between 8:00 AM and 6:30 PM Note that this time-of-day exemption is more restrictive than the exemption for construction activity established by Douglas County (i.e., 7:00 AM to 7:00 PM Monday through Friday; 8:00 AM to 7:00 PM Saturday and Sunday).

- Long-term, project-generated nontransportation source (e.g., stationary) noise levels would result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds (i.e., 55 dB CNEL in PAS 070A [Edgewood], PAS 089 [Lakeside Park], and PAS 077 [Oliver Park]; 50 dB CNEL in PAS 080 [Kingsbury Grade]; or 65 dB CNEL in areas within 300 feet of U.S. 50 or within the Stateline Community Plan area). Note that these standards are equally, if not more, stringent than the 55 dB L_{dn} and 65 dB CNEL exterior noise standard established by Douglas County for residential land uses.
- Long-term, project-generated traffic source noise levels would result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds.
- On-site noise levels at proposed sensitive receptors (e.g., within parcel boundaries) would exceed applicable land use compatibility standards.
- Vibration levels exceed the recommended standard of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or, during nighttime hours, FTA's maximum acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., sleep disturbance) at nearby vibration-sensitive land uses.

TRPA has established environmental thresholds, goals, and policies for noise. The goals and policies are designed to achieve and maintain adopted environmental threshold carrying capacities, and are implemented through the TRPA Code. As noted in the bulleted criteria above, a combination of relevant goals, policies, and ordinances for these resources were also used to analyze potential noise effects of an alternative. These goals, policies, and ordinances were discussed previously in "Regulatory Background." A conflict with these goals, policies, and ordinances would be a significant impact.

METHODS AND ASSUMPTIONS

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposure were identified. Project-generated construction source noise and vibration levels were determined based on methodologies, reference emission levels, and usage factors from FTA's Guide on Transit Noise and Vibration Impact Assessment methodology (FTA 2006) and FHWA's Roadway Construction Noise Model User's Guide (U.S. Department of Transportation 2006). Reference levels are noise and vibration emissions for specific equipment or activity types that are well documented and the usage thereof common practice in the field of acoustics.

With respect to nontransportation noise sources (e.g., stationary) associated with project implementation, the assessment of long-term (operational-related) impacts was based on reconnaissance data, existing documentation, reference noise emission levels, and standard attenuation rates and modeling techniques.

To assess potential long-term (operation-related) noise impacts due to project-generated increases in traffic, modeling was conducted for affected roadway segments based on Caltrans' traffic noise analysis protocol and the technical noise supplement (Caltrans 2006, 2009), and project-specific traffic data. The analysis is based on the reference noise emission levels for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and ground attenuation factors. Truck usage and vehicle speeds on study area roadways were estimated from field observations, the traffic analysis conducted for the project, and data from Caltrans where available (Caltrans 2010). The modeling conducted does not account for any natural or human-made shielding (e.g., the presence of vegetation, berms, walls, or

buildings) and therefore, represents worst-case noise levels. However, based on field observations, there is a direct line-of-sight from the project to surrounding land uses at certain locations within the project area.

To evaluate relative significance, noise and vibration impacts were determined based on comparisons to applicable regulations and guidance provided by federal, state, and local agencies.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

None of the alternatives would result in the creation of, nor increase in single-event noise level sources (aircraft, watercraft, motor vehicles, motorcycles, off-road vehicles, and oversnow vehicles) regulated by TRPA (Table 5.13-3). Exposure to single-event noise from boat activity associated with the relocated pier would not be expected to be greater than it is today, because there is already a pier at the site at approximately the same distance from the shoreline. Haul trucks related to construction under all action alternatives would not exceed single-event noise standards because they would not pass by any noise-sensitive receptors when accessing the site from U.S. 50 or Lake Parkway, and they would operate only during exempted hours. None of the alternatives would create significant single-event noise impacts.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.13.1-1	**Project-Generated Construction Source Noise Levels.** Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, as stated in the project description, construction activities under Alternative 1 would be limited to the less noise-sensitive hours (e.g., daytime) for which associated noise levels are exempt from the provisions of the applicable standards. Thus, project-generated construction source noise levels would not result in noise levels that exceed applicable standards. This would be a **less-than-significant** impact.

Alternative 1 would include the construction of the main lodge (with guest rooms, health spa, restaurant and bar, and conference center), casita buildings with interval ownership (fractional) units, expansion of the existing clubhouse, implementation of water quality and golf course improvements, demolition of existing lakefront residences, and construction of a new relocated pier.

Construction activities associated with the lodge complex would include site preparation, such as excavation, grading, vegetation removal, and clearing, cut and fill, trenching, installation of building foundations, paving, frame erection, equipment installation, finishing, and cleanup. Water quality improvements could entail excavation, pumping, and dredging. At this stage in the design process it is uncertain whether pile driving and/or blasting would be required. The project applicant has indicated that these construction techniques are unlikely to be required given what is known about soil types on the site. The equipment and activities required for the above mentioned construction work would likely include chain saws used in tree removal, a crane, excavator, dozer, grader, dump trucks, generators, a backhoe, compactor, and loader – typical construction equipment. As shown in Table 5.13-9, the maximum noise levels generated by these types of equipment can range from 80 to 85 dB at 50 feet. If pile driving or blasting were required, the resultant noise level at 50 feet would be 95 dB.

Table 5.13-9. Typical Equipment Noise Levels	
Type of Equipment	Noise Level (L_{max}) at 50 feet
Pile Driver (impact)	95
Blasting	94
Chain Saw	85
Crane	85
Excavator	85
Dozer	85
Grader	85
Dump Truck	84
Generator	82
Backhoe	80
Compactor	80
Front End Loader	80
Source: U.S. Department of Transportation 2006:3, Table 1	

Residents south of the site would be the closest offsite, noise-sensitive receptors exposed to construction noise. Based on equations and default parameters (e.g., usage rates, ground attenuation factors) used in FHWA's Road Construction Noise Model, exterior noise levels from the nearest construction activities could exceed 55 dB at the residences across the state border. The two single-family homes located on the project site would be demolished during the first phase of construction and would not themselves be affected by construction noise. In any case, noise generated from construction activities that occur between 8:00 AM to 6:30 PM (daily) is considered exempt from the provisions of the applicable standards. Also, construction activities would be temporary in nature, and according to the project description, noise-generating construction activities would not occur during the more noise-sensitive hours (i.e., before 8:00 AM and after 6:30 PM). Thus, project-generated construction-source noise levels would not exceed any applicable standard. This would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.13.1-2 **Project-Generated Non-Transportation Source Noise Levels.** Project-generated non-transportation source (e.g., stationary) noise levels under Alternative 1 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.

Alternative 1 would include the development and operation of a lodge complex and realignment of portions of the existing golf course in the southwest portion of the project site. The operation of proposed uses would result in nontransportation source noise levels from relocated golf course facilities, heating and cooling systems, landscape and maintenance activities (e.g., mowers), outdoor events, snow removal, and garbage collection, as discussed below; these are sources that occur at the site today.

The types of noise-generating activities associated with the existing golf course (e.g., human voices, golf carts) would not change under Alternative 1. However, the proximity of golf-related activities to sensitive receptors located south of the project site would change slightly due to realignment of golf holes 8 and 9 in the southwest portion of the project site.

Mowers would be the predominant noise source associated with golf course maintenance. The noise level produced by the mowers currently used at the golf course produce 88.3 dB at a distance of 6.5 feet (AECOM 2009). These noise levels would attenuate to 44.5 dB at the nearest offsite sensitive receptors located approximately 325 feet away. This would not be a substantial noise increase compared to existing noise levels and would not exceed the applicable PAS standards (e.g., 55 dB CNEL standard for PAS 089).

Noise levels generated by stationary noise sources, primarily heating, ventilation, and air conditioning (HVAC) equipment serving buildings that would be part of the lodge complex, could range from 55 to 90 dB at 3 feet from the source (EPA 1971). Even if the loudest HVAC equipment was installed on the main lodge, a 3-story building, these noise levels would attenuate to 42.1 dB at the nearest offsite receptors, the single-family residences located south of the project site. This would not be a substantial noise increase compared to existing noise levels and would not exceed the 55 dB CNEL standard for PAS 089.

Trash generated at the lodge would be collected from bear-resistant dumpsters by South Tahoe Refuse once or twice per week. Noise generated by trash collection would be intermittent and not increase hourly L_{eq} or CNEL levels near the site and trash collection is currently conducted at the golf course restaurant and club house, as well as the commercial and residential areas adjacent to the project site. Thus, trash collection activity associated with the proposed project, while at a greater frequency than today, would not result in a substantial disruption to off-site receptors.

During the winter months, snow removal equipment (e.g., snow plows, snow blowers) would be used to clear the entrance, parking areas, and walkways around the lodge buildings. The most intense noise levels would be generated by snow plows in the valet parking lot, along the entrance route, and the main parking lot. However, noise generated by snow removal activity would be seasonal and intermittent and not increase hourly L_{eq} or CNEL levels near the site, and the lodge buildings would act as noise barriers between most of the plowed areas and the nearest offsite receptors. Thus, snow removal activity associated with the proposed project would not result in increased disruption to offsite receptors.

In addition, project implementation would result in the operation of an event lawn as part of the expanded clubhouse, which would entail special events (e.g., weddings and banquets). Noise associated with these types of sources would primarily entail conversation and amplified sound. Conservation-related noise levels are typically not considered to be a major noise source. In addition, special events are currently held outside on the project site (i.e., in the lakefront parking lot south of the clubhouse when banquet space in the clubhouse is too limited) that are similar in type (e.g., weddings) to those that are proposed in terms of noise sources (such as acoustic music and amplified sound). The frequency of outdoor events would be expected to increase relative to existing conditions. However, the daily CNEL level during these events on the event lawn would not be anticipated to be different than those that occur on-site under existing conditions. Specifically, the proposed use of the event lawn would be consistent with the existing use of the parking lot (i.e., special events with amplified sound that occasionally last beyond 10:00 PM). This would not be anticipated to result in a substantial noise increase compared to existing noise levels.

During the winter, a snowmobiling course currently operates on-site by a vendor under a lease agreement with Edgewood Companies and a permit authorized by TRPA. It is not known at this time, whether these activities would continue with implementation of the project. However, if such activities were to continue, the level

would not be expected to change with implementation of the project. In addition, according to the applicable PAS, the operation of snowmobile courses is a permissible use outside of Special Area #1 and associated activities would only occur during the less-sensitive daytime hours. Because this noise source currently exists on the project site, this would not be anticipated to result in a substantial noise increase compared to existing noise levels.

In summary, non-transportation-related activities associated with implementation of Alternative 1 would not result in a perceptible increase (greater than 3 dB CNEL) in noise levels at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.13.1-3 **Project-Generated Traffic Source Noise Levels.** Project-generated traffic source noise levels under Alternative 1 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.

Operation of the proposed project would be expected to result in a net increase of approximately 1,627 daily vehicle trip ends (DVTEs) relative to baseline conditions (see Section 5.10, "Traffic, Parking, and Circulation"). These trips would be distributed over the local street network and would affect roadside noise levels.

Traffic noise was modeled for existing conditions, with and without implementation of Alternative 1, based on the predicted average daily traffic (ADT) volumes and their distribution over the roadway network. The project's contribution to the existing traffic noise levels along area roadways was determined by comparing predicted existing roadside noise levels with and without project (Alternative 1) traffic.

Table 5.13-10 summarizes the net change in modeled traffic noise levels from existing no project to plus project conditions (Appendix H). As shown, project-generated traffic associated with the long-term operation of Alternative 1 would not result in a perceptible (e.g., 3 dB or greater) increase in noise levels along affected local roadways or highways. Therefore, this would be **a less-than-significant** impact.

Table 5.13-10. Summary of Modeled Traffic Noise Levels under Existing No Project and Existing Plus Project Conditions (Alternative 1)

Roadway	Segment	CNEL/L_{dn} (dB) at 100 feet from Roadway Centerline		Net Change (dB)
		Existing (No Project) Conditions	Existing (Plus Project) Conditions	
Lake Parkway	East of Edgewood	55.2	56.0	+0.8
Lake Parkway	West of Edgewood	54.4	55.0	+0.6
Stateline Avenue	East of Pine Boulevard	53.4	53.5	+0.1
Stateline Avenue	West of U.S. 50	54.6	54.6	0

Notes: CNEL = Community Noise Equivalent Level; dB = A-weighted decibels; L_{dn} = day-night average noise level
Refer to Appendix H for detailed modeling input data and output results.
Source: Data modeled by Ascent Environmental, Inc. in 2011

Mitigation Measure

No mitigation is required.

Impact 5.13.1-4	**Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels.** On-site noise levels under Alternative 1 would not exceed applicable TRPA standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.

Development of Alternative 1 would locate noise-sensitive receptors in an area that currently operates as a golf course and is surrounded by residential, recreational, and commercial uses. Noise levels in the project area are influenced by activities at surrounding land uses and traffic noise on nearby roadways (e.g., U.S. 50).

The lodge complex would be located in an area, Special Area 1, where the ambient noise level is less than the 55 dB CNEL noise standard established for PAS 070A. This is confirmed by the long-term noise monitoring conducted at the site in August 2009, as reported for Location A in Table 5.13-7 above. The noise levels measured at this location include any influence from surrounding noise sources, including traffic on nearby roadways and activities at the golf course (e.g., mowing, golf carts, and voices), any noise generated at the nearby casinos, and any noise generated at the residential area south of the project site.

The two relocated single-family residential lots would be not be located near any major non-transportation (e.g., stationary) or traffic noise sources, as they would be in the northwest portion of the project site and set back at least 700 feet from the site's northern boundary.

On-site noise levels would not exceed applicable standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.13.1-5	**Vibration Levels.** Project-generated groundborne vibration levels would not cause damage to structures or disruption to humans under Alternative 1 because ground vibration levels from construction equipment would not occur at levels that result in damage to structures and no existing receptors are located in close enough proximity to be affected by elevated vibration levels pile driving, if required. This would be a **less-than-significant** impact.

Long-term project operation under Alternative 1 would not include any major sources of vibration. However, construction activities could result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and activities involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Table 5.13-11 displays vibration levels for typical construction equipment.

The types of construction equipment that may be operated closest to existing receptors would include graders, dozers, excavators, and haul trucks during the realignment of golf holes 8 and 9 of the golf course near the site's southern boundary. Of these equipment types, a bulldozer could generate the highest levels of ground vibration near this site boundary. According to FTA, bulldozers generate vibration levels of 0.089 in/sec PPV (or 87 VdB) at

a distance of 25 feet, as shown in Table 5.13-11. A ground vibration level of 0.089 in/sec PPV would not have the potential to result in structural damage to any nearby structures.

As described above, construction activities could involve the use of a pile driver, although indicated to be unlikely by the applicant. Using FTA's recommended procedure for applying a propagation adjustment to the reference levels, vibration levels from pile driving, if required, would exceed 80 VdB, which is FTA's maximum acceptable vibration standard for human response at residential uses, within 50 feet. However, no existing receptors are located within this distance. Therefore, no vibration impacts from pile driving would occur.

Construction activity would not result in exposure of sensitive receptors to excessive vibration levels. This impact would be **less than significant**.

Table 5.13-11. Representative Groundborne Vibration and Noise Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)[1]	Approximate L_v (VdB) at 25 feet[2]
Blasting	1.13	109
Large Dozer	0.089	87
Caisson Drilling	0.089	87
Trucks	0.076	86
Rock Breaker	0.059	83
Jackhammer	0.035	79
Small Dozer	0.003	58

[1] Where PPV is the peak particle velocity.
[2] Where Lv is the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4.
Source: FTA 2006

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.13.2-1 **Project-Generated Construction Source Noise Levels.** Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, as stated in the project description, construction activities under Alternative 2 would be limited to the less noise-sensitive hours (e.g., daytime) for which associated noise levels are exempt from the provisions of the applicable standards. Thus, project-generated construction source noise levels would not result in noise levels that exceed applicable standards. This would be a **less-than-significant** impact.

In general, this impact would be similar to Impact 5.13.1-1 described above for Alternative 1. Implementation of Alternative 2 would require the same types of construction equipment and activities and would occur on the same site, but with an incrementally larger footprint. Under Alternative 2, the types and quantities of equipment used in the construction of the lodge complex and associated noise levels would be the same as under Alternative 1. Construction of the multi-story buildings at the lodge complex would generate the highest noise levels and expose offsite receptors south of the project site to noise levels exceeding 55 dB (see discussion under Impact 5.13.1-1).

Nonetheless, noise generated from construction activities that occur between 8:00 AM to 6:30 PM (daily) is considered exempt from the provisions of the applicable standards. Also, construction activities would be temporary in nature, and according to the project description, noise-generating construction activities would not occur during the more noise-sensitive hours (i.e., before 8:00 AM and after 6:30 PM). Thus, project-generated construction-source noise levels would not exceed the applicable standards. This would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.13.2-2	**Project-Generated Non-Transportation Source Noise Levels.** Project-generated non-transportation source (e.g., stationary) noise levels under Alternative 2 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.

Alternative 2 would include the development and operation of a lodge complex and realignment of portions of the existing golf course in the southwest portion of the project site. The number of hotel and interval ownership units developed under Alternative 2 would be 36 units greater than under Alternative 1.

The long-term operation of uses proposed under Alternative 2 would result in non-traffic source noise levels from relocated golf course facilities, heating and cooling systems, landscape and maintenance activities (e.g., mowers), snow removal, garbage collection, and event lawn. These noise sources would have the same impact on offsite noise-sensitive receptors as Alternative 1 because they would occur in a similar area and at a similar level of intensity as Alternative 1. As such, Alternative 2 would not result in a perceptible increase (greater than 3 dB CNEL) in noise levels at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.13.2-3	**Project-Generated Traffic Source Noise Levels.** Project-generated traffic source noise levels under Alternative 2 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.

Operation of Alternative 2 would be expected to result in a net increase of approximately 1,676 DVTEs (see Section 5.10, “Traffic, Parking, and Circulation”) relative to baseline conditions. These trips would be distributed over the local street network and would affect roadside noise levels.

Traffic noise was modeled for existing conditions, with and without implementation of Alternative 2, based on the predicted ADT volumes and their distribution over the roadway network. The project’s contribution to the existing traffic noise levels along area roadways was determined by comparing predicted existing roadside noise levels with and without project (Alternative 2) traffic.

Table 5.13-12 summarizes the net change in modeled traffic noise levels from existing no project to plus project (Alternative 2) conditions (Appendix H). As shown, project-generated traffic associated with the operation of Alternative 2 would not result in a perceptible (e.g., 3 dB or greater) increase in noise levels along affected local roadways or highways. Therefore, this would be a **less-than-significant** impact.

Table 5.13-12. Summary of Modeled Traffic Noise Levels under Existing No Project and Existing Plus Project Conditions (Alternative 2)

Roadway	Segment	CNEL/L_{dn} (dB) at 100 feet from Roadway Centerline		Net Change (dB)
		Existing (No Project) Conditions	Existing (Plus Project) Conditions	
Lake Parkway	East of Edgewood	55.2	56.1	+0.9
Lake Parkway	West of Edgewood	54.4	55.0	+0.6
Stateline Avenue	East of Pine Boulevard	53.4	53.5	+0.1
Stateline Avenue	West of U.S. 50	54.6	54.7	+0.1

Notes: CNEL = Community Noise Equivalent Level; dB = A-weighted decibels; L_{dn} = day-night average noise level
Refer to Appendix H for detailed modeling input data and output results.
Source: Data modeled by Ascent Environmental, Inc. in 2011.

Mitigation Measure

No mitigation is required.

Impact 5.13.2-4 **Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels.** On-site noise levels under Alternative 2 would not exceed applicable TRPA standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.

Under Alternative 2, noise levels generated by golf course activities, mowing, and surrounding land uses would have the same impact on the proposed lodge complex as Alternative 1. The relocated single-family residential lots would be in the same location as with Alternative 1. Therefore, as described above for Alternative 1, on-site noise levels would not exceed applicable standards at proposed sensitive receptors. This would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.13.2-5 **Vibration Levels.** Project-generated groundborne vibration levels would not cause damage to structures or disruption to humans under Alternative 2 because ground vibration levels from construction equipment would not occur at levels that result in damage to structures and no existing receptors are located in close enough proximity to be affected by elevated vibration levels pile driving, if required. This would be a **less-than-significant** impact.

As with Alternative 1, long-term project operation under Alternative 2 would not include any major sources of vibration. However, construction activities could result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and activities involved. The use of a pile driver is also a potential option under Alternative 2. Because similar construction equipment (type and number) would be used

under Alternative 2, vibration impacts would be the same as that described for Alternative 1. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.13.3-1	**Project-Generated Construction Source Noise Levels.** Existing noise-sensitive receptors are located in close proximity to proposed construction areas. However, as stated in the project description, construction activities under Alternative 3 would be limited to the less noise-sensitive hours (e.g., daytime) for which associated noise levels are exempt from the provisions of the applicable standards. Thus, project-generated construction source noise levels would not result in noise levels that exceed applicable standards. This would be a **less-than-significant** impact.

In general, this impact would be similar to Impact 5.13.1-1 described above for Alternative 1. Implementation of Alternative 3 would require the same types of construction equipment and activities and would occur on the same site, but with an incrementally larger footprint. Under Alternative 3, the types and quantities of equipment used in the construction of the lodge complex and associated noise levels would be the same as under Alternative 1. Construction of the multi-story buildings at the lodge complex would generate the highest noise levels and expose off-site receptors south of the project site to noise levels exceeding 55 dB (see discussion under Impact 5.13.1-1).

Nonetheless, noise generated from construction activities that occur between 8:00 AM to 6:30 PM (daily) is considered exempt from the provisions of the applicable standards. Also, construction activities would be temporary in nature, and according to the project description, noise-generating construction activities would not occur during the more noise-sensitive hours (i.e., before 8:00 AM and after 6:30 PM). Thus, project-generated construction-source noise levels would not exceed the applicable standards. This would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.13.3-2	**Project-Generated Non-Transportation Source Noise Levels.** Project-generated non-transportation source (e.g., stationary) noise levels under Alternative 3 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a **less-than-significant** impact.

Alternative 3 would include the development and operation of a lodge complex and realignment of portions of the existing golf course in the southwest portion of the project site. While the number of hotel and interval ownership units developed under Alternative 3 would be 56 units greater than under Alternative 1, the types of operational activities and noise-generating sources would be the same (golf course facilities, HVAC systems, mowers, snow removal, event lawn, and garbage collection). In addition, the locations in which these noise-generating activities would be generally the same as under Alternative 1 relative to noise-sensitive receptors.

Thus, non-transportation-related activities associated with implementation of Alternative 3 would not result in a perceptible increase (greater than 3 dB CNEL) in noise levels at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.13.3-3	Project-Generated Traffic Source Noise Levels. Project-generated traffic source noise levels under Alternative 3 would not result in a perceptible increase (greater than 3 dB CNEL) at existing nearby sensitive receptors that exceed applicable TRPA thresholds. This would be a less-than-significant impact.

Operation of Alternative 3 would be expected to result in a net increase of approximately 2,067 DVTEs (see Section 5.10, "Traffic, Parking, and Circulation") relative to baseline conditions. These trips would be distributed over the local street network and would affect roadside noise levels.

Traffic noise was modeled for existing conditions, with and without implementation of Alternative 3, based on the predicted ADT volumes and their distribution over the roadway network. The project's contribution to the existing traffic noise levels along area roadways was determined by comparing predicted existing roadside noise levels with and without project (Alternative 3) traffic.

Table 5.13-13 summarizes the net change in modeled traffic noise levels from existing no project to plus project conditions. As shown, project-generated traffic associated with the operation of Alternative 3 would not result in a perceptible (e.g., 3 dB or greater) increase in noise levels along affected local roadways or highways. Therefore, this would be a **less-than-significant** impact.

Table 5.13-13. Summary of Modeled Traffic Noise Levels under Existing No Project and Existing Plus Project Conditions (Alternative 3)

Roadway	Segment	CNEL/L_{dn} (dB) at 100 feet from Roadway Centerline		Net Change (dB)
		Existing (No Project) Conditions	Existing (Plus Project) Conditions	
Lake Parkway	East of Edgewood	55.2	56.2	+1.0
Lake Parkway	West of Edgewood	54.4	55.2	+0.8
Stateline Avenue	East of Pine Boulevard	53.4	53.6	+0.2
Stateline Avenue	West of U.S. 50	54.6	54.7	+0.1

Notes: CNEL = Community Noise Equivalent Level; dB = A-weighted decibels; L_{dn} = day-night average noise level
Refer to Appendix *H* for detailed modeling input data and output results.
Source: Data modeled by Ascent Environmental, Inc. in 2011

Mitigation Measure

No mitigation is required.

Impact 5.13.3-4	**Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels.** On-site noise levels under Alternative 3 would not exceed applicable TRPA standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.

Under Alternative 3, noise levels generated by golf course activities, mowing, and surrounding land uses would have the same impact on the proposed lodge complex as Alternative 1. The relocated single-family residential lots would be in the same location as with Alternative 1. As with Alternative 1, on-site noise levels would not exceed applicable standards at proposed sensitive receptors. Thus, this would be a **less-than-significant** impact.

Mitigation Measure

No mitigation is required.

Impact 5.13.3-5	**Vibration Levels.** Project-generated groundborne vibration levels would not cause damage to structures or disruption to humans under Alternative 3 because ground vibration levels from construction equipment would not occur at levels that result in damage to structures and no existing receptors are located in close enough proximity to be affected by elevated vibration levels pile driving, if required. This would be a **less-than-significant** impact.

As with Alternative 1, long-term project operation under Alternative 3 would not include any major sources of vibration. However, construction activities could result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and activities involved. The use of a pile driver is also a potential option under Alternative 3. Because similar construction equipment (type and number) would be used under Alternative 3, vibration impacts would be the same as that described for Alternative 1. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the project site would remain in operation and existing site conditions would remain the same. There would be no noise impacts associated with implementation of Alternative 4.

5.13.5 CONSEQUENCES FOR TRPA ENVIRONMENTAL THRESHOLD CARRYING CAPACITIES

This section describes the effects of implementing the development alternatives on the thresholds established for noise by TRPA. Three noise thresholds have been established by TRPA:

- N-1, Single Event (Aircraft)
- N-2, Single Event (Other)
- N-3, Community Noise

The Lake Tahoe Basin's status in 2006 was non-attainment for both N-2 and N-3, and unknown for N-1. The 2006 Threshold Evaluation Report indicates that the amount of noise data to determine attainment status is limited; it also states that many of the noise thresholds standards and policies require additional clarification and/or minor adjustments (TRPA 2007). The following discusses the project alternatives effect on these thresholds.

N-1 AND N-2, SINGLE EVENT (AIRCRAFT AND OTHER)

No alternative would result in increasing or creating single-event noise level sources (aircraft, watercraft, motor vehicles, motorcycles, off-road vehicles, and oversnow vehicles) regulated by TRPA (Table 5.13-3). Exposure to single-event noise from boat activity associated with the relocated pier would not be expected to be greater than it is today, because there is already a pier at the site at approximately the same distance from the shoreline. Haul trucks related to construction under all action alternatives would not exceed single-event noise standards because they would not pass by any noise-sensitive receptors when accessing the site from U.S. 50 or Lake Parkway; and they would operate only during exempted hours (8:00 AM to 6:30 PM). None of the alternatives would create significant single-event noise impacts. In addition, none of the alternatives would result in the generation of aircraft-related noise levels or the exposure of sensitive receptors to aircraft-related noise levels. Thus, project implementation would not degrade threshold indicators N-1 and N-2.

N-3, COMMUNITY NOISE EVENTS

As discussed in the analysis above, noise generated from construction activities would occur between 8:00 AM and 6:30 PM (daily) and would be exempt from the provisions of the applicable standards. In addition, project implementation would not result in a perceptible (e.g., 3 dB or greater) increase in noise levels from non-transportation or traffic noise levels, nor would it cause noise levels to exceed noise standards set forth in applicable PASs and the Stateline Community Plan. Thus, project implementation would not contribute to the non-attainment of threshold indicator N-3.

5.14 PUBLIC SERVICES AND UTILITIES

This section describes existing public services and utilities, presents an analysis of potential impacts resulting from implementation of Alternatives 1 through 4, and identifies mitigation measures for those impacts determined to be significant. In particular, it addresses impacts on water supply, treatment, and distribution; wastewater treatment and disposal; solid waste collection and disposal; electricity and natural gas; and telecommunications. Public services evaluated in this section include fire protection and emergency services, law enforcement, and public schools. Impacts are evaluated in relation to the potential for Alternatives 1 through 4 to result in increased demand for public services, whether the affected public service and utility providers can adequately serve the proposed development, and any actions needed to provide the increased services that could potentially lead to physical environmental effects. Analysis provided in this section is based on a review of agency documents and consultation with local service providers.

The potential for impacts to recreational facilities are addressed in Section 5.4, “Recreation and Public Access,” and potential impacts to groundwater are addressed in Section 5.6, “Hydrology and Water Quality.” Impacts associated with the construction of upgrading existing infrastructure or installing new infrastructure on the project site are discussed in Section 5.5, “Geology, Soils, and Land Capability and Coverage.”

5.14.1 REGULATORY BACKGROUND

The Public Services Element of the TRPA Regional Plan Goals and Policies document includes goals and policies related to public services and utilities. Table 5.2.3-1 in Section 5.2, “Land Use,” analyzes the consistency of the proposed Edgewood Lodge and Golf Course Improvement Project and alternatives with those relevant goals and policies related to public services and utilities.

Chapter 27 of the TRPA Code of Ordinances establishes standards for water, electrical, and wastewater treatment services. In addition, Chapter 12, “Public Facilities and Services,” of the Douglas County Master Plan (DCMP) includes policies that regulate the provision of adequate public facilities and services. Specifically, Policy 10.01.04 requires Douglas County to condition the issuance of development permits on a determination that there is sufficient capacity of public facilities to meet the standards for levels of service for existing and proposed development. Douglas County also has the jurisdiction to consider the adoption of impact fees to pay for infrastructure needed to serve new development (DCMP 2007).

A draft update of the DCMP was released in November 2011, and approved at the January 5, 2012 County Board of Supervisors (Board) meeting. The DCMP has not been finalized to reflect the requested changes of the Board. It may be several months before the update is finalized. An update of Chapter 12, “Public Facilities and Services,” of the DCMP is planned to be completed in spring 2012. Because the DCMP update has not yet been finalized, the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

WATER SERVICE

TAHOE REGIONAL PLANNING AGENCY

Section 27.3 of the TRPA Code of Ordinances contains a basic water service requirement for projects proposing a new structure, reconstruction, or expansion of an existing structure, designed or intended for human occupancy, specifically directing that such projects shall have adequate water rights and water supply systems (TRPA 2011).

Per Section 27.3, adequate fire flow in gallons per minute (gpm) for a tourist plan area requires 1,000 to 1,500 gpm over a 2-hour period at 20 pounds per square inch (psi) residual pressure (TRPA 2011).

DOUGLAS COUNTY

Chapter 12 of the DCMP addresses public facilities and service standards for Douglas County. The following goal and policy contained therein apply to water service as applicable to the proposed project and alternatives.

- **Goal 12.05**: All water systems shall provide a minimum level of service, designated by this element as the minimum facilities requirement, in identified areas.
  - **Policy 12.05.4:** New development must maintain a system's minimum level of service.

WASTEWATER SERVICE

TAHOE REGIONAL PLANNING AGENCY

Section 27.4 of the TRPA Code of Ordinances contains wastewater service requirement for projects proposing a new structure, or reconstruction or expansion of an existing structure designed or intended for human occupancy. Chapter 27 specifically directs that such projects that would generate wastewater shall be served by facilities for the treatment and export of wastewater from the Lake Tahoe Basin. To be considered served, a service connection shall be required to transport wastewater from the parcel to a treatment plant (TRPA 2011).

DOUGLAS COUNTY

Chapter 12 of the DCMP addresses public facilities and service standards for Douglas County. The following goal and policy contained therein apply to wastewater service as applicable to the proposed project and alternatives.

- **Goal 12.06:** Urban service areas will be served by community wastewater facilities.
  - **Policy 12.06.3:** Neither new development nor the expansion of service areas should be allowed to decrease a system's level of service below the specified minimum.

DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT

Wastewater services for the project would be provided by the Douglas County Sewer Improvement District (DCSID). The DCSID Sewer Ordinance regulates the installation and maintenance of private and community wastewater collection, treatment, and export. Sewer user fees are assessed through Douglas County's property tax per the District Ordinance.

SOLID WASTE SERVICE

STATE OF NEVADA

The Nevada Revised Statute (NRS) 444.440 declares that it is the policy of the State of Nevada to regulate the collection and disposal of solid waste in a manner that will: protect public health and welfare, prevent water or air pollution, prevent the spread of disease and the creation of nuisances, conserve natural resources, and enhance the beauty and quality of the environment (NRS 1971).

DOUGLAS COUNTY

The following goal and policy from Chapter 12 of the DCMP apply to solid waste service as applicable to the proposed project and alternatives.

- **Goal 12.04**: The County shall promote reliable and cost-effective solid waste management services.
  - **Policy 12.04.01**: The County shall seek to implement solid waste management processes that reduce the waste stream, promote recycling, and provide for the separation of waste prior to incineration or landfilling.

Pursuant to Nevada Administrative Code 444.658, Douglas County prepared a Solid Waste Management Plan that was adopted by the County in May 2008.

ELECTRICITY AND NATURAL GAS SERVICE

Although TRPA does not specifically regulate the provision of electrical and natural gas services in the Lake Tahoe Basin, Section 27.5 of the TRPA Code of Ordinances directs that projects proposing a new structure, reconstruction, or expansion of an existing structure, designed or intended for human occupancy shall be served by facilities to provide adequate electrical supply (TRPA 2011).

Arrangements for the design and installation of any needed additional natural gas facilities must be made in accordance with the rules and regulations set forth by the Public Utilities Commission of Nevada. Natural gas service would be provided to the project site by Southwest Gas Corporation (SGC). Once the project is approved for construction, SGC would require pre-construction review of site trenching and roadway improvement plans to determine the natural gas meter locations and specifications.

TELECOMMUNICATIONS SERVICE

There are no laws or regulations related to telecommunications service that are applicable to the proposed project and alternatives.

LAW ENFORCEMENT

DOUGLAS COUNTY SHERIFF'S DEPARTMENT

The project site would be served by the Douglas County Sheriff's Department (DCSD). The law enforcement level of service (LOS) goals are outlined in Chapter 12 of the DCMP. The County's LOS goal is 211 square feet of space per 1,000 residents for administrative space; 1.93 jail beds per 1,000 residents for jail space; and 100square feet of space per 1,000 residents for substations (Douglas County 2007).

FIRE PROTECTION AND EMERGENCY SERVICES

DOUGLAS COUNTY

Chapter 13 of the DCMP addresses Community and Regional Plans for Douglas County. While all development in the Tahoe area of Douglas County is subject to the provisions of TRPA, Douglas County provides design review and building inspection service for those development projects within the Tahoe Basin, and Douglas County Development Code applies to the Tahoe area to the extent that the provisions meet the purpose and intent of TRPA regulations, and do not conflict with the provisions of TRPA (Douglas County Code, Section 20.700).

The following policy related to fire protection and emergency service is applicable to the proposed project and alternatives.

- **Policy S.01.05**: Douglas County shall cooperate with the Tahoe-Douglas Fire District, U.S. Forest Service and Nevada Division of Forestry to provide adequate fire response times and fire suppression facilities for the Sierra community.

TAHOE DOUGLAS FIRE PROTECTION DISTRICT

The project site would be served by the Tahoe Douglas Fire Protection District (Fire District). The Fire District has a strategic plan that is updated annually, and outlines response time objectives and other Fire District goals. The Fire District's *Strategic Plan 2012* (Tahoe Douglas Fire Protection District 2011a) sets a response time goal of 5 minutes after the processing of alarm to the arrival of the first unit.

The Fire District also has set ordinances for structures within the Fire District (Tahoe Douglas Fire Protection District 2011b). These include the following ordinances:

- Roofing/Siding Ordinance
  - New roofs shall be Class A "stand alone," Class A by assembly is not permitted.
  - Wood shakes and shingles may not be used as a roofing material. Existing roofs with shakes or shingles may be repaired with Class B rated shingles if the total area of the repair does not exceed 25 percent of the roof surface. This exemption may only be used once per structure.
  - Wood shakes or shingles used as a siding material shall meet the following criteria:
    1. Wood shakes or shingles used as a siding material shall be Class B or better.
    2. Wood shakes or shingles used as a siding material shall not be within 8 feet of grade.
    3. Wood shakes or shingles used as a siding material shall not exceed 10 percent or the surface area of the side of the structure to which they are applied.
    4. Repair to wood shakes or shingles used as a siding material on existing structures shall be made with Class B or better materials.

- Fire District Sprinkler Ordinance
  - 901.8.4. All new buildings or structures within the jurisdiction of the Tahoe Douglas Fire Protection District must be provided with automatic fire sprinkler system as outlined in Chapter 9, Section 903.3 of the adopted edition of the International Fire and Building Codes, except for single family dwellings (R-3 and U occupancy) with less than 3,600 square feet of habitable space that meet fire flow requirements of the International Fire Code.
  - 901.8.5. All existing buildings or structures within the jurisdiction of the Tahoe Douglas Fire Protection District must be provided with an automatic fire sprinkler system as outlined in Chapter 9, Section 903.3 of the adopted edition of the International Fire and Building Codes, when changing use or when increasing the habitable space of a single family dwelling to more than 3,600 square feet.

PUBLIC SCHOOLS

DOUGLAS COUNTY

Although the educational needs of residents in the Tahoe Basin and specifically in the Douglas County area of the Tahoe Basin are not addressed in the TRPA Code of Ordinances or in the DCMP, the DCMP does set goals

related to adequate public services and facilities. The following public service goal may apply to the proposed development in regards to capital improvements required for schools in the area.

- **Goal 12.01:** To provide levels of services for its residents to maintain at a minimum, the current quality of life for Douglas County's citizens.
  - **Policy 12.01.04:** The County shall condition the issuance of development permits on a determination that there is sufficient capacity of public facilities to meet the standards for levels of service for existing development and the impacts of the proposed development concurrent with the proposed development.

5.14.2 AFFECTED ENVIRONMENT

The project site is located in Stateline, Nevada in TRPA Plan Area Statements 070A and 080, both of which are under the influence of the Stateline Community Plan. The primary public service and utility providers in the project area are as follows:

- Water service: Edgewood Water Company
- Wastewater service: Douglas County Sewer Improvement District
- Electricity service: NV Energy
- Natural gas service: Southwest Gas Corporation
- Telecommunications service: Charter Business
- Solid waste service: South Tahoe Refuse
- Law enforcement: Douglas County Sheriff's Department
- Fire protection and emergency services: Tahoe Douglas Fire Protection District
- Public schools: Douglas County School District

WATER SERVICE

Edgewood Water Company (EWC), a subsidiary of Edgewood Companies, supplies drinking water to the project site and to the casino properties at Stateline. EWC is a regulated, municipal water purveyor and is one of 12 members of the Tahoe Water Suppliers Association (TWSA), which is a regional partnership of Nevada and California water suppliers that rely on Lake Tahoe as a source of public drinking water. TWSA produces an annual report that includes comprehensive data collection and analysis, education, and mapping. These reports are required as a condition of the "exemption to filtration" granted to five of the water purveyors, including EWC, by the Nevada Board of Health.

EWC provides service to approximately 5,695 people, from an 18-inch water intake line in Lake Tahoe (TWSA 2010). The water intake line runs from a water pump house located on the project site, and extends 2,500 feet into Lake Tahoe to a maximum depth of 34 feet. The water from the intake line is treated via ozone and/or chorine methods at EWC's treatment plant located near Friday's Station on the east side of U.S. 50 near Van Sickle State Park, well outside the project area. The average daily flow for EWC in 2010 was 694,000 gallons per day, and the peak daily flow was 1,245,000 gallons per day (TWSA 2010). EWC maintains a shorter 16-inch back-up water intake line that runs parallel to the primary water intake line.

WASTEWATER SERVICE

Wastewater services for the project site would be provided by DCSID. DCSID provides wastewater treatment for all tourist and commercial facilities, and local residences in the Douglas County portion of Lake Tahoe. DCSID's service area encompasses five districts: Kingsbury General Improvement District, Round Hill General Improvement District, Elk Point Sanitation District, Tahoe-Douglas District, and DCSID Number 1.

The DCSID wastewater reclamation facility is located at the end of Sewer Plant Road in Stateline, Nevada, approximately 1 mile from the project site. The facility has a design capacity to treat 3.75 million gallons of wastewater per day; the facility currently treats about 1.5 million gallons of wastewater per day annually (Ikehara, pers. comm., 2011). After treatment, the reclaimed wastewater is pumped over the mountain to Carson Valley where it is used for irrigating ranch land. DCSID maintains a storage facility on the east side of the valley comprised of three reservoirs capable of storing approximately 1,800 acre-feet of effluent (Douglas County 2007).

ELECTRICITY AND NATURAL GAS SERVICE

Electrical service for the project area is provided by NV Energy. NV Energy's service area includes 50,000 square miles in western, central, and northeastern Nevada and northeastern California, including the Lake Tahoe area. NV Energy provides service to approximately 2.4 million people throughout Nevada as well as a state tourist population exceeding 40 million annually (NV Energy 2011). The electricity source for the project site is the Round Hill Substation located at the end of Sewer Plant Road, approximately 1 mile from the project site. The project site includes existing overhead and underground power lines.

Natural gas service to the Stateline Area is provided by Southwest Gas Corporation, which purchases, transports, and distributes natural gas to residential, commercial, and industrial customers in Arizona, Nevada, and portions of California (Southwest Gas Corporation 2011). The project site includes existing natural gas lines, and natural gas mains parallel U.S. 50.

TELECOMMUNICATIONS SERVICE

Charter Business provides telecommunications services—including data, voice, and video services—to the project area. These services are already available to the project site.

SOLID WASTE SERVICE

South Tahoe Refuse (STR) provides waste removal services for the South Lake Tahoe area, including Douglas County. STR collects more than 100,000 tons of waste each year. This waste is collected and sorted for recycling at a materials recovery facility located at STR's transfer station in South Lake Tahoe, California. The material recovery facility begins or improves the separation of: aluminum cans, glass, plastics, cardboard, different grades of paper, tin, metals, appliances, milled wood, green waste, stumps, construction debris (concrete, asphalt), and tires (STR 2011).

California's mandatory solid waste diversion requirement does not apply to the project area because it is in Nevada; however, because the project would be serviced by a California-based refuse company, waste generated at the project site would be collected and sorted along with all waste collected by STR.

The regional landfill STR utilizes is Lockwood Regional Landfill, a 1,535 square-acre municipal solid waste facility located in Storey County, off Interstate 80 (I-80), east of Sparks, Nevada. Based on projected volumes, Lockwood

Regional Landfill has a remaining capacity of 24.3 years; however, over 2,000 acres at the facility are already zoned and have the necessary permits for future expansion of the landfill (Carr, pers. comm., 2011).

LAW ENFORCEMENT

DCSD provides law enforcement to the area. DCSD staff is responsible for all law enforcement duties within the Tahoe Basin in Douglas County. The closest sheriff's substation to the project site, and the only DCSD facility in the Tahoe Basin, is located at 175 U.S. 50 in Stateline, Nevada, approximately 0.2 mile from the project site. The substation is staffed with two patrol deputies each shift that patrol the entire Stateline area. DCSD operates a satellite jail facility, staffed with a minimum of one deputy. A juvenile detention center is also operated within this facility and has two personnel on duty at all times. Additional staffing of the substation includes a station Commander, an Investigations Sergeant, two full-time Investigators and two support personnel. These positions are staffed during regular business hours, but are subject to call-out when necessary.

Additionally, DCSD has a mutual aid agreement with the City of South Lake Tahoe Police Department and the El Dorado County Sherriff's Department if additional support is needed (Halsey, pers. comm., 2011).

FIRE PROTECTION AND EMERGENCY SERVICES

Fire protection and emergency services in the project area are provided by the Tahoe Douglas Fire Protection District (Fire District). The Fire District protects and serves the Douglas County, NV portion of Lake Tahoe, covering 17.3 square miles. Although the community has a permanent population of approximately 7,500 residents, the daily population is estimated at 50,000 people with peak periods exceeding 100,000 people. (Tahoe Douglas Fire Protection District 2011c)

The Fire District provides service through four fire stations: Kingsbury Fire Station (Station #1), Round Hill Fire Station (Station #3), Zephyr Cove Fire Station (Station #4), and Glenbrook Fire Station (Station #5). Station #3 at 193 Elks Point Road in Round Hill is the nearest station to the project site at a distance of about 1 mile away. Station #3 is staffed with a minimum of four line personnel: Captain, Engineer, and two Firefighter/Paramedics. This station also houses the District's administrative offices. Administration positions include Fire Chief, Assistant Chief-Administrative, Assistant Chief-Fire Marshal, Inspector, Forester, and two Administrative Assistants. Station #3 presently houses one type-I engine, two advanced life support ambulances (one front line and one reserve), the ladder truck, and one utility vehicle. Station #3 provides all types of fire suppression, medical response, rope rescue, ice rescue, and water rescue. (Tahoe Douglas Fire Protection District 2011b)

The closest medical facility to the project site is the Stateline Medical Center, located less than 0.1 mile from the project site at the northeast corner of the SR 207/U.S. 50 intersection. Stateline Medical Center includes an urgent care facility open to patients between the hours of 8:00 AM and 6:30 PM. The closest hospital to the project site is Barton Memorial Hospital, an acute care hospital located approximately 5 miles away in South Lake Tahoe. Barton Memorial Hospital provides 24-hour emergency care services, 75 patient beds for in-patient care, and a nursing facility with 48 resident beds. The next two closest hospital service facilities are Carson Rehabilitation Center – approximately 23 miles from the project site in Carson City, Nevada, and Carson-Tahoe Hospital – approximately 26 miles from the project site in Carson City, Nevada.

PUBLIC SCHOOLS

Douglas County School District (District) provides public school services for elementary through high school (grades K–12). The District serves the communities of Gardnerville, Minden, Genoa, and the southern Lake Tahoe area located in Nevada (from Stateline to Glenbrook). The District operates seven elementary schools,

two middle schools, and three high schools which serve more than 6,000 students. (Douglas County School District 2011) There are only two District school sites within the Tahoe Basin, including Zephyr Cove Elementary School (grades K–6) and Whittel High School (grades 7–12). Both schools are located on Warrior Way in Zephyr Cove, approximately 3 miles from the project site. Enrollment at these schools has been steadily declining for the past 10 years.

5.14.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

SIGNIFICANCE CRITERIA

No specific criteria of significance for public services or utilities have been set by TRPA, Douglas County, or other regulatory agencies active in the Tahoe Basin, although certain service delivery issues are indirectly associated with existing environmental thresholds (e.g., wastewater treatment capacity and water quality standards). Based on State of Nevada, TRPA, Douglas County, and service provider regulations (as described above), an impact may be considered significant if the project would result in any of the following:

- alter the nature of demand for public services or utility services, causing substantial service delivery limitations or the service provider identifies serious deficiencies in the ability to provide service;
- result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or utilities, the construction of which could cause significant environmental impacts that would be necessary to maintain acceptable service ratios, response times, or other performance objectives for any of the public services included in this analysis;
- violate published national, state, or local laws relating to solid waste or litter control; or
- generate additional students such that adequate school facilities are not available or cannot be made available in a timely fashion.

METHODS AND ASSUMPTIONS

Impacts on public services and utilities that would result from implementation of Alternatives 1 through 4 were identified by comparing existing service capacity and facilities against future demand associated with project implementation. Evaluation of potential public service and utilities impacts were based on a review of documents pertaining to the project area, including TRPA's Code of Ordinances and the DCMP. Additional background information on current services, staffing, and equipment was obtained through consultation with appropriate service providers.

The information shown in Table 5.14-1 was used to determine levels of service necessary to serve Alternatives 1 through 4.

In addition to the proposed TAUs, bedrooms, and employees detailed in Table 5.14-1, the new lodge complex proposed under Alternatives 1 through 3 would include a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure. Additionally, Alternatives 1 through 3 would all include expansion of the existing clubhouse, residential lot relocations, plans for achievement of silver LEED rating, public beach and lake access, golf course modifications, utility requirements, a newly constructed pier, and water quality improvement projects.

Table 5.14-1. Summary of Alternatives 1 through 4					
Alternative	TAUs			Total Bedrooms	Net New Employees[1]
	Hotel Units	Interval Ownership Units	Total TAUs		
1 (Proposed Project)	154	40	194	256	183
2 (230 TAUs)	123	107	230	356	200
3 (250 TAUs)	127	123	250	385	215
4 (No Project)[2]	0	0	0	0	0

Notes:
TAUs = tourist accommodation units
[1] Full-time or full-time equivalent (e.g., two half-time positions equal one full-time position) positions.
[2] Alternative 4 would result in the project site remaining in its existing condition with ongoing operations and maintenance of the existing Edgewood Tahoe Golf Course, restaurant, and clubhouse. The number of TAUs would remain the same, and no new positions would be created.
Source: Chapters 3, "Project Description," and 4, "Alternatives," of this EIS

For purposes of this analysis, and to assess the greatest potential level of impacts, it is assumed that all TAUs would be occupied year-round (i.e., no vacancies) and each bedroom would be occupied by two persons. Therefore, Alternative 1 is assumed to generate up to 512 nightly guests, Alternative 2 is assumed to generate up to 712 nightly guests, and Alternative 3 is assumed to generate up to 770 nightly guests. Construction is anticipated to occur over the course of a minimum of 5 years; initial construction is anticipated to begin in 2013, with final project completion anticipated for the fall of 2017.

IMPACT ANALYSIS AND MITIGATION MEASURES

ALTERNATIVE 1: PROPOSED PROJECT (194 UNITS)

Impact 5.14.1-1	**Increased Demand for Water Supply, Treatment, Distribution, and Storage.** Implementation of Alternative 1 would result in a net increase in water demand of 80.5 acre feet annually (Nichols Consulting Engineers 2011). EWC has confirmed that the existing water supply, treatment facilities, distribution system, and storage facilities are adequate to serve the project. This impact would be **less than significant**.

Implementation of Alternative 1 would result in 194 new tourist accommodation units, as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in demand for potable water from EWC. A water demand evaluation performed for the project estimates that Alternative 1 would result in a net increase in water demand of 80.5 acre feet annually based on the proposed building square footage, uses, and new landscaped areas that require irrigation. This net increase reflects additional water demand above that required by existing uses on the site, including golf course/landscape irrigation, the existing clubhouse, maintenance building operations, and the lakefront residences (Nichols Consulting Engineers 2011). The proposed water quality improvements would not affect water demand. Existing golf course irrigation creates the greatest demand for water at the site. The proposed golf course improvements, including relocation of golf holes 7, 8, and 9 would realign and improve golf play, but would generally not alter the acreage of irrigated golf area. The increases in demand described herein focus on new land uses and landscaping associated with the proposed project that would create additional water supply demands. Table 5.14-2 shows the net increase in water demands by project alternative.

Table 5.14-2. Net Increase in Water Demand at the Site by Project Alternative

Alternative	Hotel/Commercial[1]		Condominium/Residential[2]		Irrigation[3]		Total Demand (AFA)
	Net New Building Area (sf)	Demand (AFA)	Net New Building Area (sf)	Demand (AFA)	Net New Landscaping Area (acres)	Demand (AFA)	
1 (194 TAUs)	163,093	48.9	58,780	7.1	4.9	24.5	80.5
2 (230 TAUs)	221,837	66.6	180,163	21.6	2.3	11.5	99.7
3 (250 TAUs)	224,059	67.2	198,753	23.9	2.3	11.5	102.6
4 (No Project)	0	0	0	0	0	0	0

Notes:
AFA = acre feet annually; sf = square feet; TAUs = tourist accommodation units
[1] Hotel/Commercial demand created by that portion of the project alternative designated for commercial/hotel use, including hotel rooms, spa and wellness center, restaurants, retail shops, and common areas.
[2] Condominium/residential demand created by that portion of the project alternative designated for residential-type uses, including the casitas.
[3] Irrigation demand created by the use of water to irrigate new landscaping associated with the proposed lodge buildings; irrigation water for golf play and existing landscaping, such as that around the clubhouse and the portion of the property that abuts Lake Parkway, is not included in this table.
Sources: Data for Alternative 1 as well as the formulas used to generate demand estimates for Alternatives 2 and 3 are from Nichols Consulting Engineers 2011

EWC has confirmed that the existing water supply, treatment facilities, and distribution system are adequate to serve the project (King, pers. comm., 2011). Additional detail of what may be required by EWC for the requested service would be provided when the project applicant applies to EWC for service, pursuant to EWC's existing Rule 9 and Rule 15 Tariffs. EWC has issued a Will Serve letter for the project.

The project site would likely be served by EWC's water system via the existing 12-inch water line that extends through the project site with connections from the main line to proposed onsite uses. To the extent feasible, new utilities would be located under existing or proposed roadways and appropriate utility easements would be finalized as part of the permitting process. The existing 12-inch water line connects to a larger main on the Horizon property. EWC has indicated that the existing 12-inch water line or portions thereof either on or off site may need to be replaced as part of the proposed project (King, pers. comm., 2011). Further studies are needed, which would not commence until latter stages of design, to determine the need for the water supply line replacement. For the purposes of this EIS, it is assumed that the 12-inch water line would not need to be replaced. If determined to be necessary during final design, the pipeline replacement would be subject to separate and subsequent environmental review and permitting by TRPA, Douglas County, and EWC. If replacement were required, it would be within the existing footprint and would include trenching techniques that could result in temporary air quality, noise, traffic, and water quality impacts. The types of temporary construction impacts would be similar to those discussed and analyzed in this EIS.

As discussed in Chapter 3, "Project Description," the proposed lodge complex, except the pool terrace and clubhouse expansion, would be concentrated on approximately 10 acres of land located within Special Area #1 (Tourist Area) of PAS 070A. Per PAS 070A Special Policy 9 (subsection d), any proposed tourist accommodation project in PAS 070A must include the following items in its application for the proposed project, and any such project must comply with the applicable limitations:

> Any application for a proposed tourist accommodation project in Special Area #1 must be accompanied by a description of the commitment of the water resources for the project (as documented by the state engineer). This is because a tourist accommodation project in Special Area #1 will involve the commitment of a significant quantity of the remaining Nevada water left for use in the Tahoe Basin.

EWC owns or controls the right to divert from Lake Tahoe a total of 548,950,000 gallons annually, for a total of 1,684.67 acre feet annually (King, pers. comm., 2011). All of these water rights have a place of use within EWC's Certificated Service Area for use to provide municipal water service to EWC's customers. All of these water rights are in good standing with the Nevada State Engineer. Copies of these water rights, Certificate Nos. 8102, 8103 and Permit Nos. 80359, 80360, 54187, 54188, 54189 and 54203, are available on the website of the Nevada Division of Water Resources (water.nv.gov at the "Water Rights" tab and under the Water Rights Data Bases "Permit Search").

PAS 070A Special Policy 9(d) relates to the quantity of water allocated to Nevada for use in the Tahoe Basin by Section 204(b)(1) of Public Law 101.618, 32 Stat. 3294, 3306 (the "Settlement Act"). That Section allocates 11,000 acre feet per year to the State of Nevada for use within the Lake Tahoe Basin, which, after use, may be exported or reused. Nevada has determined that there are permitted, certificated and vested water rights allowing diversions of 20,160 acre feet per annum in the Nevada portion of the Lake Tahoe Basin. However, appropriations for 5,753 acre feet per annum of that total amount are recognized as "transbasin diversions" which, pursuant to Section 204(b)(3) of the Settlement Act, are in addition to the 11,000 acre foot allocation made to Nevada for use in the Lake Tahoe Basin. As a result, the outstanding water rights which are relevant to Nevada's 11,000 acre foot allocation for use in the Tahoe Basin, is limited to 14,407 acre feet of permitted, certificated and vested water rights.

The Nevada State Engineer has been issuing reports concerning use of water within the Nevada portion of the Lake Tahoe Basin for a number of years. Based upon the reports which are available, 1996 and 2004 through 2009, the most water actually used from those water rights took place in 1996, and the use was 9,499 acre feet. More recent reports of water use show that the use in Nevada now fluctuates between 7,000 and 8,000 acre feet annually. That reduction in use is consistent with EWC's experience. In 1996, EWC delivered 1,320 acre feet of water to its customers. During the period 2004 through 2010, EWC's annual deliveries have fluctuated between 726 acre feet (2010) and 1,071 acre feet (2004) annually.

Thus, based upon current usage in the Nevada portion of the Tahoe Basin, there is somewhere between 3,000 and 4,000 acre feet remaining for use in Nevada pursuant to the provisions of Section 204(b) of the Settlement Act (i.e., 11,000 – 7,000 or 8,000 acre feet annually). Alternative 1 is estimated to use a total of 80.5 acre feet annually, which is less than 3 percent of the water remaining for use within the State of Nevada based upon recent calculations of that use. Moreover, EWC would deliver substantially less water with implementation of Alternative 1 than it delivered in the peak year of 1996. Therefore, PAS 070A Special Policy 9(d) is satisfied because Alternative 1 does not involve commitment of a significant quantity of the remaining Nevada water left for use in the Tahoe Basin (Edgewood Companies 2012). EWC has also issued a Will Serve letter for the project. No new or expanded water rights are required.

Because EWC's existing water supply, treatment facilities, and distribution system are adequate to serve the proposed project, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-2	**Increased Demand for Wastewater Service.** Implementation of Alternative 1 would generate a net increase of an estimated 338,720 gallons of wastewater per day and, therefore, increase the demand for wastewater service. DCSID has indicated that the capacity of the wastewater treatment facility and sewer lines would be adequate to serve the project. Therefore, this impact would be **less than significant**.

Implementation of Alternative 1 would result in an increased demand for wastewater service. The project applicant has estimated that the development proposed under the Alternative 1 would generate a peak flow of approximately 338,720 gallons of wastewater per day, which according to DCSID would not trigger a need for expansion or improvements to the wastewater treatment facility or any off-site sewer lines (Ikehara, pers. comm., 2011). The wastewater treatment facility has a design capacity to treat 3.75 million gallons of wastewater per day; the facility currently treats about 1.5 million gallons of wastewater per day annually (Ikehara, pers. comm., 2011). DCSID has issued a Will Serve letter for the project.

Because DCSID has the capacity to serve the proposed project, and no expansions or improvements to the DCSID wastewater treatment facility or sewer lines are required, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-3	**Increased Demand for Electrical Service.** Implementation of Alternative 1 would increase the demand for electrical service at the project site. Electrical service would be provided from NV Energy's existing Round Hill Substation. NV Energy has confirmed that it would provide service to the proposed project provided all necessary fees and contracts are negotiated in a proper and timely manner, in accordance with NV Energy's filed rules and tariffs. The applicant has committed to adhere to these requirements. This impact would be **less than significant**.

Alternative 1 would increase the demand for electrical service at the project site, and includes undergrounding existing overhead electrical lines north and south of the clubhouse. New electrical infrastructure would be placed underground.

The electricity source for the project area would be the Round Hill Substation located at the end of Sewer Plant Road, approximately 1.5 miles from the project site. As part of the proposed project, the necessary utility extensions and services would be made from this source in accordance with NV Energy's Rules and Regulations on file and approved by the Nevada Public Utilities Commission (Picotte, pers. comm., 2011). Provided all necessary fees and contracts are negotiated in a proper and timely manner, in accordance with NV Energy's filed rules and tariffs, NV Energy has the capacity and would provide electric service to the proposed project (Picotte, pers. comm., 2011). The applicant has committed to adhere to NV Energy's requirements. NV Energy has issued a Will Serve letter for the project.

Because there would be adequate electrical supply available and NV Energy has confirmed that it would be able to provide service to the project site, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-4	**Increased Demand for Natural Gas Services.** Implementation of Alternative 1 would require the provision of natural gas service to the project site. Southwest Gas Corporation has confirmed that there are adequate supplies and infrastructure available to provide natural gas services to the project site. Therefore, this impact would be **less than significant**.

Alternative 1 would increase the demand for natural gas service at the project site. All new natural gas infrastructure would be placed underground.

Southwest Gas Corporation has acknowledged that it has adequate natural gas supplies and infrastructure to serve the proposed development (Echeverria, pers. comm., 2011) and has issued a Will Serve letter for the project.

The project applicant would pay for all necessary natural gas infrastructure improvements. The proposed natural gas utility improvements would be required to comply with all applicable Southwest Gas Corporation and Uniform Building Code requirements.

Because there would be adequate supply available and Southwest Gas Corporation has confirmed that it would be able to provide natural gas services to the site, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-5	**Increased Demand for Telecommunications Services.** Implementation of Alternative 1 would result in an increased demand for telecommunications services. Charter Business has indicated that it would be able to serve the proposed project. Therefore, this impact would be **less than significant**.

Charter Business has indicated that it would be able to provide telecommunications services (including data, voice, and video services) to the proposed project (Brooks, pers. comm., 2011). The services would be delivered either via coaxial cable or fiber with data rates up to 1 Gigabit. Charter Business has indicated that no additional improvements would be required to deliver service. Charter Business has issued a Will Serve letter for the project.

Because Charter Business would provide telecommunications service and no improvements would be necessary to establish service, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-6	**Increased Demand for Solid Waste Services.** Alternative 1 would generate approximately 2,268 pounds of solid waste per day, necessitating collection and disposal. STR has confirmed that it would be able to provide service to the project site without adversely affecting STR's existing services or facilities. Therefore, this impact would be **less than significant**.

Assuming an occupancy rate of two persons per bedroom, and the standard solid waste generation rate of 4.43 pounds/day/person (U.S. Environmental Protection Agency [EPA] 2011), Alternative 1 is expected to generate approximately 2,268 pounds of solid waste per day (256 bedrooms x 2 persons per bedroom = 512 persons x 4.43 pounds/day/person). This equates to approximately 807,408 pounds of solid waste annually.

Solid waste and recycling collection already occurs at the project site. STR has indicated that it has adequate system, equipment, and staff capacity to serve the proposed development under Alternative 1 and that providing service would not necessitate additional or expanded facilities (Lear, pers. comm., 2011). STR has stated that a Will Serve letter would be issued for the project at the project applicant's request.

The regional landfill utilized by STR, Lockwood Regional Landfill, has a remaining capacity of 24.3 years based on projected volumes; however, over 2,000 acres at the facility are already zoned and have the necessary permits for future expansion of the landfill (Carr, pers. comm., 2011). Lockwood Regional Landfill has adequate capacity to serve the project and therefore Alternative 1 would not result in the need for new or expanded landfills.

Because there would be adequate capacity available at Lockwood Regional Landfill and STR has confirmed that it would be able to provide service to the site, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-7	**Increased Demand for Law Enforcement Services.** Implementation of Alternative 1 would result in approximately 512 new tourists and 183 new full-time or full-time equivalent employees to the project area. DCSD has expressed that this would not affect DCSD's ability to serve the Stateline area, including the proposed project. Therefore, this impact would be **less than significant**.

A DCSD substation is located 0.2 mile from the project site (at 175 U.S. 50, Stateline, Nevada). The substation is staffed with two patrol deputies each shift that patrol the entire Stateline area; this current level of staffing is adequate for the Stateline area as there are typically few problems that require deputy involvement due to the high economic status of the area (Halsey, pers. comm., 2011). If additional support is ever needed, DCSD has a mutual aid agreement with the City of South Lake Tahoe Police Department and the El Dorado County Sheriff's Department (Halsey, pers. comm., 2011).

The addition of approximately 512 tourists and 183 full-time or full-time equivalent employees to Douglas County under Alternative 1 would not affect DCSD's ability to serve the Stateline area, including the proposed project. The addition of tourists and employees to the area would not require the construction of new facilities or the addition of personnel (Halsey, pers. comm., 2011). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-8	**Increased Demand for Fire Protection.** Implementation of Alternative 1 would result in an incremental increase in the local demand for fire protection. TDFPD staffing and equipment are adequate to provide service to the proposed project. This impact would be **less than significant**.

Alternative 1 would result in the construction of 194 TAUs containing 256 bedrooms. Emergency access to the site is via U.S. 50 to Lake Parkway. TDFPD would have access to the site via the main entrance road and a second gated emergency access road. TDFPD would be able to respond to an emergency at the project within TDFPD's response time goal of 5 minutes. TDFPD has stated that current staffing and equipment is sufficient to address the increased demand on fire protection associated with development of Alternative 1 (Guevin, pers. comm., 2011). Pending additional review of the project plans for potential access and code issues, TDFPD has stated that a Will Serve letter would be issued for the project (Guevin, pers. comm., 2011). Preliminary plan check approval was granted by TDFPD in June 2008 for the following: the sprinkler system, roofing and siding, and defensible space.

Because TDFPD's current staffing and equipment are adequate to provide service to the proposed project, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-9	**Increased Demand for Emergency Medical Services.** Implementation of Alternative 1 would result in an incremental increase in the local demand for emergency medical services. Medical facilities are available in close proximity to the project site, and TDFPD has adequate staffing and facilities to provide emergency medical services to the project site. Therefore, this impact would be **less than significant**.

The Stateline Medical Center and the Barton Memorial Hospital are located within 5 miles of the project site, and two more medical facilities are located in Carson City (approximately 25 miles away) (see Section 5.14.2, "Affected Environment," above). These facilities would provide emergency medical services to the 194 new TAUs constructed under Alternative 1 as well as the anticipated 183 new full-time or full-time equivalent employees. It is not anticipated that new equipment or new or expanded facilities would be required to accommodate the number of new tourists or employees under Alternative 1. TDFPD provides emergency medical services to the project area and has stated they have adequate staffing and facilities to serve the project area (Guevin, pers. comm., 2011). Because no additional staff, equipment, new facilities, or expansion of existing facilities would be necessary, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.1-10	**Increased Demand for Public Schools.** Implementation of Alternative 1 could increase student enrollment at the Douglas County School District's schools. Enrollment at these schools has been steadily declining for the past 10 years. As a result, it is anticipated that the school district has sufficient capacity to accommodate the new students generated by implementation of Alternative 1. This impact would be **less than significant**.

Implementation of Alternative 1 could add new students to Zephyr Cove Elementary School and Whittel High School as a result of the estimated 183 new full-time or full-time equivalent employees expected to be hired to help operate the proposed project. However, the types of service-oriented employment opportunities that would result from project implementation would not result in substantial demand for schools because the existing labor force locally is adequate and unemployment rates are such that the project would not be expected to result in the migration of a substantial number of new employees to the area. Enrollment at local schools has been steadily declining for the past 10 years. Therefore, it is anticipated that the Douglas County School District's existing school facilities in the project area could easily accommodate any increase in student population resulting from implementation of Alternative 1. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 2: 230-UNIT DEVELOPMENT

Impact 5.14.2-1	**Increased Demand for Water Supply, Treatment, Distribution, and Storage.** This impact would be similar to Impact 5.14.1-1 described above for Alternative 1 except that Alternative 2 would require more water because Alternative 2 would include the construction of a larger lodge complex (more TAUs) than proposed under Alternative 1. Implementation of Alternative 2 would result in a net increase in water demand of 99.7 acre feet annually. EWC has indicated it would have adequate water supplies, treatment facilities, distribution system, and storage facilities to serve the alternative. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-1 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in 230 new TAUs (36 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in demand for potable water from EWC. As shown in Table 5.14-2, Alternative 2 would generate a net new water demand of 99.7 acre feet annually based on the proposed square footage, uses, and new landscaped areas that require irrigation (Hill, pers. comm., 2011). This net increase reflects additional water demand beyond that of current uses on the site, including that for golf course/landscape irrigation, the existing clubhouse, maintenance building operations, and the lakefront residences. As described above for Alternative 1, based upon current water usage in the Nevada portion of the Tahoe Basin, there is somewhere between 3,000 and 4,000 acre feet remaining for use in Nevada. The increase in water demand from Alternative 2 represents approximately 3 percent of this remaining water. Furthermore, EWC would deliver substantially less water with Alternative 2 than it delivered in the peak year of 1996 without this project. Therefore, PAS 070A Special Policy 9(d) is satisfied because this project does not involve commitment of a significant quantity of the remaining Nevada water left for use in the Tahoe Basin (Edgewood Companies 2012). No new or expanded water rights are required.

As described above for Alternative 1, EWC has confirmed that the existing water supply, treatment facilities, and distribution system are adequate to serve the project (King, pers. comm., 2011). EWC has issued a Will Serve letter for the project. Additional detail of what may be required for the requested service would be provided when the project applicant applies to EWC for service, pursuant to EWC's existing Rule 9 and Rule 15 Tariffs.

Because EWC's existing water supply, treatment facilities, and distribution system are adequate to serve Alternative 2, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-2	Increased Demand for Wastewater Service. This impact would be similar to Impact 5.14.1-2 described above for Alternative 1 except that Alternative 2 would generate more wastewater and, therefore, increase the demand for wastewater service as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increased demand for wastewater service, DCSID has available capacity to meet the demands of this alternative without the need to construct any new facilities. This impact would be less than significant.

This impact would be similar to Impact 5.14.1-2 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in 230 new TAUs (36 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an incremental increase in wastewater service from DCSID. The wastewater treatment facility has a design capacity to treat 3.75 million gallons of wastewater per day; the facility currently treats about 1.5 million gallons of wastewater per day annually (Ikehara, pers. comm., 2011). As with Alternative 1, no expansion or improvements to the existing DCSID wastewater treatment facility would be required to accept wastewater from Alternative 2 given DCSID's available capacity.

Because DCSID has the capacity to serve Alternative 2, and no expansions or improvements to the DCSID wastewater treatment facility are required, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-3	Increased Demand for Electrical Service. This impact would be similar to Impact 5.14.1-3 described above for Alternative 1 except that Alternative 2 would require more electricity as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increased demand for electrical service, NV Energy has sufficient available existing capacity to accommodate the demands associated with this alternative. This impact would be less than significant.

This impact would be similar to Impact 5.14.1-3 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in 230 new TAUs (36 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in electrical service from NV Energy. As part of Alternative 2, new power lines

would be installed underground and existing overhead lines north and south of the clubhouse would be placed underground. While implementation of Alternative 2 would result in an increased demand for electrical service, NV Energy has sufficient available existing capacity to accommodate the demands associated with this alternative (Picotte, pers. comm., 2011). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-4	**Increased Demand for Natural Gas Services.** This impact would be similar to Impact 5.14.1-4 described above for Alternative 1 except that Alternative 2 would require more natural gas as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increased demand for natural gas service, Southwest Gas Corporation has sufficient existing supplies and infrastructure to meet the demands of this alternative. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-4 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in 230 new TAUs (36 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in natural gas service from Southwest Gas Corporation. Implementation of Alternative 2 would not require the construction of any new facilities or infrastructure and Southwest Gas Corporation has confirmed that it would be able to provide service to the site (Echeverria, pers. comm., 2011). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-5	**Increased Demand for Telecommunications Services.** This impact would be similar to Impact 5.14.1-5 described above for Alternative 1, with the proposed new telecommunications infrastructure anticipated to be similar under both alternatives (regardless of the number of TAUs proposed). While implementation of Alternative 2 would result in an increased demand for telecommunications service, Charter Business would be able to serve this alternative without any new facilities or infrastructure. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-5 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in 230 new TAUs (36 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in telecommunications service from Charter Business. The demand for telecommunication services with Alternative 2 would be similar to that of Alternative 1 because service is not dependent upon the number of TAUs proposed; rather it is based on service location. As with Alternative 1, there would be adequate supplies and infrastructure available and Charter Business has confirmed that it would be able to provide service to the site (Brooks, pers. comm., 2011). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-6	**Increased Demand for Solid Waste Services.** This impact would be similar to Impact 5.14.1-6 described above for Alternative 1 except that Alternative 2 would generate more solid waste compared with Alternative 1 because more TAUs would be constructed. While implementation of Alternative 2 would result in an increase in solid waste generation, necessitating collection and disposal, STR has sufficient capacity to accommodate the alternative's demands. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-6 described above for Alternative 1. See full discussion above.

Assuming an occupancy rate of two persons per bedroom, and the standard solid waste generation rate of 4.43 pounds/day/person (U.S. EPA 2011), Alternative 2 is expected to generate approximately 3,154 pounds of solid waste per day (356 bedrooms x 2 persons per bedroom = 712 persons x 4.43 pounds/day/person). This equates to approximately 1,151,210 pounds of solid waste annually (compared with 807,408 pounds of solid waste generated annually under Alternative 1). As described above, Lockwood Regional Landfill has a remaining capacity of 24.3 years based on projected volumes and could accommodate the additional solid waste volumes anticipated under this alternative. Therefore, Alternative 2 would not result in the need for new or expanded landfills. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-7	**Increased Demand for Law Enforcement Services.** Implementation of Alternative 2 would result in a negligible increase in demand for law enforcement service. DCSD has indicated that it could adequately serve the site. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-7 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in approximately 712 new tourists and 200 new full-time or full-time equivalent employees to the project area (compared with 512 new tourists and 183 new employees under Alternative 1). Implementation of Alternative 2 would not require the construction of new DCSD facilities or the addition of personnel, and DCSD has confirmed that it would be able to provide service to the site (Halsey, pers. comm., 2012). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-8	**Increased Demand for Fire Protection.** Implementation of Alternative 2 would result in a negligible increase in demand for fire protection. TDFPD has indicated that it could adequately serve the site. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-8 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in approximately 712 new tourists and 200 new full-time or full-time equivalent employees to the project area (compared with 512 new tourists and 183 new employees under Alternative 1). Implementation of Alternative 2 would not require the construction of new TDFPD facilities or the addition of personnel, and TDFPD has confirmed that it would be able to provide service to the site. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-9	**Increased Demand for Emergency Medical Services.** Implementation of Alternative 2 would result in a negligible increase in demand for emergency medical services. TDFPD has indicated it can adequately serve the site and no new facilities or equipment would be required. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-9 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 would result in approximately 712 new tourists and 200 new full-time or full-time equivalent employees to the project area (compared with 512 new tourists and 183 new employees under Alternative 1). Implementation of Alternative 2 would not require the addition of staff, equipment, new facilities, or expansion of existing facilities, and TDFPD has confirmed that it would be able to provide service to the site (Halsey, pers. comm., 2012). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.2-10	**Increased Demand for Public Schools.** Implementation of Alternative 2 could increase student enrollment at the Douglas County School District's schools. Enrollment at these schools has been steadily declining for the past 10 years. As a result, it is anticipated that the school district has sufficient capacity to accommodate the new students generated by implementation of Alternative 2. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-10 described above for Alternative 1. See full discussion above.

Implementation of Alternative 2 could add new students to Zephyr Cove Elementary School and Whittel High School as a result of the estimated 200 new full-time or full-time equivalent employees expected to be hired to help operate Alternative 2. However, the types of service-oriented employment opportunities that would result from implementation of Alternative 2 would not result in substantial demand for schools because the existing labor force locally is adequate and unemployment rates are such that Alternative 2 would not be expected to result in the migration of a substantial number of new employees to the area. Enrollment at local schools has

been steadily declining for the past 10 years. Therefore, it is anticipated that the Douglas County School District's existing school facilities in the project area could easily accommodate any increase in student population resulting from implementation of Alternative 2. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

ALTERNATIVE 3: MAXIMUM BUILDOUT DEVELOPMENT (250 UNITS)

Impact 5.14.3-1	**Increased Demand for Water Supply, Treatment, Distribution, and Storage.** This impact would be similar to Impact 5.14.1-1 described above for Alternative 1 except that Alternative 3 would require more water because Alternative 3 would include the construction of larger lodge complex (more TAUs) than proposed under Alternative 1. Implementation of Alternative 3 would result in a net increase in water demand of 102.6 acre feet annually. EWC has indicated it would have adequate water supplies, treatment facilities, distribution system, and storage facilities to serve this alternative. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-1 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in 250 new TAUs (56 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in demand for potable water from EWC. As shown in Table 5.14-2, Alternative 3 would generate a net new water demand of 102.6 acre feet annually based on the proposed square footage, uses, and new landscaped areas that require irrigation (Hill, pers. comm., 2011). As described above for Alternative 1, based upon current water usage in the Nevada portion of the Tahoe Basin, there is somewhere between 3,000 and 4,000 acre feet remaining for use in Nevada. The increase in water demand from Alternative 3 represents approximately 3 percent of this remaining water. Furthermore, EWC would deliver substantially less water with Alternative 3 than it delivered in the peak year of 1996 without this project. Therefore, PAS 070A Special Policy 9(d) is satisfied because this project does not involve commitment of a significant quantity of the remaining Nevada water left for use in the Tahoe Basin (Edgewood Companies 2012). No new or expanded water rights are required.

As described above for Alternative 1, EWC has confirmed that the existing water supply, treatment facilities, and distribution system are adequate to serve the project (King, pers. comm., 2011). EWC has issued a Will Serve letter for the project. Additional detail of what may be required for the requested service would be provided when the project applicant applies to EWC for service, pursuant to EWC's existing Rule 9 and Rule 15 Tariffs.

Because EWC's existing water supply, treatment facilities, and distribution system are adequate to serve Alternative 3, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-2	**Increased Demand for Wastewater Service.** This impact would be similar to Impact 5.14.1-2 described above for Alternative 1 except that Alternative 3 would generate more wastewater and, therefore, increase the demand for wastewater service as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 3 would result in an increased demand for wastewater service, DCSID has available capacity to meet the demands of this alternative without the need to construct any new facilities. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-2 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in 250 new TAUs (56 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an incremental increase in wastewater service from DCSID. The wastewater treatment facility has a design capacity to treat 3.75 million gallons of wastewater per day; the facility currently treats about 1.5 million gallons of wastewater per day annually (Ikehara, pers. comm., 2011). As with Alternative 1, no expansion or improvements to the existing DCSID wastewater treatment facility would be required to accept wastewater from Alternative 3 given DCSID's available capacity.

Because DCSID has the capacity to serve Alternative 3, and no expansions or improvements to the DCSID wastewater treatment facility are required, this impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-3	**Increased Demand for Electrical Service.** This impact would be similar to Impact 5.14.1-3 described above for Alternative 1 except that Alternative 3 would require more electricity as compared to Alternative 1 because more TAUs would be constructed. As part of Alternative 3, new power lines would be installed underground and existing overhead lines north and south of the clubhouse would be placed underground. While implementation of Alternative 3 would result in an increased demand for electrical service, NV Energy has sufficient available existing capacity to accommodate the demands associated with this alternative. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-3 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in 250 new TAUs (56 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in electrical service from NV Energy. As part of Alternative 3, new power lines would be installed underground and existing overhead lines north and south of the clubhouse would be placed underground. While implementation of Alternative 3 would result in an increased demand for electrical service, NV Energy has sufficient available existing capacity to accommodate the demands associated with this alternative (Picotte, pers. comm., 2011). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-4	**Increased Demand for Natural Gas Services.** This impact would be similar to Impact 5.14.1-4 described above for Alternative 1 except that Alternative 3 would require more natural gas as compared to Alternative 1 because more TAUs would be constructed. While implementation of Alternative 3 would result in an increased demand for natural gas service, Southwest Gas Corporation has sufficient existing supplies and infrastructure to meet the demands of this alternative. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-4 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in 250 new TAUs (56 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in natural gas service from Southwest Gas Corporation. Alternative 3 would not require the construction of any new facilities or infrastructure and Southwest Gas Corporation has confirmed that it would be able to provide service to the site (Echeverria, pers. comm., 2011). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-5	**Increased Demand for Telecommunications Services.** This impact would be similar to Impact 5.14.1-5 described above for Alternative 1, with the proposed new telecommunications infrastructure anticipated to be similar under both alternatives (regardless of the number of TAUs proposed). While implementation of Alternative 3 would result in an increased demand for telecommunications service, Charter Business would be able to serve this alternative without any new facilities or infrastructure. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-5 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in 250 new TAUs (56 more TAUs than proposed under Alternative 1), as well as a spa and wellness center, restaurant and bar area, banquet and meeting space, and a parking structure, resulting in an increase in telecommunications service from Charter Business. The demand for telecommunication services with Alternative 3 would be similar to that of Alternative 1 because service is not dependent upon the number of TAUs proposed; rather it is based on service location. As with Alternative 1, there would be adequate supplies and infrastructure available and Charter Business has confirmed that it would be able to provide service to the site (Brooks, pers. comm., 2011). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-6	**Increased Demand for Solid Waste Services.** This impact would be similar to Impact 5.14.1-6 described above for Alternative 1 except that Alternative 3 would generate more solid waste compared with Alternative 1 because more TAUs would be constructed. While implementation of Alternative 3 would result in an increase in solid waste generation, necessitating collection and disposal, STR has sufficient capacity to accommodate the alternative's demands. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-6 described above for Alternative 1. See full discussion above.

Assuming an occupancy rate of two persons per bedroom, and the standard solid waste generation rate of 4.43 pounds/day/person (U.S. EPA 2011), Alternative 3 is expected to generate approximately 3,411 pounds of solid waste per day (385 bedrooms x 2 persons per bedroom = 770 persons x 4.43 pounds/day/person). This equates to approximately 1,245,015 pounds of solid waste annually (compared with 807,408 pounds of solid waste generated annually under Alternative 1). As described above, Lockwood Regional Landfill, has a remaining capacity of 24.3 years based on projected volumes and could accommodated the additional solid waste volumes anticipated under this alternative. Therefore, Alternative 3 would not result in the need for new or expanded landfills. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-7	**Increased Demand for Law Enforcement Services.** Implementation of Alternative 3 would result in a negligible increase in demand for law enforcement service. DCSD has indicated that it could adequately serve the site. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-7 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in approximately 770 new tourists and 215 new full-time or full-time equivalent employees to the project area (compared with 512 new tourists and 183 new employees under Alternative 1). Implementation of Alternative 3 would not require the construction of new DCSD facilities or the addition of personnel, and DCSD has confirmed that it would be able to provide service to the site (Halsey, pers. comm., 2012). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-8	**Increased Demand for Fire Protection.** Implementation of Alternative 3 would result in a negligible increase in demand for fire protection. TDFPD has indicated that it could adequately serve the site. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-8 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in approximately 770 new tourists and 215 new full-time or full-time equivalent employees to the project area (compared with 512 new tourists and 183 new employees under Alternative 1). Implementation of Alternative 3 would not require the construction of new TDFPD facilities or the

addition of personnel, and TDFPD has confirmed that it would be able to provide service to the site. This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-9	**Increased Demand for Emergency Medical Services.** Implementation of Alternative 3 would result in a negligible increase in demand for emergency medical services. TDFPD has indicated it can adequately serve the site and no new facilities or equipment would be required. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-9 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 would result in approximately 770 new tourists and 215 new full-time or full-time equivalent employees to the project area (compared with 512 new tourists and 183 new employees under Alternative 1). Implementation of Alternative 3 would not require the addition of staff, equipment, new facilities, or expansion of existing facilities, and TDFPD has confirmed that it would be able to provide service to the site (Halsey, pers. comm., 2012). This impact would be **less than significant**.

Mitigation Measure

No mitigation is required.

Impact 5.14.3-10	**Increased Demand for Public Schools.** Implementation of Alternative 3 could increase student enrollment at the Douglas County School District's schools. Enrollment at these schools has been steadily declining for the past 10 years. As a result, it is anticipated that the school district has sufficient capacity to accommodate the new students generated by implementation of Alternative 3. This impact would be **less than significant**.

This impact would be similar to Impact 5.14.1-10 described above for Alternative 1. See full discussion above.

Implementation of Alternative 3 could add new students to Zephyr Cove Elementary School and Whittel High School as a result of the estimated 215 new full-time or full-time equivalent employees expected to be hired to help operate Alternative 3. However, the types of service-oriented employment opportunities that would result from implementation of Alternative 3 would not result in substantial demand for schools because the existing labor force locally is adequate and unemployment rates are such that Alternative 3 would not be expected to result in the migration of a substantial number of new employees to the area. Enrollment at local schools has been steadily declining for the past 10 years. Therefore, it is anticipated that the Douglas County School District's existing school facilities in the project area could easily accommodate any increase in student population resulting from implementation of Alternative 3. This impact would be **less than significant**.

ALTERNATIVE 4: NO PROJECT

Under Alternative 4, the project area would remain in its current state and existing operation of the golf course, clubhouse, restaurant, and lakefront residences would be projected into the future. There would be no new demands created by current operations for additional public services or utilities. Therefore, Alternative 4 would have **no impact** related to the provision of public services or utilities.

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5.15 CUMULATIVE IMPACTS

5.15.1 REQUIREMENTS FOR CUMULATIVE IMPACT ANALYSIS

This section of the EIS provides an analysis of cumulative impacts of the Edgewood Lodge and Golf Course Improvement Project. For purposes of this analysis, a cumulative impact is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor, but collectively significant, actions over a period of time" (CEQ NEPA Regulations, 40 CFR 1508.7).

5.15.2 CUMULATIVE ANALYSIS APPROACH

Two basic methods can be used for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and reasonably foreseeable future projects or the use of adopted projections from a general plan or other regional planning document. For this EIS, both the list and the plan approach have been combined to generate future projections that are as comprehensive as possible. A list approach is used to define the local project environment and includes projects within the nearby South Lake Tahoe and Douglas County portions of the Tahoe Basin. Because the project directly influences, and is influenced by regional development activities, this EIS also utilizes the plan projection approach to conduct a cumulative analysis on a regional scale.

Numerous standards and criteria administered by multiple jurisdictions are applicable to the study area. The primary governing documents in the Lake Tahoe Basin considered in this analysis include the *Threshold Evaluation Report* (TRPA 2007), the *Regional Plan for the Lake Tahoe Basin: Goals and Policies* (TRPA 2006), the *Regional Transportation Plan* (RTP) (Tahoe Metropolitan Planning Organization [TMPO] 2008), the *TRPA Code of Ordinances* (Code; TRPA 2011), and the *Douglas County Master Plan* (Douglas County 2007). A draft update of the Douglas County Master Plan (DCMP) was released in November 2011, and approved at the January 5, 2012 County Board of Commissioners (Board) meeting. The DCMP has not been finalized to reflect the requested changes of the Board. Because the DCMP update has not yet been finalized, the relevant goals and policies from the 2006 DCMP update remain in effect and are discussed in this EIS.

Other documents and plans considered in this analysis include the regulations of the Lake Tahoe Air Basin (LTAB), and the applicable Plan Area Statements (PAS): PAS 070A (Edgewood) and PAS 080 (Kingsbury Drainage) (TRPA 2002a, 2002b). Both PASs are under the influence of the Stateline Community Plan (See Section 5.2, "Land Use," for a description of these plans). For this analysis, some types of cumulative impacts are localized in character, and should be analyzed at a local scale. For example, project construction noise could combine with noise generated by related projects in the vicinity to result in a localized cumulative increase in construction noise such that the noise levels at a nearby sensitive receptor could temporarily exceed established noise thresholds. Other types of cumulative impacts are regional in nature, and should be analyzed at a regional scale. For example, projected increases in regional traffic could cumulatively affect key regional intersections. In these cases, projections of region-wide traffic, rather than just the traffic effects of certain individual projects, should be used to analyze potential cumulative impacts.

5.15.3 RELATED PROJECTS CONSIDERED IN CUMULATIVE IMPACT ANALYSIS

REGIONAL PLAN UPDATE

TRPA is currently working on a Regional Plan update. Because the environmental review for the Edgewood Lodge and Golf Course Improvement Project and a decision by the TRPA Governing Board as to whether to

approve the project or an alternative thereof are anticipated to be completed prior to the completion of the Regional Plan update process and its adoption, the project alternatives are evaluated for consistency with the current Regional Plan elements, rather than anticipating potential new planning decisions.

OTHER PAST, PENDING AND REASONABLY FORESEEABLE FUTURE PROJECTS

The list of past, present, and reasonably foreseeable future projects used for this cumulative analysis are those projects that have occurred or are planned to occur within the nearby South Lake Tahoe and the Douglas County portions of the Tahoe Basin (Table 5.15-1). For the purposes of this discussion, the projects that may have a cumulative effect on the resources in the project area will often be referred to as "related projects."

The redevelopment of the Horizon property, located directly across Lake Parkway from the project site, owned by Edgewood Companies is anticipated in the not too distant future. However, the operation of the Horizon property is under a lease agreement with Tropicana Entertainment and that lease does not expire until 2014. While the anticipated redevelopment of this property is widely anticipated, no project applications have been submitted to TRPA or Douglas County, and the redevelopment plans for this property are unknown such that it is too speculative to evaluate it in detail in this EIS.

Table 5.15-1. List of Related Projects in the South Lake Tahoe and Douglas County Portions of the Tahoe Basin

Project Name	Project Description	Status
Beach Club on Lake Tahoe	Project includes redevelopment of the existing mobile home park off of Kahle Drive in Stateline with 143 residential housing units, development of a recreational beach and swim club, and a reconstructed pier. The project would also address specific environmental issues by reducing coverage, improving drainage, installing BMPs for water quality, restoring SEZ, and improving flood attenuation. The Beach Club Project is less than 0.1 mile north of the Edgewood Project area.	Environmental review complete; pending financing for construction
Project 3 (Chateau Village at Heavenly Village)	Project includes construction of a 477-room condominium building and accessory facilities, including a spa, a 1.5 acre park, and a collection of shops and restaurants. The project would also include construction of a conference and event center.	Construction initiated and halted; future development timeframe and details unknown
Sierra Colina Village Project	The Sierra Colina Village Project is located east of U.S. 50 and south of Lake Village Drive in Stateline, approximately 0.5 mile northeast of the project site. The approved project includes construction of 50 residential units (42 residential units in 21 townhouse-style duplexes, plus eight single-family homes, for a total of 29 building footprints), roadway improvements, utility infrastructure improvements, and four linear public facilities, or LPFs (public access facilities, recreation paths).	Environmental review complete; project under litigation
South Shore Vision Plan	This plan articulates the vision of the South Lake Tahoe Resort Association and has been prepared in collaboration with numerous stakeholders: the public, South Lake Tahoe and Douglas County leaders, casino operators, and other recreation and commercial stakeholders. The plan's vision includes transitioning the Stateline area from a gaming-based economy to a world-class recreation destination. The plan encompasses the area along U.S. 50 between Kahle Drive in Nevada and Ski Run Boulevard in California. The plan is designed to improve the environment and the economy.	Planning process underway; environmental review has not yet been initiated

Table 5.15-1. List of Related Projects in the South Lake Tahoe and Douglas County Portions of the Tahoe Basin

Project Name	Project Description	Status
U.S. 50/South Shore Community Revitalization Project	Project includes upgrades to existing highway facilities to improve traffic flow through the Stateline area, as well as improve conditions along the U.S. 50 corridor for bicycles and pedestrians. The goal of this project is to reduce dependency on the automobile by creating ways in which the general public can more effectively use the existing transportation modes. Action alternatives being considered would relocate U.S. 50 to the mountainside of Lake Parkway and establish the casino corridor as a local roadway. One of the alternatives being considered includes a roundabout at U.S. 50 and Lake Parkway.	Project environmental review recently initiated; construction target date is as early as 2015
Lake Tahoe Waterborne Transit	Project includes water transit ferry and taxis, piers, and landside terminals at up to three locations throughout the Basin. A potential ferry terminal would be located at Ski Run Boulevard.	Project in early planning phase; environmental review to begin in 2012; construction target date is 2015
Van Sickle CA/NV Bi-State Park	This is a multiple phased project that includes park infrastructure improvements (entrance and access points); public facilities, such as picnic/day use areas, restrooms, parking, interpretive facilities, and interpretive and hiking trails; cultural facility protection and improvements; and enhancement of natural resources (i.e., forest health, SEZ restoration, and wildfire protection) on 570 acres of land on the CA/NV border between the South Shore casino corridor and Heavenly Ski Resort.	Phase 1 construction complete. Park opened to the public summer 2011
Daggett Summit Trail System Project	The project includes moving 3 miles of the Tahoe Rim Trail from pavement to forest, and adding 13 miles of new trail to the Tahoe Rim Trail system, which includes a connector loop from the Tahoe Rim Trail to Van Sickle CA/NV Bi-State Park.	Construction underway
Nevada Stateline-to-Stateline Bikeway, South Demonstration Project	The South Demonstration Project is a separated shared-use path located on the west side of U.S. 50 between the Stateline casino corridor on the south end and Round Hill Pines Beach on the north end. The shared-use path would be approximately 3.2 miles in length and is a near term component of the larger 30+ mile Nevada Stateline-to-Stateline Bikeway Project (see below). The southernmost mile of the project would be constructed on the southeast corner of the Edgewood Companies property and along U.S. 50 adjacent to the project site. Douglas County, the project sponsor, and Edgewood Companies are still negotiating final alignment and easement details for this section.	Environmental review phase complete; Construction to begin in summer 2012
Nevada Stateline-to-Stateline Bikeway – Future Phases Connecting Round Hill to Crystal Bay	A 30+ mile-long separated shared-use path that would parallel the east shore of Lake Tahoe and connect the California/Nevada border in the south shore casino core to the California/Nevada border in Crystal Bay, Nevada. The only segment of the trail approved for construction is the South Demonstration Project between the casino corridor in south shore and Round Hill Pines Beach. The North Demonstration Project, a 3-mile segment of trail between Incline Village and Sand Harbor is under environmental review.	Feasibility study complete; environmental review of South Demonstration Project Complete; environmental review of North Demonstration Project underway; environmental review for other segments pending the

Table 5.15-1. List of Related Projects in the South Lake Tahoe and Douglas County Portions of the Tahoe Basin

Project Name	Project Description	Status
		completion of construction of demonstration projects.
Round Hill Fuels Reduction Project	Vegetation and fuels treatments to reduce stand densities to: improve forest health, reduce fire hazards from existing fuels, and modify fire behavior.	Completed
Aspen Community Restoration Project	The Aspen Community Restoration Project will restore aspen stands that are assessed to be at moderate, high, or highest risk of loss from the landscape on NFS lands within the LTBMU.	Current-ongoing
Round Hill Pines Resort Facility and BMP Retrofit Project	The project includes National Forest System (NFS) lands just north of Round Mound. Major elements of the project include reconfiguring the Round Hill Pines Resort/Beach entry way on U.S, 50 for safety, reconfiguring parking with water quality protection best management practices (BMPs), and rehabilitating the Round Hill Pines Resort lodge and cabin area.	Project in conceptual planning phase; no date set for implementation or environmental review
Nevada Beach Campground and Day Use Area BMP Retrofit Project	The proposed action includes a the following: 〉 Campsite improvements that include: entrance road improvements; campsite modifications; replacing and providing accessibility to all restrooms; improvements to roadway circulation; repair and maintenance of on-site structures and utilities; and removal of the abandoned water tank and appurtenant features. 〉 Day use parking area improvements that include: surface water treatment for parking areas; reconfigured parking areas to optimize capacity; development of accessible walkways extending to the beach and accessible picnic areas along these routes; and replacing and providing accessibility to all restrooms.	Under construction
Burke Creek Restoration Project	Project objectives are to develop conceptual designs for a culvert replacement and stream channel modifications to restore ecological function and connectivity of Burke Creek within the project boundaries.	Project in planning phase; no date set for implementation
Ski Run to El Dorado Beach Bike Trail	Project includes a Class I shared-use trail on the lakeside of U.S. 50 that would connect Ski Run Boulevard to El Dorado Beach.	Environmental review phase nearing completion
Greenway Shared-Use Trail	Project includes a Class I shared-use trail connecting Meyers, California to Stateline, Nevada at Van Sickle CA/NV Bi-State Park, which will also consolidate informal trails, restore disturbed land, and improve forest health along its length.	Environmental review complete; pending financing for construction
Gondola Vista Project	Development of 20 affordable housing units on mountainside of Lake Parkway East across from Forest Suites Inn.	Demolition complete; project construction on hold
Douglas County – Lake Parkway Sidewalk	Construction of a sidewalk along the mountain-side of Lake Parkway.	Construction planned for summer 2012

Sources: TRPA 2010; USFS 2010

5.15.4 CUMULATIVE IMPACTS

The following section contains a discussion of the cumulative effects anticipated from implementation of the Edgewood Lodge and Golf Course Improvement Project, together with the related projects and regional development. Land use and development in the project area are guided by PASs and community plans. Most of the project site is located in PAS 070A, which is under the influence of the Stateline Community Plan. A small part of the project is within PAS 080, which is also under the influence of the Stateline Community Plan. The surrounding PASs include PAS 070B, 076 (Kingsbury Community Plan), 077, 089, and 089B (Stateline Community Plan). PASs represent the vision of TRPA with regard to long-term development of the area and identify appropriate land use designations (type and intensity) based on physical environmental, economic, social, and other factors. Prior to adoption, PASs are subject to environmental review.

Related projects listed in Table 5.15-1 identify development actions of varying types and sizes. Implementation of each of these projects would contribute to intensification of development in the South Lake Tahoe region and Douglas County, generally. The result of some of the projects may be increased coverage, stormwater runoff volume, and stormwater runoff pollutant loads; increased traffic trips (daily vehicle trip ends, vehicle miles traveled [VMT]), related air pollutant emissions, and noise generation; changes in scenic quality; habitat removal; and further demand for public services and utilities such as water supply, wastewater conveyance, treatment, and disposal, police and fire protection, and recreation. However, some of the projects listed are notable for reducing coverage, decreasing stormwater runoff, potentially reducing pollutant loads to the lake, restoring damaged riparian areas, improving alternative transit options, providing recreational opportunities, and potentially decreasing VMT in the basin.

The analysis first considers whether there is an existing baseline significant cumulative impact in the project vicinity or in the region and addresses whether the project would make a *considerable contribution* to an existing significant cumulative impact. In the case where there is no existing significant cumulative impact identified, the analysis addresses whether the project's *incremental contribution*, combined with those of the related projects, would create a significant cumulative impact.

Because this section focuses on the proposed project's impacts that could either result in considerable contributions to significant cumulative effects or have been identified as a key cumulative concern during consultation with TRPA and other affected agencies, only a selected number of impact topics are addressed. For environmental issues not specifically discussed below, this EIS has concluded that implementation of the project would not result in a considerable contribution to significant cumulative impacts. Because the Edgewood project development alternatives result in similar environmental impacts, their contribution to cumulative impacts would be similar. For those cumulative impacts that vary substantially between alternatives, the contribution of each alternative to the significant cumulative impact is described.

LAND USE

Impact 5.15-1	**Cumulative—Consistency with Applicable Land Use Plans and Policies.** Implementation of any of the Edgewood Lodge and Golf Course Improvement Project development alternatives would be consistent with applicable land use plans and standards and would be compatible with on-site and surrounding land uses. All of the development alternatives would be consistent with the applicable plan area statements, community plan, and with the Goals and Policies of the TRPA Regional Plan (Tables 5.2-1, 5.2-2, and 5.2-3). Therefore, the project **would not make a considerable contribution** such that a significant cumulative impact related to land use would occur.

Impacts involving land use plans or policies and zoning are generally addressed on a site-specific basis and would not combine to result in cumulative impacts. The determination of significance for impacts related to land use is whether or not the project would conflict with any applicable land use plan or policy adopted for the purpose of reducing or avoiding environmental impacts. Such a conflict is site specific; it is addressed on a project-by-project basis. Thus, the related projects listed in Table 5.15-1 would not combine with past projects to create a significant cumulative land use planning consistency impact. Additionally, as described in Section 5.2, "Land Use," the project would not result in significant land use planning impacts. With the implementation of the mitigation measures described in Chapters 5.2 through 5.14 of this document, implementation of any of the Edgewood Lodge and Golf Course Project development alternatives would be consistent with the applicable plan area statements, community plan, and with the Goals and Policies of the TRPA Regional Plan (Tables 5.2-1, 5.2-2, and 5.2-3). Implementation of any of the development alternatives would not require amendment to current land use plans or policies.

The proposed lodge building in Alternative 1A includes a building height that would exceed existing height limits set forth in Chapter 37, "Height," of the TRPA Code. Therefore, Alternative 1A also includes a TRPA-staff recommended amendment to Chapter 37. As described in Section 5.3, "Scenic Resources," the proposed lodge building with Alternative 1A would not result in a net loss of views from Lake Tahoe to any identified scenic resources and it would not cause a decrease in the numerical ratings assigned to roadway or shoreline travel units or to individual scenic resources within the travel units. Instead, like the other development alternatives (Alternatives 1B, 2, and 3) it would contribute toward a potential increase in the shoreline travel route rating because of the apparent reduction of manmade features associated with the removal of the lakefront parking lot and lakefront residences. Alternative 1A complies with all other relevant aspects of the TRPA design standards and guidelines. All of the other development alternatives (Alternatives 1B, 2, and 3) would be consistent with TRPA Code.

Because all of the development alternatives would be consistent with the applicable plan area statements, community plan, and with the Goals and Policies of the TRPA Regional Plan (Tables 5.2-1, 5.2-2, and 5.2-3), the project **would not make a considerable contribution** such that a significant cumulative impact related to land use would occur.

Mitigation Measure

No mitigation is required.

SCENIC RESOURCES

Impact 5.15-2	**Cumulative—Effects on SR-1, Travel Route Ratings, SR-2, TRPA Scenic Quality Ratings, and SR-3, TRPA Recreation Areas and Bike Trails.** The proposed development alternatives would not be visible from U.S. 50 within TRPA Roadway Travel Unit 32 – Casino Area and, therefore, would have no cumulative scenic impact on the travel route rating of this unit. The project would not contribute to the degradation of views from TRPA Public Recreation No. 1 (Nevada Beach) nearly 0.75 mile away because of the distance, screening, and any visible portions of the project from Nevada Beach would be within the context of the existing clubhouse. Other than the proposed project, the Beach Club on Lake Tahoe Project is also planned for development within Shoreline Travel Unit 30 – Edgewood. Both projects would comply with Chapter 66 of the TRPA Code and neither project would cause the travel route rating for Shoreline Travel Unit 30 – Edgewood and the scenic quality rating for SR 30.5 to decline. Rather, the development alternatives would all contribute toward a potential increase in the shoreline travel route rating because of the apparent reduction of manmade features associated with the removal of the lakefront parking lot and lakefront residences. Therefore, the project development alternatives **would not make a considerable contribution** to a significant cumulative impact on TRPA scenic thresholds SR-1, SR-2, and SR-3.

TRPA Scenic Threshold SR-1, Travel Route Ratings, reflect the scenic conditions along the Basin's state highways and the shoreline of Lake Tahoe. The roadways and shoreline are divided into segments, referred to as units, based on their visual characteristics which are consistent in a general sense within the limits of each unit. The units therefore vary in length. A single travel route rating is reported for each unit based on a consideration of all the things that exist within the unit. In this sense, the travel route ratings represent the cumulative influence of various visual circumstances that occur throughout a unit.

The proposed development would not be visible from U.S. 50 within TRPA Roadway Travel Unit 32 – Casino Area and, therefore, would have **no cumulative** scenic impact on the travel route rating of this unit. The project would not contribute to the degradation of views from TRPA Public Recreation No. 1 (Nevada Beach) nearly 0.75 mile away because of the distance, screening, and any visible portions of the project from Nevada Beach would be within the context of the existing clubhouse. Some of the development that has occurred since 1982 within this shoreline unit caused the travel route rating to decline, resulting in a significant cumulative effect on scenic resources within the unit. These projects were located near the shore, had little or no screening, and had light exterior colors that contrast with their surroundings. They were highly evident manmade additions to the otherwise mostly natural-appearing setting. In 2002, the TRPA amended Chapter 66 of the Code to address such issues. Chapter 66 now requires shoreland development to be set back a minimum distance, include screening, and use TRPA-approved colors for exterior surfaces. The goal is to limit the visual contrast and exposed surface area of new structures to what can be considered a fair share for each lakefront parcel while maintaining the travel route rating for the shoreline unit as a whole.

Other than the proposed project, the Beach Club on Lake Tahoe Project is also planned for development within Shoreline Travel Unit 30 – Edgewood. That project, which underwent environmental review in 2008 and was approved by the TRPA, is designed to comply with Chapter 66 of the Code. It includes certain mitigation measures to reduce potential scenic impacts. Similarly, the Edgewood Lodge and Golf Course Improvement Project is designed to comply with Chapter 66. Both projects would comply with Chapter 66 of the Code and, neither project would cause the travel route rating for Shoreline Travel Unit 30 – Edgewood and the scenic quality rating for SR 30.5 to decline. Instead, all of the development alternatives (Alternatives 1A, 1B, 2, and 3) would contribute toward a potential increase in the shoreline travel route rating because of the apparent reduction of manmade features associated with the removal of the lakefront parking lot and lakefront residences. Therefore, the project development alternatives **would not make a considerable contribution** to a significant cumulative impact on the shoreline travel unit.

Mitigation Measure

No mitigation is required.

RECREATION AND PUBLIC ACCESS

Impact 5.15-3	Cumulative—Create the Demand for New or Expanded Recreational Facilities. Implementation of any of the development alternatives could increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, the recreation amenities proposed for Edgewood guests on-site in combination with the proposed lakefront recreation opportunities, including 15,507 square feet of public swimming beach, and existing recreation facilities in the project vicinity could easily accommodate any incremental increase in recreation demand generated by the project. Furthermore, several of the related projects listed in Table 5.15-1 include recreation elements which would add to the recreation opportunities available in the Stateline area. Providing additional lakefront recreation opportunities, public beach space and lakeshore access would assist with the continued attainment of TRPA's recreation thresholds, as would the recreation improvements associated with the related projects. Therefore, the proposed project would result in a cumulative benefit to recreation Basin-wide.

Implementation of the project would result in the construction of between 194 and 250 tourist accommodation units (TAUs) and open a formerly private beach to public use in the Stateline area. This could increase the total number of visitors to the Stateline area at any one time and result in an incremental increase in the use of existing parks and recreational facilities. However, as discussed in Section 5.4, "Recreation and Public Access," all of the proposed development alternatives include the construction of new recreational amenities accessory to the lodge complex on-site; and also include opening 15,507 square feet of formerly private beach to the public, which is enough space to accommodate at least 310 beach goers at any one time while sustaining the desired user experience associated with a urban beach recreation area.

In addition to the proposed on-site lakefront recreation improvements associated with the Edgewood Lodge and Golf Course Improvement Project, there are sufficient existing recreation opportunities in the project vicinity to easily absorb any incremental increase in recreation demand generated by the project. Furthermore, several of the related projects listed in Table 5.15-1 include recreational elements which would add to the recreation opportunities available in the Stateline area. Among these projects is the Greenway Shared Use Trail, Ski Run to El Dorado Beach Bike Trail, Daggett Summit Trail System, Van Sickle State Park and the Nevada Stateline-to-Stateline Bikeway Project and associated South Tahoe Demonstration Project. TRPA thresholds for recreation R-1 (Quality Experience and Additional Access) and R-2 (Fair Share of Resource Capacity), described in Section 5.4, "Recreation and Public Access," are in attainment and the project is considered to assist with continued attainment of TRPA's recreation thresholds. Providing a range of additional lakefront recreation opportunities and walkable lakeshore access from the Stateline casino corridor is a specific need in this area. Therefore, the proposed project would result in a **cumulative benefit** to recreation Basin-wide.

Mitigation Measure

No mitigation is required.

Impact 5.15-4 **Cumulative—Conflict with Existing or Proposed Recreation Uses In the Area.** The proposed lodge associated with the development alternatives would not conflict with any of the existing recreational uses in the project area, which consist of the existing Edgewood Tahoe Golf Course and existing pier. Furthermore, all of the recreation facilities proposed as part of the project, both those associated with the lodge complex and golf course, as well as the new lakefront recreation opportunities, including a public swimming beach and paved access pathway, are compatible with and would complement the related projects described in Table 5.15-1. No significant cumulative impact related to recreation demand or uses exists in the project vicinity. Therefore, the proposed project **would not make a considerable contribution** such that a significant cumulative impact associated with conflict with either existing or proposed recreation uses in the area would occur.

As described in Section 5.4, "Recreation and Public Access," the project development alternatives would increase lakefront recreation capacity and access to Lake Tahoe. The proposed lodge would not conflict with existing or planned recreational uses in the area (see related projects listed in Table 5.15-1). The first stretch of the South Demonstration Project shared-use path would occur adjacent to Lake Parkway and U.S. 50 on the same parcel as the proposed project – easement negotiations and design for this stretch are still underway between Douglas County (the project sponsor for the path) and Edgewood Companies (the landowner). The South Demonstration Project as currently designed would be located largely outside of the existing fence line on the project site and would not impinge upon any of the project elements. The two projects would not conflict with each other, but instead would complement each other with respect to providing additional recreation opportunities and connectivity between recreation areas.

All of the proposed lakefront recreational amenities, including the spa and wellness center, a newly designated 15,507-square foot sandy public beach, a public pier, food and beverage service, viewing decks, concessions (e.g., kayak and bicycle rentals), restrooms, open space, and a shared pedestrian/bicycle path that provides access from Lake Parkway to the beach are compatible with the projects described in Table 5.15-1. As described above, TRPA recreation thresholds are in attainment, therefore no significant cumulative impact related to recreation demand or uses exists in the project vicinity. Therefore, the proposed project **would not make a considerable contribution** such that a significant cumulative impact associated with conflict with either existing or proposed recreation uses in the area would occur.

Mitigation Measure

No mitigation is required.

GEOLOGY, SOILS, AND LAND CAPABILITY AND COVERAGE

Impact 5.15-5	Cumulative—Land Coverage. Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking, relocated residences, and the expanded clubhouse associated with all of the development alternatives. Of the related projects, the South Demonstration Project and the U.S. 50/South Shore Community Revitalization Project have the potential to affect coverage in LCDs 1b, 4, and 5 at the project site, because if carried forward they may require an easement from Edgewood Companies that would encroach within the project area. While the related projects could reduce the amount of banked 1b coverage, there is ample allowable coverage available in LCDs 4 and 5. Therefore, no significant cumulative land coverage impacts would occur and the project would not make a considerable contribution such that a significant cumulative land coverage impact would occur.

Adequate allowable land coverage is available on the project site for the construction of the proposed lodge complex, parking, relocated residences, and the expanded clubhouse associated with all of the development alternatives. No coverage transfer would be required. Coverage relocation at the site would be in accordance with Subsection 30.4.5 of the TRPA Code.

Of the related projects, the South Demonstration Project and the U.S. 50/South Shore Community Revitalization Project have the potential to affect coverage at the project site, because if carried forward they may require an easement from Edgewood Companies that would encroach within the project area. Those projects would be located primarily in LCD 5, but in the case of the South Demonstration Project it would also cross LCD 1b and 4 areas along U.S.50. The effect on coverage would be a reduction in the base allowable square footage in LCDs 1b, 4, and 5 for the project. A review of Table 4-8 in Chapter 4, “Alternatives,” shows that while the related projects could reduce the amount of banked 1b coverage, there is ample allowable coverage available in LCDs 4 and 5. Therefore, no significant cumulative land coverage impacts would occur and the project **would not make a considerable contribution** such that a significant cumulative land coverage impact would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-6	**Cumulative—Increase Risks of Geologic Hazards.** Implementation of any of the development alternatives and related projects in the region could expose additional structures and people to seismic and soil hazards. However, each related project considered in this cumulative analysis must individually meet building code requirements, and no additive effect would result from the combination of the projects considered in this cumulative analysis and the proposed project. Therefore, no significant cumulative effect related to geologic hazards would occur and the project **would not make a considerable contribution** such that a significant cumulative geologic hazard impact would occur.

The Lake Tahoe area is a seismically active region, with steep slopes and erodible soils. The construction of improvements in such an area has the potential to result in significant adverse effects on structures and human life as a result of erosion hazard and slope stability, both of which are primarily local, site specific impacts. Cumulative geologic impacts could occur in cases where a project is located on steep terrain and grading for projects in proximity to one another could collectively weaken geologic substructures resulting in landslides or other geologic effects. None of these conditions exist on or near the proposed project site. However, because of the localized nature of geology and soils impacts, the impacts would be confined to the project site and would not combine with any geologic or soil effects associated with development in other areas. Therefore, the project's contribution to geology and soils impacts would not be considered cumulatively considerable. Similarly, development of the project along with the related projects listed in Table 5.15-1 would not be expected to result in geology and soils impacts that could not be addressed by standard engineering practices. Therefore, no significant cumulative effect related to geologic hazards would occur and the project **would not make a considerable contribution** such that a significant cumulative geologic hazard impact would occur.

Mitigation Measure

No mitigation is required.

HYDROLOGY AND WATER QUALITY

Impact 5.15-7	**Cumulative—Potential Adverse Effect on Surface Water Runoff, Groundwater and Water Quality in the Tahoe Basin.** Under operational conditions, the project development alternatives would not make a considerable contribution to significant adverse cumulative water quality impacts because the project would implement water quality protection measures (i.e., BMPs) that are required of all projects in the Tahoe Basin. Additionally, the project development alternatives include voluntary water quality improvements that would decrease pollutant loading in surface runoff from the site and the Edgewood Creek watershed. Over the long-term, it is expected that the pollutant load reductions achieved by the project development alternatives would result in a **cumulative water quality benefit.** During project construction, related projects are likely to have overlapping timing and cumulative construction-related discharges and the project could result in significant cumulative water quality impacts. However, with the implementation of Mitigation Measure 5.6.1- 1 (Storm Water Pollution Prevention Plan), Mitigation Measure 5.6.1-5 (Dewatering Plan), and compliance with required TRPA and Douglas County regulations, the project **would not make a considerable contribution** such that a significant adverse cumulative water quality impact would occur.

As shown in Table 5.6-1, only one water quality threshold (WQ-1, nearshore turbidity) out of five water quality thresholds is considered to be in attainment for the Tahoe Basin. Thresholds WQ-2 and WQ-3 (deep water zones), WQ-4 (tributary water quality), and WQ-5 (stormwater runoff quality) are in non-attainment. Further, the *Edgewood Creek Watershed Assessment* (Nevada Division of State Lands 2003:5) identified existing impacts to the Edgewood Creek watershed caused by development and associated practices. Therefore, under baseline

conditions **a significant cumulative impact** exists related to water quality in the Lake Tahoe area, including the Edgewood Creek watershed.

CONSTRUCTION IMPACTS

The Edgewood Lodge and Golf Course Improvement Project construction activities would include clearing, excavating, filling, grading, compacting, tilling, driving piles (for pier construction), and removing accumulated sediment from golf course ponds. Due to the close proximity of the project site to Lake Tahoe, exposed soils and airborne particulate matter from temporary construction activities could be transported to Lake Tahoe, particularly during storm events. In addition, there would be on-site construction staging of equipment and vehicles, as well as construction-related vehicle trips. Fuels and other construction-related chemicals could be accidentally spilled or leaked, or could otherwise be discarded into nearby drainages. In addition, dewatering could potentially be required for excavations in areas where the water table is high (i.e., shallow groundwater locations), which could cause infiltration of surface water with sediment and other pollutants to be discharged to groundwater.

Construction of the Edgewood Lodge and Golf Course Improvement Project has the potential to occur concurrently with other development projects in the Tahoe Basin (Table 5.15-1), and the potential exists for contributions from additional Tahoe Basin construction projects in the future. While all projects in the Tahoe Basin, including the proposed project, are required to implement water quality protection measures and both temporary and permanent BMPs (as discussed in Section 5.6, “Hydrology and Water Quality”), along with mitigation measures that reduce project-related effects on water quality to less-than-significant levels at a project level, these projects are likely to have overlapping timing and cumulative construction-related discharges, which could combine to create a significant cumulative impact. Therefore, the potential exists for the proposed project’s construction activities to contribute to a significant cumulative impact. However, with the implementation of Mitigation Measure 5.6.1-1 (Storm Water Pollution Prevention Plan), Mitigation Measure 5.6.1-5 (Dewatering Plan), and compliance with required TRPA and Douglas County regulations, the project **would not make a considerable contribution** to a significant cumulative water quality impact related to construction.

OPERATIONAL IMPACTS

Pollutant Loading

Implementation of any of the project alternatives would include voluntary water quality improvements to: 1) increase the effectiveness of pollutant load reductions achieved by the wet pond treatment system (ponds 6 and 10) associated with the Stateline Stormwater Association treatment system, 2) increase the effectiveness of pollutant load reductions achieved by the Edgewood Creek pond system (primarily Friday’s Station pond and pond 1); and 3) commit to maintain the pond systems as water quality treatment BMPs for perpetuity as defined in the proposed *Monitoring, Inspection, and Operations Plan* (Nichols Consulting Engineers 2012). These voluntary water quality improvements (threshold improvement projects) are described in more detail in Chapter 3, “Project Description,” and are evaluated in Section 5.6, “Hydrology and Water Quality,” under Impact 5.6.1-4. Because the proposed project would implement permanent BMPs to meet or exceed existing water quality regulations, and would include voluntary water quality improvements to decrease existing pollutant loading in the Edgewood Creek watershed, the project, under operational conditions, would result in **a beneficial** cumulative effect on water quality.

Impervious Surface and Runoff Volumes

While under all alternatives the proposed project would result in a net increase in physical coverage on the site, the project would result in a net reduction in annual runoff volumes. The project would result in a net increase in physical coverage of approximately 134,217 square feet (3.1 acres) to 201,906 square feet (4.6 acres),

depending on development alternative. The baseline condition is estimated to generate an average of 2.5 acre-feet of surface runoff per year associated with the existing facilities on the project site and the proposed project condition is estimated to generate 1.5 acre-feet of surface runoff per year from proposed facilities. As described in Section 5.6, "Hydrology and Water Quality," the net reduction in runoff would be accomplished by emphasizing stormwater retention and runoff infiltration. Because the project would decrease and thus improve runoff volumes over the baseline condition and comply with applicable drainage design standards, the project **would not make a considerable** contribution to significant cumulative water quality impacts related to stormwater runoff from impervious surfaces.

Groundwater Quality

The proposed development alternatives would remove lawns associated with the two existing lakefront residences immediately adjacent to Lake Tahoe and would include the reconfiguration and relocation of golf holes 7, 8, and 9. The proposed project would locate a new event lawn adjacent to the clubhouse expansion and golf hole 9 close to Lake Tahoe (albeit not closer than existing turf associated with golf hole 18 and lawn areas associated with the lakefront residences that would be removed). Alternative 1 would also increase the area of buffer strips (10 foot and 25 foot setback around ponds and wetlands) that separate fertilized turf areas from surface water features on the golf course by approximately 4 acres. Golf course operations under the project would result in an overall reduction in fertilizer applications to the golf course because turf area would be reduced by approximately 24 acres relative to the baseline condition. The decrease in fertilizer use in proximity to surface water features on the golf course (SEZ setbacks) would reduce the potential transport of nutrients in surface runoff to water features. In addition to the three existing groundwater monitoring wells at the site, the proposed development alternatives would establish two additional wells (one between the fairway on golf hole 9 and Lake Tahoe and the other along the fairway on golf hole 18 in the area down gradient of the fairway, driving range, pond 1, and up gradient portions of the golf course).These measures would be expected to have a benefit to existing groundwater quality. In total, the measures described above would result in an overall reduction in the amount of fertilizer applied on the golf course. This measure would ensure that the project **would not make a considerable** contribution to significant cumulative groundwater pollution impacts.

With the implementation of regulations and mitigation measures summarized above and described in Section 5.6, "Hydrology and Water Quality," the project's construction and operational activities **would not make a considerable contribution** to significant cumulative impacts to surface and groundwater quality.

Mitigation Measure

No mitigation is required.

BIOLOGICAL RESOURCES (VEGETATION, WILDLIFE, AND FISHERIES)

Impact 5.15-8	**Cumulative—Effects on Sensitive Habitats (Jurisdictional Wetlands, Riparian Vegetation, Aspen, and SEZ).** Under Alternatives 1, 2, and 3, implementation of the threshold improvement projects is expected to result in a long-term increase in the area, quality, and functions of sensitive habitats (jurisdictional wetlands, riparian vegetation, and SEZ) in the project area. Short-term disturbances to sensitive habitats resulting from project construction would be mitigated as part of the project. Therefore, improvements to sensitive habitats resulting from implementation of the project combined with effects of other ongoing and future stream and SEZ restoration projects in the Tahoe Basin **would be a beneficial contribution** to a cumulative impact on sensitive habitats.

Implementation of Alternative 1, 2, or 3 would result in short-term construction-related impacts, including the removal of riparian vegetation, freshwater marsh habitat, and SEZ along existing sections of Edgewood and Golf

Course Creeks and along the existing complex of ponds throughout the Edgewood Tahoe Golf Course property, and including Friday's Station. Threshold Improvement Project C would involve realigning portions of Edgewood Creek and stabilizing the existing channel and bank in other areas, which would require the deposit of some fill into or disturbances to an active channel. Realignment of Edgewood Creek would also include the removal of pond 15, requiring fill of a wetland feature. Implementation of Threshold Improvement Projects B, C, and D would involve modifications to ponds 1, 6, 10, 12, and 18, and Friday's Station pond, to remove accumulated sediment, restore capacity, and create, restore, and enhance wetlands—including converting pond 15 to a wetland and fish spawning habitat. Construction of these project features would disturb habitats considered sensitive by the U.S. Army Corps of Engineers (USACE) and TRPA, including riparian vegetation, SEZ, and potential jurisdictional wetlands. However, implementation of the mitigation measures described in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," would reduce impacts to project-related fill of waters of the United States and removal or disturbance of deciduous riparian vegetation, wetlands, and SEZ to a less-than-significant level. These measures would minimize the loss of existing sensitive habitats during construction to the extent feasible, and provide habitat compensation for the loss of riparian and wetland vegetation through the federal Clean Water Act (CWA) Section 404 permitting process.

Over the long term, implementation of Alternatives 1, 2, or 3 and Threshold Improvement Projects A, B, C, and D would create, enhance, or restore approximately 200,347 square feet (4.6 acres) of SEZ, riparian, and/or wetland habitat, resulting in an overall increase of sensitive habitats. The increased area and potential for improved function of SEZ, wetlands, and riparian communities is expected to be a beneficial long-term effect. When considered in combination with other related projects that would increase and/or improve sensitive habitats, primarily within SEZ areas, (e.g., Burke Creek Restoration Project, Van Sickle CA/NV Bi-State Park, and Beach Club on Lake Tahoe) and implementation of measures to minimize project-related disturbances, the project alternatives would make a **beneficial** contribution to habitat restoration in the Lake Tahoe Basin.

Mitigation Measure

No mitigation is required.

Impact 5.15-9 **Cumulative—Effects on Tahoe Yellow Cress Populations.** Implementation of Alternatives 1, 2, and 3 would relocate the mouth of Edgewood Creek; remove, relocate, and reconstruct the existing pier; and may result in incidental public use of portions of the beach at Edgewood within occupied Tahoe yellow cress habitat. These actions could result in the temporary disturbance or permanent loss of Tahoe yellow cress plants. However, through implementation of mitigation measures and coordination with the Tahoe Yellow Cress Adaptive Management Working Group (TYC-AMWG), the project **would not make a considerable contribution** to a significant cumulative impact to Tahoe yellow cress.

Tahoe yellow cress is a special status species as described in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," therefore, a baseline significant cumulative impact exists in relation to this species. As noted in Table 5.7-1, Threshold V-3, "Sensitive Plants," is in attainment for Tahoe yellow cress; however, the attainment status changes from year to year depending on the number of Tahoe yellow cress found during the annual survey. Five populations of Tahoe yellow cress are present in the project area and the beach at Edgewood is considered a core site for this species, meaning that Tahoe yellow cress are consistently found at the location during the annual surveys. There are only seven core sites of Tahoe yellow cress in the Tahoe Basin. Implementation of Alternatives 1, 2, or 3 would include relocating the mouth of Edgewood Creek, which could directly or indirectly affect Tahoe yellow cress populations that occur near the existing stream mouth. In addition, implementation of all project alternatives have the potential to facilitate new incidental public use of the northern portion of the beach at Edgewood, which could indirectly result in the additional disturbance or loss of Tahoe yellow cress plants from trampling.

With implementation of the mitigation measures described in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," and coordination with the Tahoe Yellow Cress Adaptive Management Working Group (TYC-AMWG), Tahoe yellow cress plants that are present in areas of potential disturbance would be identified before construction, and disturbances to those plants would be avoided. To protect Tahoe yellow cress plants from potential long-term increased beach use and disturbance as an indirect result of the new lodge complex, public beach, and clubhouse use, protective fencing and educational signage about the need to avoid these areas would be installed around all Tahoe yellow cress clusters on the Edgewood property. Additionally, existing Tahoe yellow cress populations would be monitored and adaptively managed to assess potential loss as a result of moving the mouth of Edgewood Creek. If a decrease in Tahoe yellow cress as a result of relocation of the mouth of Edgewood Creek is detected, adaptive management or compensatory actions would be identified, designed, and implemented in coordination with the TYC-AMWG, TRPA, and Edgewood Companies. Therefore, with the project mitigation measures implemented, the project **would not make a considerable contribution** to a significant cumulative impact to Tahoe yellow cress.

Mitigation Measure

No mitigation is required.

Impact 5.15-10	Cumulative—Tree Removal. Numerous trees, including trees measuring 24 inches diameter at breast height or greater, would be removed under Alternatives 1, 2, and 3. Proposed tree removal would occur mostly within disturbed and managed stands of Jeffrey pine, which are common locally and regionally; and is not expected to substantially affect breeding productivity or population viability of any common or special-status species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6 [A][4] of the TRPA Code) are scheduled for removal as part of the proposed project. Additionally, in compliance with tree removal regulations established in Subsection 61.1.4(C)(2)(a) and (b) of the TRPA Code, the project applicant has prepared a limited forest plan for the project area. Therefore, the project **would not make a considerable contribution** to a significant cumulative tree removal impact.

Although implementation of Alternative 1, 2, or 3 would result in the removal of numerous trees, including trees greater than or equal to 24 inches diameter at breast height, most of these trees are Jeffrey pines, which are common and widely distributed in the Lake Tahoe Basin and elsewhere in the Sierra Nevada. Most overstory trees in the project area appear healthy. However, Jeffrey pine habitat in the project area is disturbed and managed, supporting sparse to no native understory vegetation cover or down woody debris in most locations; in many stands, the understory consists of managed turf and pavement (parking lots, cart paths). Jeffrey pine trees and stands, particularly those that are disturbed and within developed landscapes such as on the Edgewood property, and their biological functions are not considered threatened or vulnerable to decline in the region.

Although some tree removal in the Tahoe Basin is necessary for fuel management and reduced potential for catastrophic wildfire, tree removal that is not required for this purpose can contribute to a cumulative loss of important scenic and biological resources. However, most trees that would be removed during project implementation are within Jeffrey pine forest, which is regionally abundant. Tree removal for the development and operation of the lodge complex is not expected to substantially affect breeding productivity or population viability of any species, or cause a change in species diversity locally or regionally. Also, no TRPA-designated tree species of limited occurrence (Subsection 61.1.6[A][4] of the TRPA Code) are scheduled for removal as part of the proposed project. Therefore, tree removal resulting from implementation of the development alternatives would be a **less-than-significant** biological impact.

Additionally, the development and implementation of the limited forest plan (pending acceptance and approval by TRPA) would ensure that tree removal is in compliance with TRPA Code Subsection 61.1.4(C)(2)(a) and (b), TRPA Code Subsection 61.3.6, "Sensitive and Uncommon Plant Protection," and TRPA Code Chapter 65, "Wildlife Resources." Additionally, in compliance with tree removal regulations established in the TRPA Code, the applicant has prepared a limited forest plan, which would be implemented as part of the project to comply with Code Subsection 61.1.4(C)(2) (a) and (b). Therefore, the project **would not make a considerable contribution** such that a significant cumulative impact related to tree removal would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-11	Cumulative—Introduction and Spread of Invasive Species. Implementation of the project alternatives and related projects has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. This would be a potentially significant cumulative impact. However, with implementation of project mitigation measures to avoid or minimize introduction and spread of invasive species, the project would not make a considerable contribution to this significant cumulative impact.

Implementation of Alternative 1, 2, or 3 has the potential to introduce and spread terrestrial invasive weeds and aquatic invasive species during project construction and revegetation periods. Invasive weeds and other species could inadvertently be introduced or spread in the project area during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Soil, vegetation, and other materials transported to the project area from off-site sources for BMP, revegetation, or fill for project construction could contain invasive weed seeds or plant material that could become established in the project area. Additionally, terrestrial and aquatic invasive species currently present in or near the project area have the potential to be spread by construction disturbances. The introduction and spread of terrestrial or aquatic invasive species would degrade terrestrial plant, wildlife, and aquatic habitats, including habitats of special significance (riparian) within the project area and possibly Lake Tahoe.

Nonnative species could be introduced into Lake Tahoe and in the Tahoe Basin inadvertently during boating, grading, and construction activities. However, with mitigation measures described in Section 5.7, "Biological Resources," the proposed project **would not make a considerable contribution** to this significant cumulative impact. With implementation of the mitigation measures, weed and aquatic invasive species management practices would be implemented during project construction and the inadvertent introduction and spread of weeds or aquatic invasive species from project construction would be prevented or minimized.

Mitigation Measure

No mitigation is required.

Impact 5.15-12	**Cumulative—Effects on Common and Special Status Wildlife.** Under all alternatives, the long-term response of natural habitats to the restoration of Edgewood Creek, Golf Course Creek, and the pond system is expected to improve the quantity, quality, and function of wetland and riparian habitats. These habitats are important for several wildlife species, including special-status species such as waterfowl, and are considered wildlife habitats of special significance by TRPA. Improvements to these habitats, combined with other future projects that would enhance similar habitats quality (e.g., Burke Creek Restoration Project, Van Sickle CA/NV Bi-State Park, and Beach Club on Lake Tahoe) would be considered a **beneficial** cumulative effect on common and special-status species associated with riparian, wetland, and aquatic habitats. For other projects that may not increase and/or improve sensitive habitats specifically, measures are in place through standard permitting and environmental review to protect these habitats. Because the development alternatives would increase the size and enhance the functions of TRPA-designated wildlife habitats of special significance and other related projects are required to protect sensitive habitats, the project alternatives combined with other related projects would make a **beneficial** contribution to restoration of sensitive habitat benefitting wildlife.

Implementation of all alternatives could result in short-term, construction-related disturbances to common and special-status wildlife species (waterfowl). As noted in Table 5.7-1, Threshold W-1 “waterfowl” is in non-attainment. However, mitigation planned as part of these alternatives—pre-construction surveys and avoidance of nesting areas—would minimize or avoid short-term construction related impacts to special-status species. In the long term, natural ecosystem response to improvements to Edgewood Creek, Golf Course Creek, and the pond system under the project alternatives is expected to improve habitat quality and functions for riparian and aquatic wildlife, including special-status species such as waterfowl. These improvements would also increase the size and enhance the functions of TRPA-designated wildlife habitats of special significance (i.e., wetlands, meadows, and riparian areas), provide a greater buffer distance between some of these areas and golf play, and enhance the quality of the TRPA-designated waterfowl threshold area on the Edgewood property. As discussed in Section 5.7, “Biological Resources (Vegetation, Wildlife, and Fisheries),” although the magnitude and biological significance of these enhancements are presently not known, the long-term effects on common and special-status wildlife associated with riparian, wetland, and aquatic habitat, and wildlife habitats of special significance are expected to be beneficial overall. When considered in combination with other projects that would increase and/or improve sensitive habitats (e.g., Burke Creek Restoration Project, Van Sickle CA/NV Bi-State Park, and Beach Club on Lake Tahoe), these long-term effects would be a **beneficial** contribution to a cumulative effect on these resources. For other projects that may not increase and/or improve sensitive habitats specifically, measures are in place through standard permitting and environmental review to protect these habitats. Because the development alternatives would increase the size and enhance the functions of TRPA-designated wildlife habitats of special significance and other related projects are required to protect sensitive habitats, the project alternatives combined with other related projects would make a **beneficial** contribution to restoration of sensitive habitat benefitting wildlife.

Mitigation Measure

No mitigation is required.

Impact 5.15-13	**Cumulative—Effects on Fisheries and Aquatic Habitat.** Under all project alternatives, restoration of Edgewood and Golf Course Creeks, the pond system, and riparian and wetland habitats within the project area are expected to result in higher quality habitats for fish and the aquatic macroinvertebrate community. Implementation of these alternatives would include: removal of barriers to fish passage along Edgewood Creek from Lake Tahoe to pond 1; improved connectivity along Edgewood Creek; increased aquatic habitat structure and complexity; removal of non-native invasive species; and reduction in sediment input and improved water quality. When combined with other projects that would either improve water quality and aquatic habitats or protect these resources through standard permitting and environmental review, Alternatives 1, 2, and 3 are expected to result in a **beneficial** contribution to a cumulative effect on fisheries and aquatic habitat.

As discussed in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," habitat for fish, macroinvertebrates, and other aquatic species in the project area is highly degraded and low-quality, and nonnative invasive species are known to occur within the ponds. Much of Edgewood Creek has been heavily modified due to development from Heavenly Ski Resort, highways (e. g., U.S. 50), and the golf course at Edgewood. The physical channel of the creek has been altered, riparian habitat has either been removed or highly degraded, and barriers to fish passage are located throughout Edgewood Creek in the project area and upstream in the watershed (ECIWAT 2003). The combined effects of these past activities and projects have cumulatively resulted in adverse impacts on fisheries and aquatic resources in the Edgewood Creek watershed. In addition, water quality within Edgewood Creek has been heavily affected by stormwater runoff in the past, also influencing the quality of aquatic habitat within the creek. The poor condition of aquatic habitat found within Edgewood Creek may also be affecting fisheries within Lake Tahoe.

Several projects proposed in the area include components designed to improve water quality and/or enhance SEZs, including Burke Creek Restoration Project, Nevada Beach Campground and Day-Use Area and Round Hill Pines Resort Facility BMP Retrofit Projects. These types of projects would restore riparian vegetation communities, increase natural bank stabilization, improve flood attenuation, and restore ecological function and connectivity of aquatic ecosystems. For other projects that may not increase and/or improve fisheries and aquatic habitat specifically, measures are in place through standard permitting and environmental review to protect these resources. Overall, the combined effect of these future projects is expected to improve aquatic and riparian habitat conditions in the long term.

As discussed in Section 5.7, "Biological Resources (Vegetation, Wildlife, and Fisheries)," implementation of Alternatives 1, 2, or 3 would result in short-term impacts to aquatic habitats. However, implementation of the mitigation measures described in Section 5.7—pre-construction surveys for native aquatic species, capture and translocation of native fish species, and implementation of a storm water pollution prevention plan—would minimize short-term construction-related impacts to these species. Under each of the project alternatives, stream, pond, and wetland habitat restoration associated with the threshold improvement projects could result in long-term beneficial effects on aquatic habitats and the fish community in Edgewood Creek. Beneficial effects would likely result from removal of barriers to fish passage in Edgewood Creek from Lake Tahoe to pond 1; improved habitat connectivity along Edgewood Creek; increased aquatic habitat structure and complexity; short-term removal of nonnative invasive species; and reduced sediment inputs from upstream sources (e.g., Friday's Station dam). The long-term certainty or magnitude of some of the potential benefits are difficult to predict under the current level of design, and because the long-term presence and abundance of nonnative invasive species and their potential effects on the aquatic community in the future are unknown. Adaptive management measures to control and limit the spread of aquatic invasive species over the long term would be developed and implemented as part of the MIOP. However, an overall net benefit to aquatic habitat is anticipated, given the highly degraded condition of the existing stream and pond system. Therefore, when combined with other projects that would improve water quality and aquatic habitats, while cumulatively

significant impacts to fisheries and aquatic habitat may exist, the alternatives would be expected to make a **beneficial** cumulative contribution to fisheries and aquatic habitat and the project's impacts would not be cumulatively considerable

Mitigation Measure

No mitigation is required.

HUMAN HEALTH AND RISK OF UPSET

Impact 5.15-14	**Cumulative—Expose the Public or Environment to Hazardous Materials.** The activities of construction and transportation of hazardous materials associated with development projects are subject to the applicable governmental safety regulations. Compliance with these regulations would ensure that no significant cumulative effect related to hazardous materials or use or transport would occur. Compliance with the regulations governing handling and transport of hazardous materials would ensure that the project **would not make a considerable contribution** such that a significant cumulative effect related to hazardous materials use or transport would occur.

Implementation of any of the development alternatives or other related projects in the region could expose the public or the environment to risks associated with the use or transport of hazardous materials. However, the proposed project and related projects considered in this analysis are subject to similar government regulations of hazardous materials. As described in Section 5.8, "Human Health and Risk of Upset," transportation of hazardous materials on roadways within Nevada is regulated by the Nevada Highway Patrol, while use, storage and disposal of hazardous materials in Nevada are regulated by Nevada Occupational Safety and Health Act (NEV-OSHA) and Nevada Hazardous Waste Management Program. Similar regulations are imposed by the state of California. Therefore, no significant cumulative effect related to hazardous materials is identified in the project vicinity. Compliance with the regulations governing handling and transport of hazardous materials would ensure that the project **would not make a considerable contribution** such that a significant cumulative effect related to hazardous materials use or transport would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-15	**Cumulative—Create a Safety Hazard to Construction Workers.** Development of the project and related projects would involve demolition, excavation, and construction activities that could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. However, each project considered in this cumulative analysis must individually comply with EPA and Nev-OSHA standards pertaining to construction worker safety. Therefore, no significant cumulative effect related to creation of safety hazards to construction workers would occur. Compliance with the regulations governing worker safety would ensure that the project **would not make a considerable contribution** such that a significant cumulative effect related to worker safety would occur.

Other development projects in the Tahoe Basin involving older structures that would be demolished would have a similar potential to expose construction workers to health hazards from asbestos and lead-based paint, as would the proposed project. As with the proposed project, removal of asbestos and lead-based paint containing materials must be conducted according to the U.S. Environmental Protection Act (EPA) and Nev-OSHA standards. Project specific mitigation measures for each project would be implemented to prevent exposure to

hazardous materials (Mitigation Measure 5.8.1-2, Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-based Paint). Therefore, no significant cumulative effect related to creation of safety hazards to construction workers would occur. Compliance with the regulations governing worker safety would ensure that the project **would not make a considerable contribution** such that a significant cumulative effect related to worker safety would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-16	Cumulative—Disruption of Public Services. Demolition, excavation, and construction activities on the project site associated with any of the development alternatives could result in the disruption of continuous public services in and around the project site. Overlapping construction schedules with related projects could potentially result in extended utility service interruptions and the project would make a considerable contribution to a significant cumulative impact. However, Mitigation Measure 5.8.1-3 requires the project applicant to coordinate with affected utility providers to minimize loss of service. This measure would ensure that adequate services are provided. Therefore, the project would not make a considerable contribution to a significant cumulative impact related to disruption of public services.

Demolition, excavation, and construction activities on the project site associated with any of the development alternatives or related projects could result in the disruption of continuous public services in and around the project site. Overlapping construction schedules with related projects could potentially result in extended utility service interruptions. This would be a potentially significant cumulative impact. However, Mitigation Measure 5.8.1-3 requires the project applicant to coordinate with affected utility providers to minimize loss of service. This measure would ensure that adequate services are provided. Similar measures would be required for the related projects such that there would not be a cumulative impact. Therefore, the project **would not make a considerable contribution** to a significant cumulative impact related to disruption of public services.

Mitigation Measure

No mitigation is required.

Impact 5.15-17	Cumulative—Expose Future Residents to Potential Health Hazard. All of Douglas County is considered a High Radon Potential Zone (4 pCi/L), as designated by the EPA's Map of Radon. Cumulative development in the region could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This would be a potentially significant cumulative impact. However, the project includes mitigation that would include investigation of site-specific radon potential and incorporation of specific construction techniques to reduce radon exposure, which would eliminate the project's contribution to any cumulative exposure conditions. Therefore, the project would not make a considerable contribution to a significant cumulative impacts related to radon exposure.

According to EPA's Map of Radon Zones, Douglas County is located in a high radon potential zone (greater than 4 pCi/L). Cumulative development in the regional could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This would be a significant cumulative impact. Radon could be present in project site soils, therefore posing a risk of radon exposure to the future residents located on the relocated residential parcels. The project-specific impact would be mitigated by Mitigation Measure 5.8.1-4, which would include investigation of site-specific radon potential and incorporation of specific construction techniques to

reduce radon exposure for the future residences, as needed. Therefore, the project **would not make a considerable contribution** to a significant cumulative impacts related to radon exposure.

Mitigation Measure

No mitigation is required.

Impact 5.15-18	**Cumulative—Increased Risk of Health Hazards From Vector-borne Diseases.** Development of related projects in the region as a whole would bring in additional, residents, visitors, and workers, which could increase the number of people potentially exposed to mosquito-borne diseases. This would be a potentially significant cumulative impact. The project includes features that would improve the hydrologic flow on the site and would minimize the amount of standing water that would attract vectors. Therefore, it is anticipated that the project **would not make a considerable contribution** to this potentially significant **cumulative effect** related to health hazards from vector-borne diseases.

Development of related projects in the region as a whole would bring in additional, residents, visitors, and workers, which could increase the number of people potentially exposed to mosquito-borne diseases. This would be a potentially significant cumulative impact. Under current conditions, there are people working on and visiting the site, and existing measures are in place to minimize risks of health hazards. As described in Impact 5.8.1-5, mosquitoes are not a current nuisance on the Edgewood Tahoe Golf Course property and the proposed project would improve hydrologic flow, thereby decreasing the amount of standing water on the site and reducing vector attraction at the site. Further, ponds and detention basins in the project vicinity fall within the jurisdiction of the Douglas County Mosquito Abatement District and would be subject to mosquito abatement measures. Therefore, it is anticipated that the project **would not make a considerable contribution** to this potentially significant **cumulative effect** related to health hazards from vector-borne diseases.

Mitigation Measure

No mitigation is required.

Impact 5.15-19	**Cumulative—Increased Exposure to Wildland Fire Hazard.** Cumulative development would increase the wildland-urban interface, therefore increasing exposure to wildland fire hazard. However, each project considered in this cumulative analysis must be evaluated to minimize the potential for exposure and incorporate fire protective measures. Each project would also be evaluated for provision of adequate fire protection services. Therefore, cumulative impacts related to increased exposure to wildland fire hazards would be less than significant and the project **would not make a considerable contribution** such that a significant cumulative impact would occur.

The fire hazard rating for much of the Tahoe Basin is moderate to high because of the topography and extensive wildland areas. Development of the project along with related projects would increase the wildland-urban interface. However, as with the proposed project, each related project must be individually evaluated to minimize the potential for exposure to wildland fire. Therefore, cumulative impacts would be less than significant. The project site is in a developed area where the topography is fairly level and fuel loading is low. The project would provide appropriate setbacks given the flat terrain of the project site and proposed landscaping. In addition, the proposed lodge complex buildings would incorporate fire resistant roofs (i.e., asphalt shingles or other fire resistant material). Furthermore, the project site is already developed with an existing golf course, clubhouse and restaurant. Therefore, the proposed project **would not make a considerable**

contribution such that a significant cumulative impact related to exposure of people and structures to wildland fire would occur.

Mitigation Measure

No mitigation is required.

ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Impact 5.15-20	Cumulative—Impacts on Undiscovered Cultural Resources. Cumulative development could potentially uncover previously unknown prehistoric or historic resources. Depending on whether such resources are considered significant according to NRHP or TRPA, this could be considered a significant impact. However, mitigation measures described in Section 5.9 would mitigate the project's potential impacts on cultural resources to a less-than-significant level and would ensure that the project **would not incrementally contribute** to any significant cumulative impacts on cultural resources in the region.

Implementation of the proposed project and related projects could potentially uncover previously unknown prehistoric or historic resources. Archival research, Native American consultation, and intensive field survey conducted on the project site indicate that the area is highly sensitive to containing heritage resources that may be buried or otherwise not visible on the ground surface. Consequently, the potential exists that undocumented and concealed prehistoric or historic-era sites, structures, features, artifacts, or human interments could be present and encountered during project-related ground-disturbing activities. However, mitigation measures described in Section 5.9, "Archaeological and Historical Resources," would mitigate impacts on important cultural resources to a less-than-significant level. Implementing these mitigation measures would also ensure that implementation of the project would not incrementally contribute to any significant cumulative impacts on important cultural resources in the region. These mitigation measures are fairly standard and it is assumed that similar measures would be applied to related projects as appropriate. Therefore, the proposed project **would not contribute** to a significant cumulative effect on cultural resources.

Mitigation Measure

No mitigation is required.

TRAFFIC, PARKING, AND CIRCULATION

This cumulative impacts discussion evaluates the potential cumulative traffic, parking, and circulation impacts associated with future "no project" and "plus project" conditions, based upon the environmental thresholds and significance criteria presented in Section 5.10, "Traffic, Parking, and Circulation." With some exceptions, the three project development alternatives, Alternatives 1 through 3, all result in similar environmental impacts. Because the contribution to potential cumulative effects would be similar among all the alternatives given that the development alternatives result in a similar level of development intensity and the traffic conclusions would not be materially different among alternatives, most impact sections of this cumulative analysis are based on the proposed project's (Alternative 1) contribution, regardless of which alternative is chosen. For those cumulative impacts where the conclusions are dependent on which alternative is implemented, the cumulative impacts of each alternative are described.

For environmental issues not specifically discussed below, this EIS has concluded that implementation of the project would not contribute to significant cumulative impacts. Note that the analysis of future traffic impacts associated with the U.S. 50/South Shore Community Revitalization Project is limited to conditions with and without Alternative 1 (proposed project).

FUTURE SETTING

To analyze cumulative impacts related to traffic, circulation, and parking, the future roadway configuration is described, cumulative traffic volumes are developed, and intersection LOS is evaluated. This information is used to analyze the cumulative impacts of the project and mitigation measures are provided.

Roadway Configuration

With the exception of the U.S. 50/South Shore Community Revitalization Project (U.S. 50 Realignment Project), there are currently no other planned Nevada Department of Transportation (NDOT) or California Department of Transportation (Caltrans) construction projects that would affect the intersection operations or future traffic volumes within the vicinity of the project area. Because the environmental review for the U.S. 50 Realignment Project has only recently begun, a decision on that project is not likely to occur in the near term, and the associated improvements are not fully funded, the U.S. 50 Realignment Project is not assumed to be complete in the cumulative conditions analysis. Therefore, the following analysis of future cumulative conditions assumes no changes to the existing roadway network. The potential impacts of the proposed Edgewood Lodge and Golf Course Improvement Project combined with the U.S. 50 Realignment Project are addressed under Impact 5.15-24 below.

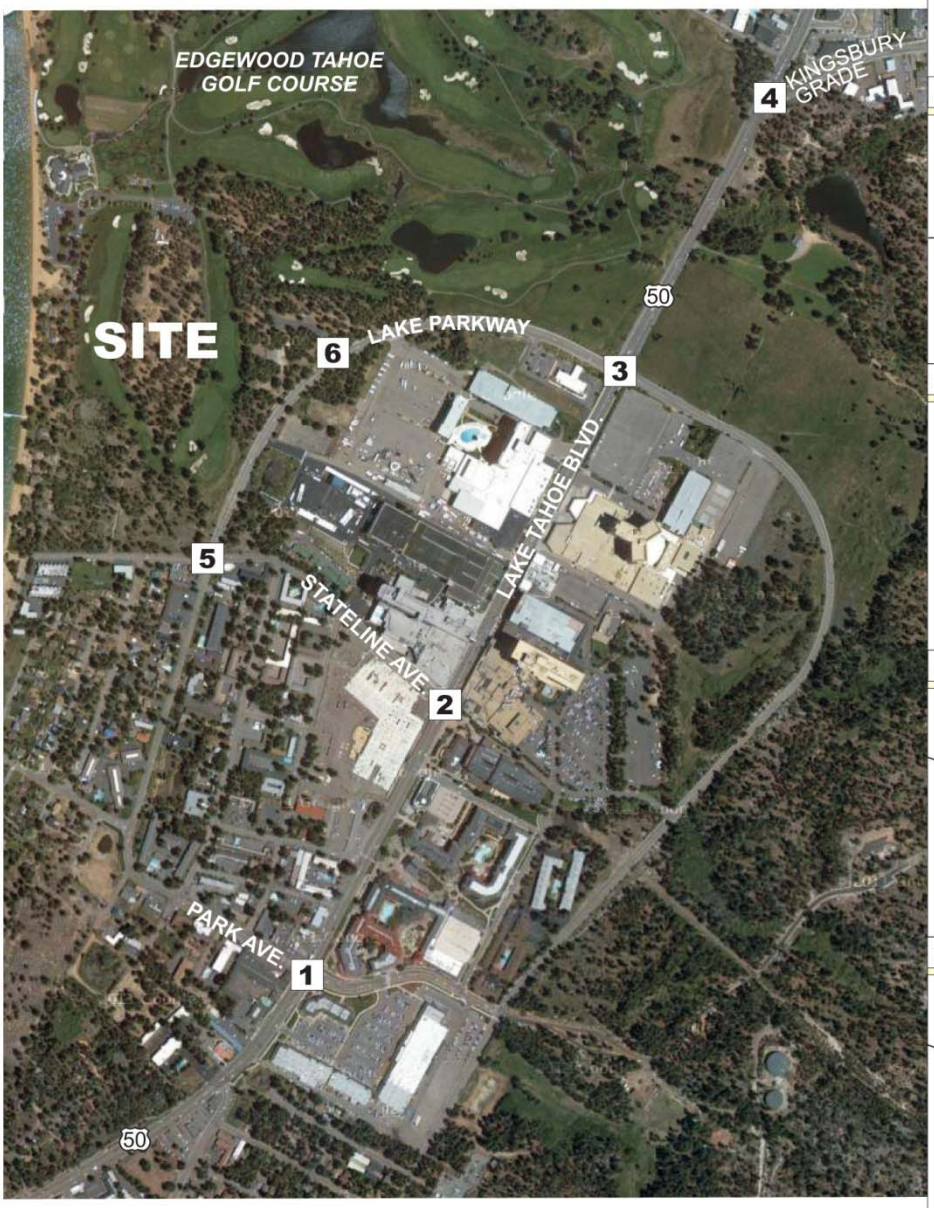
Cumulative Traffic Volumes

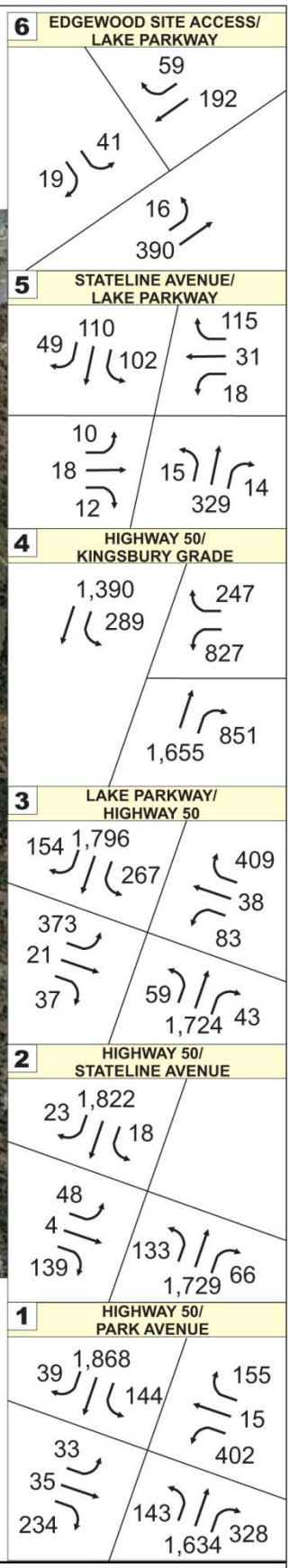
Future 2029 baseline traffic volumes without the proposed project are estimated using data from the TRPA's TransCAD model dated September 2009. TRPA staff created a separate model run for future development conditions, with no growth in the traffic analysis zone (TAZ) containing the proposed Edgewood land uses. This separate model run is used as the basis for the estimation of "future no project" traffic volumes. The TransCAD model output provides turning movement volume estimates for a 3-hour PM peak period (4:00 to 7:00 PM), based upon projected land uses outside the project area. For the purposes of this analysis, the volumes have been adjusted to reflect a 1-hour PM peak period. Based upon a review of Caltrans continuous hourly traffic count data at a point along U.S. 50 near Park Avenue, measured in the summer of 2008, the total two-way traffic volume during the busiest hour (4:00 to 5:00 PM) on the day with the 30th-highest peak hour equates to approximately 36 percent of that during the 3-hour period from 4:00 to 7:00 PM. Therefore, the 3-hour PM peak model volumes were multiplied by a factor of 0.36 to estimate PM peak hour traffic volumes. In some cases, the resulting volumes were lower than the peak-hour traffic volumes obtained from the field counts conducted during the summer of 2009. For these movements, the 2009 design volume was used, to remain conservative in this analysis. The adjusted 2029 PM peak-hour intersection volumes without the proposed project (future base volumes) are shown in Exhibit 5.15-1.

Comparison of Future Forecasts with Historical Trends

Historical summer Average Daily Traffic (ADT) volumes at a point on U.S. 50 between Lake Parkway and Kingsbury Grade are provided by NDOT for the period from 1974 to 2010. As illustrated in Exhibit 5.15-2, the highest ADT during this period was about 45,740 in 1990. Summer traffic volumes at this location have generally declined over the last 20 years. As shown, the ADT in 2010 reflects a 27 percent decrease from the ADT in 1990. In contrast, the traffic volumes derived from the TRPA TransCAD model dated September 2009 indicate a total future growth in traffic volumes at the same of location of about 45 percent, which would equate to a higher ADT than that observed in 1990. Given the current trends in economic conditions, there is the perception that this level of growth is higher than expected. The TRPA TransCAD model was updated subsequent to the model run performed in September 2009.

2029 PM Peak Hour Traffic Volumes Without Project





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LEGEND
8 TURNING MOVEMENT TRAFFIC VOLUME

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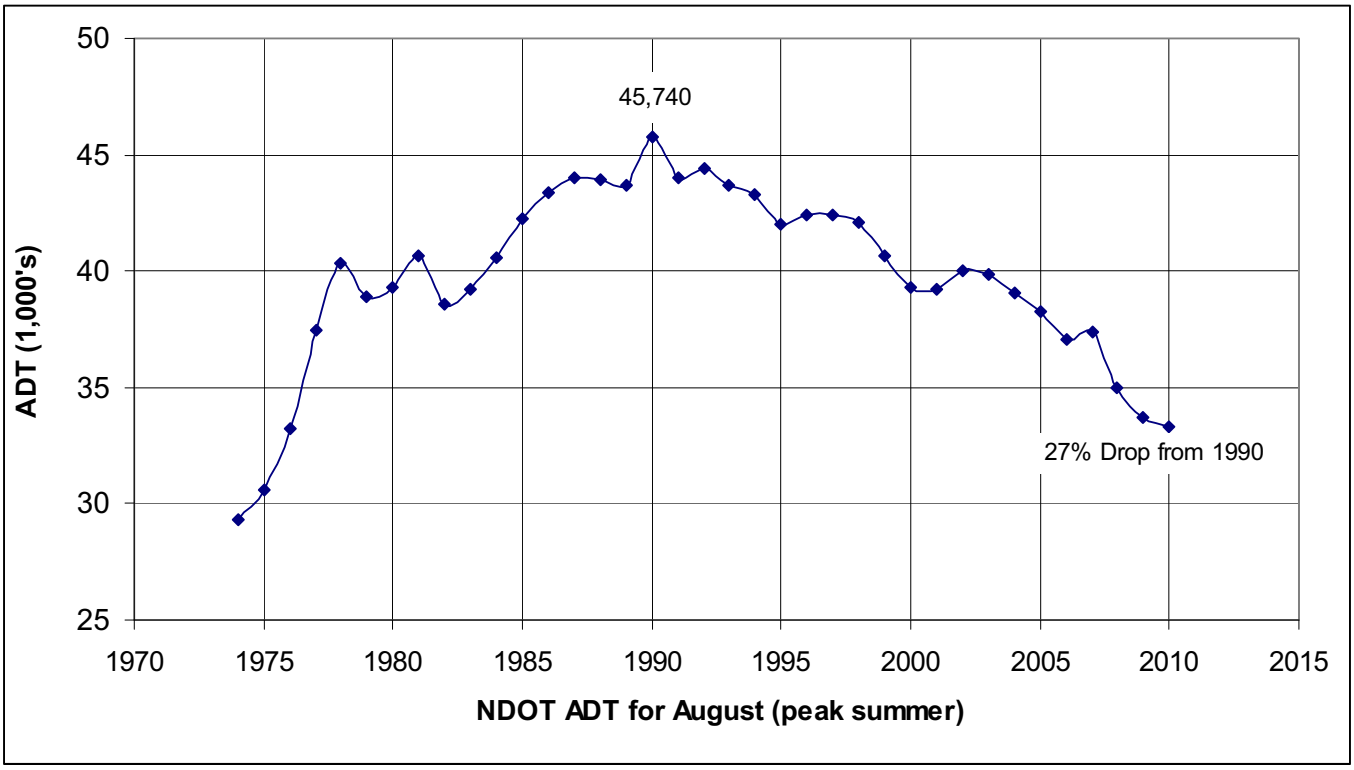
Source: Appendix F

Note: The volumes shown in this exhibit are derived from the 2009 version of the TRPA traffic model, which forecasted a higher level of growth in traffic volumes than the current (2012) TRPA model.

Exhibit 5.15-1. Future Cumulative (2029) PM Peak Hour Traffic Volumes Without Project

ASCENT ENVIRONMENTAL



Source: Appendix F

Exhibit 5.15-2. Historical ADT on US 50 between Lake Parkway and Kingsbury Grade

Updated Future Forecasts

TRPA staff performed a run of the updated model in February 2012 for future development conditions, with no growth in the traffic analysis zone (TAZ) containing the proposed Edgewood land uses. The future volume forecasts in the updated model indicate a lower level of growth than the previous model. Specifically, the forecast ADT at a point on U.S. 50 between Lake Parkway and Kingsbury Grade is about 45,520, which is lower than the ADT observed in 1990. The forecasts in the updated TRPA model are therefore considered to be more probable than those in the previous model. This updated model run is used as the basis for the estimation of "future no project" traffic volumes at the U.S. 50/Lake Parkway intersection. The future traffic volumes at the remaining study intersections are based on the previous 2009 model output, given that no Level of Service deficiencies are identified at those intersections.

Cumulative Daily Traffic Volumes on Adjacent Roadways

ADT volumes were estimated along two of the study roadways: Lake Parkway and Stateline Avenue. The ADT volumes on these roadways in 2029 without the project were estimated based on the 2029 peak-hour volumes and the ratio of daily to peak-hour volumes. Based upon a review of the Caltrans hourly traffic volumes on U.S. 50 during the summer of 2008, the ratio of daily to peak-hour volumes in the study area during the summer season is approximately 13:1. Applying this factor to the peak-hour volumes along Lake Parkway yields an estimated ADT of about 8,070 at a point west of the site driveway and 8,920 at a point east of the site driveway. Similarly, the estimated ADTs on Stateline Avenue are about 3,900 immediately east of Pine Boulevard and about 4,540 immediately west of U.S. 50.

Cumulative Intersection Level of Service

The Level of Service (LOS) at each study intersection in 2029 without the proposed project was evaluated using the Traffix software package, which implements the *Highway Capacity Manual* (Transportation Research Board 2000) methodologies. The results are shown in Table 5.15-2, and the LOS output is included in Appendix F. As

indicated, three of the six study intersections are projected to operate at LOS C or better. The intersections of U.S. 50/Park Avenue, U.S. 50/Lake Parkway, and U.S. 50/Kingsbury Grade are estimated to degrade to LOS E. The TRPA LOS standards specify that LOS E at signalized intersections may be acceptable if limited to no more than 4 hours per day. Based on the Caltrans hourly count station data from 2008, the 4th-highest hour traffic volumes along U.S. 50 at Park Avenue on the design day equates to approximately 87 percent of that during the peak hour. If the traffic volumes are reduced by 87 percent, these three intersections would operate at an acceptable LOS D or better during the 4th busiest hour. Therefore, it can be concluded that LOS E conditions would occur for less than 4 hours on a typical busy summer day. Thus, these three intersections would not exceed the LOS threshold in the future under future conditions without the project.

Table 5.15-2. Future Cumulative Intersection LOS Without Project

Intersection	Type of Control	2029 Without Project			
		Worst Movement		Total Intersection	
		Delay (sec)	LOS	Delay (sec)	LOS
U.S. 50 / Park Avenue [1]	Signal	--	--	57.5	E [3]
U.S. 50 / Stateline Avenue [1]	Signal	--	--	20.2	C
U.S. 50 / Lake Parkway [2]	Signal	--	--	55.9	E [3]
U.S. 50 / Kingsbury Grade [1]	Signal	--	--	56.0	E [3]
Lake Parkway / Stateline Avenue [1]	All-Way Stop	15.3	C	12.2	B
Site Access / Lake Parkway [1]	Stop Controlled	11.6	B	1.1	A

[1] The calculated delays shown in this table are based upon the 2009 version of the TRPA traffic model, which forecasted a higher level of growth in traffic volumes than the current (2012) TRPA model. In general, the delays based upon the current TRPA model would be less than those shown in this table.
[2] The calculated delays shown for the U.S. 50/Lake Parkway intersection are based on volume forecasts from TRPA's current traffic model.
[3] LOS E operations are estimated to occur for not more than 4 hours on the design day and therefore do not exceed TRPA LOS standards.
Source: LSC Transportation Consultants, Inc. 2012 (Appendix F)

Impact 5.15-21 **Cumulative—Impact on Intersection Level of Service Under 2029 Conditions.** Implementation of any of the Edgewood Lodge and Golf Course Improvement Project development alternatives (Alternatives 1, 2, and 3) would result in an acceptable LOS at all study intersections in 2029. Therefore, the project **would not make a considerable contribution** such that a significant cumulative impact related to intersection LOS would occur.

For all the development alternatives, the respective trip generation in the future (2029) is expected to be the same as it would be for each alternative in 2009, as described in Section 5.10, "Traffic, Parking, and Circulation." As the trip distribution pattern would also be the same, the project net impact on intersection turning movement volumes is the same in the future. In the following discussion, the increase in 2029 peak-hour and daily traffic volumes on project access roadways is estimated, and then the PM peak-hour LOS at each study intersection is evaluated under 2029 conditions with the project development alternatives.

Project Impact on Traffic Volumes

The impact of each development alternative on ADT volumes along Lake Parkway and Stateline Avenue in 2029 was estimated. Implementation of the project development alternatives would result in an increase in ADT along Stateline Avenue ranging from 1 to 2 percent for all alternatives, but would vary along Lake Parkway depending upon the alternative as follows under 2029 conditions:

- Alternative 1: ranging from 7 to 12 percent
- Alternative 2: ranging from 8 to 12 percent
- Alternative 3: ranging from 9 to 15 percent

The forecasted 2029 PM peak hour intersection volumes with Alternative 1 (which are representative of all project alternatives) are shown in Exhibit 5.15-3. Table 5.15-3 shows the increase in ADT along Lake Parkway and Stateline Avenue with implementation of Alternative 1 (which is representative of all project alternatives).

Intersection LOS

The LOS at each study intersection was evaluated for each alternative, and the LOS calculations are included in Appendix F. Table 5.15-4 presents the future (2029) intersection LOS with and without Alternative 1 (which is representative of all project alternatives). As shown, the addition of traffic generated by the project would not degrade the total intersection LOS at any study intersection, although the average delays would increase. Under all alternatives, all study intersections are expected to operate at an acceptable LOS. Therefore, all project alternatives would result in a **less-than-significant** cumulative impact related to intersection LOS.

Mitigation Measure

No mitigation is required.

Table 5.15-3. ADT Impact on Nearby Roadways in 2029 - Alternative 1

Road Segment	Average Daily Traffic Volume (ADT)			
	Without Project	Project Generated	With Project	Percent Increase
Lake Parkway, east of Edgewood	8,920	1,035	9,955	12%
Lake Parkway, west of Edgewood	8,070	592	8,662	7%
Stateline Avenue, east of Pine Boulevard	3,900	60	3,960	2%
Stateline Avenue, west of U.S. 50	4,540	48	4,588	1%

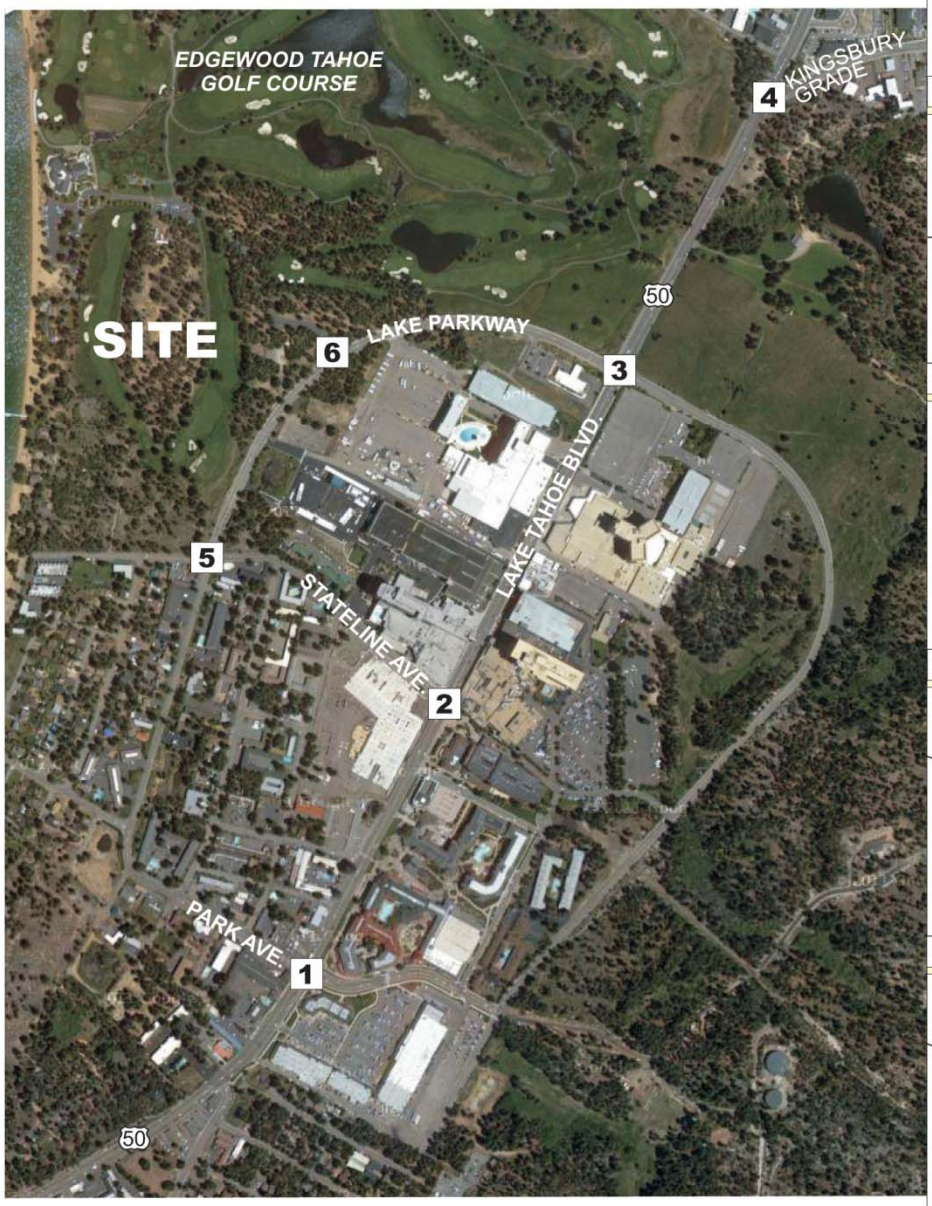
Source: LSC Transportation Consultants, Inc. 2012 (Appendix F)

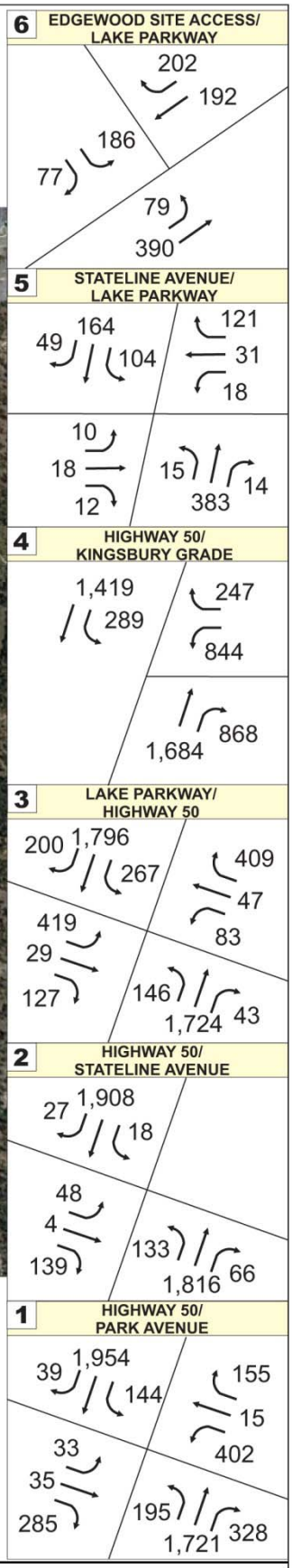
Table 5.15-4. Future 2029 Intersection LOS - Alternative 1

Intersection	Type of Control	Without Project				With Project			
		Worst Movement		Total Intersection		Worst Movement		Total Intersection	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
U.S. 50 / Park Avenue [1]	Signal	--	--	57.5	E	--	--	74.4	E
U.S. 50 / Stateline Avenue [1]	Signal	--	--	20.2	C	--	--	22.2	C
U.S. 50 / Lake Parkway [2]	Signal	--	--	55.9	E	--	--	60.7	E
U.S. 50 / Kingsbury Grade [1]	Signal	--	--	56.0	E	--	--	59.2	E
Lake Parkway / Stateline Avenue [1]	All-Way Stop	15.3	C	12.2	B	19.5	C	14.5	B
Edgewood Access / Lake Parkway [1]	Stop Controlled	11.6	B	1.1	A	21.9	C	5.7	A

BOLD text indicates that LOS standard is exceeded.
Note: For all intersections shown to operate at LOS E, this condition would occur for no more than 4 hours per day and therefore would not exceed TRPA LOS standards.
[1] The calculated delays shown for these intersections are based upon the 2009 version of the TRPA traffic model, which forecasted a higher level of growth in traffic volumes than the current (2012) TRPA model. In addition, the "with project" LOS results are based upon a previous version of the trip generation analysis, which utilized overly–conservative assumptions. The delays based upon the current TRPA model and the current trip generation analysis would be less than or equal to those shown in this table.
[2] The 2029 traffic volumes and LOS results at the U.S. 50/Lake Parkway intersection are based upon TRPA's current (2012) traffic model forecasts, as well as the current trip generation assumptions for the Edgewood project traffic (as described in Section 5.10).
Source: LSC Transportation Consultants, Inc. 2012 (Appendix F)

2029 PM Peak Hour Traffic Volumes With Alternative 1





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Source: Appendix F

Note: The volumes shown in this exhibit are derived from the 2009 version of the TRPA traffic model, which forecasted a higher level of growth in traffic volumes than the current (2012) TRPA model. Additionally, the volumes included for Alternative 1 are based upon a previous version of the trip generation analysis, which utilized overly-conservative assumptions.

Exhibit 5.15-3. Future Cumulative (2029) PM Peak Hour Traffic Volumes with Alternative 1

ASCENT ENVIRONMENTAL

Impact 5.15-22	**Cumulative—Impact on Transit, Pedestrian, and Bicycle Facilities.** Adequate transit, pedestrian, and bicycle facilities are expected to be provided with all three development alternatives. Mitigation has been included to ensure that the development alternatives would provide safe access between the lodge complex and the proposed off-site employee parking lot on the south side of Lake Parkway. Many of the related projects in Table 5.15-1 (e.g., the South Demonstration Project, the Greenway Shared-Use Trail, the Ski Run to El Dorado Beach Bike Trail, Lake Tahoe Waterborne Transit, and the U.S. 50/South Shore Community Revitalization Project) include components that would create new or enhanced transit, pedestrian, and bicycle facilities in the Stateline area that together with the project would improve connectivity in the area and promote the use of alternative modes of transportation. Therefore, the project **would not make a considerable contribution** such that a significant cumulative impact related to transit, pedestrian, and bicycle facilities would occur.

The project would provide shuttle service for trips made between the project site and the casino corridor area, Heavenly Village, and other nearby destinations. The proposed shuttle service would operate based on demand in a fashion that would serve guest needs, but not result in unnecessary shuttle trips. A non-motorized shared-use pathway would be provided separate from but parallel to the site access roadway extending from Lake Parkway to the proposed lakefront recreation and public beach area at Edgewood. In addition, the South Demonstration Project shared-use path is assumed to be completed under future cumulative conditions. The South Demonstration Project would provide a shared-use facility along the Edgewood site frontage as a part of that project.

Many of the related projects in Table 5.15-1 (e.g., the South Demonstration Project, the Greenway Shared-Use Trail, the Ski Run to El Dorado Beach Bike Trail, Lake Tahoe Waterborne Transit, and the U.S. 50/South Shore Community Revitalization Project) include components that would create new or enhanced transit, pedestrian, and bicycle facilities in the Stateline area that together with the project would improve connectivity in the area and promote the use of alternative modes of transportation.

With mitigation identified in Section 5.10, “Traffic, Parking, and Circulation” for all alternatives, adequate conditions would be provided for persons walking between the project site and the off-site employee lot on the south side of Lake Parkway. Adequate crossing of U.S. 50 would also be provided at the U.S. 50/Lake Parkway intersection. If constructed, the South Demonstration Project would include a crossing treatment on Lake Parkway, near the Nevada/California border. All alternatives would not conflict with any existing or planned pedestrian or bicycle facilities associated with related projects in Table 5.15-1. Therefore, the project **would not make a considerable contribution** such that a significant cumulative impact related to transit, bicycle, and pedestrian facilities would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-23	**Cumulative—Construction Traffic Impacts.** Construction traffic related to any of the development alternatives would only be present in the project vicinity during the construction period, which may occur between 2013 and 2017. Adequate transportation conditions are expected to be provided during the construction phases. No construction traffic from the proposed project is expected in year 2029. This is a less than significant cumulative impact and the project **would not result in a considerable contribution** such that a significant cumulative impact would occur.

Construction of the proposed project is estimated to be completed over a span of 5 years. Construction traffic would access the site via Lake Parkway. As discussed in Section 5.10, "Traffic, Parking, and Circulation," all study intersections are expected to operate at an acceptable LOS during the construction phases. In addition, according to the project description, adequate emergency access would be provided at all times and local emergency service providers would be notified of any potential road closures or detours at least 48 hours in advance.

The project would be built-out before 2029. Construction traffic would only be present during the construction period, which may occur over a consecutive 5-year period. Therefore, there would be no impact because of project construction-related traffic or parking under 2029 conditions. This cumulative impact is less than significant, and the project **would not make a considerable contribution** such that a significant cumulative impact would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-24	**Cumulative—Traffic Impacts With U.S. 50/South Shore Community Revitalization Project.** With the U.S. 50 Realignment Project, the two key intersections of U.S. 50/Park Avenue and U.S. 50/Lake Parkway are expected to operate at an acceptable LOS in 2029 with or without the Edgewood Project. The cumulative impact to these intersections is considered less than significant and the Edgewood Project **would not result in a considerable contribution** such that a significant cumulative impact would occur.

The U.S. 50/South Shore Community Revitalization Project (U.S. 50 Realignment Project) includes upgrades to existing highway facilities to improve traffic flow through the Stateline area, as well as to improve bicycle and pedestrian conditions along the existing U.S. 50 corridor. Several U.S. 50 Realignment Project alternatives have been evaluated. Currently, the proposed alternative is the U.S. 50 Realignment Project "Alternative 2" (Note: in early planning studies this alternative was called Alternative D [Modified].) An Alternative 2 site plan is included in Appendix F. The key elements of the U.S. 50 Realignment Project that would affect the proposed project analysis are the following:

- Lake Parkway East (the mountain-side alignment) would be expanded to accommodate U.S. 50 traffic traversing through the study area and turn pockets at driveways;
- The U.S. 50 designation in both directions would be moved to this mountain-side alignment, which would provide a five-lane section (two lanes in each direction with median left-turn pockets at all major roadways and driveways);
- The existing U.S. 50 alignment between Park Avenue and Lake Parkway would be converted to a three-lane section, with one travel lane in each direction and median left-turn pockets at all major roadways and driveways;
- A dual-lane roundabout would be constructed at the New U.S. 50/Old U.S. 50/Lake Parkway intersection;
- New transit, bicycle, and pedestrian facilities would be installed along existing U.S. 50;

The impact of the U.S. 50 Realignment Project on the traffic operations at the two key intersections of U.S. 50/Park Avenue and New U.S. 50/Old U.S. 50/Lake Parkway was evaluated as part of this EIS. First, the 2029 peak-hour traffic volumes at both intersections with the U.S. 50 Realignment Project were estimated, with and without the Edgewood Project, then, the intersection LOS was evaluated.

Traffic Volumes with U.S. 50 Realignment Project

The 2029 peak-hour traffic volumes at the U.S. 50/Park Avenue and New U.S. 50/Old U.S. 50/Lake Parkway intersections with the U.S. 50 Realignment Project but without the Edgewood Project were estimated. The shift in traffic volumes resulting from implementation of the U.S. 50 Realignment Project was estimated based upon a comparison of the "no project" volumes and "with Alternative 2" volumes presented in the technical analyses completed by Wood Rodgers, Inc. as a part of the Caltrans Project Report. The "2029 without Edgewood Project" volumes were adjusted to reflect the change in traffic volumes resulting from the U.S. 50 Realignment Project. The resulting "2029 with U.S. 50 Realignment Project" volumes at the two intersections are presented in Table 5.15-5. Next, the proposed project turning-movement volumes were estimated, assuming completion of the highway realignment to Lake Parkway East. Adding the Edgewood Project traffic volumes to the "2029 with U.S. 50 Realignment Project" volumes yields the "2029 with U.S. 50 Realignment Project with Edgewood Project" volumes, which are also included in Table 5.15-5.

Table 5.15-5. Future (2029) Intersection Peak-Hour Traffic Volumes with U.S. 50 Realignment Project

Intersection	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Without Edgewood Project													
U.S. 50 / Park Avenue [1]	134	724	279	144	791	39	29	32	234	366	14	146	2,932
New U.S. 50 / Old U.S. 50/Lake Parkway [2]	64	485	47	1,344	763	132	279	21	37	74	35	1,423	4,704
With Edgewood Project													
U.S. 50 / Park Avenue [1]	186	753	279	144	820	39	29	32	285	366	14	146	3,093
New U.S. 50 / Old U.S. 50/Lake Parkway [2]	78	485	47	1,344	763	154	289	36	48	74	67	1,423	4,808

[1] The volumes shown for the U.S. 50/Park Avenue intersections are based upon the 2009 version of the TRPA traffic model, which forecasted a higher level of growth in traffic volumes than the current (2012) TRPA model. In addition, the "with project" volumes at this intersection are based upon a previous version of the trip generation analysis, which utilized overly–conservative assumptions. The volumes based upon the current TRPA model and the current trip generation analysis would generally be less than or equal to those shown in this table.
[2] The volumes shown for the U.S. 50/Lake Parkway intersection are based upon TRPA's current (2012) traffic model forecasts, as well as the current trip generation assumptions for the Edgewood project traffic (as described in Section 5.10).
Source: LSC Transportation Consultants, Inc. 2012 (Appendix F)

Intersection LOS with U.S. 50 Realignment Project

The LOS at the U.S. 50/Park Avenue and New U.S. 50/Old U.S. 50/Lake Parkway intersections with the U.S. 50 Realignment Project was evaluated, and the LOS output is contained in Appendix F. Implementation of the U.S. 50 Realignment Project would reduce the total traffic volumes through the U.S. 50/Park Avenue intersection, thereby improving the total intersection LOS from a LOS E to a LOS C in 2029. Adding the Edgewood Project traffic would degrade the LOS at this intersection, but operations would remain at an acceptable LOS D during peak periods. The LOS on the dual-lane roundabout at the New U.S. 50/Old U.S. 50/Lake Parkway intersection was evaluated using the Sidra 4.0 software package. The worst approach is calculated to operate at LOS B in 2029 without the Edgewood Project. Implementation of the Edgewood Project would degrade the LOS on the worst approach to LOS C, which remains an acceptable LOS. Because the two key intersections are expected to operate at an acceptable LOS in 2029 with the U.S. 50 Realignment Project and with the Edgewood Project, cumulative impacts would be less than significant, and the project **would not make a considerable contribution** such that a significant cumulative impact would occur.

Mitigation Measure

No mitigation is required.

AIR QUALITY

Impact 5.15-25	**Cumulative— Construction-Related Air Quality Impacts.** Unmitigated construction-generated emissions associated with the project development alternatives and other construction projects in the Lake Tahoe Air Basin (LTAB) would contribute on a cumulative basis to nonattainment conditions. This would be a significant cumulative impact. The development alternatives would be required to implement mitigation measures to reduce construction-generated emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$. This would minimize construction-generated emissions, and would minimize the project's contribution to cumulative impacts. Therefore, the project **would not result in a considerable contribution** to this significant cumulative air quality impact.

As discussed in Section 5.11, "Air Quality," emissions of pollutants generated during construction are temporary in nature, but can contribute substantially to air quality violations and nonattainment conditions. Emissions are primarily associated with heavy-duty construction equipment and fugitive emissions from ground disturbance and earth-moving activities. Unmitigated emissions associated with the project development alternatives and other construction projects in the LTAB would contribute on a cumulative basis to nonattainment conditions. In addition, when taken together, the project-generated emissions would have the potential to cause violations of ambient air quality standards or make a substantial contribution to emissions that would cause ambient air quality standards to be exceeded. This would be a significant cumulative impact. The proposed project and alternatives would be required to implement mitigation measures that would reduce construction-generated emissions of reactive organic gases (ROG), oxides of nitrogen (NO_X), particulate matter measuring 10 microns or less (PM_{10}), and particulate matter measuring 2.5 microns or less ($PM_{2.5}$). This would minimize construction-generated emissions, and would minimize the project's contribution to cumulative impacts. The project would **not result in a considerable contribution** to this significant cumulative air quality impact.

Mitigation Measure

No mitigation is required.

Impact 5.15-26	**Cumulative—Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.** Because long-term operational emissions would not exceed TRPA's stationary source thresholds or the mass emission thresholds, implementation of the project would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with or obstruct implementation of the applicable air quality plan. The proposed project **would not make a considerable contribution** to a significant cumulative impact related to criteria air pollutant and precursor emissions.

As described in Section 5.11, "Air Quality," emissions associated with the operation of any of the project development alternatives would be long-term and have associated regional emissions. However, the increase in emissions would be small compared with applicable significance thresholds that are tied to attainment planning efforts, and would not contribute substantially to a cumulative long-term regional air quality impact, nor would it affect TRPA's attainment designations. The proposed project **would not make a considerable contribution** such that a cumulative impact related to criteria air pollutant and precursor emissions would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-27	**Cumulative—Local Carbon Monoxide (CO) Concentrations.** The project area is a maintenance area for CO (rather than in nonattainment); therefore, no significant cumulative impact associated with local carbon monoxide concentrations has been identified for the project vicinity. The hourly traffic volumes at project-affected intersections would be an order of magnitude below the screening level criteria used for determining whether local CO modeling is necessary in order to evaluate impacts of traffic congestion on local CO concentrations and the increase in emission standards would continue to reduce CO emissions from vehicles over the cumulative project planning period. Therefore, the project **would not make a contribution** to increases in CO emissions at project intersections such that a significant cumulative CO impact would occur.

The Transportation Project-Level Carbon Monoxide Protocol (Garza et al. 1997) states that a signalized intersection that operates at an unacceptable LOS represents a potential for a carbon monoxide (CO) violation, also known as a "hotspot," and must undergo a quantitative screening-level analysis. Thus, an analysis of CO concentrations is typically recommended for receptors located near signalized intersections that are projected to operate at LOS E or F.

Under cumulative conditions in year 2029, the signalized intersections of U.S. 50/Park Avenue, U.S. 50/Stateline Avenue, U.S. 50/Lake Parkway, U.S. 50/Kingsbury Grade, Lake Parkway/Stateline Avenue, and Edgewood Access/Lake Parkway would operate at acceptable LOS under future conditions without and with the project for all alternatives.

The project alternatives would add approximately 1,600-2,100 new daily vehicle trip ends to the local roadway network (Section 5.10, "Traffic, Parking, and Circulation"). As discussed above under the heading "Traffic, Parking, and Circulation," the ration of daily to peak-hour volumes in the study area during the summer seasons is approximately 13:1. Thus, the project alternatives would add approximately 208-273 vehicle trips to the roadway network during the peak hour. The Sacramento Metropolitan Air Quality Management District (SMAQMD) developed screening criteria for determining whether local CO modeling is necessary to evaluate impacts of traffic congestion on local CO concentrations; this methodology is used widely in locations outside of SMAQMD's jurisdiction to assess potent CO issues. Because TRPA does not have its own screening criteria, SMAQMD's criteria is used to guide the analysis of CO effects herein. The applicable screening criteria are as follows (SMAQMD 2009:4-15–4-16):

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour;
- The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air would be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the county average (as identified by the EMFAC or URBEMIS models).

The project would not trigger any of these screening criteria. Specifically, no affected intersections would experience more than 31,600 vehicles per hour (for instance, the intersection most affected by the project [U.S. 50 and Lake Parkway] would experience 5,290 vehicles per peak hour under 2029 cumulative plus project conditions (Exhibit 5.13-3), the project would not affect intersections where mixing would be substantially limited, and the vehicle fleet would not differ substantially from the local average. The SMAQMD screening criteria is associated with the 1-hour California ambient air quality standards (AAQS) for CO of 20 and 9 ppm, respectively. The Nevada AAQS for 1-hour CO (35 ppm) is less stringent than that applied in California. Additionally, the LTAB AAQS for 8-hour CO of 6 ppm is more stringent than the CAAQS of 9 ppm. However, because the project-affected intersections would be an order of magnitude below the SMAQMD screening level of 31,600 vehicles, in combination with the increase in emission standards that would continue to reduce CO

emissions from vehicles over the cumulative project planning period, and the fact that the project area is a maintenance area for CO (rather than in nonattainment), it is not anticipated that an air quality violation would occur. Thus, implementation of any project alternative would not result in or contribute to local CO concentrations that exceed the TRPA 8-hour AAQS of 6 ppm, or Nevada 1-hour and 8-hour CO standards of 35 ppm or 6 ppm, respectively. The project **would not make a contribution** to increases in CO emissions at project intersections such a significant cumulative CO impact would occur.

Mitigation Measure

No mitigation is required.

Impact 5.15-28	Cumulative—Exposure of Sensitive Receptors to Substantial Pollutant Concentrations. The proposed project would not include the construction or operation of any major stationary sources of hazardous air pollutant (HAP) emissions, or result in an increase in mobile-source HAP emissions (i.e., diesel truck traffic). Construction of the proposed project would result in short-term diesel exhaust emissions from on-site heavy duty equipment. Due to future reductions in exhaust emissions related to the replacement of older vehicles in the fleet mix over time, and the small scale of the proposed construction-related activities, short-term construction activities would not make a considerable contribution such that a significant cumulative impact related to exposure of sensitive receptors to HAP emissions would occur.

Construction of the proposed project would result in short-term diesel exhaust emissions from on-site heavy duty equipment. Construction of the project and related projects would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities.

Implementation of mitigation measures identified in Section 5.11, “Air Quality,” would minimize the project’s contribution to cumulative HAPs and the project’s, short-term construction activities **would not make a considerable contribution** such that a significant cumulative impact related to exposure of sensitive receptors to HAP emissions would occur.

Mitigation Measure

No mitigation is required.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

GHG and Climate Change are inherently cumulative effects. Because of the complex nature of these impacts they are evaluated in detail in Section 5.12, “Greenhouse Gas Emissions and Climate Change,” which constitutes the discussion of cumulative impacts for these issue areas.

NOISE

When determining whether the overall noise (and vibration) impacts from related projects would result in significant cumulative effects and whether the project’s incremental contribution to any significant cumulative effect would be cumulatively considerable, it is important to note that noise and vibration are localized occurrences; as such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only those related projects that are in the direct vicinity of the project site and those that are considered influential in regards to noise and vibration would have the potential to be considered in a cumulative context with the project’s incremental contribution. Those projects located less than 0.25 mile from the project area (as measured from the closest boundary of the project area) are listed below:

- Beach Club on Lake Tahoe less than 0.10 mile north of the project site
- Burke Creek Restoration Project approximately 0.15 mile north of the project site
- U.S. 50/South Shore Community Revitalization Project adjacent to the project site
- Nevada Stateline to Stateline Bikeway, South Demonstration Project adjacent to the project site

Impact 5.15-29	**Cumulative— Construction-Generated Noise Levels.** Construction of the Edgewood Lodge and Golf Course Project and nearby related projects would generate noise levels in excess of local standards. However, construction noise occurring during daytime hours is exempt from applicable standards, provided that construction equipment is properly fitted with feasible noise control devices. While it is unknown whether other cumulative projects would comply with these standards and potentially significant cumulative impacts could occur, because the project would comply with requirements of the exemption for construction-generated noise, the project **would not make a considerable contribution** to a potentially significant cumulative noise impact.

Noise and vibration are localized occurrences; as such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only those related projects that are in the direct vicinity of the project site and those that are considered influential in regards to noise and vibration would have the potential to be considered in a cumulative context with the project's incremental contribution. The closest related projects to the project site are the U.S. 50 Realignment Project and the Nevada Stateline-to-Stateline Bikeway, South Demonstration Project, both of which would be located along the eastern edge of the project site.

Construction equipment noise from the related projects listed above and in Table 5.15-1 would be similar in nature and magnitude to those discussed for the proposed project and alternatives in Section 5.13, "Noise." Specifically, noise levels from on-site construction activities would fluctuate depending on the particular type, number, and duration of usage for the varying equipment. Nonetheless, noise generated from construction activities that occur between 8:00 AM to 6:30 PM (daily) is considered exempt from the provisions of the applicable TRPA standards. It is unknown whether all related projects would comply with the provisions of the applicable TRPA standards. Therefore, potentially significant cumulative noise impacts could occur.

For the proposed project, construction activities would be temporary in nature, and noise-generating construction activities would not occur during the more noise-sensitive hours (i.e., before 8:00 AM and after 6:30 PM) in compliance with applicable TRPA regulations. Therefore, the project **would not make a considerable contribution** to a potentially significant cumulative noise impact.

Mitigation Measure

No mitigation is required.

Impact 5.15-30	**Cumulative—Long-Term Traffic Source Noise Levels.** Traffic generated by the project development alternatives, in combination with projected future cumulative traffic volumes, would not result in a perceptible increase in ambient noise levels on nearby roadways or highways. Therefore, this cumulative impact would be less than significant and the project **would not make a considerable contribution** such that a significant cumulative traffic source noise impact would occur.

Implementation of the aforementioned related projects would result in an increase in ADT volumes on affected roadway segments and, consequently, an increase in traffic source noise. Traffic noise was modeled for future

conditions, with and without implementation of the proposed project and development alternatives, based on the predicted ADT volumes and their distribution over the roadway network.

With respect to the related projects, the net change from existing to future with related projects would be less than 3 dBA. Therefore, the related projects would not result in significant cumulative impacts with respect to long-term exposure of sensitive receptors to increased traffic noise. Table 5.15-6 summarizes the net change in modeled traffic noise levels from future no project to plus project conditions for each alternative. As shown, generated traffic source noise would not result in a perceptible (e.g., 3 dBA or greater) increase in noise levels along affected local roadways or highways. Therefore, the project **would not make a considerable contribution** such that a significant cumulative traffic source noise impact would occur.

Mitigation Measure

No mitigation is required.

Table 5.15-6. Summary of Modeled Future Traffic Noise Levels under No Project and Plus Project Conditions

Roadway	Segment	Net Change from Future No Project (dBA CNEL/L_{dn} at 100 feet from Roadway Centerline)		
		Alternative 1	Alternative 2	Alternative 3
Lake Parkway	East of Edgewood	+0.5	+0.5	+0.7
Lake Parkway	West of Edgewood	+0.3	+0.4	+0.5
Stateline Avenue	East of Pine Boulevard	+0.1	+0.1	+0.2
Stateline Avenue	West of U.S. 50	0	+0.1	+0.1

Notes: CNEL = Community Noise Equivalent Level; dB = A-weighted decibels; L_{dn} = day-night average noise level
Refer to Appendix H for detailed modeling input data and output results.
Source: Data modeled by Ascent Environmental, Inc. in 2012

PUBLIC SERVICES AND UTILITIES

Impact 5.15-31 **Cumulative—Provision of Public Services and Utilities.** All utility and public service providers, including those providing emergency services, would have the capacity to meet the additional demand for utilities and public services for the proposed development alternatives. Additionally, it is expected that utility and public service providers would confirm their ability to meet additional demand for related projects that would be constructed in the project area prior to implementation. Therefore, no significant cumulative public service and utility impacts would occur and the proposed project **would not result in a considerable contribution** such that a significant cumulative impact would occur.

Of the related projects listed in Table 5.15-1, the bicycle trail projects, the U.S. 50 Realignment Project, the fuels reduction project, and habitat restoration projects would make little or no demand on water supply and wastewater treatment capacity. Those related projects that have the potential to increase demand for water supply and wastewater treatment capacity include the Beach Club, Sierra Colina, Project 3, and Gondola Vista projects, which are all approved projects. All together these projects would add approximately 690 condominium or other residential type units to the area.

Water supply for the Edgewood Lodge and Golf Course Improvement Project would be provided by Edgewood Water Company (EWC). Sierra Colina and the Beach Club are supplied by Kingsbury General Improvement District (KGID), and the Project 3 and Gondola Vista projects are located in the service area of the South Tahoe

Public Utilities District (STPUD). For those projects to receive approval, KGID and STPUD would have had to determine that adequate water supply and treatment facilities are available to serve them. Because the proposed project would not be served by STPUD or KGID, it would not contribute to any significant cumulative impact related to the quality or quantity of water supply in combination with projects located within the KGID and STPUD service areas.

Because EWC's existing water supply, treatment facilities, and distribution system are adequate to serve the project development alternatives as discussed in Section 5.14, "Public Services and Utilities," and verified in a Will Serve letter issued by EWC, and none of the related projects would be expected to create additional long term water supply demand within the EWC service area, no significant cumulative water supply impacts would occur and the project **would not make a considerable contribution** such that a significant cumulative water supply impact would occur

The Douglas County Sewer Improvement District (DCSID) wastewater treatment plant (WWTP), which serves the area where the proposed project, Beach Club, Sierra Colina and the planned restroom facility at Kahle Drive/U.S. 50 associated with the South Demonstration Project are located, is currently operating at approximately 40 percent of its treatment capacity (Section 5.14, "Public Services and Utilities"). Currently the plant is treating 1.5 mgd of wastewater, with a capacity of 3.75 mgd. The Beach Club and Sierra Colina projects would add 193 condominium or other residential type units to the area served by DCSID WWTP located in Stateline, Nevada. Because there is adequate remaining wastewater treatment capacity, no significant cumulative impact related to wastewater treatment capacity is identified. Therefore, the addition of a maximum of 250 lodge units associated with the project **would not result in a considerable contribution** such that a significant cumulative impact related to wastewater treatment would occur.

During project operation, the proposed project would generate an increased demand for other public services and utilities, including; solid waste collection and disposal; electricity and natural gas; telecommunications; fire protection and emergency services; law enforcement; and public schools; however, the appropriate public service and utility providers are responsible for ensuring an adequate provision of public services and utilities within their jurisdictional boundaries, and it would be expected that all demands for public services and utilities associated with any related project would be required to be met in order for that project to be approved and implemented. Therefore, no significant cumulative utility impacts would occur, and the proposed project **would not result in a considerable contribution** such that a significant cumulative impact to utilities would occur.

Mitigation Measure

No mitigation is required.

8 REFERENCES

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None

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None

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CHAPTER 5, AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

SECTION 5.1, APPROACH TO THE ENVIRONMENTAL ANALYSIS

None

SECTION 5.2, LAND USE

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