Draft
Environmental Impact Statement

Beach Club on Lake Tahoe

Douglas County, Nevada

Submitted to:

Tahoe Regional Planning Agency

TRPA

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January 2008

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Environmental Impact Statement

Beach Club on Lake Tahoe

Douglas County, Nevada

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ABBREVIATIONS AND ACRONYMS

ADT	average-daily-traffic
AMWG	Adaptive Management Working Group
ANSI	American National Standards Institute
APN	Assessor's Parcel Number
Bailey System	Land-Capability Classification of the Lake Tahoe Basin, California-Nevada: A Guide to Planning
Be	Beach soil
BFE	base flood elevations
bgs	below ground surface
BMPs	Best Management Practices
BPRP	Boating Pollution Reduction Program
BWQP	Bureau of Water Quality Planning
CDF	California Department of Forestry and Fire Protection
CDMG	California Division of Mines & Geology
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CHABA	Committee of Hearing, Bio Acoustics, and Bio Mechanics
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
Co	Celio gravelly loamy coarse sand
CWA	Clean Water Act
CY	cubic yards
dB	decibels
dBA/DD	dBA per doubling of distance
dbh	diameter at breast height
DFG	California Department of Fish and Game
DOT	U.S. Department of Transportation
DRC	Design Review Committee
ETCC	environmental threshold carrying capacities
EIP	Environmental Improvement Program
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
Ev	Elmira loamy coarse sand, wet variant
FEMA	Federal Emergency Management Agency
FIS	Flood Insurance Study
Forest Service	U.S. Department of Agriculture Forest Service
ft^2	feet squared
FTA	Federal Transit Administration
$gC/M^2/yr$	grams C bound into organic C per square meters of ocean surface per year
GID	General Improvement District

Gr	Gravely alluvial land
GVW	gross vehicle weight
HPS	high pressure sodium
HVAC&R	heating, ventilation and air conditioning and refrigeration
Hz	hertz
IBC	International Building Code
ICC	International Code Council
in/sec	inch per second
IRC	International Residential Code
JWP	Jere Williams Plan
KGID	Kingsbury General Improvement District
LCD	land capability districts
L_{dn}	Day-Night Noise Level
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Noise Level
L_{min}	Minimum Noise Level
Lo	Loamy alluvial land
L-T	Loyalton-Truckee
LTBMU	Lake Tahoe Basin Management
LTBMU Forest Plan	Lake Tahoe Basin Management Unit Land and Resource Management Plan
LTD	Lake Tahoe Datum
L_X	Statistical Descriptor
MBTA	Migratory Bird Treaty Act
mg/l	milligrams per liter
Mh	Marsh
mph	miles per hour
msl	mean sea level
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDF	Nevada Division of Forestry
NDOT	Nevada Department of Transportation
NDOW	Nevada Division of Wildlife
NDSL	Nevada Division of State Lands
NEHRP	National Earthquake Hazards Reduction Program
NEHRPA	National Earthquake Hazards Reduction Program Act
NIST	National Institute of Standards and Technology
nitrate	NO_3
NNHP	Nevada Department of Natural Resources, Natural Heritage Program
NOP	notice of preparation
NSF	National Science Foundation
NTRT	Nevada Tahoe Resource Team
NTU	Nephelometric Turbidity Units
NWP	nationwide permit

OHWM	ordinary high water mark
ONRW	Outstanding National Resource Water
OHV	off-highway vehicles
PAHs	polycyclic aromatic hydrocarbons
PAS	Plan Area Statement
PPV	peak particle velocity
RMS	root mean square
Qb	Holocene deposits beach deposits
Qfp	Holocene deposits flood-plain deposits
Qlt	Pleistocene era lacustrine terrace deposits
SBC	SBC Communications Inc.
SENL	Single-Event [Impulsive] Noise Level
SEZ	stream environment zone
sf	square feet
SQIP	Scenic Quality Improvement Program
SR	State Route
SRP	Soluble Reactive Phosphorus
SWPPP	storm water pollution and prevention plan
TAG	Technical Advisory Group
TKN	Total Kjeldahl Nitrogen
TP	Total Phosphorus
TRPA	Tahoe Regional Planning Agency
TSS	Total Suspended Solids
U.S. EPA	U.S. Environmental Protection Agency
UBC	Uniform Building Code
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibels
µin/sec	microinch per second

1 SUMMARY

1.1 PROJECT LOCATION AND SETTING

The Beach Club on Lake Tahoe Project (Beach Club Project) would be located on the site of the existing Tahoe Shores Mobile Home Park on the south shore of Lake Tahoe in Douglas County, Nevada. The 19.63 acre site is composed of two parcels; Assessor's Parcel Number (APN) 1318-22-002-001 is 17.26 acres and APN 1318-22-002-002 is 2.37 acres with 217 feet of lake frontage. The 17.26 acre parcel is located in Plan Area Statement (PAS) 077, which has a residential land use classification. The 2.37 acre parcel along the lake front is in PAS PAS070A, which has a recreation land use classification. The site is accessed via Kahle Drive, which has a signalized intersection at U.S. Highway 50 approximately 0.8 miles northeast of the California-Nevada state line. The existing mobile home park has 155 mobile home units, two parallel access roads, a manager's office, storage and maintenance buildings, a recreational pier, and the Kingsbury General Improvement District (KGID) pump station and ozone treatment plant, which is located within a non-exclusive easement granted on December 24, 1997. The project site is surrounded by United States Forest Service lands to the north, including Burke Creek (Rabe) Meadow and Nevada Beach campground, the Meadowbrook Apartments and the Oliver Park General Improvement District (GID) to the east, the University of Nevada 4-H camp and Edgewood Golf Course to the south, and Lake Tahoe to the west.

1.2 PROCESS

This document is an environmental impact statement (EIS) prepared on behalf of the Tahoe Regional Planning Agency (TRPA) pursuant to Article VII of the Tahoe Regional Planning Compact and Chapter 5 of the TRPA Code of Ordinances. TRPA is a 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. TRPA's NOP was circulated on January 2, 2004; two public scoping meetings were held in Stateline, Nevada on January 12, 2004; and the public scoping period ended on February 25, 2004. This Draft EIS addresses the comments received during the NOP period. A copy of the NOP and the scoping comments received are included in Appendix A of this Draft EIS.

Pursuant to TRPA Code Section 5.8.A(4), this 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. 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.

Section 5.8.D 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 to final project approval.

In its review of the Beach Club 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 A

Alternative A would result in the compensation for relocation of existing residents or the purchase and removal of the 155 existing mobile home units at the Tahoe Shores Mobile Home Park on the south shore of Lake Tahoe in Douglas County, Nevada, in compliance with the Nevada Revised Statutes (NRS 118B.177). After closure of the mobile home park, the existing access roads, Arthur Drive and Eugene Drive, would be replaced with a single two-way road running east-west through the project site. The new paved road would be constructed to meet the Tahoe Douglas Fire Protection District requirements and it would begin where Kahle Drive ends at the eastern boundary of the project site and end at the proposed beach and swim club at the west-end of the project site. The existing utilities at the mobile home park are aging and in need of repairs; therefore the utilities would be improved as well as realigned to follow the new roadway or dedicated utility easements. In addition, pursuant to Chapter 30 of the TRPA Code of Ordinances, any above ground utility lines would be placed underground.

Alternative A would result in the construction of 124 market rate for-sale condominiums, located in lodge buildings and residential estate buildings. In addition, 18 moderate-income condominiums would be constructed in the carriage house and one additional moderate-income unit would be constructed near the gate house. Further, 35 off-site units would be deed-restricted as moderate income housing, resulting in a total of 54 moderate income units. Since Douglas County maintains a TRPA-certified Local Government Moderate Income Housing Program, these moderate income housing units would be eligible for multi-residential bonus units pursuant to Chapter 35 of the TRPA Code of Ordinances. Accordingly, 54 multi-residential bonus unit allocations would be sought from TRPA.

The proposed project would also include a beach club and pool near the lakeshore with a restaurant, bar, gym, indoor and outdoor swimming pools, deck, offices, and assembly and party room. Parking would be provided for residential units at a ratio of 1.5 spaces per unit and additional parking would be provided for the beach and swim club. Approximately 90% of the parking would be provided inside the various buildings and approximately 10% would be surface parking. The existing private pier would be reconstructed and extended approximately 50 linear feet, for a total length of 159 feet. The extended pier would follow the current pier alignment. The reconstructed pier would include an 80-foot vertically moving fixed section (intended to avoid effects on littoral processes) and a 20-foot transition section that connects the fixed section to a 59-foot floating section. A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north intended to provide safer and more stable boat loading and unloading. At its widest point, the floating pier would be 30 feet wide. The three existing buoys associated with the project site, originally permitted and installed in 1979, would be removed and relocated to remove the buoys from the scenic recreational viewshed from Nevada Beach. A swimming area would be roped off along the shore of the project site. In response to public comments on the proposed Beach Club Project, the following project elements have also been included in Alternative A: a privacy fence along the southern site boundary near the 4-H camp; and restrictions on boat access along the southern side of the expanded pier to protect 4-H camp swimmers.

Alternative A would result in approximately 358,907 square feet (sf) of coverage, a reduction of approximately 99,052 sf from the existing TRPA-verified coverage (457,959 sf). Alternative A would include temporary and permanent best management practices (BMPs) to improve site drainage and water quality and would involve the restoration of 2 acres of stream environment zone (SEZ) habitat associated with Burke Creek Meadow, along the northern boundary of the project site. The proposed development would also seek to achieve a Leadership in Energy and Environmental Design (LEED®) silver rating from the U.S. Green Building Council.

Construction of Alternative A would commence as soon as possible after project approval, acquisition of permits, and reimbursement for relocation or purchase and removal of all existing mobile homes. Construction of the proposed project would be completed in four phases. The first phase is anticipated to begin as early as 2008, with

final project completion anticipated for the fall of 2011. Construction activities would be continuous, except during winter months when activities may cease for a period of time. Alternative A is discussed in detail in Chapter 3 of this EIS.

1.3.2 OTHER ALTERNATIVES CONSIDERED

This EIS addresses four alternatives in addition to Alternative A, described above. Alternative B is the Two Single-Family Estates Alternative, which would involve closing the existing mobile home park, clearing the project site of all structures (except the KGID pump house), adjusting the parcel boundaries, and selling the two parcels. The new owner or owners would construct a single-family estate on each lot. Each single-family estate would include a large house, deck, swimming pool, detached garage, guest house, tennis courts, access road and shared access to the pier which, like Alternative A, would be reconstructed and extended for a total length of 159 linear feet. The pier design would be different from Alternative A in that it would include an 80-foot fixed pier and a 34-foot ramp that connects the fixed pier to a 45-foot floating pier. The floating pier would be anchored by two piles spaced at 28-foot intervals in the center of the pier, while the fixed pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. The pier would follow the current alignment (perpendicular to the shoreline). A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The three existing buoys would be relocated to remove the buoys from the scenic recreational viewshed from Nevada Beach. Alternative B would result in approximately 152,000 sf of coverage on the northern parcel and approximately 168,000 sf of coverage on the southern parcel, a total reduction of nearly 138,000 sf from the existing TRPA-verified coverage (457,959 sf). Each parcel would be required to implement temporary and permanent BMPs to address stormwater runoff (including snowmelt) from the buildings, parking areas, roadways, walkways, and other facilities and to eliminate the untreated runoff of stormwater into Lake Tahoe. Alternative B would not include restoration of SEZ habitat, but would include landscape plans that incorporate native plant species. Construction of Alternative B would commence as soon as possible after project approval, acquisition of permits, reimbursement for relocation or purchase and removal of all existing mobile homes, parcel boundary adjustment, sale of the parcels, and completion of construction plans. Construction activities would be continuous, except during winter months when activities may cease for a period of time.

Alternative C is the Two Multifamily Residential Complexes Alternative, which would involve closing the existing mobile home park, clearing the project site of all structures (except the KGID pump house), adjusting the parcel boundaries, and selling the two parcels. The new owner or owners would construct two multifamily residential complexes. Four three-story multifamily residential buildings would be constructed on each parcel. Each building would include approximately 20 condominiums to be sold at market-rate; the total number of condominiums would not exceed 155 for the two parcels (approximately 77 condominiums on each parcel). Each complex would include a recreation building, a pool and deck, and surface parking. Alternative C would result in approximately 205,000 sf of coverage on the northern parcel and approximately 175,000 sf of coverage on the southern parcel, a total reduction of nearly 78,000 sf over the existing TRPA-verified coverage (457,959 sf). Each parcel would be required to implement temporary and permanent BMPs to address stormwater runoff (including snowmelt) from the buildings, parking areas, roadways, walkways and other facilities and to eliminate the untreated runoff of stormwater into Lake Tahoe. Alternative C would not include restoration of SEZ habitat, but would include landscape plans that incorporate native plant species. The two parcels would share access to the pier which, like Alternatives A and B, would be reconstructed and extended for a total length of 159 linear feet. The pier design would be the same as Alternative A. The three existing buoys associated with the project site would be removed and relocated to remove the buoys from the scenic recreational viewshed from Nevada Beach. A swimming area would be roped off along the shore of the project site. Construction of Alternative C would commence as soon as possible after project approval, acquisition of permits, reimbursement for relocation or purchase and removal of all existing mobile homes, parcel boundary adjustment, sale of the parcels, and completion of construction plans. Construction activities would be continuous, except during winter months when activities may cease for a period of time.

Alternative D is the No Project – Jere Williams Plan Alternative, which considers a scenario in which none of the project components would be implemented. The mobile home park would remain under operation per the Jere Williams Plan; therefore, mobile homes would continue to transition to 70% doublewide and 30% single wide, coverage would be reduced by 11,809 sf to the verified coverage (457,959 sf) approved by TRPA. Basic infrastructure maintenance and upgrades would be completed as necessary, and minimal BMPs, such as infiltration trenches and limited revegetation, would be implemented as required by the TRPA BMP Retrofit Program.

Alternative E is the No Project – Manufactured Housing Alternative, which considers another scenario in which none of the project components would be implemented. This alternative differs from Alternative D only in the timing of infrastructure improvements. Under Alternative E, the mobile home park would be closed and cleared so that all site improvements could be completed at one time. Improvements would include basic infrastructure maintenance and upgrades and minimal BMPs, such as infiltration trenches and limited revegetation as required by the TRPA BMP Retrofit Program. After completion of the improvements, 155 manufactured housing units would be installed and the mobile home park would continue to operate per the Jere Williams Plan.

Alternatives B through E are described in further detail in Chapter 4 "Alternatives" and analyzed along with Alternative A in Chapter 5, "Affected Environment and Environmental Consequences."

1.4 KEY ENVIRONMENTAL ISSUES

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

- The valuation of mobile homes to determine if they qualify as affordable housing
- Potential impacts due to the change in housing types
- Drainage and water quality concerns
- Changes in traffic patterns
- Air quality issues associated with traffic
- Potential noise concerns from adjacent 4-H camp and the KGID pump house
- Potential impacts to Burke Creek Meadow, the SEZ habitat, and the watershed
- Potential impacts to Tahoe yellow cress and other special status species
- Fishing, recreation, and shorezone issues
- Boat fuel emissions and leakage
- Potential impacts to cultural resources, such as Washoe artifacts
- Potential scenic impacts

A complete list of scoping comments received during the public scoping period are included in Appendix A of this Draft EIS.

1.5 ISSUES SUBJECT TO PUBLIC CONTROVERSY

A variety of issues were raised during the public scoping process for the EIS in winter 2004. Key issues that were raised by multiple commenters and may be issues subject to public controversy are the loss of affordable housing and impacts related to the change in housing type (such as the impact to schools), issues related to drainage and water quality during construction and operations, issues related to Burke Creek Meadow, SEZ habitat, and special status species, archeological resource concerns, and issues related to the shorezone and pier expansion. As described above, the environmental effects related to these issues are address in the analyses in Chapter 5 of this EIS.

This EIS analyzes the environmental effects on the environment generated by Alternative A, two development alternatives, and two no project alternatives. This analysis is intended to provide a comparison of a reasonable

range of alternatives that are selected based on their potential ability to feasibly avoid or lessen significant environmental effects and still achieve most of the objectives of the Beach Club Project as outlined in Chapter 3. The two development alternatives analyzed in this EIS provide realistic and feasible development options were the current owner to clear and sell the property. The two no project alternatives address how the existing mobile home park would remain in operation and the timing of implementing needed site improvements. The alternatives provide flexibility to TRPA in selecting the alternative that best meets the needs of the community and the environment.

1.6 SUMMARY OF IMPACTS AND MITIGATION

Chapter 5 of this EIS describes in detail the environmental impacts that would result from implementation of Alternatives A through E. Impacts of the project are classified as: (1) no impact (actions that result in no adverse effects); (2) beneficial (effects that show an improvement or favorable changed 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); (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).

Chapter 5 of this EIS describes in detail the environmental impacts that would result from implementation of Alternatives A through E. Impact and Mitigation Summary Table 1-1 summarizes the impacts that would result from implementation of the project alternatives and mitigation measures to reduce significant environmental impacts. In addition, Table 1-2 presents a comparison of the environmental impacts of the five project alternatives after mitigation.

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.2 Population and Housing			
5.2.A-1: Loss of Affordable Housing. The Tahoe Shores Mobile Home Park is not deed restricted and does not explicitly provide affordable housing to low-income households (80% of median income or less). Therefore, the closure and redevelopment of Tahoe Shores would not result in the loss of affordable housing resources. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.2.A-2: Loss of Moderate Income Housing. Alternative A would result in the closure of the Tahoe Shores Mobile Home Park, the subdivision of the project site, and the loss of 54 mobile homes that qualify as moderate income housing units. The TRPA Code of Ordinances states that existing moderate income housing units, as defined by Section 41.2.F, shall not be lost through land subdivision unless mitigation is provided on a unit for unit basis for the loss of moderate income housing. Therefore, this impact is considered significant.	S	**Replacement of Moderate Income Housing.** Mitigation shall be in the form of construction of an equal number of moderate income units, conversion of other structures to moderate income housing, restriction of subdivided units to moderate income housing units, or a combination of the above. The applicant shall provide 54 moderate income units as follows: 1. A total of 19 deed-restricted moderate income condominiums shall be constructed on the project site. Preference for on-site mitigation units will be given first to income-qualified Tahoe Shores residents and then to qualified Beach Club employees. Such units will consist of one, two, and three bedroom units. The units will be sold at prices consistent with TRPA guidelines for moderate income housing. 2. A total of 35 off-site housing units shall be purchased and converted to deed-restricted moderate income units. The units will be located in the Oliver Park subdivision (directly east of the project - Douglas County, Nevada). The composition of such units in terms of the number of bedrooms shall be consistent with household demographics of Tahoe Shores Mobile Home Park and the Douglas County portion of Lake Tahoe. The majority of households including those in the Tahoe Shores mobile home park are comprised of one to three person households. Preference will be given first to income qualified Tahoe Shores residents, and then to qualified Beach Club employees. The units will be rented at rates consistent with TRPA guidelines for moderate income housing.	LTS

B = Beneficial NI = No Impact LTS = Less Than Significant PS = Potentially Significant S = Significant SU = Significant and Unavoidable

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		3. Provide additional financial assistance for qualified hardship cases in the mobile home park.	
5.2.A-3: Decrease in Housing Availability/Displacement of Residents. Alternative A would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied, and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) The Nevada Revised Statutes would be followed to account for the Park's closure and the displacement of residents. Alternative A would then result in the construction of 143 condominiums, including 19 deed-restricted moderate income units. (As part of Mitigation Measure 5.2.A-2, a total of 35 off-site housing units would be purchased and converted to deed-restricted moderate income units, for a total of 54 moderate income units.) The loss of up to 12 units would not be a substantial reduction in the total housing stock in Stateline or Douglas County because the actual number of occupied mobile homes at Tahoe Shores has ranged between 140 and 150 units. Furthermore, the reduction of as many as 12 units only represents 0.25% of the total housing stock in Douglas County (4,769 units).	Not Applicable[a]	Not Applicable.	Not Applicable

[a] As described in Section 5.2, "Housing and Population", quantification of beneficial or adverse effects associated with a change in population would be speculative; therefore, the analysis in this EIS simply presents the project-related change without a determination of significance.

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.2.B-1: Loss of Affordable Housing. This impact is the same as Alternative A, described above in Impact 5.2.A-1. The Tahoe Shores Mobile Home Park is not deed restricted and does not provide affordable housing to low-income households (80% of median income or less). Therefore, the closure and redevelopment of Tahoe Shores would not result in the loss of affordable housing resources. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.2.B-2: Impacts to Moderate Income Housing. Alternative B would result in the closure of the Tahoe Shores Mobile Home Park and the loss of 54 mobile homes that qualify as moderate income housing units under the TRPA Code of Ordinances (see Section 5.2.3, "Housing Analysis Methodology"). However, using a strict interpretation of the Code, mitigation for the loss of moderate income housing is only required by TRPA when associated with the subdivision of a property. Under Alternative B, the project site would not be subdivided. The two parcels that make up the project site would be realigned, the site would be sold, and two single-family estates would be constructed. Because this alternative would not require subdivision, mitigation for the loss of moderate income housing would not be required. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.2.B-3: Decrease in the Housing Availability/ Displacement of Residents. Similar to Alternative A, Alternative B would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) The Nevada Revised Statutes would be followed to account for the Park's closure and the displacement of residents. Alternative B would then result in	Not Applicable[a]	Not Applicable	Not Applicable

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
the construction of two single-family estates and the residual loss of up to 153 units. The reduction of 153 units represents 3% of the total housing stock in Douglas County.			
5.2.C-1: Loss of Affordable Housing. This impact is the same as Alternative A, described above in Impact 5.2.A-1. The Tahoe Shores Mobile Home Park is not deed restricted and does not provide affordable housing to low-income households (80% of median income or less). Therefore, the closure and redevelopment of Tahoe Shores would not result in the loss of affordable housing resources. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.2.C-2: Loss of Moderate Income Housing. Similar to Alternative A, described in Impact 5.2.A-2, Alternative C would result in the closure of the Tahoe Shores Mobile Home Park, the subdivision of the project site for market rate condominiums, and the loss of 54 mobile homes that qualify as moderate income housing units. The TRPA Code of Ordinances states that existing moderate income housing units, as defined by Section 41.2.F, shall not be lost through land subdivision unless mitigation is provided on a unit for unit basis for the loss of moderate income housing. Therefore, this impact is the same as Alternative A and is considered significant.	S	**Replacement of Moderate Income Housing.** Mitigation shall be in the form of construction of an equal number of moderate income units, conversion of other structures to moderate income housing, restriction of subdivided units to moderate income housing units, or a combination thereof. The applicant shall provide 54 deed-restricted moderate income units either on-site or off-site. Off-site units may be located in the Oliver Park subdivision (directly east of the project - Douglas County, Nevada). Preference for on-site mitigation units will be given to first to income-qualified Tahoe Shores residents and then to qualified Beach Club employees. Units will consist of one-, two-, and three-bedroom units. The units will be rented or sold at rates and/or prices consistent with TRPA guidelines for moderate income housing.	LTS
5.2.C-3: Decrease in Housing Availability/Displacement of Residents. As with Alternative A, Alternative C would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied, and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) The Nevada Revised Statutes would be followed	Not Applicable[a]	Not Applicable	Not Applicable

B = Beneficial NI = No Impact LTS = Less Than Significant PS = Potentially Significant S = Significant SU = Significant and Unavoidable

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
to account for the Park's closure and the displacement of residents. Alternative C would then result in the construction of 155 condominiums. (As part of Mitigation Measure 5.2.C-2, a total of 54 housing units would either be constructed on-site or purchased off-site and converted to deed-restricted moderate income units.) There would be no net loss of housing stock or population in Stateline or Douglas County.			
5.3 Land Use			
5.3.A-1: Consistency with Regional Plan Land Use Goals and Policies. Alternative A would result in 143 for-sale condominiums, construction of a beach and swim club, expansion of the existing pier, and relocation of three existing buoys. Alternative A would result in approximately 358,907 sf of site coverage representing a reduction of approximately 99,052 sf of site coverage in comparison to the TRPA verified coverage for the site. Alternative A would be consistent with the Goals and Policies of the Regional Plan as described in Table 5.3-1. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.3.A-2: Potential for Division of an Existing Community (or Land Use Compatibility). Alternative A would result in the replacement of the existing mobile home community by removing the 155-space Tahoe Shores Mobile Home Park, with approximately 150 mobile homes, and constructing 143 single-family for-sale condominiums. The owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation, or purchase and removal of mobile homes. In addition, noise abatement measures would be implemented to reduce any land use conflicts with the 4-H Camp south of the project site. This project would not divide an established community, but would change the type of residential community on the project site. This impact is considered less than significant.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.3.B-1: Consistency with Regional Plan Land Use Goals and Policies. Alternative B would construct two single-family estates on two 9.5-acre realigned parcels. Each estate would have a deck and a pool, a separate guest house (without bathing or cooking facilities), a detached five car garage, an entry gatehouse, two tennis courts, limited surface parking, expansion of the existing pier, and relocation of three existing buoys. Both estates would share access to the beach extended private pier. A total of approximately 320,000 sf of site coverage over the two parcels (152,000 sf of coverage on the northern parcel and 168,000 sf of coverage on the southern parcel) would represent a reduction of approximately 138,000 sf of site coverage from the TRPA verified coverage of 457,959 sf. Alternative B would be consistent with the Goals and Policies of the Regional Plan as described in Table 5.3-1. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.3.B-2: Potential for Division of an Existing Community (or Land Use Compatibility). This impact is the same as Impact 5.3.A-2 described above for Alternative A. Alternative B would result in the replacement of the existing mobile home community by removing the 155-space Tahoe Shores Mobile Home Park, with approximately 150 mobile homes, and constructing two single-family estates. The owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation, or purchase and removal of mobile homes. In addition, noise abatement measures would be implemented to reduce any land use conflicts with the 4-H Camp south of the project site. This project would not divide an established community, but would reduce the density of the community on the project site and change the type of residential units. This impact is considered less than significant.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.3.C-1: Consistency with Regional Plan Land Use Goals and Policies. Alternative C would result in the realignment of the two project site parcels and the development of a multifamily residential complex on each parcel. Each complex would include a recreation building and pool near the lake shore, expansion of the existing pier, and relocation of three existing buoys. Alternative C would result in a total of approximately 380,000 sf of site coverage on the two parcels, which would represent a reduction of approximately 77,959 sf of site coverage from the TRPA verified coverage. Alternative C would be consistent with the Goals and Policies of the Regional Plan as described in Table 5.3-1. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.3.C-2: Potential for Division of an Existing Community (or Land Use Compatibility). This impact is the same as Impact 5.3.A-2 described above for Alternative A. Alternative C would result in the replacement of the existing mobile home community by removing the 155-space Tahoe Shores Mobile Home Park, with approximately 150 mobile homes, and constructing two multifamily condominium complexes with up to a total of 155 units. The owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation or purchase and removal of mobile homes. In addition, noise abatement measures would be implemented to reduce any land use conflicts with the 4-H Camp south of the project site. This project would not divide an established community, but would change the type of residential community on the project site. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.4 Geology and Soils			
5.4.A-1: Land Coverage. Alternative A would result in a total of approximately 358,907 sf (8.24 acres) of coverage, a reduction in site coverage of approximately 99,052 sf (2.27 acres) or 22% from the TRPA-verified coverage (457,959 sf or 10.51 acres); the majority of the coverage reduction would	B	No mitigation is required.	B

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
be within primary SEZ (LCD 1b) areas. Alternative A would also result in the relocation of some existing coverage and the restoration of approximately 2 acres of SEZ habitat. On the whole, the coverage reduction, the relocation of coverage, and the proposed restoration associated with Alternative A would provide a net environmental benefit. For this reason this would be a beneficial impact.			
5.4.A-2: Seismic Hazards. The project site is located near several faults in South Lake Tahoe and Douglas County that could subject the site to ground shaking. Because the project would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3, there would be no substantial increased risk of injury or property damage from strong ground shaking or earthquake-induced liquefaction or landslides caused by unstable soils. This is considered a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.4.A-3: Non-Seismic Geologic Hazards. The project site is relatively level and is not subject to landslides or mudslides. However, the soils/hydrologic subsurface investigation found loose to medium dense, moist to wet, granular soils in the upper 6 feet of the project site which may exhibit excessive settlement if spread footings are founded within them. This is a potentially significant impact.	PS	**a. Submit Final Geotechnical Engineering Report and Improvement Plans to TRPA and Douglas County.** The project applicant shall implement the following: ► Submit to TRPA for review and approval a geotechnical engineering report produced by a qualified professional civil engineer or geotechnical engineer. The report shall address and make recommendations on the following: (1) road, pavement, and parking area design; (2) structural foundations and spread footings in response to the potential for liquefaction; (3) grading practices; (4) erosion/winterization; (5) special problems discovered on-site (i.e., groundwater, expansive/unstable soils; and (6) slope stability. Once approved by TRPA, two copies of the final report shall be provided to TRPA and one copy to the Douglas County Building Department for their use. If the soils report indicates the presence of critically expansive or other soils problems which, if not corrected, could lead to structural defects, a certification of completion of the requirements of the soils report may be required before issuance of building permits. It is the	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report. ► The applicant shall prepare and submit Improvement Plans, specifications, and cost estimates to TRPA and Douglas County for review and approval of project construction. The plans shall show all conditions for the project, as well as pertinent topographical features both on- and off-site. All existing and proposed utilities and easements, on-site and adjacent to the project, which may be affected by planned construction shall be shown on the plans. All landscaping and irrigation facilities in the public right-of-way or public easement, or landscaping within sight distance areas at intersections, shall be included in the Improvement Plans. The applicant shall pay plan check and inspection fees and before plan approval, all applicable recording and production costs shall be paid. The cost of the above-noted landscape and irrigation facilities shall be included in the estimates used to determine these fees. It is the applicant's responsibility to obtain all required agency signatures on the plans and to secure TRPA and County approvals. If the Design/Site Review and/or Design Review Committee (DRC) review is required as a condition of approval for the project, said review process shall be completed before submittal of Improvement Plans. Record drawings shall be prepared and signed by a Nevada Registered Civil Engineer at the applicant's expense and shall be submitted to TRPA and Douglas County before acceptance of site improvements. ► All proposed grading, drainage, and utility improvements, and vegetation and tree removal shall be shown on the improvement plans, and all work shall conform to provisions of the Douglas County Grading Ordinance that are in effect at the time of the submittal. No grading, clearing, or tree disturbance shall take place until the improvement plans are approved and all temporary construction fencing has been installed and inspected by a member of the Design Review Committee. All	

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		cut/fill slopes shall be at 2:1 (horizontal: vertical) unless a soils report supports a steeper slope and TRPA concurs with said recommendation. The applicant shall revegetate all disturbed areas. Revegetation undertaken from April 1 to October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with project improvement plans. It is the applicant's responsibility to ensure proper installation and maintenance of erosion control winterization during project construction. Where soil stockpiling or borrow areas are to remain for more than one construction season, proper erosion control measures shall be applied as specified in the improvement plans/grading plans. Provide for erosion control where roadside drainage is off the pavement to the satisfaction of TRPA. The applicant shall also submit to TRPA an adequate security in accordance with TRPA Attachment J before improvement plan approval to guarantee protection against erosion and improper grading practices. On TRPA's acceptance of improvements and satisfactory completion of a 1-year maintenance period, unused portions of the security deposit shall be refunded to the project applicant or authorized agent. ► If at any time during construction a field review by TRPA personnel indicates a significant deviation from the proposed grading shown on the improvement plans, specifically with regard to slope heights, slope ratios, erosion control, winterization, tree disturbance, and/or pad elevations and configurations, the plans shall be reviewed by the Design Review Committee/TRPA for a determination of substantial conformance to the project approvals before any further work proceeds. Failure of the Design Review Committee/TRPA to make a determination of substantial conformance may serve as grounds for revocation/modification of the project approval by the appropriate hearing body. ► The applicant shall provide TRPA with a letter from the Tahoe Douglas Fire Protection District describing conditions under which the service would be provided to the project. Said letter	

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		shall be provided before the approval of Improvement Plans, and a fire district representative's signature shall be provided on the plans. **b. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4.** The dewatering plan developed and implemented as part of Mitigation Measure 5.5.A-4 (see Section 5.5, "Hydrology and Water Quality") must detail procedures for safely and appropriately dealing with seasonal groundwater encountered during excavation. **c. Obtain Grading Permit from TRPA and Douglas County and Ensure that All Earthwork is Monitored by a Geotechnical Engineer.** The project applicant shall ensure the following: ► Obtain a Grading Permit from TRPA and Douglas County before export or import of any soil or other material to or from an off-site location. ► The construction and/excavation contractor secures a source of transportation and a location for deposition and/or storage of all exaction materials removed from the project site. ► All earthwork is monitored by a geotechnical engineer tasked with the responsibility of providing oversight during all excavation activities, placement of fill, and disposal of materials removed from and deposited on the project site. **d. Perform Project Specific Design Foundation Investigation.** Based on the Preliminary Geotechnical Investigation, it is recommended that a project specific design foundation investigation is performed on the project site to further evaluate the suitability of soils on the project site for placement of foundations. It is also recommended that the option of a mat or deep foundation (piers/piles) system is considered to mitigate potential excessive settlement and liquefaction concerns.	

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.4.A-4: Interception of Groundwater Table During Construction. Excavation during construction of Alternative A could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed buildings would be approximately 3 to 5 feet. The deepest excavations could reach a maximum depth of approximately 5 to 8 feet below ground surface and groundwater has been encountered within the upper 6 feet of soils on the project site. This is a potentially significant impact.	PS	**Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4.** See Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply.	LTS
5.4.A-5: Littoral Zone Sedimentation. The proposed reconstruction and expansion of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. The expanded pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with the proposed project are expected to be the same as existing conditions. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.4.B-1: Land Coverage. Because Alternative B would result in substantial coverage reductions similar to Alternative A, this impact is similar to Impact 5.4.A-1 described above. Alternative B would result in a total of approximately 320,000 sf (7.35 acres) of coverage, a total reduction in site coverage of approximately 137,959 sf (3.17 acres) or 30.1% from the TRPA-verified coverage (457,959 sf or 10.51 acres). Alternative B would also result in the relocation of some existing coverage, but would not include the proposed SEZ restoration included as part of Alternative A. On the whole, it is expected that the coverage reduction and the relocation of coverage associated with Alternative B would provide a net environmental benefit. For this reason this would be a beneficial impact.	B	No mitigation is required.	B

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.4.B-2: Seismic Hazards. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-2 described above. The project site is located near several faults in South Lake Tahoe and Douglas County that could subject the site to ground shaking. Because the Alternative B project components would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3, there would be no substantial increased risk of injury or property damage from strong ground shaking or earthquake-induced liquefaction or landslides caused by unstable soils. This is considered a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.4.B-3: Non-Seismic Geologic Hazards. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-3 described above. The project site is relatively level and is not subject to landslides or mudslides. However, the soils/hydrologic subsurface investigation found loose to medium dense, moist to wet granular soils in the upper 6 feet of the project site, which may exhibit excessive settlement if footings are founded within them. This is a potentially significant impact.	PS	**a. Submit Final Geotechnical Engineering Report and Improvement Plans to TRPA and Douglas County.** See Mitigation Measure 5.4.A-3a described above for Alternative A. The same mitigation would apply. **b. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4.** See Mitigation Measure 5.4.A-3b above and Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply. **c. Obtain Grading Permit from TRPA and Douglas County and Ensure that All Earthwork is Monitored by a Geotechnical Engineer.** See Mitigation Measure 5.4.A-3c described above for Alternative A. The same mitigation would apply. **d. Perform Project Specific Design Foundation Investigation.** See Mitigation Measure 5.4.A-3d described above for Alternative A. The same mitigation would apply.	LTS
5.4.B-4: Interception of Groundwater Table During Construction. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-4 described above. Excavation during construction of Alternative B could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed buildings would be approximately 3 to 5 feet. The deepest	PS	**Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4.** See Mitigation Measure 5.5.A-4 described in Section 5.5 "Hydrology and Water Quality." The same mitigation would apply.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
excavations could reach a maximum depth of approximately 5 to 8 feet below ground surface and groundwater has been encountered within the upper 6 feet of soils on the project site. This is a potentially significant impact.			
5.4.B-5: Littoral Zone Sedimentation. This impact is similar to Impact 5.4.A-5, described above for Alternative A. Under Alternative B, the proposed reconstruction and expansion of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with TRPA Code of Ordinances Section 54.4.B Design and Construction Standards. The expanded pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative B are expected to be the same as existing conditions. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.4.C-1: Land Coverage. Because Alternative C would result in substantial coverage reductions similar to Alternative A, this impact is similar to Impact 5.4.A-1 described above. Alternative C would result in a total of approximately 380,000 sf (8.72 acres) of coverage, a total reduction in site coverage of approximately 77,959 sf (1.79 acres), or 17% from the TRPA-verified coverage (457,959 sf or 10.51 acres). Alternative C would also result in the relocation of some existing coverage, but would not include the proposed SEZ restoration included as part of Alternative A. On the whole, it is expected that the coverage reduction and the relocation of coverage associated with Alternative C would provide a net environmental benefit. For this reason this would be a beneficial impact.	B	No mitigation is required.	B
5.4.C-2: Seismic Hazards. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-2 described above. The project site is located near several faults that could subject the site to ground shaking. Because the Alternative C project components would be designed and constructed in accordance	LTS	No mitigation is required.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
with the current design requirements of UBC Seismic Zone 3, there would be no substantial increased risk of injury or property damage from strong ground shaking or earthquake-induced liquefaction or landslides caused by unstable soils. This is considered a less-than-significant impact.			
5.4.C-3: Non-Seismic Geologic Hazards. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-3 described above. The project site is relatively level and is not subject to landslides or mudslides. However, the soils/hydrologic subsurface investigation found loose to medium dense, moist to wet, granular soils in the upper 6 feet of the project site which may exhibit excessive settlement if spread footings are founded within them. This is a potentially significant impact.	PS	**a. Submit Final Geotechnical Engineering Report and Improvement Plans to TRPA and Douglas County.** See Mitigation Measure 5.4.A-3a described above for Alternative A. The same mitigation would apply. **b. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4.** See Mitigation Measure 5.4.A-3b above and Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply. **c. Obtain Grading Permit from TRPA and Douglas County and Ensure that All Earthwork is Monitored by a Geotechnical Engineer.** See Mitigation Measure 5.4.A-3c described above for Alternative A. The same mitigation would apply. **d. Perform Project Specific Design Foundation Investigation.** See Mitigation Measure 5.4.A-3d described above for Alternative A. The same mitigation would apply.	LTS
5.4.C-4: Interception of Groundwater Table During Construction. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-4 described above. Excavation during construction of Alternative C could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed buildings would be approximately 3 to 5 feet. The deepest excavations could reach a maximum depth of approximately 5 to 8 feet below ground surface and groundwater has been encountered within the upper 6 feet of soils on the project site. This is a potentially significant impact.	PS	**Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4.** See Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.4.C-5: Littoral Zone Sedimentation. This impact is the same as Impact 5.4.A-5, described above for Alternative A. Under Alternative C, the proposed reconstruction and expansion of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. The expanded pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative C are expected to be the same as existing conditions. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.5 Hydrology and Water Quality			
5.5.A-1: Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies During Construction. Slope and soil disturbance associated with Alternative A construction could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. However, implementation of required BMPs would prevent soil erosion and maintain this potentially significant impact on water quality at a less-than-significant level. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.5.A-2: Impervious Surface Area and Runoff. Development of Alternative A would result in approximately 358,907 sf of coverage, a reduction of approximately 99,052 sf from the existing TRPA verified coverage (457,959 sf) on the project site. Alternative A would alter the course and volume of runoff from the project site during storm events, but the runoff volume would be reduced through the decrease in coverage and the design and implementation of BMPs and drainage facilities that meet or exceed TRPA requirements. This impact is considered beneficial.	B	No mitigation is required.	B

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.5.A-3: Urban Contaminants in Surface Runoff. Alternative A would decrease impervious site coverage and implement BMPs in accordance with TRPA requirements. Operation of Alternative A would result in a decrease in urban contaminants in surface runoff from the project site. This impact is considered beneficial.	B	No mitigation is required.	B
5.5.A-4: Interception of Groundwater Table During Construction. Excavation during construction of Alternative A could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed beach and swim club and residential buildings would have an average depth of approximately 3 to 5 feet below ground surface and may reach a maximum depth of approximately 5 to 8 feet below ground surface. Based on data generated during the soils/hydrologic subsurface investigation, proposed construction excavation would generally not encounter groundwater; however, variable subsurface conditions may be present that would cause groundwater to be shallow enough to be intercepted. This impact is considered potentially significant	PS	**Develop and Implement a Dewatering Plan.** A Dewatering Plan shall be developed and implemented to prevent or minimize sediment and contaminant releases into groundwater during excavations, and methods to clean up releases if they do occur. If necessary, dewatering shall be done in a manner that allows discharge to an infiltration basin approved by the TRPA. Measures to prevent or minimize sediment and contaminant releases into groundwater during excavations and methods to clean up releases 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. Under the conditions of the TRPA approval of excavation depth for the proposed project (TRPA File # 20030501, Appendix B), the following conditions shall be included in the Dewatering Plan: ► If groundwater is intercepted at any depth, the TRPA shall immediately be notified and the excavation and foundation design shall be revised immediately so as not to intercept groundwater. The revised depth shall be subject to approval by the TRPA. ► If subsurface conditions are found that are significantly different than those that the soils and hydrologic studies have found, then the TRPA shall immediately be notified. ► If groundwater is intercepted at any depth during excavation, permanent BMP alternatives for high groundwater shall be implemented to maintain separation between surface runoff and groundwater. Depths of any underground or below ground surface infiltration devices or other BMPs shall be adjusted	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		accordingly. Alternatives, such as treatment wetlands, and pump and treat BMPs, shall be included in these contingency plans.	
5.5.A-5: Interference with Littoral Processes from Pier Extension and Buoy Relocation. The proposed reconstruction and extension of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. Based on information pertaining to the effects of piers and floating docks, the extended pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with the proposed project are expected to be the same as existing conditions. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.5.A-6: Degradation of Water Quality During Pier Extension and Buoy Relocation Activities. Alternative A includes reconstruction and extension of the existing pier and the relocation of three existing buoys. The floating portion of the pier would be anchored by a single line of two piles in the center of the pier spaced at 28-foot intervals, while the fixed portion of the pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. Pier installation and relocation of the three existing buoys 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 A would not adversely affect Lake Tahoe water quality nor cause established water quality standards to be exceeded. However, the open-trench construction through the beach zone and to the pier that would be necessary to install electrical conduit to power the vertically moving fixed pier section could result in degradation of water quality if groundwater is intercepted. Therefore, this impact is considered potentially significant.	PS	**Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4.** See Mitigation Measure 5.5.A-4 described above for Alternative A. The same mitigation measure would apply.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.5.A-7: Degradation of Water Quality from Increased Boating Activity. Alternative A would include the reconstruction and extension of the existing pier and relocation of the three existing buoys. The project would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, the project would not contribute to an increase in the number of boats on the lake. In addition, because the project would not provide any additional permanent mooring, the project would not result in a change in boating activity on the lake. Therefore, Alternative A would result in a less-than-significant impact related to boating activity and water quality.	LTS	No mitigation is required.	LTS
5.5.A-8: Flood Hazard Effects. The proposed project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map and would not place within a 100-year flood hazard area structures which would impede or redirect flood flows. Therefore, this is considered a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.5.B-1: Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies During Construction. Because Alterative B would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-1 described above for Alternative A. Slope and soil disturbance associated with Alternative B construction could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. However, implementation of required BMPs would prevent soil erosion and maintain this potentially significant impact on water quality at a less-than-significant level. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.5.B-2: Impervious Surface Area and Runoff. Because Alternative B would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-2 described above for Alternative A. However, development of Alternative B would result in a greater reduction of coverage than Alternative A, with a reduction of approximately 138,000 sf of impervious surfaces on the project site from current conditions. Alternative B would alter the course and volume of runoff from the project site during storm events, but the runoff volume would be reduced through the decrease in coverage and the design and implementation of BMPs and drainage facilities that meet or exceed TRPA requirements. This impact is considered beneficial.	B	No mitigation is required.	B
5.5.B-3: Urban Contaminants in Surface Runoff. Because Alternative B would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-3 described above for Alternative A. Alternative B would decrease impervious site coverage and implement BMPs in accordance with TRPA requirements. Operation of Alternative B would result in a decrease in urban contaminants in surface runoff from the project site. This impact is considered beneficial.	B	No mitigation is required.	B
5.5.B-4: Interception of Groundwater Table During Construction. Because Alternative B would be constructed on the same site as Alternative A, this impact is the same as Impact 5.5.A-4 described above for Alternative A. Excavation activities for the foundations of the single-family estates may reach a depth of approximately 5 feet below ground surface. Based on data generated during the soils/hydrologic subsurface investigation, proposed construction excavation would generally not encounter groundwater; however, variable subsurface conditions may be present that would cause groundwater to be shallow enough to be intercepted. This impact is considered potentially significant.	PS	**Develop and Implement a Dewatering Plan.** See Mitigation Measure 5.5.A-4 described above for Alternative A. The same mitigation measure would apply.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.5.B-5: Interference with Littoral Processes from Pier Extension and Buoy Relocation. Because Alternative B would result in a similar pier extension (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same buoy relocation as Alternative A, this impact is similar to Impact 5.5.A-5 described above for Alternative A. The Alternative B reconstruction and extension of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with TRPA Code of Ordinances Section 54.4.B Design and Construction Standards. Based on information pertaining to the effects of piers and floating docks, the extended pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative B are expected to be the same as existing conditions. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.5.B-6: Degradation of Water Quality During Pier Extension and Buoy Relocation Activities. Because Alternative B would result in a similar pier extension (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same buoy relocation as with Alternative A, this impact is would be similar to Impact 5.5.A-6 described above for Alternative A. Alternative B includes the reconstruction and extension of the existing pier and the relocation of the three existing buoys. The floating portion of the pier would be anchored by a single line of two piles in the center of the pier spaced at 28-foot intervals, while the fixed portion of the pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. Pier installation and relocation of the buoys 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 B would not adversely affect Lake Tahoe water quality nor cause established water quality standards to be exceeded. Because Alternative B would not require the open-trench	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
construction and installation of electrical conduct required under Alternative A, this impact is considered less than significant.			
5.5.B-7: Degradation of Water Quality from Increased Boating Activity. Like Alternative A, Alternative B would include the reconstruction and extension of the existing pier and relocation of the three existing buoys. Alternative B would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative B would not contribute to an increase in the number of boats on the lake. In addition, because Alternative B would not provide any additional permanent mooring, Alternative B would not result in a change in boating activity on the lake. Therefore, Alternative B would result in a less-than-significant impact related to boating activity and water quality.	LTS	No mitigation is required.	LTS
5.5.B-8: Flood Hazard Effects. Alternative B would reduce the impedance of flood flows and would not increase the area of the 100-year floodplain. Like Alternative A, Alternative B would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map and would not place within a 100-year flood hazard area structures which would impede or redirect flood flows. Therefore, this is considered a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.5.C-1: Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction. Because Alterative C would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-1 described above for Alternative A. Slope and soil disturbance associated with Alternative C construction could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. However, implementation	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
of required BMPs would prevent soil erosion and maintain this potentially significant impact on water quality at a less-than-significant level. Therefore, this impact is considered less than significant.			
5.5.C-2: Impervious Surface Area and Runoff. Because Alternative C would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-2 described above for Alternative A. Development of Alternative C would result in a similar reduction of coverage to Alternative A, with a reduction of approximately 78,000 sf of impervious surfaces on the project site from existing conditions. Alternative C would alter runoff from the project site during storm events, but the runoff volume would be reduced through the decrease in coverage and the design and implementation of BMPs and drainage facilities that meet or exceed TRPA requirements. This impact is considered beneficial.	B	No mitigation is required.	B
5.5.C-3: Urban Contaminants in Surface Runoff. Because Alternative C would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-3 described above for Alternative A. Alternative C would decrease impervious site coverage and implement BMPs in accordance with TRPA requirements. Operation of Alternative C would result in a decrease in urban contaminants in surface runoff from the project site. This impact is considered beneficial.	B	No mitigation is required.	B
5.5.C-4: Interception of Groundwater Table During Construction. Because Alternative C would be constructed on the same site as Alternative A, this impact is the same as Impact 5.5.A-4 described above for Alternative A. Excavation activities for the foundations of the multifamily residential complexes may reach approximately 3 to 5 feet, with the deepest excavations, associated with building footing	PS	**Develop and Implement a Dewatering Plan.** See Mitigation Measure 5.5.A-4 described above for Alternative A. The same mitigation measure would apply.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
design, potentially reaching a maximum depth of approximately 5 to 8 feet below ground surface. Based on data generated during the soils/hydrologic subsurface investigation, proposed construction excavation would generally not encounter groundwater; however, variable subsurface conditions may be present that would cause groundwater to be shallow enough to be intercepted. This impact is considered potentially significant.			
5.5.C-5: Interference with Littoral Processes from Pier Extension and Buoy Relocation. Because Alternative C would result in the same pier extension and buoy relocation as Alternative A, this impact is the same as Impact 5.5.A-5 described above for Alternative A. The proposed reconstruction and extension of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. Based on information pertaining to the effects of piers and floating docks, the extended pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative C are expected to be the same as existing conditions. Therefore, this impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.5.C-6: Degradation of Water Quality during Pier Extension and Buoy Relocation Activities. Because Alternative C would result in the same pier extension and buoy relocation as with Alternative A, this impact is the same as Impact 5.5.A-6 described above for Alternative A. Alternative C includes the reconstruction and extension of the existing pier and the relocation of the three existing buoys. The floating portion of the pier would be anchored by a single line of two piles in the center of the pier spaced at 28-foot intervals, while the fixed portion of the pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. Pier installation and relocation of the buoys	PS	**Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.C-4.** See Mitigation Measure 5.5.C-4 described above for Alternative A. The same mitigation measure would apply.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
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 C would not adversely affect Lake Tahoe water quality nor cause established water quality standards to be exceeded. However, the open-trench construction through the beach zone and to the pier that would be necessary to install electrical conduit to power the vertically moving fixed pier section could result in degradation of water quality if groundwater is intercepted. Therefore, this impact is considered potentially significant.			
5.5.C-7: Degradation of Water Quality from Increased Boating Activity. Like Alternative A, Alternative C would include the reconstruction and extension of the existing pier and relocation of the three existing buoys. Alternative C would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative C would not contribute to an increase in the number of boats on the lake. In addition, because Alternative C would not provide any additional permanent mooring, Alternative C would not result in a change in boating activity on the lake. Therefore, Alternative C would result in a less-than-significant impact related to boating activity and water quality.	LTS	No mitigation is required.	LTS
5.5.C-8: Flood Hazard Effects. Alternative C would reduce the impedance of flood flows and would not increase the area of the 100-year floodplain. Like Alternative A, Alternative C would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map and would not place within a 100-year flood hazard area structures which would impede or redirect flood flows. Therefore, this is considered a less-than-significant impact.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.6 Transportation and Parking			
5.6.A-1: Existing (Year 2011) plus Alternative A Level of Service. Alternative A would result in a net increase of 306 daily vehicle trip ends and 90 peak-hour vehicle trip ends (89 inbound and 1 outbound). All intersections would maintain an acceptable LOS (LOS A or B) for 2011 conditions. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.6.A-2: Vehicle Miles of Travel (VMT). Alternative A would result in an increase of approximately 1,001 VMT in the Tahoe Basin. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.6.A-3: Parking Conditions. Under Alternative A, the parking demand would be balanced by the parking supply provided within the condominiums and provided by shared unassigned parking spaces. Therefore, Alternative A would result in a less-than-significant parking impact.	LTS	No mitigation is required.	LTS
5.6.A-4: Potential for Traffic Accidents. Alternative A would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard. Therefore, Alternative A would have a less-than-significant impact on the potential for traffic accidents.	LTS	No mitigation is required.	LTS
5.6.A-5: Pedestrian and Bicycle Access and Circulation. Kahle Drive is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. Alternative A would not conflict with any existing or planned pedestrian or bicycle facilities. The proposed project would generate a moderate level of pedestrian and bicycle activity, similar to existing conditions, but would not conflict with pedestrian and bicycle circulation and would result in a less-than-significant impact.	LTS	No mitigation is required.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.6.A-6: Construction Traffic. The project would result in temporary construction traffic generated by the removal of the trailers, grading, SEZ restoration, construction employee traffic, deliveries, and movement of construction equipment. The project would be constructed over a total of up to four construction seasons, which would tend to reduce the traffic impacts in any one period. Construction traffic would access the project site via Kahle Drive and U.S. 50, and onsite construction staging areas would be established to minimize heavy equipment trips on surrounding roadways. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.6.B-1: Existing (Year 2011) plus Alternative B Level of Service. Under Alternative B, two new single-family homes and two guest houses would result in substantial net reductions in all measures of traffic and all intersections would maintain an acceptable LOS for 2011conditions. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.6.B-2: Vehicle Miles of Travel (VMT). Alternative B would result in a decrease of approximately 2,319 VMT in the Tahoe Basin. This impact is considered beneficial.	B	No mitigation is required.	B
5.6.B-3: Parking Conditions. Under Alternative B, each of the two single-family estates is assumed to include a five-car detached parking garage and minimal surface parking, which would be sufficient to meet the parking demand associated with each estate. This impact is considered to be less than significant.	LTS	No mitigation is required.	LTS
5.6.B-4: Potential for Traffic Accidents. This impact is the same as Alternative A described above in Impact 5.6.A-4. Alternative B would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard, and would have a less-than-significant impact on the potential for traffic accidents.	LTS	No mitigation is required.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.6.B-5: Pedestrian and Bicycle Access and Circulation. This impact is similar to Impact 5.6.A-5 described above for Alternative A. Kahle Drive is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. Alternative B would substantially reduce the population on the project site and would reduce the use of existing and/or planned pedestrian or bicycle facilities. In addition, Alternative B would not conflict with existing or planned pedestrian or bicycle facilities. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.6.B-6: Construction Traffic. This impact is similar to Impact 5.6.A-6 described above for Alternative A. Alternative B would result in temporary construction traffic generated by the removal of the trailers, grading, construction employee traffic, deliveries, and movement of construction equipment. However, Alternative B would result in a shorter construction period and less construction-related traffic than Alternative A. Because the number of construction personnel and equipment necessary to construct the single-family estates would be smaller than Alternative A, the temporary presence of construction traffic in the study area would not result in unacceptable level of service at study intersections. In addition, the applicant would prepare a Traffic Control Plan to address project construction and parking. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.6.C-1: Existing (Year 2011) plus Alternative C Level of Service. Alternative C would result in a net increase of 194 daily vehicle trip ends. All intersections would maintain an acceptable LOS for 2011 conditions, LOS A or B. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.6.C-2: Vehicle Miles of Travel (VMT). Alternative C would result in an increase of approximately 685 VMT in the Tahoe Basin. This impact is considered less than significant.	LTS	No mitigation is required.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.6.C-3: Parking Impact. Alternative C would result in a parking surplus of 2 spaces at the multifamily complexes. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.6.C-4: Potential for Traffic Accidents. This impact is the same as Alternative A described above in Impact 5.6.A-4 Alternative C would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard, and would have a less-than-significant impact on the potential for traffic accidents.	LTS	No mitigation is required.	LTS
5.6.C-5: Potential for Traffic Accidents. This impact is the same as Alternative A described above in Impact 5.6.A-4 Alternative C would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard, and would have a less-than-significant impact on the potential for traffic accidents.	LTS	No mitigation is required.	LTS
5.6.C-6: Construction Traffic. This impact is similar to Impact 5.6.A-6 described above for Alternative A. Alternative C would result in temporary construction traffic generated by the removal of the trailers, grading, construction employee traffic, deliveries, and movement of construction equipment. Alternative C would be constructed over a total of up to four construction seasons, which would tend to reduce the traffic impacts in any one period. Construction traffic would access the project site via Kahle Drive and U.S. 50, and onsite construction staging areas would be established to minimize heavy equipment trips on surrounding roadways. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.7 Air Quality			
5.7.A-1: Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. Unmitigated, NO_X emissions would exceed the significance threshold of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative A could violate or contribute substantially to an existing or projected air quality	S	**Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.** In accordance with the TRPA Code of Ordinances, the applicant shall implement the following mitigation measures during construction of the proposed project. In addition to the mitigation measures identified below, construction of the project is required to	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
violation, and/or expose sensitive receptors to substantial pollutant concentrations, especially considering the nonattainment status of the LTAB with respect to the TRPA standards. This would be a significant impact.		comply with all applicable TRPA, BAQP, and BAPC codes, particularly TRPA Code of Ordinances Chapter 25 (Best Management Practices), Chapter 64 (Grading Standards), and Chapter 91 (Air Quality Control). ► Activities disturbing the soil 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. Recommended dust control measures 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)	

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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% 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. ► The applicant shall minimize idling time to 5 minutes for all heavy-duty equipment when not engaged in work activities. ► 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.	

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.7.A-2: 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 for NO_X, implementation of Alternative A 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.	LTS	No mitigation is required.	LTS
5.7.A-3: Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Long-term operational (local) mobile-source CO emissions under Alternative A 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.	LTS	No mitigation is required.	LTS
5.7.A-4: Odor Emissions. Neither construction nor operation of the proposed project would create objectionable odors affecting a substantial number of people. This impact would be considered less than significant.	LTS	No mitigation is required.	LTS
5.7.A-5: Hazardous Air Pollutant Emissions. Neither construction nor operation of Alternative A would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.7.B-1: Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. Unmitigated, daily NO_X emissions would exceed the significance threshold of 82 lb/day, construction-generated criteria air pollutant and precursor emissions under Alternative B could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial	S	**Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.** See Mitigation Measure 5.7.A-1 described above for Alternative A. The same mitigation measure would apply.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
pollutant concentrations, especially considering the nonattainment status of the LTAB with respect to the TRPA standards. This would be a significant impact.			
5.7.B-2: 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 for NO_X, implementation of Alternative B 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.	LTS	No mitigation is required.	LTS
5.7.B-3: Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Long-term operational (local) mobile-source CO emissions under Alternative B 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.	LTS	No mitigation is required.	LTS
5.7.B-4: Odor Emissions. Because implementation of Alternative B would result in similar types of proposed uses on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-4. Neither construction nor operation of Alternative B would create objectionable odors affecting a substantial number of people. This impact would be considered less than significant.	LTS	No mitigation is required.	LTS
5.7.B-5: Hazardous Air Pollutant Emissions. Because implementation of Alternative B would result in similar types of proposed uses and on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-5. Neither construction nor operation of Alternative B would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be less than significant.	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.7.C-1: Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. Unmitigated, daily NO_X emissions would exceed the significance threshold of 82 lb/day, construction-generated criteria air pollutant and precursor emissions under Alternative C 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 nonattainment status of the LTAB with respect to the TRPA standards. This would be a significant impact.	S	**Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.** See Mitigation Measure 5.7.A-1 described above for Alternative A. The same mitigation measure would apply.	LTS
5.7.C-2: 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 for NO_X, implementation of Alternative C 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.	LTS	No mitigation is required.	LTS
5.7.C-3: Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. Long-term operational (local) mobile-source CO emissions under Alternative C 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.	LTS	No mitigation is required.	LTS
5.7.C-4: Odor Emissions. Because implementation of Alternative C would result in the same type of proposed uses on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-4. Neither construction nor operation of Alternative C would create objectionable odors affecting a substantial number of people. This impact would be less than significant.	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.7.C-5: Hazardous Air Pollutant Emissions. Because implementation of Alternative C would result in the same type of proposed uses and on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-5. Neither construction nor operation of Alternative C would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.8 Noise			
5.8.A-1: Short-Term Construction Noise Levels. Because construction activities under Alternative A would be limited to the hours during which noise levels are exempt from applicable standards, this would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.A-2: Long-Term Project-Generated Non-Traffic Source Noise Levels. Because long-term project-generated non-traffic source noise levels (i.e., heating ventilation and air conditioning [HVAC] equipment) under Alternative A could exceed applicable noise standards at off-site existing nearby noise-sensitive land uses, this would be a potentially significant impact.	PS	**Design and Locate HVAC Equipment to Minimize Noise.** The applicant shall incorporate the following element into the design and operation of the Beach Club project to reduce long-term project-generated HVAC equipment noise at off-site existing nearby noise-sensitive land uses. ► HVAC equipment shall be located at the farthest distance from and/or be shielded from nearby existing noise-sensitive land uses such that the 55 dBA CNEL standard is not exceeded.	LTS
5.8.A-3: Long-Term Project-Generated Traffic Noise Levels. Project-related traffic would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.A-4: Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. Because on-site noise levels under Alternative A would not exceed applicable land use compatibility standards at proposed noise-sensitive receptors, this impact would be less than significant.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.8.A-5: Vibration Levels. Short-term project-generated construction source vibration levels under Alternative A would not exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.B-1: Short-Term Construction Noise Levels. Because construction activities under Alternative B would be limited to the hours during which noise levels are exempt from the provisions of the applicable standards, this would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.B-2: Long-Term Project-Generated Non-Traffic Source Noise Levels. Because long-term project-generated non-traffic source noise levels under Alternative B would be similar to or less than noise levels under existing conditions, Alternative B would not be expected to cause any exceedances of ambient noise levels at off-site existing nearby noise-sensitive land uses. Thus, this would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.B-3: Long-Term Project-Generated Traffic Noise Levels. Because project-related traffic under Alternative B would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways, this would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.B-4: Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. Because on-site noise levels under Alternative B would not exceed applicable land use compatibility standards at proposed noise-sensitive receptors, this impact would be less than significant.	LTS	No mitigation is required.	LTS
5.8.B-5: Vibration Levels. Short-term project-generated construction source vibration levels under Alternative B would not exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a less-than-significant impact.			
5.8.C-1: Short-Term Construction Noise Levels. Because construction activities under Alternative C would be limited to the hours during which noise levels are exempt from the provisions of the applicable standards, this would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.C-2: Long-Term Project-Generated Non-Traffic Source Noise Levels. Because long-term project-generated non-traffic source noise levels (i.e., HVAC equipment) under Alternative C could exceed applicable noise standards at off-site existing nearby noise-sensitive land uses, this would be a potentially significant impact.	PS	**Design and Locate HVAC Equipment to Minimize Noise.** See Mitigation Measure 5.8.A-2 described above for Alternative A. The same mitigation measure would apply.	LTS
5.8.C-3: Long-Term Project-Generated Traffic Noise Levels. Because project-related traffic under Alternative C would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways, this would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.8.C-4: Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. Because on-site noise levels under Alternative C would not exceed applicable land use compatibility standards at proposed noise-sensitive receptors, this impact would be less than significant.	LTS	No mitigation is required.	LTS
5.8.C-5: Vibration Levels. Short-term project-generated construction source vibration levels under Alternative C would not exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9 Biological Resources			
5.9.A-1: Impact to Jurisdictional Waters of the United States and Removal of Riparian Vegetation. Implementation of Alternative A would result in the reconstruction of the eastern portion of Kahle Ditch, a man-made intermittent drainage ditch approximately 0.10 acre in area (the portion of the ditch between the access road to the Douglas County Sewer Improvement District north of the site and the beach, and the culvert underlying the access road, would be left in place). Kahle Ditch likely qualifies as a water of the United States subject to USACE jurisdiction under the Clean Water Act. Work affecting a jurisdictional water of the United States and associated removal or disturbance of approximately 1.07acres of willow scrub and riparian vegetation considered sensitive by the USACE and TRPA is considered a significant impact.	S	**Delineation of Waters of the United States and Authorization of Fill.** Prior to the start of construction activities at the project site, a delineation of waters of the United States, including wetlands that would be affected by implementation of the proposed project, shall be made 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 impacts to waters of the United States would result from implementation of the proposed project, authorization for such fill or reconstruction 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 on a "no net loss" basis in accordance with USACE and TRPA regulations. Restoration of the SEZ adjacent to the Kahle Ditch would likely be required by both USACE and TRPA for loss of deciduous riparian vegetation. Reconstruction of the eastern portion of Kahle Ditch is likely to have a beneficial effect on the water table of the meadow and SEZ ecosystems to the north of the project site. 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 by TRPA during the permitting process for SEZ.	LTS
5.9.A-2: Loss of Common Vegetation (other than deciduous riparian vegetation), Uncommon Vegetation, and Late Seral/Old Growth Ecosystems. Implementation of Alternative A could result in the loss or disturbance of approximately 0.88 acre of low quality habitat, including disturbed grassland (approximately 0.21 acre) and big sagebrush scrub (approximately 0.67 acre). No other vegetation types (other than those already discussed in Impact 5.9.A-1) would be affected. This impact is considered less than significant.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.A-3: Tree Removal. Implementation of Alternative A would result in the loss of 51 native and nonnative trees on the project site during project construction. No trees larger than 24 inches in diameter at breast height (dbh) would be removed. The removal and/or relocation of 51 trees on the project site is not considered "substantial" as defined in the TRPA Code of Ordinances and would not require a tree removal plan. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.9.A-4: Loss of Tahoe Yellow Cress, a TRPA Threshold Sensitive Plant Species and USFWS Candidate Species. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of Alternative A could disturb Tahoe yellow cress habitat resulting in habitat loss. This would be a significant impact.	S	**Avoid Disturbance or Removal of Tahoe Yellow Cress and Implement Measures to Avoid Potential Adverse Effects Related to Site Hydrology and Changed Use Patterns.** Guidance for mitigation of potential impacts to Tahoe yellow cress during project implementation is provided in Appendix I, Tahoe yellow cress project review guidelines, of the TRPA's 2002 Conservation Strategy (Pavlik et al. 2002). The guidelines state: When Tahoe yellow cress plants are found on a site or are known to occur on a site, a site-specific management plan shall be developed. This plan must be accepted by TRPA and all other responsible agencies. The plan shall include, but not be limited to: ► A pre-construction Tahoe yellow cress site survey; ► Project modifications to prevent any impact to Tahoe yellow cress during construction such as enclosure fencing, avoidance measures through redesign, etc.; ► Monitoring for Tahoe yellow cress during construction; ► A long-term Tahoe yellow cress site management plan including, but not limited to, placement of educational signage, fencing, access agreement for annual site surveys, and possible development of landscape practices guidelines; and ► Participation in the Tahoe yellow cress stewardship program. The guidelines state that for landowners participating in the Tahoe yellow cress stewardship program who submit an application with an acceptable Tahoe yellow cress management plan, the issue is considered resolved. The following mitigation measures for Tahoe yellow cress have	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		been developed based on and consistent with the guidelines provided in the Conservation Strategy Guidelines. Once adopted as part of the proposed project, and implemented as stated, these measures shall constitute the onsite site-specific management plan for Tahoe yellow cress in compliance with the Conservation Strategy's requirement for such a plan. The following construction-related measures shall be implemented at all times during project construction: ► Prior to construction activities, a qualified botanist shall conduct a survey of the beach where Tahoe yellow cress occurs and shall clearly identify any plants found at that time by flagging or otherwise clearly demarcating the location and extent of the population. ► A qualified biologist shall develop and conduct a biological resource education program for the construction crews before construction activities begin. All workers and other visitors to the construction site shall be alerted to the presence of Tahoe yellow cress on the beach, the implications for project compliance, and the need for avoidance of impacts to the population. ► Prior to the beginning of construction, exclusion zones shall be established around identified Tahoe yellow cress plants. Exclusion zones shall be marked on the construction drawings and shall be temporarily fenced to prevent the encroachment of construction equipment or crews. A 50-foot buffer area around Tahoe yellow cress plants shall be established where possible with brightly colored fencing. Fencing may include permanent, durable, and effective barriers that do not obstruct geomorphic processes or plant and wildlife movement and have a minimal effect on scenic quality. The fence shall not be moved at any time during construction in order to prevent equipment from affecting the population. The fencing shall be maintained until construction is complete. A TRPA approved biological monitor shall monitor construction activities to verify that avoidance measures for Tahoe yellow cress	

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		are implemented properly. The following additional construction-related measures shall be implemented during open-trench construction through the beach zone for installation of the underground electrical conduit for the proposed pier: ► Prior to construction activities, a qualified botanist shall conduct a survey of the beach where Tahoe yellow cress occurs and shall clearly identify any plants found at that time by flagging or otherwise clearly demarcating the location and extent of the population and creating a 100-foot buffer area for any identified plants. ► If no Tahoe yellow cress plants are found within the trench alignment or buffer area during the pre-construction surveys, then construction/trenching may proceed. ► If Tahoe yellow cress plants are found within the trenching alignment or buffer area during the pre-construction surveys, then the trench alignment shall be relocated in a manner that avoids all Tahoe yellow cress plants and allows for a 100-foot buffer area around any identified plants. ► Hand trenching techniques shall be employed in all areas of the beach zone. ► Following completion of trenching, the original beach contour shall be restored and protective fencing around plants and buffer areas shall be removed. ► A qualified biologist shall be on site to monitor all trenching activities in the beach zone and to educate all construction workers regarding the presence of Tahoe yellow cress on the beach, the implications for project compliance, and the need for avoidance of impacts to the population. In addition to the construction-related measures outlined above, the following operational measures related to potential indirect impacts to Tahoe yellow cress due to unanticipated but potential changes in hydrology of Kahle Beach resulting from the implementation of site BMPs and reconstruction of the eastern portion of Kahle Ditch shall	

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		be implemented: ► Continued monitoring of the Kahle Beach population by a qualified biologist to determine if changes in hydrology resulting from the reconfiguration of Kahle Ditch indeed result in adverse effects on Tahoe yellow cress; monitoring shall be conducted on an annual basis during project construction and for 3 years following completion of project construction. Results shall be interpreted in light of overall hydrological conditions for any given year, such as rainfall patterns, snowmelt timing, lake levels, etc.; results of the annual monitoring shall be submitted to TRPA. ► If annual monitoring indicates that the Tahoe yellow cress population at Kahle Beach may indeed be experiencing adverse effects as a result of changed site hydrology resulting from construction of the Beach Club project, and specifically the alteration of hydrology in Kahle Ditch resulting from reconstruction of the eastern portion of the ditch and implementation of project site BMPs, additional mitigation shall be implemented in the form of outplanting. Outplanting shall be implemented in new suitable locations at a 3:1 replacement ratio for affected plants. The new locations shall be fenced and signed to protect the plant and educate beachgoers. Suitable habitat exists just north of the project site on Nevada Beach near the mouth of Burke Creek where outplantings were installed in 2004, fenced with signs, and monitored annually. Outplanting shall be implemented in close collaboration with the TYC Adaptive Management Working Group (AMWG) to ensure that the replacement plantings contribute to ongoing Tahoe yellow cress projects on Nevada Beach and to ensure that the outplanting will not adversely affect ongoing restoration and research efforts. In addition to the measures outlined above for construction and provision of adequate hydrology required for long term survival of Tahoe yellow cress, the following operational mitigation measures related to increased use of the site by beach goers shall be	

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		implemented: ► Clear demarcation of walking paths leading from the Beach Club residential and club areas to Kahle Beach to prevent walkers from entering the Tahoe yellow cress habitat; ► Fencing around the Tahoe yellow cress habitat on the Beach Club site and interpretive signage installed on the fence that explains the presence of Tahoe yellow cress and sensitive habitat; ► Provision of educational materials to residents, members of the Beach Club and their guests explaining the presence of sensitive biological resources on site, the need for resource stewardship and conservation, and appropriate behavior with regards to the resources; and ► Participation in the Tahoe yellow cress stewardship program; a representative from the Beach Club project shall be designated the primary contact to stay informed about current issues and programs pertaining to the long term management of Tahoe yellow cress and shall be the contact for future Tahoe yellow cress studies and conservation activities; any new management strategies developed that may have positive effects on the long term survival of Tahoe yellow cress at the Beach Club site shall be implemented.	
5.9.A-5: Introduction and Spread of Weeds. Project construction and operation have the potential to introduce and spread exotic, invasive weeds. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe. This would be a potentially significant impact.	PS	**Implementation of Weed Management Practices During the Construction Phase of the Project.** The following weed management practices shall by implemented during project construction: ► Pre-construction surveys shall be conducted in accordance with Section 2083 of the Forest Service Manual, "Information and Reporting Guidelines for Noxious Weeds" (USDA-FS 1991) by qualified biologists to determine the location of any invasive/noxious weed populations within the project area. ► If invasive/noxious weed populations are identified within the project area, these species shall be removed prior to start of construction. This would help eliminate the threat of spreading	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		the species farther throughout the project area. ► A qualified biologist shall conduct a biological resource education program for the construction crews before construction activity begins. This program shall include weed identification and the importance of controlling and preventing the spread of invasive/noxious weed infestations. ► Equipment shall be cleaned at designated wash stations after leaving invasive/noxious weed infestation areas. If deemed necessary, wash stations shall be identified by the resource specialists before construction activities begin in a particular segment and shall be approved by the agencies. All equipment coming onto the project area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts. ► To ensure that fill, seeds, and mulch are free of invasive/noxious weeds, on-site sources of fill, mulching, and seeds shall be used when available. Fill, mulch, and seed shall be certified weed-free. Only certified weed-free imported materials (or rice straw in upland areas) shall be used for erosion control.	
5.9.A-6: Degradation or Loss of Wildlife Movement Corridors. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.9.A-7: Removal of Migratory Bird Nests. Implementation of Alternative A could adversely affect migratory birds through disturbance during the breeding season and removal of active nests. Migratory bird nests are protected under the MBTA. This impact is considered potentially significant.	PS	**Avoid Removal of Active Nest Sites; Conduct Preconstruction Surveys for Nesting Migratory Birds.** Removal of vegetation or other nesting substrates during the nesting season (approximately March 1 through September 1, depending on species and weather) shall be avoided to the maximum extent feasible. If vegetation or other substrates that could support nesting birds would be removed during the nesting season, a qualified biologist approved by TRPA shall be retained to conduct focused preconstruction surveys for active nest sites of migratory birds. The biologist shall be able to identify Sierra Nevada bird species audibly and visually. The survey area shall be limited to the areas where project activities	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		could lead to direct destruction of active nests. Nest-searching techniques shall be developed and implemented as appropriate for target species and habitat types. The results of nesting bird surveys conducted between March 1 and June 15 shall be considered valid for no more than 14 days (i.e., the onset of each construction phase should begin no later than 14 days after these surveys are completed). Results of surveys conducted after June 15 can be considered valid for up to 30 days. Because most neotropical migrant birds that nest in the region typically arrive and begin establishing territories between March and June, and new individuals and species continually arrive in the area during this period, negative survey results (e.g., absence, no nesting activity) for a given location may be valid only for a short period. If an active nest is located, removal of the nest site shall be avoided until it is no longer active.	
5.9.A-8: Disturbance to and Loss of Habitat for Nesting Raptors and Special-Status Bird Species. Implementation of Alternative A is not likely to adversely affect nesting raptors or special-status bird species on the project site, because of lack of suitable nesting habitat. Implementation of Alternative A could affect raptors or special-status birds if they nest adjacent to the site; however, the viability of local and regional populations would not be adversely affected because these species are relatively common in the region. Impacts to nesting special-status birds and raptors would be less than significant.	LTS	No mitigation is required.	LTS
5.9.A-9: Disturbance to Foraging Osprey and Bald Eagle. Implementation of Alternative A could affect ospreys and bald eagles that potentially forage on Lake Tahoe in the vicinity of the project site. However, because project activities would not disrupt breeding attempts, and existing disturbance levels in the project vicinity are relatively high, the potential impact to bald eagle or osprey at this location would be less than significant.	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.A-10: Loss of Waterfowl Habitat. Implementation of Alternative A could result in the temporary loss of potential foraging habitat for waterfowl. Project implementation is not expected to have any effects on nesting waterfowl because of the lack of suitable nesting habitat on the project site. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.9.A-11: Disturbance to Fish Habitat. Alternative A includes the reconstruction and expansion of the existing pier and the relocation of the three existing buoys. The areas surrounding both the existing pier and the proposed pier expansion are not located in prime fish habitat or recreationally important fish habitat (i.e., Hobart's Hole). BMPs would be in place to prevent construction-related materials from the pier work area into the lake water. Therefore, this activity would not result in impacts to fish habitat. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.9.A-12: Disturbance to Fish Habitat – Water Quality (Stormwater). Implementation of Alternative A would result in water quality improvements of onsite runoff before entering Lake Tahoe. Project-related improvements to water quality and associated fish habitat would be considered beneficial.	B	No mitigation is required.	B
5.9.A-13: Degradation of Fish Habitat Due to Degradation of Water Quality from Increased Boating Activity. Alternative A would include the reconstruction and expansion of the existing pier and relocation of the three existing buoys. The project would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, the project would not contribute to an increase in the number of boats on the lake. In addition, because the project would not provide any additional permanent mooring, the project would not result in a change in boating activity on the lake. Therefore, Alternative A would result in a less-than-significant impact related to boating activity and water quality.	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.B-1: Loss of Common Vegetation (other than deciduous riparian vegetation), Uncommon Vegetation, and Late Seral/Old Growth Ecosystems. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-2 described above. Implementation of Alternative B could result in the loss or disturbance of approximately 0.88 acre of low quality habitat, including disturbed grassland (approximately 0.21 acre) and big sagebrush scrub (approximately 0.67 acre). No other vegetation types (other than those already discussed in Impact 5.9.A-1) would be affected. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.9.B-2: Tree Removal. Because Alternative B would be located on the same site as Alternative A, this impact is similar to Impact 5.9.A-3 described above. However, implementation of Alternative B would be expected to result in the loss of fewer trees on the project site during project construction than Alternative A. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.9.B-3: Loss of Tahoe Yellow Cress, a TRPA Threshold Sensitive Plant Species and USFWS Candidate Species. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-4 described above, except as related to the installation of underground electrical conduit through the beach zone, which would not be required as part of the Alternative B pier. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of Alternative B could disturb Tahoe yellow cress habitat resulting in habitat loss. Although Alternative B would result in reduced activity on the beach due to the construction of two private single-family estates rather than the condominiums and beach and swim club proposed under Alternative A and would not result in any disturbance or reconstruction of Kahle Ditch, this impact is still considered to be significant.	S	**Avoid Disturbance or Removal of Tahoe Yellow Cress and Implement Measures to Avoid Potential Adverse Effects Related to Site Hydrology and Changed Use Patterns.** See Mitigation Measure 5.9.A-4 described above for Alternative A. The same mitigation, except those measures required during open-trench construction through the beach zone, would apply.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.B-4: Introduction and Spread of Weeds. This impact is the same as Impact 5.9.A-5 described above for Alternative A. There is the potential for the introduction and spread of weeds due to Alternative B implementation both during the construction phase and after construction. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe. This would be a potentially significant impact.	PS	**Implementation of Weed Management Practices During the Construction Phase of the Project.** See Mitigation Measure 5.9.A-5 described above for Alternative A. The same mitigation would apply.	LTS
5.9.B-5: Degradation or Loss of Wildlife Movement Corridors. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-6 described above. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. This impact would be less than significant.	LTS	**Implementation of Weed Management Practices During the Construction Phase of the Project.** The following weed management practices shall by implemented during project construction: ► Pre-construction surveys shall be conducted in accordance with Section 2083 of the Forest Service Manual, "Information and Reporting Guidelines for Noxious Weeds" (USDA-FS 1991) by qualified biologists to determine the location of any invasive/noxious weed populations within the project area. ► If invasive/noxious weed populations are identified within the project area, these species shall be removed prior to start of construction. This would help eliminate the threat of spreading the species farther throughout the project area. ► A qualified biologist shall conduct a biological resource education program for the construction crews before construction activity begins. This program shall include weed identification and the importance of controlling and preventing the spread of invasive/noxious weed infestations. ► Equipment shall be cleaned at designated wash stations after leaving invasive/noxious weed infestation areas. If deemed necessary, wash stations shall be identified by the resource specialists before construction activities begin in a particular segment and shall be approved by the agencies. All equipment coming onto the project area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		► To ensure that fill, seeds, and mulch are free of invasive/noxious weeds, on-site sources of fill, mulching, and seeds shall be used when available. Fill, mulch, and seed shall be certified weed-free. Only certified weed-free imported materials (or rice straw in upland areas) shall be used for erosion control.	
5.9.B-6: Removal of Migratory Bird Nests. Because Alternative B would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-7 described above. Implementation of Alternative B could adversely affect migratory birds through disturbance during the breeding season and removal of active nests. Migratory bird nests are protected under the MBTA. This impact is considered potentially significant.	PS	**Avoid Removal of Active Nest Sites; Conduct Preconstruction Surveys for Nesting Migratory Birds.** See Mitigation Measure 5.9.A-7 described above for Alternative A. The same mitigation would apply.	LTS
5.9.B-7: Disturbance to and Loss of Habitat for Nesting Raptors and Special-Status Bird Species. Because Alternative B would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-8 described above. Implementation of Alternative B is not likely to adversely affect nesting raptors or special-status bird species on the project site, because of lack of suitable nesting habitat. Implementation of Alternative B could affect raptors or special-status birds if they nest adjacent to the site; however, the viability of local and regional populations would not be adversely affected because these species are relatively common in the region. Impacts to nesting special-status birds and raptors would be less than significant.	LTS	No mitigation is required.	LTS
5.9.B-8: Disturbance to Foraging Osprey and Bald Eagle. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-9 described above. Implementation of Alternative B could affect ospreys and bald eagles that potentially forage on Lake Tahoe in the vicinity of the project site. Over the long term, recreation use of the beach area in Alternative B could be less than under existing conditions or Alternative A given that	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
development at the site would be limited to two single-family estates. Because project activities would not disrupt osprey or bald eagle breeding attempts, and implementation of Alternative B would likely reduce existing disturbance levels from recreation in the project vicinity, the potential impact to bald eagle or osprey at this location would be less than significant.			
5.9.B-9: Loss of Waterfowl Habitat. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-10 described above. Implementation of Alternative B could result in the temporary loss of potential foraging habitat for waterfowl. Project implementation is not expected to have any effects on nesting waterfowl because of the lack of suitable nesting habitat on the project site. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.9.B-10: Disturbance to Fish Habitat. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-11 described above. Alternative B includes the reconstruction and expansion of the existing pier and the relocation of the three existing buoys. The area surrounding both the existing pier and the proposed pier expansion, are not located in prime fish habitat or recreationally important fish habitat (i.e., Hobart's Hole). BMPs would be in place to prevent construction-related materials from the pier work area into the lake water. Therefore, this activity would not result in impacts to fish habitat. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.9.B-11: Disturbance to Fish Habitat – Water Quality (Stormwater). Similar to Alternative A described above in Impact 5.9.A-12, implementation of Alternative B would result in water quality improvements of onsite runoff before entering Lake Tahoe. Project-related improvements to water quality and associated fish habitat would be considered beneficial.	B	No mitigation is required.	B

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.B-12: Degradation of Fish Habitat Due to Degradation of Water Quality From Increased Boating Activity. Like Alternative A, Alternative B would include the reconstruction and expansion of the existing pier and relocation of the three existing buoys. Alternative B would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative B would not contribute to an increase in the number of boats on the lake. In addition, because Alternative B would not provide any additional permanent mooring, Alternative B would not result in a change in boating activity on the lake. Therefore, Alternative B would result in a less-than-significant impact related to boating activity and water quality.	LTS	No mitigation is required.	LTS
5.9.C-1: Loss of Common Vegetation (other than deciduous riparian vegetation), Uncommon Vegetation, and Late Seral/Old Growth Ecosystems. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-2 described above. Implementation of Alternative C could result in the loss or disturbance of approximately 0.88 acre of low quality habitat, including disturbed grassland (approximately 0.21 acre) and big sagebrush scrub (approximately 0.67 acre). No other vegetation types (other than those already discussed in Impact 5.9.A-1) would be affected. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.9.C-2: Tree Removal. Because Alternative C would be located on the same site as Alternative A, this impact is similar to Impact 5.9.A-3 described above. However, implementation of Alternative C could result in the loss of more trees on the project site during project construction than Alternative A. Regardless, tree removal would not be at a level that would be considered "substantial." This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.C-3: Loss of Tahoe Yellow Cress, a TRPA Threshold Sensitive Plant Species and USFWS Candidate Species. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-4 described above. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of Alternative C could disturb Tahoe yellow cress habitat resulting in habitat loss. This would be a significant impact.	S	**Avoid Disturbance or Removal of Tahoe Yellow Cress and Implement Measures to Avoid Potential Adverse Effects Related to Site Hydrology and Changed Use Patterns.** See Mitigation Measure 5.9.A-4 described above for Alternative A. The same mitigation would apply.	LTS
5.9.C-4: Introduction and Spread of Weeds. This impact is the same as Impact 5.9.A-5 described above for Alternative A. There is the potential for the introduction and spread of weeds due to Alternative C implementation both during the construction phase and after construction. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe. This would be a potentially significant impact.	PS	**Implementation of Weed Management Practices During the Construction Phase of the Project.** See Mitigation Measure 5.9.A-5 described above for Alternative A. The same mitigation would apply.	LTS
5.9.C-5: Degradation or Loss of Wildlife Movement Corridors. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-6 described above. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.9.C-6: Removal of Migratory Bird Nests. Because Alternative C would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-7 described above. Implementation of Alternative C could adversely affect migratory birds through disturbance during the breeding season and removal of active nests. Migratory bird nests are protected under the MBTA. This impact is considered potentially significant.	PS	**Avoid Removal of Active Nest Sites; Conduct Preconstruction Surveys for Nesting Migratory Birds.** See Mitigation Measure 5.9.A-7 described above for Alternative A. The same mitigation would apply.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.C-7: Disturbance to and Loss of Habitat for Nesting Raptors and Special-Status Bird Species. Because Alternative C would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-8 described above. Implementation of Alternative C is not likely to adversely affect nesting raptors or special-status bird species on the project site, because of lack of suitable nesting habitat. Implementation of Alternative C could affect raptors or special-status birds if they nest adjacent to the site; however, the viability of local and regional populations would not be adversely affected because these species are relatively common in the region. Impacts to nesting special-status birds and raptors would be less than significant.	LTS	No mitigation is required.	LTS
5.9.C-8: Disturbance to Foraging Osprey and Bald Eagle. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-9 described above. Implementation of Alternative C could affect ospreys and bald eagles that potentially forage on Lake Tahoe in the vicinity of the project site. However, because project activities would not disrupt breeding attempts, and existing disturbance levels in the project vicinity are relatively high, the potential impact to bald eagle or osprey at this location would be less than significant.	LTS	No mitigation is required.	LTS
5.9.C-9: Loss of Waterfowl Habitat. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-10 described above. Implementation of Alternative C could result in the temporary loss of potential foraging habitat for waterfowl. Project implementation is not expected to have any effects on nesting waterfowl because of the lack of suitable nesting habitat on the project site. This impact would be less than significant.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.9.C-10: Disturbance to Fish Habitat. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-11 described above. Alternative C includes the reconstruction and expansion of the existing pier and the relocation of the three existing buoys. The area surrounding both the existing pier and the proposed pier expansion, are not located in prime fish habitat or recreationally important fish habitat (i.e., Hobart's Hole). BMPs would be in place to prevent construction-related materials from the pier work area into the lake water. Therefore, this activity would not result in impacts to fish habitat. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.9.C-11: Disturbance to Fish Habitat – Water Quality (Stormwater). Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-12 described above. Implementation of Alternative C would result in water quality improvements of onsite runoff before entering Lake Tahoe. Project-related improvements to water quality and associated fish habitat would be considered beneficial.	B	No mitigation is required.	B
5.9.C-12: Degradation of Fish Habitat Due to Degradation of Water Quality From Increased Boating Activity. Like Alternative A, Alternative C would include the reconstruction and expansion of the existing pier and relocation of the three existing buoys. Alternative C would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative C would not contribute to an increase in the number of boats on the lake. In addition, because Alternative C would not provide any additional permanent mooring, Alternative C would not result in a change in boating activity on the lake. Therefore, Alternative C would result in a less-than-significant impact related to boating activity and water quality.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.10 Scenic Resources			
5.10.A-1: Effects on SR-1, TRPA Travel Route Threshold Ratings. Alternative A , including the beach and swim club, condominiums, and related buildings would be visible to varying degrees from important surrounding viewpoints including U.S. 50 within Roadway Travel Unit 31, Meadow, and Lake Tahoe within Shoreline Travel Unit 30, Edgewood . Although the project would replace the existing Tahoe Shores Mobile Home Park and would be partially screened by trees and other vegetation, the visual impact on SR-1 TRPA Travel Route Threshold Ratings would be potentially significant.	PS	**a. Design the SEZ Habitat Restoration and Other On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** Without compromising the habitat goals of the SEZ restoration, the following shall be incorporated in the restoration design: ► Visual exposure of proposed buildings and parking areas from U.S. 50 shall be considered in the design of the SEZ habitat restoration. The selection of plant species, the quantities of plant materials, and their arrangement and placement on the project site shall maximize screening of buildings and parking areas. **b. Design Other On-Site Landscaping To Provide Screening of Existing and Proposed Buildings at Levels Anticipated in the Assessment of Scenic Impacts Reported Herein.** The following shall be incorporated in the design of screening of the lakefront façade of the existing KGID pump station and proposed beach and swim club building: The design of vegetative and other screening shall be based on and reflect the amount and placement of materials as shown in Exhibit 5.10-7. The screening shall be such that none of the lakefront façade of the KGID pump station and no more than 1,750 sf of the lakefront façade and 40% of the façade perimeter (approximately 145 linear feet of 365 linear feet total) of the proposed beach and swim club building is visible after 5 years of growth. **c. Conduct Screening Mitigation Monitoring.** Concurrent with submittal of Improvement Plans, a detailed screening mitigation monitoring plan shall be submitted to the TRPA for review and approval. The plan shall be implemented at the time the phased construction of the project begins. The plan shall include the following: a. Construction monitoring. The materials used to screen the proposed beach and swim club building shall be installed during Phase I of the project. A qualified landscape architect	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		shall be on-site during installation of materials that will screen the lakefront façade of the building. The monitoring shall ensure and certify that materials are installed according to approved plans and that the installation reflects the types, quantities, and placement of all materials shown on approved plans. b. Field monitoring. A qualified landscape architect shall conduct a field review of the status and health of screening materials each year for the first 5 years after installation and report their findings to the TRPA. The review shall be conducted prior to the end of each year's growing season. Any materials installed as part of the intended screening that fail to thrive shall be replaced by the owner prior to the end of that same growing season. After 5 years, the amount of screening achieved shall be determined. The total surface area of the visible façade and percentage of façade perimeter that is visible shall be determined. c. In the event that after 5 years the visible lakefront façade and/or visible perimeter of the beach and swim club building exceed the amounts stated in Mitigation Measure 5.10.A-1b above, the owner shall provide additional screening to achieve the necessary amount. The additional screening, if needed, shall be installed during the same year that a deficiency is identified.	
5.10.A-2: Effects on SR-2, TRPA Scenic Quality Threshold Ratings. Alternative A would be seen within the same visual context as a number of identified and mapped TRPA Scenic Resources. These Scenic Resources are visible from Roadway Travel Unit 31, Meadow and Shoreline Travel Unit 30, Edgewood. The visual presence of the project on TRPA regulated scenic resources would be a potentially significant impact.	PS	Mitigation measures for this impact are the same as those required under Impact 5.10.A-1.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.10.A-3: Effects on SR-3, TRPA Recreation Areas and Bike Trails Threshold. Part of Alternative A would be visible within the context of identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. The visual presence of the project on these TRPA regulated scenic resources would be a potentially significant impact.	PS	**a. Provide Screening of Proposed Buildings from the Nevada Beach Campground.** Concurrent with submittal of Improvement Plans, a detailed screening plan shall be submitted to the TRPA for review and approval. The plan shall be implemented at the time the phased construction of the project begins. The plan shall include the following: ► Screening of the proposed beach and swim club building, proposed residential buildings, and existing KGID pump station from the Nevada Beach Campground view shall be provided. The amount, density, type, and placement of vegetative screening shall be such that the proposed new development and existing pump station would be less visible from the Nevada Beach Campground than the existing mobile home park and KGID pump station. The visibility shall be measured by photograph-based analysis of the existing mobile home park and KGID pump station in comparison with the proposed project at 5 years after project completion. **b. Conduct Screening Mitigation Monitoring.** See Mitigation Measure 5.10.A-1c described above for Alternative A. The same mitigation would apply. **c. Design the SEZ Habitat Restoration and Other On-site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** See Mitigation Measure 5.10.A-1a described above for Alternative A. The same mitigation would apply. **d. Comply with TRPA Design Review Guidelines and Douglas County Guidelines Regarding Lighting.** The project applicant shall incorporate the following measures: ► Construction of the project shall adhere to TRPA Exterior Lighting Standards described in Chapter 7 of the TRPA Design Review Guidelines, Chapter 4 of the Standards and Guidelines, and TRPA Code of Ordinances Section 30.8. ► Construction shall adhere to Douglas County standards	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		regarding exterior lighting, as described in the Douglas County Consolidated Development Code, Chapter 20.690.030 General Standards, Section M, Lighting. ► All exterior lighting shall be shielded, focused downward, and focused away from nearby recreation areas. ► All exterior lighting shall be limited to non-sodium-vapor lighting. **e. Develop and Implement a TRPA-approved Detailed Lighting Plan.** Concurrent with submittal of Improvement Plans, a detailed lighting and photometric plan shall be submitted to TRPA for review and approval and shall include the following: a. The site lighting plan shall demonstrate compliance with the Douglas County Consolidated Development Code Standards and Guidelines. The night lighting design shall be designed to minimize impacts to adjoining and nearby land uses. No lighting is permitted on top of structures. b. Site lighting fixtures in parking lots shall be provided by the use of high pressure sodium (HPS) or metal halide, with lights mounted at a height not to exceed 10 feet. The metal pole color shall be such that the pole will blend into the landscape (i.e., black, bronze, or dark bronze). All site lighting in parking areas shall be full cut-off design so that the light source is fully screened. c. Building lighting shall be shielded and downward directed such that the bulb or ballast is not visible. Lighting fixture design shall complement the building colors and materials. Roof and wall pack lighting shall not be used. Lighting intensity shall be of a level that only highlights the adjacent building area and ground area and shall not impose glare on any pedestrian or vehicular traffic.	

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.10.A-4: Effects on SR-4, TRPA Community Design Threshold. Alternative A would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code of Ordinances and Scenic Quality Improvement Program. There are no specific design standards and guidelines in Plan Area Statement 070A (Edgewood) or Plan Area Statement 077 (Oliver Park). Alternative A would have a less-than-significant impact on TRPA Community Design Thresholds.	LTS	No mitigation is required.	LTS
5.10.B-1: Effects on SR-1, TRPA Travel Route Threshold Ratings. Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. The buildings in Alternative B would be visible to varying degrees from important surrounding viewpoints including U.S.50 within Roadway Travel Unit 31, Meadow, and Lake Tahoe within Shoreline Travel Unit 30, Edgewood. Although the project would replace the existing Tahoe Shores Mobile Home Park and would be partially screened by trees and other vegetation, the visual impact on SR-1 TRPA Travel Route Threshold Ratings would be potentially significant.	PS	**a. Perform a Contrast Rating Analysis of Buildings that Would be Located Within the Shoreland.** As specified in Section 30.15 of the TRPA Code of Ordinances, a mitigation review shall be conducted 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. The review shall be conducted once a final site plan and building plans for Alternative B are developed. **b. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** Visual exposure of existing and proposed buildings and parking areas that would occur from the surface of Lake Tahoe shall be considered in landscape design of Alternative B. The selection of plant species, the quantities of plant materials, and their arrangement and placement on the project site shall maximize the screening potential of the materials. Screening shall be sufficient to reduce the visible area of development on the project site, including the KGID pump station, as seen from the surface of Lake Tahoe at a distance of 300 feet from shore to less than that presently in view. Screening shall also meet the amounts required under Section 30.12.B of the TRPA Code of Ordinances and the amount required by the TRPA for pier projects. **c. Conduct Screening Mitigation Monitoring.** Concurrent with submittal of Improvement Plans, a detailed screening mitigation monitoring plan shall be submitted to the	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		TRPA for review and approval. The plan shall be implemented at the time construction of the project begins. The plan shall include the following: a. Construction monitoring. The materials used to screen proposed buildings shall be installed during the first phases of project construction. A qualified landscape architect shall be on-site during installation of plant materials. The monitor shall ensure and certify that materials are installed according to approved plans and that the installation reflects the types, quantities, and placement of all materials shown on approved plans. b. Field monitoring. A qualified landscape architect shall conduct a field review of the status and health of screening materials each year for the first 5 years after installation. The review shall be conducted prior to the end of each year's growing season. Any materials installed as part of the intended screening that fail to thrive shall be replaced by the owner prior to the end of that same growing season. After 5 years, the amount of screening achieved shall be determined. The total surface area of the visible façade and percentage of façade perimeter that is visible shall be determined. c. In the event that after 5 years, less than the amount of screening specified in measure 5.10.B-1b has been achieved, the owner shall provide additional screening to achieve the necessary amount. The additional screening, if needed, shall be installed during the same year that a deficiency is identified.	
5.10.B-2: Effects on SR-2, TRPA Scenic Quality Threshold Ratings. Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. Alternative B would be seen within the same visual context as of a number of identified and mapped TRPA Scenic Resources. These Scenic Resources are visible from Roadway Travel Unit 31, Meadow and Shoreline Travel Unit	PS	**a. Perform a Contrast Rating Analysis of Buildings that Would be Located Within the Shoreland.** See Mitigation Measure 5.10.B-1a described above for Alternative A. The same mitigation would apply. **b. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** See Mitigation Measure 5.10.B-1b described above for Alternative A. The same mitigation would apply. **c. Conduct Screening Mitigation Monitoring.**	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
30, Edgewood. The visual presence of Alternative B on TRPA regulated scenic resources would be a potentially significant impact.		See Mitigation Measure 5.10.B-1c described above for Alternative A. The same mitigation would apply.	
5.10.B-3: Effects on SR-3, TRPA Recreation Areas and Bike Trails Threshold. Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. Part of Alternative B would be visible within the context of some identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. The visual presence of the project on these TRPA regulated scenic resources would be a potentially significant impact.	PS	**a. Provide Screening of Proposed Buildings from the Nevada Beach Campground.** See Mitigation Measure 5.10.A-3a described above for Alternative A. The same mitigation would apply. **b. Conduct Screening Mitigation Monitoring.** See Mitigation Measure 5.10.A-1c described above for Alternative A. The same mitigation would apply. **c. Design the SEZ Habitat Restoration and Other On-site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** See Mitigation Measure 5.10.A-1a described above for Alternative A. The same mitigation would apply. **d. Comply with TRPA Design Review Guidelines and Douglas County Guidelines Regarding Lighting.** See Mitigation Measure 5.10.A-3d described above for Alternative A. The same mitigation would apply. **e. Submit a Detailed Lighting Plan to TRPA.** See Mitigation Measure 5.10.A-3e described above for Alternative A. The same mitigation would apply.	LTS
5.10.B-4: Effects on SR-4, TRPA Community Design Threshold. Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. Alternative B would comply with all relevant aspects of the design standards and guidelines contained in the Code of Ordinances and Scenic Quality Improvement Program. There are no specific design standards and guidelines in Plan Area Statement 070A (Edgewood) or Plan Area Statement 077 (Oliver Park). Alternative B would have a less-than-significant impact on TRPA Community Design Thresholds.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.10.C-1: Effects on SR-1, TRPA Travel Route Threshold Ratings. Alternative C would be located on the same project site as Alternatives A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. The buildings in Alternative C would be visible to varying degrees from important surrounding viewpoints including U.S. 50 within Roadway Travel Unit 31, Meadow, and Lake Tahoe itself within Shoreline Travel Unit 30, Edgewood. The project would replace the existing Tahoe Shores Mobile Home Park. It would be at least partially screened by vegetation. The visual impact on SR-1 TRPA Travel Route Threshold Ratings would be potentially significant.	PS	**a. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** Visual exposure of proposed buildings and parking areas that would occur from U.S. 50 and from the surface of Lake Tahoe shall be considered in the landscape design of Alternative C. The selection of plant species, the quantities of plant materials, and their arrangement and placement on the project site shall maximize the screening potential of the materials. A continuous and dense row of large, native shrubs adapted to meadow environments shall be planted and established along the entire northern boundary of the project site. In the western portion of the site, screening shall be provided that is sufficient to reduce the visible area of development on the project site, including the KGID pump station, as seen from the surface of Lake Tahoe at a distance of 300 feet from shore to less than that presently in view. This screening shall also meet the amounts required under Section 30.12.B of the TRPA Code of Ordinances and the amount required by the TRPA for pier projects. **b. Perform a Contrast Rating Analysis of Buildings that Would be Located Within the Shoreland.** See Mitigation Measure 5.10.B-1a described above for Alternative B. The same mitigation would apply. **c. Conduct Screening Mitigation Monitoring.** See Mitigation Measure 5.10.B-1c described above for Alternative B. The same mitigation would apply.	LTS
5.10.C-2: Effects on SR-2, TRPA Scenic Quality Threshold Ratings. Alternative C would be located on the same project site as Alternative A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. Alternative C would be seen within the same visual context as a number of identified and mapped TRPA Scenic Resources. These Scenic Resources are viewed from Roadway Travel Unit 31, Meadow, and Shoreline Travel Unit 30, Edgewood. The visual presence of the project on TRPA	PS	**a. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** See Mitigation Measure 5.10.C-1a described above for Alternative C. The same mitigation would apply. **Perform a Contrast Rating Analysis of Buildings that Would be Located Within the Shoreland.** See Mitigation Measure 5.10.B-1a described above for Alternative B. The same mitigation would apply. **c. Conduct Screening Mitigation Monitoring.** See Mitigation Measure 5.10.B-1c described above for Alternative B. The same mitigation would apply.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
regulated scenic resources would be a potentially significant impact.			
5.10.C-3: Effects on SR-3, TRPA Recreation Areas and Bike Trails Threshold. Alternative C would be located on the same project site as Alternative A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. Part of Alternative C would be visible within the context of some identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. The visual presence of the project on these TRPA regulated scenic resources would be a potentially significant impact.	PS	**a. Provide Screening of Proposed Buildings from the Nevada Beach Campground.** See Mitigation Measure 5.10.A-3a described above for Alternative A. The same mitigation would apply. **b. Conduct Screening Mitigation Monitoring.** See Mitigation Measure 5.10.A-1c described above for Alternative A. The same mitigation would apply. **c. Design the SEZ Habitat Restoration and Other On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.** See Mitigation Measure 5.10.A-1a described above for Alternative A. The same mitigation would apply. **d. Comply with TRPA Design Review Guidelines and Douglas County Guidelines Regarding Lighting.** See Mitigation Measure 5.10.A-3d described above for Alternative A. The same mitigation measure would apply. **e. Submit a Detailed Lighting Plan to TRPA.** See Mitigation Measure 5.10.A-3e described above for Alternative A. The same mitigation measure would apply.	LTS
5.10.C-4: Effects on SR-4, TRPA Community Design Threshold. Alternative C would be located on the same project site as Alternative A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. Alternative C would comply with all relevant aspects of the design standards and guidelines contained in the Code of Ordinances and Scenic Quality Improvement Program. There are no specific design standards and guidelines in Plan Area Statement 070A (Edgewood) or Plan Area Statement 077 (Oliver Park). Alternative C would have a less-than-significant impact on TRPA Community Design Thresholds.	LTS	No mitigation is required.	LTS
5.11 Cultural Resources			

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.11.A-1: Effects on Known Cultural Resources. No cultural resources have been identified on the project site. Therefore, no portion of Alternative A would adversely affect any known significant cultural resources. This impact is less than significant.	LTS	No mitigation is required.	LTS
5.11.A-2: Effects on Previously Undiscovered Cultural Resources. Although the archaeological survey and literature search did not identify any significant historic resources on the project site, it is possible that buried or concealed cultural resources could be present and detected during ground-disturbing activities. If previously undiscovered, significant cultural resources are disturbed during construction, this could be a significant impact.	S	**Previously Undiscovered Cultural Resources.** Because the project site is in a high-probability area for previously undiscovered prehistoric cultural resources, Washoe tribal members shall be notified at least 2 weeks in advance of ground-disturbing activities and invited to conduct archaeological monitoring during such activities. If previously unknown archaeological resources are discovered during any ground-disturbing activities, construction shall immediately cease in the vicinity of the resource. A qualified archaeologist approved by TRPA shall be consulted to evaluate the resource in accordance with TRPA guidelines. If the discovered resource is determined to be significant, a mitigation plan consistent with the TRPA Code of Ordinances shall be drafted and submitted for approval by TRPA and the Nevada State Historic Preservation Office (SHPO). Such a plan may include recovery and recordation of the resource, additional monitoring, or other activities required by TRPA and the Nevada SHPO. Any necessary archaeological excavation and monitoring activities shall be conducted in accordance with prevailing professional standards and, shall be implemented before commencement of construction in the area of the resource. If human remains are discovered, the Douglas County Coroner shall be contacted and also the Nevada Office of Historic Preservation if the remains are determined to be those of Native American in accordance with Section 383.170 of the Nevada State Revised Statutes. Section 383.170 directs the SHPO to consult immediately with the Nevada Indian Commission and notify the appropriate Indian tribe. This section also authorizes the Indian tribe, with the permission of the landowner, to inspect the site and recommend an appropriate means for the treatment and disposition of the site and all associated artifacts and human remains.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.11.A-3: Effects on Paleontological Resources. The project site 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. Although Pleistocene deposits could contain fossils, the project site has been graded and filled for past development and proposed excavations would not exceed 8 feet. Therefore, project activities in the Pleistocene formations would also have no impact on paleontological resources.	NI	No mitigation is required.	NI
5.11.B-1: Effects on Known Cultural Resources. This impact is the same as Impact 5.11.A-1 described above for Alternative A. No cultural resources have been identified on the project site. Therefore, no portion of Alternative B would adversely affect any known significant cultural resources. This impact is less than significant.	LTS	No mitigation is required.	LTS
5.11.B-2: Effects on Previously Undiscovered Cultural Resources. This impact is the same as Impact 5.11.A-2 described above for Alternative A. Although the archaeological survey and literature search did not identify any significant historic resources on the project site, it is possible that buried or concealed cultural resources could be present and detected during ground-disturbing activities. If previously undiscovered, significant cultural resources are disturbed during construction, this could be a significant impact.	S	**Previously Undiscovered Cultural Resources.** See Mitigation Measure 5.11.A-2 described above for Alternative A. The same mitigation would apply.	LTS
5.11.B-3: Effects on Paleontological Resources. This impact is the same as Impact 5.11.A-3 described above for Alternative A. The project site 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	NI	No mitigation is required.	NI

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
on paleontological resources. In addition, although Pleistocene deposits could contain fossils, the project site has been graded and filled for past development and proposed excavations would not exceed 8 feet. Therefore, project activities in the Pleistocene formations would also have no impact on paleontological resources.			
5.11.C-1: Effects on Known Cultural Resources. This impact is the same as Impact 5.11.A-1 described above for Alternative A. No cultural resources have been identified on the project site. Therefore, no portion of Alternative C would adversely affect any known significant cultural resources. This impact is less than significant.	LTS	No mitigation is required.	LTS
5.11.C-2: Effects on Previously Undiscovered Cultural Resources. This impact is the same as Impact 5.11.A-2 described above for Alternative A. Although the archaeological survey and literature search did not identify any significant historic resources on the project site, it is possible that buried or concealed cultural resources could be present and detected during ground-disturbing activities. If previously undiscovered, significant cultural resources are disturbed during construction, this could be a significant impact.	S	**Previously Undiscovered Cultural Resources.** See Mitigation Measure 5.11.A-2 described above for Alternative A. The same mitigation discussion would apply.	LTS
5.11.C-3: Effects on Paleontological Resources. This impact is the same as Impact 5.11.A-3 described above for Alternative A. The project site 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. In addition, although Pleistocene deposits could contain fossils, the project site has been graded and filled for past development and proposed excavations would not exceed 8 feet. Therefore, project activities in the Pleistocene formations would also have no impact on paleontological resources.	NI	No mitigation is required.	NI

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.12 Water Recreation and Shorezone Impacts			
5.12.A-1: Impacts on Boating Activity. The proposed project would include expansion of the existing pier and retention and relocation of the three existing buoys for boat mooring. No additional mooring buoys would be added and boating activity in the area would remain approximately the same. Therefore, the proposed project would have a less-than-significant impact on boating activity.	LTS	No mitigation is required.	LTS
5.12.A-2: Impacts on Shoreline Access. The proposed project would not change the level of public access to the shoreline. There would be no access improvements as part of the project and the extension of the pier is not expected to change boating activity in the project area. Therefore, there would be no impact to shoreline access.	NI	No mitigation is required.	NI
5.12.A-3: Impacts on Fishing Activities. Construction of the 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. The project 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. Therefore, the proposed project would have a less-than-significant impact on fishing activities.	LTS	No mitigation is required.	LTS
5.12.A-4: Impacts on Recreational Facilities. Construction of the proposed project would include improvements to existing on-site recreational facilities and would construct new facilities on the project site. The project would not have any direct impacts on recreational facilities outside the project area and the population at the project site would be roughly equivalent to the existing population, so demand for other local recreational facilities would be approximately the same. This impact is considered less than significant.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.12.B-1: Impacts on Boating Activity. Because implementation of Alternative B would include a similar expansion of the existing pier (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same retention and relocation of the three existing buoys for boat mooring as with Alternative A, this impact would be similar to Impact 5.12.A-1. No additional mooring buoys would be added. There would be fewer residents on the project site under this alternative; therefore, boating activity levels in the project area may decrease compared to existing conditions. However, because the reduction in boating activity would be limited to residents, and there is currently no public access to boating facilities at the project site, this impact would be less than significant.	LTS	No mitigation is required.	LTS
5.12.B-2: Impacts on Shoreline Access. Under Alternative B, access to the shoreline in the project area would not be improved. There is currently no public access to the project site and none would be provided under this alternative. Although access to the shoreline would not change, the reduction in the number of residents in Alternative B would potentially reduce the number of visitors to the shoreline. This impact would be less than significant.	LTS	No mitigation is required.	LTS
5.12.B-3: Impacts on Fishing Activities. Because implementation of Alternative B would include a similar expansion of the existing pier (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same retention and relocation of the three existing buoys for boat mooring as with Alternative A, this impact would be similar to Impact 5.12.A-3. Construction of the 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 B is not expected to cause an increase in boat activity levels. No new mooring buoys or boating facilities would be provided. Fishing activities in the area may decrease with the decrease in number of residents. Because the reduction	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
in fishing activity would only affect residents of the site, this impact would be less than significant.			
5.12.B-4: Impacts on Recreational Facilities. Under Alternative B, there would be no recreational facility improvements in the project area. Therefore, recreational facilities adjacent to the project site and in the surrounding area would remain unchanged. Alternative B would have no impact on recreational facilities.	NI	No mitigation is required.	NI
5.12.C-1: Impacts on Boating Activity. Because Alternative C would include the same facility improvements as Alternative A, this impact is the same as Impact 5.12.A-1 described above for Alternative A. Alternative C would include expansion of the existing pier and retention and relocation of the three existing buoys for boat mooring. No additional mooring buoys would be added and boating activity in the area would remain approximately the same. Therefore, Alternative C would have a less-than-significant impact on boating activity.	LTS	No mitigation is required.	LTS
5.12.C-2: Impacts on Shoreline Access. Because Alternative C would include the same changes to the pier and buoys as Alternative A, this impact is the same as Impact 5.12.A-2 described above for Alternative A. Alternative C would expand the existing private pier and would relocate the existing buoys for boat mooring. Therefore, there would be no impact on shoreline access.	NI	No mitigation is required.	NI
5.12.C-3: Impacts on Fishing Activities. Because Alternative C would include the same pier changes as Alternative A, this impact is the same as Impact 5.12.A-3 described above for Alternative A. Construction of the 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 C 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	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
and/or quality of fishing in the project area. Therefore, Alternative C would have a less-than-significant impact on fishing activities.			
5.12.C-4: Impacts on Recreational Facilities. While Alternative C would include the same pier changes as Alternative A, there would be little change to recreational facilities for Alternative C. In addition, Alternative C would not have any direct impacts on recreational facilities outside the project area. Construction of Alternative C may slightly reduce usage of nearby recreational facilities. Alternative C would have no impact on recreational facilities.	NI	No mitigation is required.	NI
5.13 Human Health and Risk of Upset			
5.13.A-1: Expose the Public or Environment to Hazardous Materials. Alternative A would involve the storage, use, and transport of hazardous materials on the project site during construction and operation of the project. However, use of hazardous materials would be in compliance with local, state, and federal regulations. The existing KGID facility is a source of nearby hazardous materials on-site that could pose a significant health risk for people on the project site during a risk of upset event or other threat event. However, the project would not significantly alter the existing conditions at the site. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered less than significant.	LTS	No mitigation is required.	LTS
5.13.A-2: Create a Safety Hazard to Construction Workers. Demolition, excavation, and construction activities on the project site associated with Alternative A could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered potentially significant.	PS	**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	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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 ACM and lead shall be removed by an accredited inspector 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.	
5.13.A-3: Disruption of Public Services. Demolition, excavation, and construction activities on the project site associated with Alternative A could result in the disruption of continuous public services in and around the project site. This impact is considered potentially significant.	PS	**Minimize Loss of Service.** The project applicant shall coordinate with all affected utility providers including Sierra Pacific Power Company, Southwest Gas Corporation, KGID, Douglas County Sewer Improvement District, South Tahoe Refuse, and SBC Communications 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.	LTS
5.13.A-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 A 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.	PS	**Conduct Investigation and Implement Radon Resistant Construction Techniques.** The project applicant shall conduct onsite testing for radon by a certified professional. If radon is found, mitigation plans shall be developed by a certified professional. Radon resistant new construction techniques may be required to reduce levels to less than 4 pCi/L. Basic elements include 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.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.13.A-5: Increased Risk of Health Hazards From Vector-Born Diseases. The Alternative A BMP Plan would include the construction of stormwater detention basins that could serve as potential breeding areas for mosquitoes. The project would also increase the number of people living in 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. The Tahoe Basin portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District. Over the past 2 years District employees, as well as KGID employees, have employed TRPA-approved mosquito abatement measures in the project area and would continue to do so. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.13.A-6: Increased Exposure to Wildland Fire Hazard. The project site is located in a moderate fire hazard area. The residential units proposed for the site 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.	LTS	No mitigation is required.	LTS
5.13.A-7: Increased Exposure to Boating Hazards. By reconstructing and extending the private pier at the project site, there would be a potential to increase exposure of people to boating hazards. However, the project includes buoy-designated and roped off swimming areas, as well as appropriate signage. These measures would reduce the project's potential to increase exposure of people to boating hazards. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.13.B-1: Expose the Public or Environment to Hazardous Materials. Because Alterative B would be constructed on the same site and would result in similar facilities, this impact is the same as Impact 5.13.A-1 described above. Implementation of Alternative B would involve the storage,	LTS	No mitigation is required.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
use, and transport of hazardous materials on the project site during construction and operation. However, use of hazardous materials would be in compliance with local, state, and federal regulations. The existing KGID facility is a source of nearby hazardous materials on-site that could pose a significant health risk for people at the project site during a risk of upset event or other threat event. However, Alternative B would not significantly alter the existing conditions at the site. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered less than significant.			
5.13.B-2: Create a Safety Hazard to Construction Workers. This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative B could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered potentially significant.	PS	**Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.** See Mitigation Measure 5.13.A-2 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.B-3: Disruption of Public Services. This impact is the same as 5.13.A-3 described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative B could result in the disruption of continuous public services in and around the project site. This impact is considered potentially significant.	PS	**Minimize Loss of Service.** See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.B-4: Expose Future Residents to Potential Health Hazard Related to Radon. This impact is the same as Impact 5.13.A-4 described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Development of Alternative B 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.	PS	**Conduct Investigation and Implement Radon Resistant Construction Techniques.** See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.	LTS

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Summary of Environmental Impacts and Mitigation Measures for the Proposed Project and Project Alternatives

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.13.B-5: Increased Risk of Health Hazards From Vector-Born Diseases. This impact is similar to Impact 5.13.A-5. As with Alternative A, Alternative B could include the construction of stormwater detention basins that could serve as potential breeding areas for mosquitoes. Contrary to Alternative A, Alternative B would decrease the number of people living in an area recognized as containing several mosquito breeding sites and, therefore, would decrease the number of people potentially exposed to vector-borne diseases carried by mosquitoes. The Tahoe Basin portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District. Over the past 2 years District employees, as well as KGID employees, have employed TRPA-approved mosquito abatement measures in the project area and would continue to do so. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.13.B-6: Increased Exposure to Wildland Fire Hazard. This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The residential units proposed for the site 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.	LTS	No mitigation is required.	LTS
5.13.B-7: Increased Exposure to Boating Hazards. This impact is the same as Impact 5.13.A-7. Although the existing pier would be extended, the boating levels are expected to be similar or less than existing levels. Alternative B would include buoy-designated and roped off swimming areas, as well as appropriate signage. These measures would reduce Alternative B's potential to increase exposure of people to boating hazards. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.13.C-1: Expose the Public or Environment to Hazardous Materials. Because Alterative C would be constructed on the same site and would include similar facilities as Alternative A, this impact would be the same as Impact 5.13.A-1 described above. Implementation of Alternative C would involve the storage, use, and transport of hazardous materials on the project site during construction and operation. However, use of hazardous materials would be in compliance with local, state, and federal regulations. The existing KGID facility is a source of nearby hazardous materials on-site that could pose a significant health risk for people at the project site during a risk of upset event or other threat event. However, the project would not significantly alter the existing conditions at the site. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered less than significant.	LTS	No mitigation is required.	LTS
5.13.C-2: Create a Safety Hazard to Construction Workers. This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative C could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered potentially significant.	PS	**Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.** See Mitigation Measure 5.13.A-2 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.C-3: Disruption of Public Services. This impact is the same as 5.13.A-3 described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative C could result in the disruption of continuous public services in and around the project site. This impact is considered potentially significant.	PS	**Minimize Loss of Service.** See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.C-4: Expose Future Residents to Potential Health Hazard Related to Radon. This impact is the same as Impact 5.13.A-4 described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Development of Alternative C in this area could	PS	**Conduct Investigation and Implement Radon Resistant Construction Techniques.** See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered potentially significant.			
5.13.C-5: Increased Risk of Health Hazards From Vector-Born Diseases. This impact is the same as Impact 5.13.A-5. As with Alternative A, Alternative C could include the construction of stormwater detention basins that could serve as potential breeding areas for mosquitoes. Alternative C would also increase the number of people living in 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. The Tahoe Basin portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District. Over the past 2 years District employees, as well as KGID employees, have employed TRPA-approved mosquito abatement measures in the project area and would continue to do so. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.13.C-6: Increased Exposure to Wildland Fire Hazard. This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The residential units proposed for the site 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.	LTS	No mitigation is required.	LTS
5.13.C-7: Increased Exposure to Boating Hazards. This impact is the same as Impact 5.13.A-7. By reconstructing and extending the private pier at the project site there would be a potential to increase exposure of people to boating hazards. However, consistent with Alternative A, Alternative C would include buoy-designated and roped off swimming areas, as well as appropriate signage. These measures would reduce	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Alternative C's potential to increase exposure of people to boating hazards. This would be a less-than-significant impact.			
5.13.D-1: Expose the Public or Environment to Hazardous Materials. This impact is the same as Impact 5.13.A-1. Alterative D could involve the storage, use, and transport of hazardous materials on the project site during utility upgrade and replacement of mobile home units. However, use of hazardous materials would be in compliance with local, state, and federal regulations. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered less than significant.	LTS	No mitigation is required.	LTS
5.13.D-2: Disruption of Public Services. This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Repairs, maintenance, and replacement of on-site utilities could result in the disruption of public services on and around the project site. This impact is considered potentially significant.	PS	**Minimize Loss of Service.** See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.D-3: Expose Future Residents to Potential Health Hazard Related to Radon. This impact is the same as Impact 5.13.A-4 described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Implementation of Alternative D on this site could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered potentially significant.	PS	**Conduct Investigation and Implement Radon Resistant Construction Techniques.** See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.D-4: Increased Exposure to Wildland Fire Hazard. This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The new manufactured housing proposed for the site would incorporate fire resistant roofs and defensible space and adequate fire protection services are available to the serve the project site. 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.	LTS	No mitigation is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.13.E-1: Expose the Public or Environment to Hazardous Materials. This impact is the same as Impact 5.13.A-1. Alterative E would involve the storage, use, and transport of hazardous materials on the project site during utility upgrade and replacement and mobile home units. However, use of hazardous materials would be in compliance with local, state, and federal regulations. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered less than significant.	LTS	No mitigation is required.	LTS
5.13.E-2: Create a Safety Hazard to Construction Workers. This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative E could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered potentially significant.	PS	**Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint.** See Mitigation Measure 5.13.A-2 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.E-3: Disruption of Public Services. This impact is the same as Impact 5.13.A-3 as described above for Alternative A. Repairs, maintenance, and replacement of on-site utilities could result in the disruption of public services on the project site associated with Alternative E could result in the disruption of continuous public services on and around the project site. This impact is considered potentially significant.	PS	**Minimize Loss of Service.** See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.E-4: Expose Future Residents to Potential Health Hazard Related to Radon. This impact is the same as Impact 5.13.A-4 as described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Implementation of Alternative E on this site could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered potentially significant.	PS	**Conduct Investigation and Implement Radon Resistant Construction Techniques.** See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.	LTS
5.13.E-5: Increased Exposure to Wildland Fire Hazard. This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The new	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
manufactured housing proposed for the site would incorporate fire resistant roofs and defensible space and adequate fire protection services are available to the serve the project site. 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.			
5.14 Cumulative Impacts			
5.14-1: Cumulative — Decrease in the Amount of Housing/Displacement of Residents. Except for Alternative D, all Beach Club project alternatives would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied, and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) Although the Nevada Revised Statutes would be followed for the closure of the mobile home park, its closure would displace existing residents and require their relocation elsewhere. In addition, depending on the alternative implemented, the project could result in a decrease of up to 153 residential units in the project area. However, the related projects propose approximately 230 units of housing and 477 condominium/hotel rooms, including residential units (market rate and affordable) and timeshare units. Because the proposed project would provide the required compensation for relocation for the mobile home residents or the purchase and removal of their units, because the proposed project would develop residential units, and because related projects would develop residential units, there would not be a cumulative decrease of housing in the region.	Not Applicable[a]	Not Applicable	Not Applicable

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.14-2: Cumulative — Loss of Moderate Income Housing. The analysis in Section 5.2, "Population and Housing," determined that none of the mobile homes at the Tahoe Shores Mobile Home Park qualify as affordable housing. However, the analysis did determine that 54 mobile home units qualify as moderate-income housing. Implementation of Alternatives A, B, C and E would result in the closure of the Tahoe Shores Mobile Home Park and the loss of the 54 moderate-income housing units. Only Alternatives A and C, which would result in subdivision of the property, would be required to mitigate for the loss of those 54 moderate-income units, by providing 54 deed-restricted moderate-income units on- or off-site. Under Alternatives B and E, no mitigation for the loss of moderate-income units would be provided. In relation to the demand for affordable and moderate income housing in the region, the potential loss of moderate-income housing due to the project under Alternatives B and E would contribute to the cumulative loss of the already relatively small pool of moderate-income housing available in the region as well as increase the demand for moderate-income housing.	NI	No mitigation is required.	NI
5.14-3: Cumulative — Consistency with Applicable Land Use Plans and Policies. Implementation of any of the Beach Club project alternatives would be consistent with applicable land use plans and standards and would be compatible with on-site and surrounding land uses. Except for Alternative D, all alternatives would result in the removal of the existing Tahoe Shores Mobile Home park community. However, the project would result in similar land uses to the existing site use and to uses in the surrounding area. All project alternatives would be consistent with the Goals and Policies of the TRPA Regional Plan (Table 5.3-1). Therefore, the project would not be expected to result in a cumulative impact related to land use.	NI	No mitigation is required.	NI

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.14-4: Cumulative — Increased Risks for Geologic Hazards. Implementation of the proposed project and related projects in the region could expose additional structures and people to seismic and soil hazards. However, each 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.	NI	No mitigation is required.	NI
5.14-5: Cumulative — Potential Change in Surface Water Runoff, Groundwater and Water Quality in the Tahoe Basin. Soil disturbance associated with construction of the Beach Club project and construction of related projects could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. Excavation during construction of cumulative projects could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Operation of the Beach Club project and related projects could result in an increase of urban contaminants in surface runoff. However, the Beach Club project would result in a beneficial impact to runoff and water quality through the reduction of impervious surfaces, the implementation of drainage plans and BMPs, and a reduced pollutant load in runoff. Therefore, the project would not contribute to the degradation of water quality in the region. Furthermore, all related projects would be required to implement water quality protection measures and BMPs (as discussed in Section 5.5, "Hydrology and Water Quality") that reduce project-related effects on water quality to less-than-significant levels. Therefore, because project-specific effects on water quality in the Tahoe Basin are reduced to a less-than-significant levels, there would be no cumulative impact on water quality.	NI	No mitigation is required.	NI

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.14-6: Cumulative —Construction Traffic and Parking. Construction traffic due to the proposed project would only be present in the project vicinity during the construction period, which may occur between 2008 and 2011. Four related cumulative projects may also be under construction during this period. However, as with the Beach Club project, the related projects would be anticipated to provide on-site construction staging and parking and to implement measures to minimize heavy equipment trips on surrounding roadways. In addition, no construction traffic from the proposed project is expected in year 2030. This would be a less-than-significant cumulative impact.	LTS	No mitigation is required.	LTS
5.14-7: Cumulative — "2030 without project" Level of Service (LOS) and Traffic Volume. All study intersections are expected to operate at an acceptable LOS in 2030. Therefore, there would be a less-than-significant cumulative impact. Because Alternatives B, D or E mimic the "2030 without project" condition in regards to traffic generation, these alternatives also would not contribute substantial traffic to this less-than-significant cumulative impact.	LTS	No mitigation is required.	LTS
5.14-8: Cumulative — Plus Alternative A Level of Service (LOS) and Traffic Volume. All study intersections are expected to operate at an acceptable LOS under 2030 plus project conditions. This impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.14-9: Cumulative — Plus Alternative C Level of Service (LOS) and Traffic Volume. With Alternative C, all intersections maintain an acceptable LOS for 2030 conditions. This cumulative impact is considered less than significant.	LTS	No mitigation is required.	LTS
5.14-10: Cumulative — Vehicle Miles of Travel (VMT). Alternative A would result in a net increase of 303 daily vehicle trip ends and 90 peak-hour vehicle trip ends (89 inbound and 1 outbound). These trips would result in a maximum increase of approximately 1,001 VMT in the Tahoe	PS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Basin. Alternative C would result in a net increase of 194 daily vehicle trip ends, 2 peak-hour vehicle trip ends, and an increase of approximately 685 VMT in the Tahoe Basin. Either of these increases, in combination with any increases in VMT associated with related projects, is considered to be potentially significant cumulative impact.			
5.14-11: Cumulative — Parking Supply. Sufficient parking for the Beach Club project alternatives would be provided entirely within the project site. Therefore, the project would have a less-than-significant impact on cumulative parking supply.	LTS	No mitigation is required.	LTS
5.14-12: Cumulative — Short-term Construction-Generated Air Quality Impacts. Unmitigated, NO_X emissions from the proposed project and related construction projects in the Basin would exceed the significance threshold of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions 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 nonattainment status of the LTAB with respect to the TRPA standards. However, the project would implement Mitigation Measure 5.7.A-1 to reduce construction-generated emissions of ROG, NO_X, and PM_{10}. Therefore, the project would not result in a contribution to this potentially significant cumulative air impact.	LTS	No mitigation is required.	LTS
5.14-13: Cumulative — Long-term Operational (Regional) Air Quality Impacts. Implementation of the Beach Club project would not result in operational emissions of regional criteria air pollutants in excess of applicable thresholds. When taken in conjunction with other proposed projects throughout the region, the proposed project's emissions would not be substantial, and would not affect TRPA's attainment designations. Therefore, this cumulative impact would be less than significant.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.14-14: Cumulative — Short-term Construction-Generated Noise Levels. Construction of the Beach Club project would result in noise levels in excess of local standards. Construction of related cumulative projects could also result in the exceedance of local noise standards. However, construction noise occurring during the daytime hours is considered exempt from applicable standards, provided that construction equipment is properly fitted with feasible noise control devices. Because the project would adhere to the requirements of the exemption for construction noise, the project would not contribute to a substantial increase in noise levels. In addition, noise is a localized occurrence and attenuates with distance. Therefore, only cumulative development projects in the direct vicinity of the project site would have the potential to add to anticipated project-generated noise. Because the related cumulative projects are not located in the direct vicinity of the project site and because their construction schedules may or may not overlap with the proposed project's construction, there would be no cumulative construction noise impact.	LTS	No mitigation is required.	LTS
5.14-15: Cumulative — Long-Term Operational Traffic-Generated Noise Levels. Traffic generated by the Beach Club project, in combination with existing traffic levels, would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways. Therefore, this cumulative impact would be less than significant.	LTS	No mitigation is required.	LTS
5.14-16: Cumulative — Disturbance of Deciduous Riparian Vegetation. Implementation of Alternative A would result in the reconstruction of the eastern portion of Kahle Ditch and associated removal or disturbance of approximately 1.07 acres of willow scrub and riparian vegetation. The TRPA threshold for Common Vegetation calls for the maintenance of at least 4% deciduous riparian vegetation. Removal of riparian vegetation in the Tahoe Basin would be a potentially significant cumulative impact. However, because the proposed project would result in "no	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
net loss" of these habitat types, the project would have a less-than-significant contribution to this cumulative impact.			
5.14-17: Cumulative — Tree Removal. Implementation of Alternatives A, B and C would result in the loss of fewer than 100 native and nonnative trees on the project site during project construction. No trees larger than 24 inches in diameter at breast height (dbh) would be removed. The removal and/or relocation of fewer than 100 trees on the project site is not considered "substantial" as defined in the TRPA Code of Ordinances and would not require a tree removal plan. This would be a less-than-significant impact.	LTS	No mitigation is required.	LTS
5.14-18: Cumulative — Loss of Tahoe Yellow Cress. Tahoe yellow cress is a TRPA threshold sensitive plant species, listed as endangered by the state of California, critically endangered by the state of Nevada, and a USFWS candidate species. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of the Beach Club project could disturb Tahoe yellow cress habitat resulting in habitat loss. Removal of Tahoe yellow cress is a potentially significant cumulative impact in the Tahoe Basin. However, the proposed project would avoid disturbance and removal of Tahoe yellow cress and would implement measures to counteract potential adverse effects related to site hydrology and changes in use patterns for this species as well as construction-related impacts. Therefore, the proposed project would have a less-than-significant contribution to this potentially significant cumulative impact.	LTS	No mitigation is required.	LTS
5.14-19: Cumulative — Introduction and Spread of Weeds. There is the potential for the introduction and spread of weeds due to project implementation both during the construction phase and after construction. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Introduction and spread of weeds is a potentially significant cumulative impact in the Tahoe Basin. However, the proposed project would include weed management practices during construction that would reduce the potential spread of weeds. Therefore, the proposed project would have a less-than-significant contribution to this potentially significant cumulative impact.			
5.14-20: Cumulative — Impacts on Nesting Special-Status Birds, Raptors, and Migratory Birds. Development of the Beach Club project and related projects could adversely affect special-status bird species, nesting raptors, and other migratory birds. Loss of special-status birds, raptors, and migratory birds is a potentially significant cumulative impact in the Tahoe Basin, and these species are provided varying levels of protection under the federal and state wildlife laws. However, the proposed project would provide mitigation to protect special-status birds, raptors, and migratory birds; therefore, the proposed project would have a less-than-significant contribution to this potentially significant cumulative impact.	LTS	No mitigation is required.	LTS
5.14-21: Cumulative — Impacts on Undiscovered Cultural Resources. Implementation of the Beach Club project and related projects could potentially uncover previously unknown prehistoric or historic resources. Depending on whether such resources are considered significant according to NRHP, NOHP, or TRPA this could be considered a significant impact. However, mitigation measures described in Section 5.11 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.	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.14-22: Cumulative— Effects on SR-1, TRPA Travel Route Threshold Ratings, SR-2, TRPA Scenic Quality Threshold Ratings, and SR-3, TRPA Recreation Areas and Bike Trails Threshold. The Beach Club project would be visible to varying degrees from important surrounding viewpoints including U.S. 50, within Roadway Travel Unit 31, Meadow and Lake Tahoe Shoreline Travel Unit 30, Edgewood. Part of the project would also be visible within the context of identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. Although the project would replace the existing Tahoe Shores Mobile Home Park and would be partially screened by trees and other vegetation, the project could contribute to cumulatively significant visual impacts on SR-1, SR-2, and SR-3. However, implementation of Mitigation Measures 5.10.A-1a through c and 5.10.A-3a through e would ensure that the project complies with TRPA scenic regulations and reduces the project's impacts to SR-1, SR-2, and SR-3 to a less-than-significant level. These measures would ensure that the project does not contribute to a potentially significant cumulative impact on scenic resources.	LTS	No mitigation is required.	LTS
5.14-23: Cumulative — Expose the Public or Environment to Hazardous Materials. Development of the project and related projects would involve the storage, use, and transport of hazardous materials at the project site during construction and operation. However, each project considered in this cumulative analysis must individually be in compliance with local, state, and federal regulations. Therefore, cumulative impacts related to exposure of the public or environment to significant hazardous materials would be less than significant.	LTS	No mitigation is required.	LTS
5.14-24: 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	LTS	No mitigation is required.	LTS

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

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
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, cumulative impacts related to safety hazards to construction workers would be less than significant.			
5.14-25: 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. However, the project-specific potentially significant impact would be mitigated by Mitigation Measure 5.13.A-4 and the measure would eliminate the project's contribution to any cumulative conditions. Therefore, cumulative impacts related to radon exposure would be less than significant.	LTS	No mitigation is required.	LTS
5.14-26: Cumulative – Increased Risks of Health Hazards From Vector-Born Diseases. Cumulative development would increase the number of people living in a region recognized as containing mosquito breeding sites and; therefore, would increase the number of people potentially exposed to vector-borne diseases carried by mosquitoes. However, the project would not increase the number of residents on the project site. In addition, Douglas County is serviced by a mosquito abatement district that has employed TRPA-approved mosquito abatement measures. Therefore, cumulative impacts related to increased risks of health hazards from vector-born diseases are considered less than significant.	LTS	No mitigation is required.	LTS
5.14-27: 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	LTS	No mitigation is required.	LTS

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

Table 1-2
Summary Comparison of the Project Alternatives

Impacts	Alternative A Proposed Project	Alternative B Single-Family Estates	Alternative C Multifamily Residential	Alternative D No Project – Jere Williams Plan	Alternative E No Project – Manufactured Housing
5.2 Population and Housing					
1: Loss of Affordable Housing.	LTS	LTS	LTS	NI	NI
2: Loss of Moderate Income Housing.	LTS	LTS	LTS	NI	NI
3: Decrease in Housing Availability/Displacement of Residents.	Not Applicable	Not Applicable	Not Applicable	NI	NI
5.3 Land Use					
1: Consistency with Regional Plan Land Use Goals and Policies.	LTS	LTS	LTS	NI	NI
2: Potential for Division of an Existing Community (or Land Use Compatibility).	LTS	LTS	LTS	NI	NI
5.4 Geology and Soils					
1: Land Coverage.	B	B	B	LTS	LTS
2: Seismic Hazards.	LTS	LTS	LTS	NI	NI
3: Non-Seismic Geologic Hazards.	LTS	LTS	LTS	NI	NI
4: Interception of Groundwater Table During Construction.	LTS	LTS	LTS	NI	NI
5: Littoral Zone Sedimentation.	LTS	LTS	LTS	NI	NI

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Table 1-2
Summary Comparison of the Project Alternatives

Impacts	Alternative A Proposed Project	Alternative B Single-Family Estates	Alternative C Multifamily Residential	Alternative D No Project – Jere Williams Plan	Alternative E No Project – Manufactured Housing
5.5 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	NI
2: Impervious Surface Area and Runoff.	B	B	B	NI	NI
3: Urban Contaminants in Surface Runoff.	B	B	B	NI	NI
4: Interception of Groundwater Table During Construction.	LTS	LTS	LTS	NI	NI
5: Interference with Littoral Processes from Pier Extension and Buoy Relocation.	LTS	LTS	LTS	NI	NI
6: Degradation of Water Quality During Pier Extension and Buoy Relocation Activities.	LTS	LTS	LTS	NI	NI
7: Degradation of Water Quality from Increased Boating Activity.	LTS	LTS	LTS	NI	NI
8: Flood Hazard Effects.	LTS	LTS	LTS	NI	NI
5.6 Transportation and Parking					
1: Existing (Year 2011) plus Alternative A Level of Service.	LTS	LTS	LTS	NI	NI
2: Vehicle Miles of Travel (VMT).	LTS	B	LTS	NI	NI
3: Parking Conditions.	LTS	LTS	LTS	NI	NI
4: Potential for Traffic Accidents.	LTS	LTS	LTS	NI	NI
5: Pedestrian and Bicycle Access and Circulation.	LTS	LTS	LTS	NI	NI
6: Construction Traffic.	LTS	LTS	LTS	NI	NI
5.7 Air Quality					
1: Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.	LTS	LTS	LTS	NI	NI
2: Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.	LTS	LTS	LTS	NI	NI

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Table 1-2
Summary Comparison of the Project Alternatives

Impacts	Alternative A Proposed Project	Alternative B Single-Family Estates	Alternative C Multifamily Residential	Alternative D No Project – Jere Williams Plan	Alternative E No Project – Manufactured Housing
3: Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions.	LTS	LTS	LTS	NI	NI
4: Odor Emissions.	LTS	LTS	LTS	NI	NI
5: Hazardous Air Pollutant Emissions.	LTS	LTS	LTS	NI	NI
5.8 Noise					
1: Short-Term Construction Noise Levels.	LTS	LTS	LTS	NI	NI
2: Long-Term Project-Generated Non-Traffic Source Noise Levels.	LTS	LTS	LTS	NI	NI
3: Long-Term Project-Generated Traffic Noise Levels.	LTS	LTS	LTS	NI	NI
4: Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels.	LTS	LTS	LTS	NI	NI
5: Vibration Levels.	LTS	LTS	LTS	NI	NI
5.9 Biological Resources					
1: Impact to Jurisdictional Waters of the United States and Removal of Riparian Vegetation.	LTS	NI	NI	NI	NI
2: Loss of Common Vegetation (other than deciduous riparian vegetation), Uncommon Vegetation, and Late Seral/Old Growth Ecosystems.	LTS	LTS	LTS	NI	NI
3: Tree Removal.	LTS	LTS	LTS	NI	NI
4: Loss of Tahoe Yellow Cress, a TRPA Threshold Sensitive Plant Species and USFWS Candidate Species.	LTS	LTS	LTS	NI	NI
5: Introduction and Spread of Weeds.	LTS	LTS	LTS	NI	NI
6: Degradation or Loss of Wildlife Movement Corridors.	LTS	LTS	LTS	NI	NI
7: Removal of Migratory Bird Nests.	LTS	LTS	LTS	NI	NI
8: Disturbance to and Loss of Habitat for Nesting Raptors and Special-Status Bird Species.	LTS	LTS	LTS	NI	NI

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Table 1-2
Summary Comparison of the Project Alternatives

Impacts	Alternative A Proposed Project	Alternative B Single-Family Estates	Alternative C Multifamily Residential	Alternative D No Project – Jere Williams Plan	Alternative E No Project – Manufactured Housing
9: Disturbance to Foraging Osprey and Bald Eagle.	LTS	LTS	LTS	NI	NI
10: Loss of Waterfowl Habitat.	LTS	LTS	LTS	NI	NI
11: Disturbance to Fish Habitat.	LTS	LTS	LTS	NI	NI
12: Disturbance to Fish Habitat – Water Quality (Stormwater).	B	B	B	NI	NI
13: Degradation of Fish Habitat Due to Degradation of Water Quality from Increased Boating Activity.	LTS	LTS	LTS	NI	NI
5.10 Scenic Resources					
1: Effects on SR-1, TRPA Travel Route Threshold Ratings.	LTS	LTS	LTS	NI	NI
2: Effects on SR-2, TRPA Scenic Quality Threshold Ratings.	LTS	LTS	LTS	NI	NI
3: Effects on SR-3, TRPA Recreation Areas and Bike Trails Threshold.	LTS	LTS	LTS	NI	NI
4: Effects on SR-4, TRPA Community Design Threshold.	LTS	LTS	LTS	NI	NI
5.11 Cultural Resources					
1: Effects on Known Cultural Resources.	LTS	LTS	LTS	NI	NI
2: Effects on Previously Undiscovered Cultural Resources.	LTS	LTS	LTS	NI	NI
3: Effects on Paleontological Resources.	NI	NI	NI	NI	NI
5.12 Water Recreation and Shorezone Impacts					
1: Impacts on Boating Activity.	LTS	LTS	LTS	NI	NI
2: Impacts on Shoreline Access.	NI	LTS	NI	NI	NI
3: Impacts on Fishing Activities.	LTS	LTS	LTS	NI	NI
4: Impacts on Recreational Facilities.	LTS	NI	NI	NI	NI

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Table 1-2
Summary Comparison of the Project Alternatives

Impacts	Alternative A Proposed Project	Alternative B Single-Family Estates	Alternative C Multifamily Residential	Alternative D No Project – Jere Williams Plan	Alternative E No Project – Manufactured Housing
5.13 Human Health and Risk of Upset					
1: Expose the Public or Environment to Hazardous Materials.	LTS	LTS	LTS	LTS	LTS
2: Create a Safety Hazard to Construction Workers.	LTS	LTS	LTS	Not Applicable	LTS
3: Disruption of Public Services.	LTS	LTS	LTS	LTS	LTS
4: Expose Future Residents to Potential Health Hazard Related to Radon.	LTS	LTS	LTS	LTS	LTS
5: Increased Risk of Health Hazards From Vector-Born Diseases.	LTS	LTS	LTS	LTS	LTS
6: Increased Exposure to Wildland Fire Hazard.	LTS	LTS	LTS	NI	NI
7: Increased Exposure to Boating Hazards.	LTS	LTS	LTS	NI	NI

Significance levels for Alternatives A through E reflect the levels of significance after mitigation.

Alternative A (Comparison to Existing Conditions):

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) and the Tahoe Regional Planning Agency (TRPA) Code of Ordinances. This EIS has been prepared to evaluate the environmental impacts of the proposed Beach Club on Lake Tahoe Project (Beach Club Project) in Douglas County, Nevada.

This document addresses five alternatives in accordance with Article VII (a)(3) of the Compact and Section 5.8.B of the Code of Ordinances. The alternatives evaluated in this EIS are Alternative A (Proposed Project), Alternative B (Two Single-Family Estates), Alternative C (Two Multifamily Complexes), Alternative D (No Project–Jere Williams Plan), and Alternative E (No Project–Manufactured Housing). The proposed project (Alternative A) is described in Chapter 3, other alternatives (Alternatives B through E) are described in Chapter 4, and all alternatives are evaluated at an equal level of detail in each subsection of Chapter 5 of this EIS.

2.1 LEAD AGENCY

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 presents important TRPA policies 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 that TRPA "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, and
- 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 Beach Club 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 for compliance with the TRPA Regional Plan, Code of Ordinances, and Goals and Policies. This will be followed by an action on the project by the TRPA Governing Board.

In accordance with the Code of Ordinances, 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 6 of the TRPA Code of Ordinances, findings must be made in writing regarding all significant environmental impacts and their associated mitigation measures, with substantial evidence provided in the record of review before final project approval.

2.3 TYPE OF EIS

This EIS evaluates the Beach Club Project and is intended to be a project-level EIS. The EIS examines all phases of the project including planning, construction, and operation. This EIS evaluates the Beach Club Project in sufficient detail to allow informed decision making; no subsequent environmental documentation should be required.

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 approvals, listed below. (Note: the following approvals are common to all alternatives, except the No Project Alternatives, D and E, or where otherwise specified.)

- Project Permits for Pier Expansion, Stream Environment Zone (SEZ) Restoration, and others (Alternatives A, B, and C)
- Landscaping Plan Approval (Alternatives A, B, and C)
- TRPA Code and Community Design Standards (Alternatives A, B, and C)
- Parcel Boundary Line Adjustment (Alternative B)
- Tentative Map and Final Map Approval for Residential Subdivision (Alternatives A and C)
- Deed Restrictions for Moderate Income Housing (Alternatives A and C)

2.4.1 OTHER POTENTIAL PERMITS AND/OR APPROVALS

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

While the issuance of the permits listed in Table 2-1 is not contingent upon EIS certification, the applicable permitting agencies may review information contained in this EIS as part of the permit approval process.

Table 2-1
Required Permits and Reviews

Permitting Agency	Permit Name	Purpose of Permit
Douglas County	Site Improvement Permit	Grading and engineering work
Douglas County	Building Permit	Building architecture
Douglas County Sewer Improvement District	Sewer Permit	Authorization for sewer connections
Nevada Division of Environmental Protection	SWPPP	Activities related to soil disturbance
Kingsbury General Improvement District	N/A	Authorization for water connections
Nevada Division of State Lands	Lease Agreement	Pier construction or expansion
Tahoe Regional Planning Agency	TRPA Permits	Threshold attainment
U.S. Army Corps of Engineers	SEZ Restoration	Discharge of fill materials in waters of the U.S.
Reviewing Agency		**Issue/Authority**
Douglas County Sheriffs Department		Public safety
Tahoe Douglas Fire District		Fire safety
Nevada Department of Transportation		Traffic
Nevada Division of Wildlife		Wildlife
U.S. Fish and Wildlife Service		Wildlife
State Historic Preservation Office		Cultural resources
Franchise Utilities (Southwest Gas, Sierra Pacific Power, Charter Communications Cable, SBC Nevada Bell)		

SWPPP = storm water pollution prevention plan
SEZ = stream environment zone

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, to inform agencies and the public that the project could have a significant effect on the environment, and to solicit comments and input on the scope and content of the EIS. The NOP was released on January 2, 2004 to the Nevada State Clearinghouse, Tahoe Shores property owners and residents, and local, state, and federal agencies with jurisdiction over resources potentially affected by the project. Public scoping meetings were held at the Kahle Community Center in Stateline, Nevada on January 12, 2004 and before the TRPA Advisory Planning Commission and Governing Board. The NOP, Initial Environmental Checklist, and summary of environmental issues raised during the scoping period are provided in Appendix A.

Pursuant to TRPA Code of Ordinances Section 5.8.A (4), 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:

Ms. Theresa Avance, AICP
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 5.3, "Land Use"):

Chapter 1, Summary: This chapter introduces the Beach Club 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 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 A) including location, project purpose and objectives, and project characteristics.

Chapter 4, Alternatives: This chapter describes a range of reasonable alternatives (Alternatives B – E) that could feasibly attain most of the basic objectives of the project as well as alternatives that were considered but determined to be infeasible.

Chapter 5, Affected Environment and Environmental Consequences: The sections within this chapter evaluate the expected environmental impacts generated by Alternative A and the other project alternatives (Alternatives B through E), 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 remaining level of significance identified. Environmental impacts are numbered throughout this chapter, beginning with the section number, the letter for the alternative, followed sequentially by impact number. For example, the first impact for Alternative A in Section 5.3, Land Use, is Impact 5.3.A-1 and the second is Impact 5.3.A-2. Mitigation measures are numbered to correspond to the impact addressed by the measure.

Chapter 6, TRPA-Mandated Environmental 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, 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 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).

Threshold of Significance: A criterion established to define at what level an impact would be considered significant (i.e., if an impact exceeds a threshold, it would be considered significant). Criteria are defined for this EIS based on TRPA environmental thresholds, regulatory requirements, and other information. Criteria for significance 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.

3 PROJECT DESCRIPTION (ALTERNATIVE A)

3.1 REGIONAL AND LOCAL SETTING

3.1.1 LOCATION AND EXISTING LAND USES

The Beach Club on Lake Tahoe (Alternative A, proposed project) would be located on the site of the existing Tahoe Shores Mobile Home Park on the south shore of Lake Tahoe in Stateline, an unincorporated area of Douglas County, Nevada (Exhibit 3-1). The 19.63-acre project site consists of two parcels; Assessor's Parcel Number (APN) 1318-22-002-001 is 17.26 acres and APN 1318-22-002-002 is 2.37 acres with 217 feet of lake frontage. The site is accessed via Kahle Drive, which has a signalized intersection at U.S. Highway 50 (U.S. 50) approximately 0.8 miles northeast of the California-Nevada state line (Exhibit 3-2).

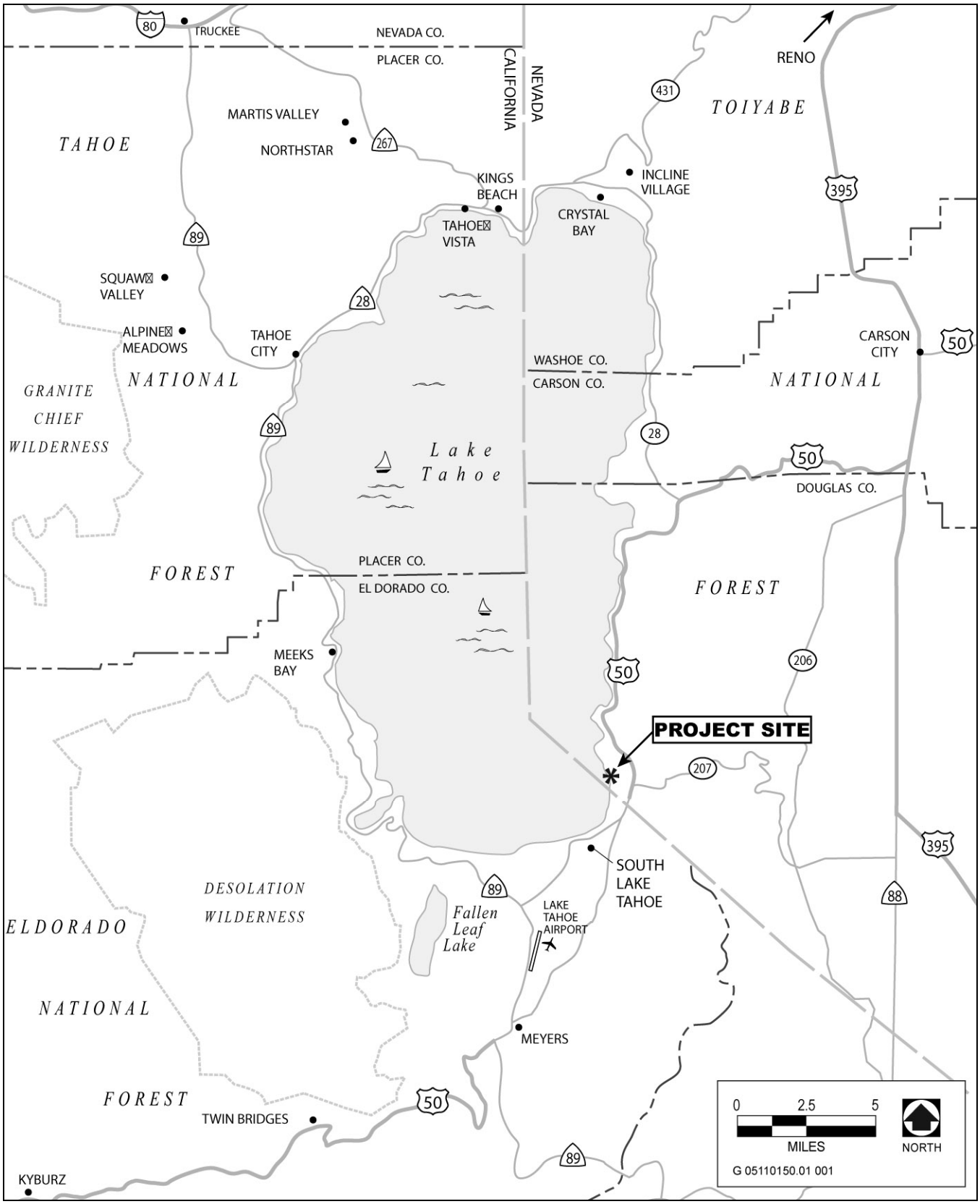
Tahoe Shores Mobile Home Park consists of 155 mobile home spaces, 150 of which are occupied, with two parallel access roads, Arthur Drive and Eugene Drive, clustered on the 17.26-acre parcel (Exhibit 3-3). The 2.37-acre lakefront parcel is occupied by the Kingsbury General Improvement District (KGID) water supply pump station, a number of ozone tanks, a mobile home that serves as the Tahoe Shores manager's office, storage and maintenance buildings, electrical stations, beach, and a recreational pier. The Tahoe Shores Mobile Home Park is gated and fenced; there is no public access through the site. Utilities such as electricity, telephone, and cable television are provided via overhead lines. The project site is generally flat, rising approximately 22 feet above lake level at its highest point, ½ mile from the edge of Lake Tahoe.

The KGID water supply pump station and ozone treatment plant are located within a non-exclusive easement granted on December 24, 1997 (Douglas County 1997). Under the 1997 Easement, the landowner reserved both joint use of this area as well as "the right to grant additional easements which may burden the 1997 Easement." The 1997 Easement allows KGID to operate, repair and maintain its existing facilities within the limits of the easement, provided the KGID facilities are maintained "in accordance with applicable laws and regulations" and KGID observes and complies with "all present, amended and future laws, building codes, ordinances, rules and regulations." Pursuant to the terms of the 1997 Easement, KGID is not allowed to "add on, modify, increase or relocate its facilities within the easement" without the prior written consent of the landowner. The 1997 Easement also grants KGID access to and from its facilities over and across roadways within the subject property including the area covered by the easement.

The project site is surrounded by United States Forest Service lands, including Burke Creek (Rabe) Meadow and Nevada Beach Campground to the north; the Meadowbrook Apartments and the Oliver Park General Improvement District (GID) to the east; the University of Nevada 4-H camp and Edgewood Golf Course to the south; and Lake Tahoe to the west (Exhibit 3-2).

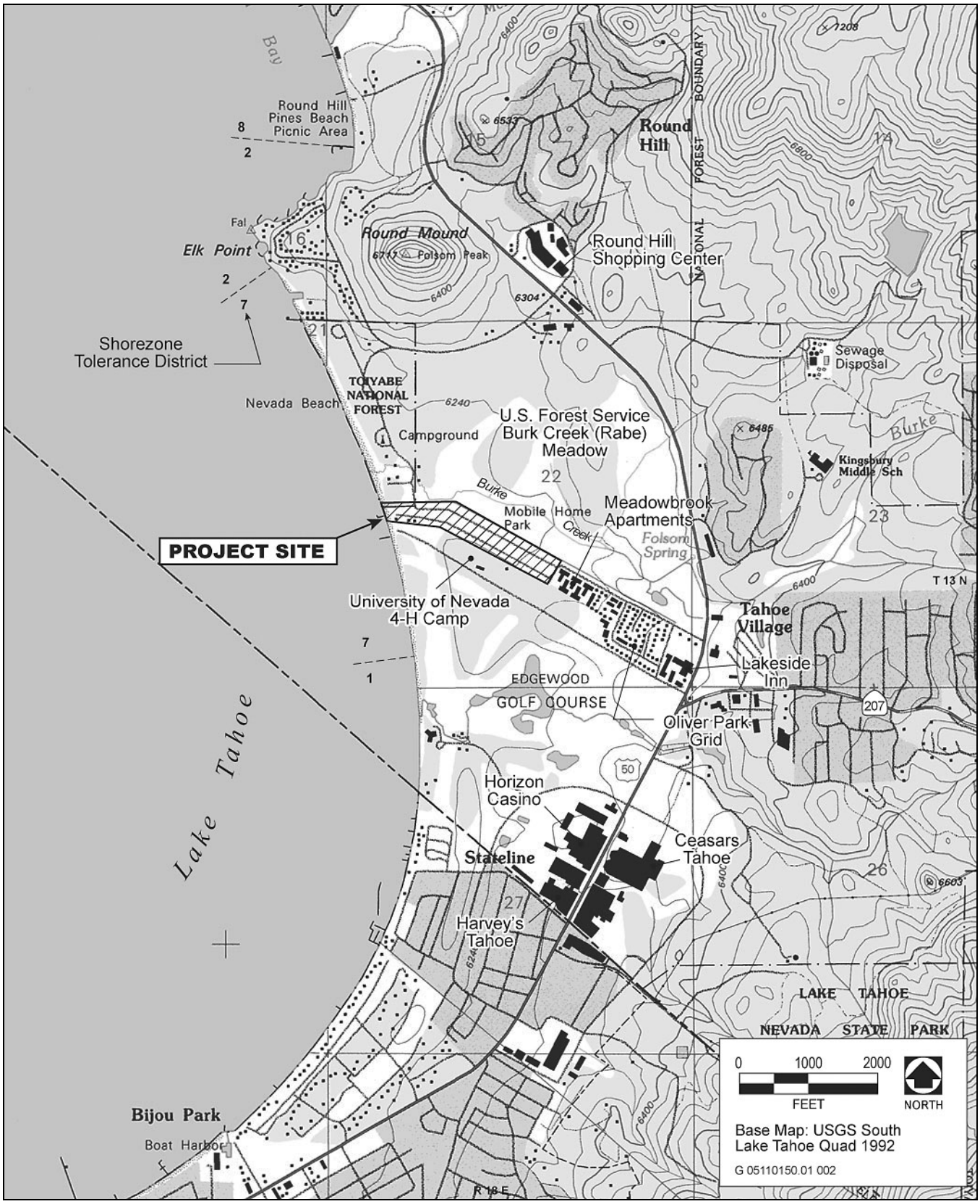
3.1.2 PLAN AREA STATEMENTS

The project site is located in Plan Area Statement (PAS) 077 (Oliver Park) and PAS 070A (Edgewood) (Exhibit 3-3). The 17.26-acre parcel (APN 1318-22-002-001) is located in PAS 077, which has residential as its primary land use classification, allowing for single-family dwellings, multiple family dwellings, multi-person dwellings, employee housing, and mobile home dwellings. PAS 077 is designated as a receiving area for multi-residential units. Some public service, recreation, and resource management uses are also permissible. PAS 077 calls for the area to continue to serve as residential and any new development should conform to a rehabilitation plan that provides for scenic and stream environment zone (SEZ) restoration. The 2.37-acre parcel along the lakefront (APN 1318-22-002-002) is located in PAS 070A, which has recreation as its primary land use classification. PAS 070A allows for eating and drinking establishments, beach recreation, day use areas, participant sports facilities, outdoor recreation concessions, and group facilities as well as other public service, residential, and resource management uses. PAS 070A states that the area should provide a range of visitor



Source: EDAW 2006

Regional Location **Exhibit 3-1**



Source: EDAW 2006

Project Location and Surrounding Land Uses **Exhibit 3-2**

and local serving outdoor-oriented recreation opportunities, integrated with the existing and planned improvements within the casino core. Accessory uses related to these allowed land uses (e.g., Shorezone access) will also be permitted. Special policies of PAS 070A that apply to the project site include consistency with the planning direction provided in Chapter I of the Stateline Community Plan and protection of populations of Tahoe yellow cress, which is listed as critically endangered in Nevada, endangered in California, federally listed as a candidate species under the Endangered Species Act, a Forest Service R-5 sensitive species, and TRPA special indicator status species.

The shorezone portion of the project site is located in Shorezone Tolerance District 7 (Exhibit 3-2), which allows for water oriented recreation facilities (beach recreation, buoys, piers, fences, floating docks and platforms, water intake lines, boat ramps) in the backshore, nearshore, and foreshore (TRPA Code of Ordinances Chapter 53.9).

3.2 PROJECT BACKGROUND AND PURPOSE

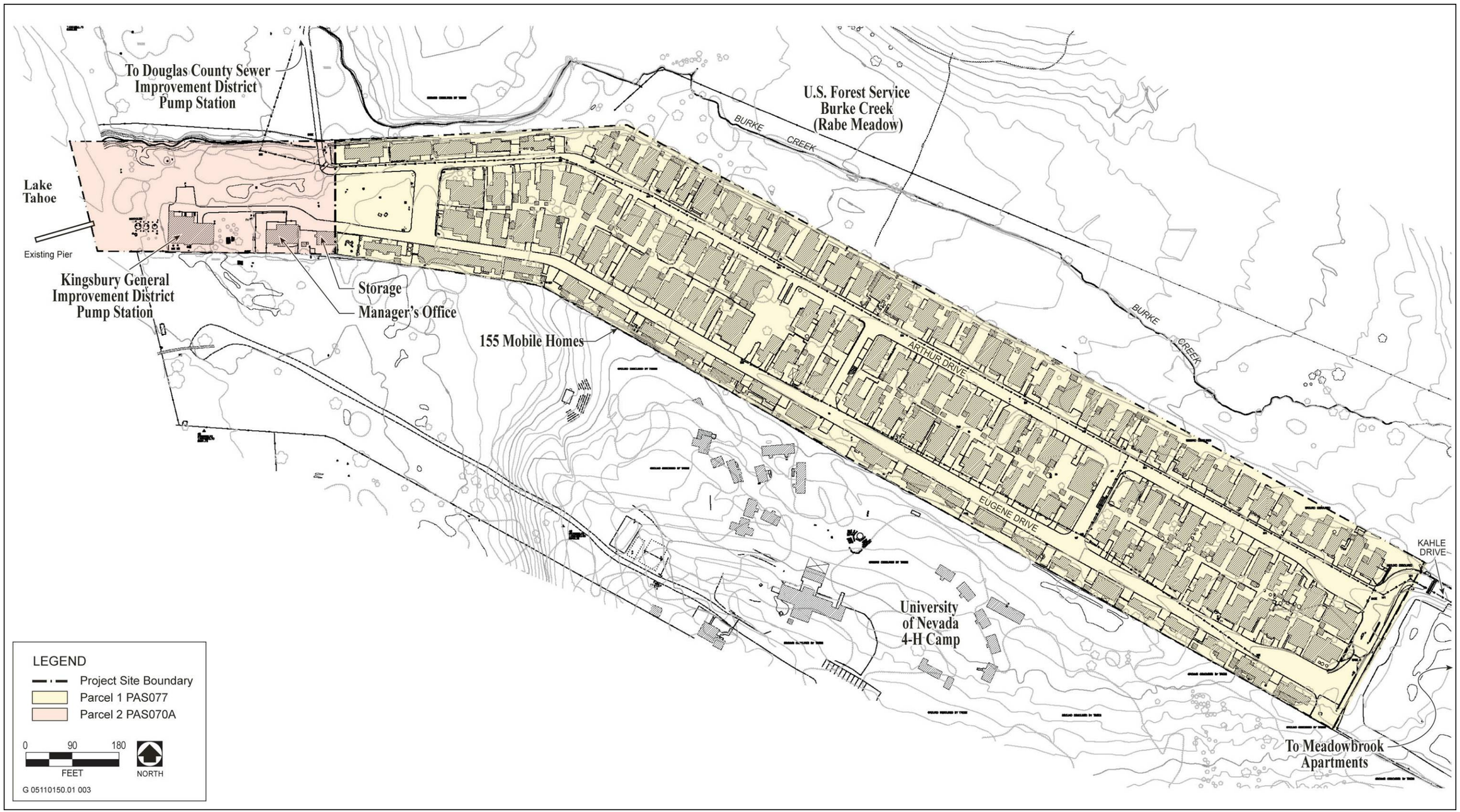
Before development, the project site was part of Burke Creek Meadow. In the 1960s, the site was graded and used as an airport runway for the South Lake Tahoe area until the 1970s when the Tahoe Shores Mobile Home Park was constructed. At the time of these early developments, the site was not subject to coverage restrictions nor required to implement best management practices for water quality. Coverage on the site exceeds that allowed by the subsequently established land capability districts and the site lacks sufficient drainage and water quality treatment facilities. Runoff from the site drains, untreated, directly into Lake Tahoe. A drainage ditch on the northern boundary of the project site, which was originally constructed to prevent Burke Creek flood waters from encroaching on the mobile home park, no longer receives drainage on a regular basis. Instead, water is diverted through upstream culverts associated with the Kahle treatment ponds to the east of the project site. The ditch regularly holds standing water and has been identified as a mosquito breeding area and vector control problem.

The Beach Club Project would redevelop the existing mobile home park with residential housing units, a recreational beach and swim club, and a reconstructed and extended pier. The project would also address specific environmental issues by reducing coverage, improving drainage, installing best management practices for water quality, restoring SEZ, and improving flood attenuation.

3.3 PROJECT OBJECTIVES

The objectives of the Beach Club Project are to:

- redevelop the existing mobile home park with market-rate condominiums, deed-restricted moderate-income condominiums, a beach and swim club (a participant sports facility), a reconstructed and extended private pier, and other recreational facilities;
- provide high-quality, professionally maintained housing;
- provide high-quality recreational facilities;
- develop a sustainable and energy-efficient beach and swim club and residential complex that achieves a LEED® silver rating;
- improve scenic quality;
- reduce the volume of stormwater runoff draining directly to Lake Tahoe, improve water quality, and improve flood attenuation by implementing best management practices, constructing drainage improvements, and restoring SEZ in the Burke Creek area; and
- upgrade aging infrastructure to improve reliability for the project site.



Source: DesignWorkshop 2004, Nichols Consulting Engineers 2004

Existing Land Uses **Exhibit 3-3**

3.4 PROJECT CHARACTERISTICS (ALTERNATIVE A)

Beach Club, Inc. has submitted an application to TRPA for the land use approvals necessary to redevelop the Tahoe Shores Mobile Home Park. Alternative A, the proposed project, involves closure of the mobile home park according to the Nevada Revised Statutes, removal of the 155 existing mobile home spaces (150 occupied units), realignment of the project site roadways and utilities, construction of 124 market rate for-sale condominiums and 19 for-sale deed-restricted moderate-income condominiums, acquisition of 35 off-site residential units that would also become deed-restricted moderate income units, construction of a beach and swim club, expansion of the existing pier, construction of stormwater treatment facilities, and SEZ restoration (Exhibit 3-4).

3.4.1 RELOCATION OF RESIDENTS AND REMOVAL OF EXISTING MOBILE HOMES

Before closure of the Tahoe Shores Mobile Home Park, the owner would be required by Douglas County to comply with the Nevada Revised Statutes (NRS 118B.177) as follows:

1. If the landlord closes the mobile home park, the landlord is required to pay the tenant:

   - the costs of moving each tenant's manufactured home and its appurtenances to a new location within 100 miles from the manufactured home park; or

   - if the new location is more than 100 miles from the manufactured home park, the cost of moving the manufactured home for the first 100 miles, including fees for inspection, any deposits for connecting utilities, and the cost of taking down, moving, setting up, and leveling the manufactured home and its appurtenances in the new lot or park.

2. If a tenant chooses not to move the manufactured home, the manufactured home cannot be moved without being structurally damaged, or there is no manufactured home park within 100 miles that is willing to accept the manufactured home, the landlord:

   - may remove and dispose of the manufactured home; and

   - shall pay the tenant the fair market value of the manufactured home.

3. Written notice must be served each tenant in a manner provided in NRS 40.280, giving the tenant at least 180 days after the date of the notice before he/she is required to move his/her manufactured home from the lot.

4. The fair market value of a manufactured home and the reasonable cost of removing and disposing of a manufactured home must be determined by:

   - a dealer licensed pursuant to Chapter 489 of NRS who is agreed on by the landlord and tenant; or

   - if the landlord and tenant cannot agree, a dealer licensed pursuant to Chapter 489 of NRS will be selected for this purpose by the Division.

After fulfilling these obligations to compensate for the relocation of existing residents in accordance with the Nevada Revised Statutes or purchase and removal of existing mobile homes, the remaining site infrastructure including the roadways, manager's office, storage and maintenance buildings, overhead utility lines, and other infrastructure would be cleared from the project site to prepare for grading and construction. The project would require approximately 21,000 cubic yards of cut, primarily for SEZ restoration along the northern boundary of the site, and approximately 24,000 cubic yards of fill. The cut and fill would be generally balanced; however, there may be a need for a small volume of imported soil.

3.4.2 PROPOSED DEVELOPMENT

ACCESS AND CIRCULATION

As illustrated in the site plan for Alternative A (Exhibit 3-4), the proposed project would include realigning the two parallel roads on the site. Arthur Drive and Eugene Drive would be removed and replaced by a single two-way road running east-west through the project site. The new paved road would extend from the end of Kahle Drive at the eastern boundary of the project site to the proposed beach and swim club at the west end of the project site. The road would be built to state, county, and local codes. The road and driveways would meet the Tahoe Douglas Fire Protection District minimum width of 12 feet from curb to curb and the turnarounds on-site would have a minimum 50-foot radius. In accordance with the Uniform Fire Code (1997 Edition), a key box system would be provided at the gatehouse and, per Tahoe Douglas Fire Protection District requirements, a fire strobe system would be installed on both the entrance and exit gates. To minimize access and queuing time for employees, residents, members of the club and their guests, an electronic tag system would be installed at the entry gate that identifies these vehicles such that there would not be a need to swipe a card or use a keypad to open the gate.

Access to the KGID facilities would continue to be provided through the project site from Kahle Drive. The access road would connect to the new project site roadway would be designed to accommodate the width and turning radius of KGID cranes and other large vehicles used in routine maintenance and repair.

A designated 5-foot pedestrian path (Exhibit 3-4) would be developed to direct site beach goers to the lakefront and away from biologically-sensitive areas north of the site and the existing KGID buildings.

SHUTTLE SERVICE

The project would include a shuttle service that would operate on demand, providing service within the project site (for residents of the outlying residential units traveling to the beach and swim club building) as well as along the U.S. 50 corridor between Heavenly Village on the south and Round Hill Square on the north. The shuttle service would provide access to groceries, entertainment (skiing, theaters, etc.), the casino area, and local shops. The hours of operation would be from 8:00 a.m. to 10:00 p.m., at a minimum, during peak seasons. The response time for trips made within the project site would be 10 minutes or less, and the response time from the casino core and gondola areas would be a maximum of 15 minutes.

UTILITIES

The existing utilities at the mobile home park are aging and in need of repair, replacement, or upgrade. On-site utilities would be upgraded to serve the project and would be realigned to follow the new roadway or dedicated utility easements. In addition, pursuant to Chapter 30 of the TRPA Code of Ordinances, any above ground utility lines would be placed underground. (See also the description of the underground electrical conduit that would be installed as part of the proposed pier under the heading “Pier” below.)

Electricity would continue to be provided by Sierra Pacific Power Company from the approximately 32-Kilovolt (kV) main distribution line that crosses the project site; however, this electrical line would be placed underground. An underground distribution system of approximately 3-inch conduit would provide electrical service to the proposed residential and beach and swim club buildings. Two 10-foot by 10-foot transformer utility boxes would be installed, one near the entrance to the project site and one near the KGID pump station. Natural gas would continue to be provided to the project site by Southwest Gas Corporation. The existing underground 2-inch natural gas line would connect to an underground distribution system to deliver natural gas to the proposed buildings, with the 2-inch lines converting to approximately ¾-inch lines as necessary.

Source: DesignWorkshop 2004, Nichols Consulting Engineers 2004 and 2007, Cathexes 2007

Alternative A – Proposed Project Site Plan **Exhibit 3-4**

KGID would continue to provide water service to the project site and project vicinity. However, the existing underground water main would be realigned with the new roadway and/or dedicated utility easement. The 6-inch to 8-inch water main would connect to underground distribution pipes to serve the proposed buildings.

The Douglas County Sewer Improvement District collects and treats wastewater from the project site. The proposed project would continue to be served by the existing gravity-flow sewer system. It is estimated that 4-inch to 8-inch wastewater pipelines would be installed and/or realigned as necessary to serve the proposed project buildings. An existing 12-inch sewer force main that runs the length of the property would remain in its current underground alignment and utility easement. These existing and realigned sewer lines would gravity feed to a pump station just north of the project site, where the wastewater would be pumped to the District's treatment plant at Round Hill.

Solid waste at the project site would be contained in two bear-resistant 20-yard dumpster enclosures. Solid waste disposal services 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 in Nevada with sufficient capacity.

SBC Communications Inc. (SBC) would continue to provide local and long distance phone services, and Charter Cable would provide cable, DSL, and other data network services. All telecommunication lines would be undergrounded along the new roadway alignment or dedicated utility easements.

RESIDENTIAL BUILDINGS

As illustrated in the site plan for Alternative A (Exhibit 3-4), the proposed project would consist of 143 single-family condominiums on the 17.26-acre parcel (PAS 077) and the creation of a Homeowner's Association. The project site would be subdivided in accordance with Chapter 43.4 of the TRPA Code of Ordinances, which would therefore allow for the sale of the condominiums. All residential buildings would be designed to comply with TRPA building height standards (TRPA Code of Ordinances Chapter 22) (see "Building Heights" below) and would be equipped with fire sprinklers. The architectural design of the residential buildings would be rustic alpine styling. The design elements would include steeply pitched roofs, exposed wood elements, shingle and stone exteriors, and oversized porches. The building materials would include natural materials such as rock and wood, and muted colors would be used, and roofs would be constructed out of fire resistant materials (i.e., asphalt shingles or other fire resistant material). A common open space area would be situated in and around the residential units and would be connected by a meandering pedestrian path (Exhibit 3-4).

All of the residential buildings would be constructed with materials that abate noise transmission (such as double paned windows) to address potential impacts related to noise generated by activities at the 4-H Camp to the south of the project site. Beach Club, Inc. would provide buyers and residents a disclosure statement in the Declaration of Covenants, Conditions, and Restrictions documents that includes a description of 4-H Camp events, activities, and the potential for noise.

All residential units would be equipped with natural gas fireplaces.

Market-Rate For-Sale Housing Units

Alternative A would include 124 market-rate for-sale single-family condominiums ranging in size from approximately 1,250 square feet (sf) to 3,000 sf. Approximately 83 units would be located in four lodge buildings (Exhibits 3-4 and 3-5). The lodge buildings would be three-story buildings consisting of one, two, and three bedroom units. Each lodge building would include an enclosed parking area; one parking space would be assigned to each condominium and the remaining parking would be available to residents, guests, and employees.

The remaining market-rate for-sale condominiums would be constructed in two clusters of residential estate home buildings (38 units) (Exhibits 3-4 and 3-6) and in the gate house (3 units) (Exhibits 3-4 and 3-7). The residential

estate buildings would contain four, six, or eight individual units, and the gate house would contain three units, ranging in size from 1,250 sf to 3,000 sf. One covered parking space would be assigned to each condominium and the remaining spaces (available to residents, guests, and employees) would be provided in clusters of surface parking.

Moderate-Income For-Sale Housing Units

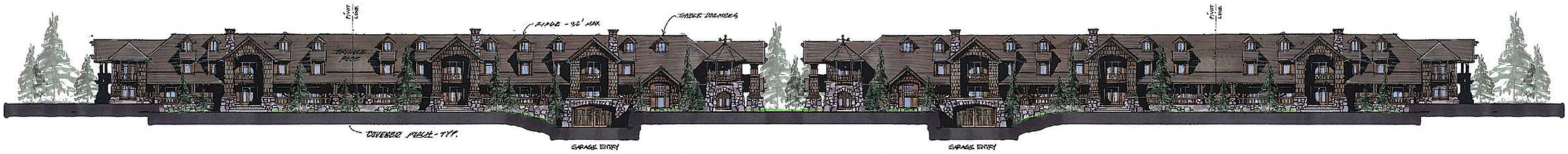
TRPA defines moderate income housing as "residential housing, deed restricted to be used exclusively as a residential dwelling by permanent residents with an income not in excess of 120% of the respective county's median income. Such housing units shall be made available for rental or sale at a cost that does not exceed the recommended state and federal standards. Each county's median income will be determined according to the income limits published annually by the Department of Housing and Urban Development." Moderate income housing is defined in the TRPA Code of Ordinances, Section 41.2.F. TRPA Code of Ordinances Chapter 43.2.B requires mitigation for the loss of moderate income housing resulting from subdivision of a site. Chapter 43.2.B states that mitigation shall be in the form of construction of an equal number of moderate income units, conversion of other structures to moderate income housing, restriction of subdivided units to moderate income housing units, or a combination of these. The proposed project would result in the subdivision of the project site and the removal of 54 existing mobile homes that qualify as moderate income units. Therefore, the proposed project is required to provide 54 moderate income housing units.

Alternative A would include the construction of 19 deed-restricted moderate-income for-sale condominiums on the project site. Eighteen moderate-income condominiums would be constructed in the carriage house, at the eastern end of the project site near the entrance (Exhibits 3-4 and 3-8). A single moderate income condominium would be constructed next to the gate house. The moderate-income units would range in size from 800 sf to 1,200 sf and one covered parking space would be assigned to each unit; the remaining spaces (available to residents, guests, and employees) would be provided either within the building or in clusters of surface parking.

In addition to the 19 deed-restricted moderate income condominiums to be constructed on the project site, Beach Club, Inc. would acquire 35 off-site residential units in the Oliver Park subdivision (directly east of the project in Douglas County, Nevada) that would also become deed-restricted moderate income units. (Note: these 35 units are not currently deed restricted and may be rented at market rate.) This would provide a total of 54 deed-restricted moderate income units. Since Douglas County maintains a TRPA-certified Local Government Moderate Income Housing Program, these moderate income housing units would be eligible for multi-residential bonus units pursuant to Chapter 35 of the TRPA Code of Ordinances. Accordingly, 54 multi-residential bonus units would be sought from TRPA for the 19 on-site and 35 off-site moderate income units.

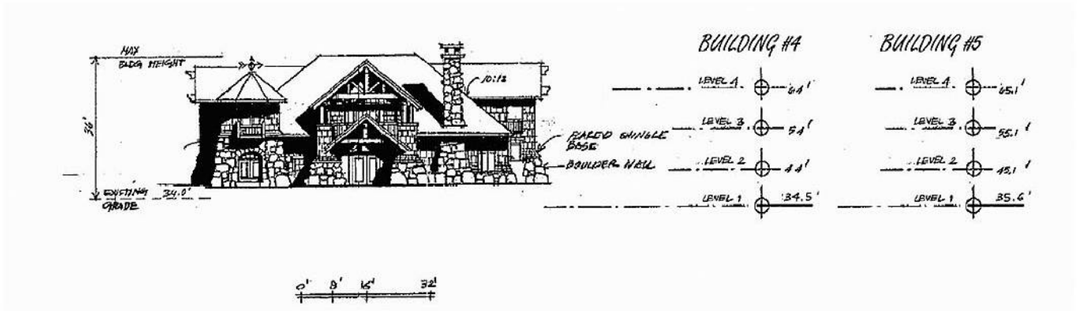
BEACH AND SWIM CLUB

As shown in the proposed site plan (Exhibit 3-4), the project would include a beach and swim club, which would qualify as a participant sports facility. TRPA defines participant sports facilities as "facilities for various outdoor sports and recreation including, but not limited to, tennis courts, swim and tennis clubs, ice skating rinks, and athletic fields (nonprofessional). Outside storage or display is included as part of the use" (TRPA Code of Ordinances Chapter 18). The beach and swim club would primarily be located on the 2.37-acre lakefront parcel, located in PAS 070A, which is designated for recreational land uses. A small portion of the beach and swim club building would extend into PAS 077, which is designated for residential uses. The portion of the beach and swim club building in PAS 077 would include the assembly room and administrative office, which are allowable accessory uses to the residential uses in this PAS. The remainder of the beach and swim club in PAS 070A would consist of a restaurant and bar, men's and women's locker rooms, saunas, steam rooms, lounges, stretching and sports areas, an indoor and an outdoor pool, and equipment storage areas as detailed in Table 3-1 and illustrated in Exhibit 3-9. Douglas County does not permit buildings to cross parcel boundaries. A PAS amendment would not be required for the proposed project, because the proposed subdivision would create a new parcel for the beach and swim club, thereby eliminating conflicts with County requirements. The beach and swim club facilities would be available only to residents, members of the club and their guests. The club building would be designed



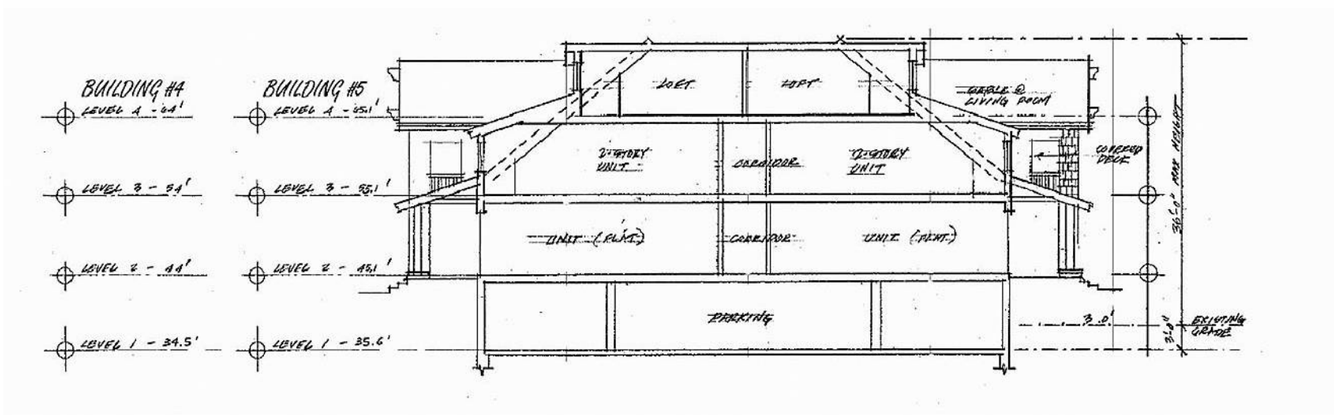
CONCEPTUAL NORTHEAST ELEVATIONS - Buildings #5 & #4)

SCALE : 1/16" = 1'-0"



CONCEPTUAL NORTHWEST ELEVATION - Building #5 (Building #4 Opp.)

SCALE : 1/16" = 1'-0"



BUILDING SECTION - Buildings #4 & #5

SCALE : 1/16" = 1'-0"

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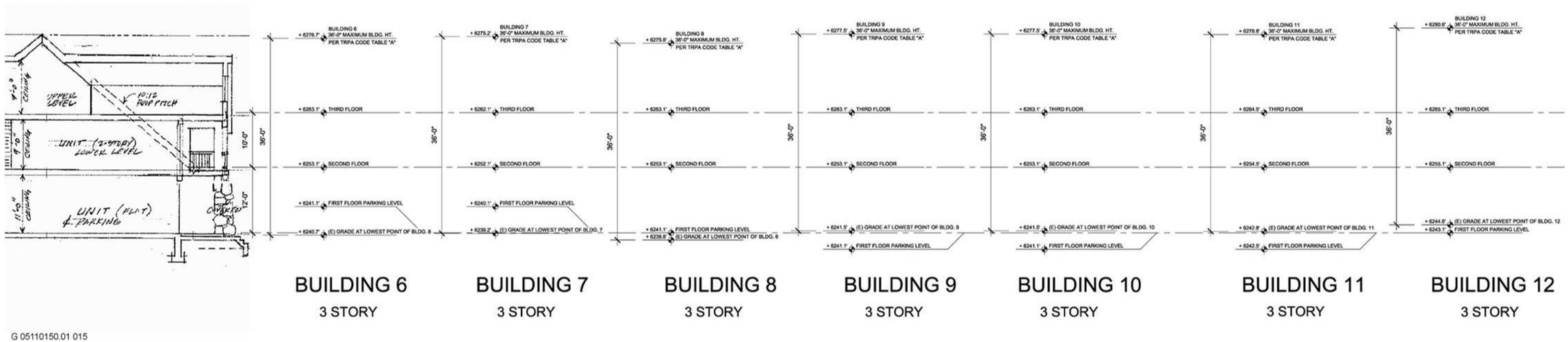
Source: Design Workshop 2004, Nichols Consulting Engineers 2004, Cathexes 2007

Lodge Building Elevation **Exhibit 3-5**

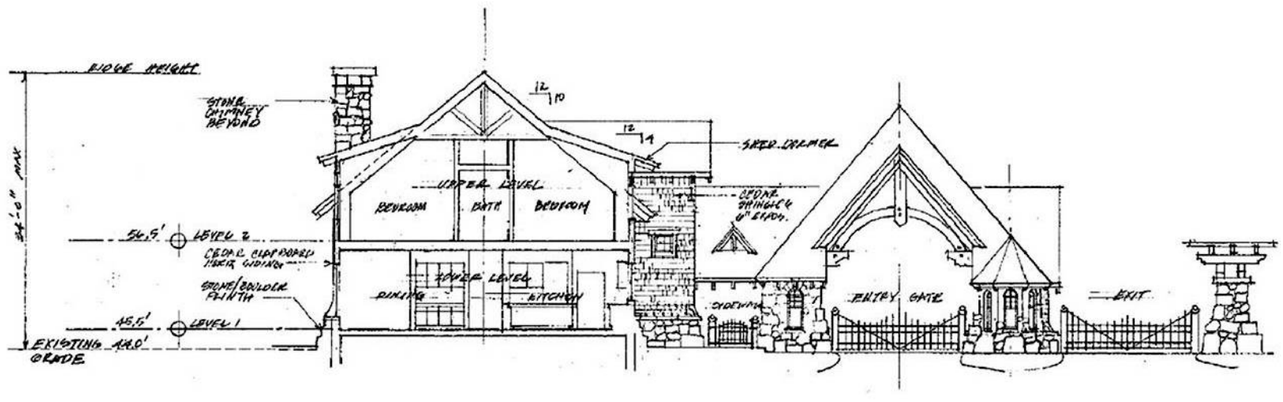
CONCEPTUAL NORTH ELEVATION - Building #11



Source: DesignWorkshop 2006, Nichols Consulting Engineers 2006, Cathexes 2007

Residential Estate Building Elevation **Exhibit 3-6**

CONCEPTUAL SOUTH ELEVATION - BUILDINGS #14 & 14a



SECTION - LOOKING EAST

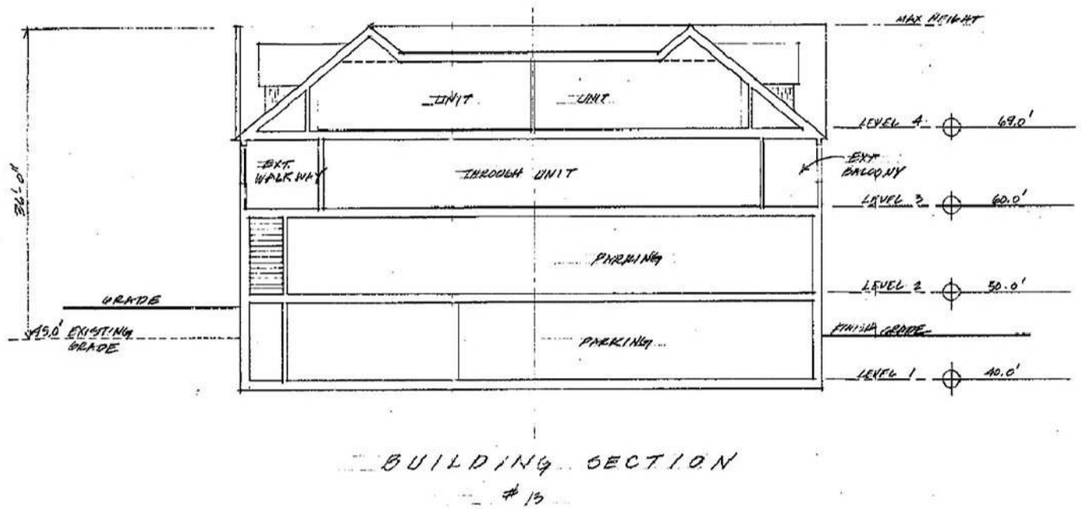
THE GATE HOUSE

G 05110150.01 017

Source: DesignWorkshop 2006, Nichols Consulting Engineers 2006, Cathexes 2007

Gate House Building Elevation **Exhibit 3-7**

CONCEPTUAL WEST ELEVATION - BUILDING #13



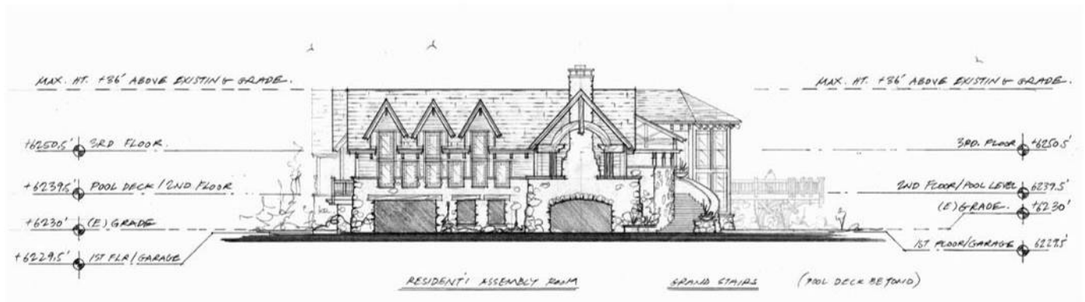
G 05110150.01 018

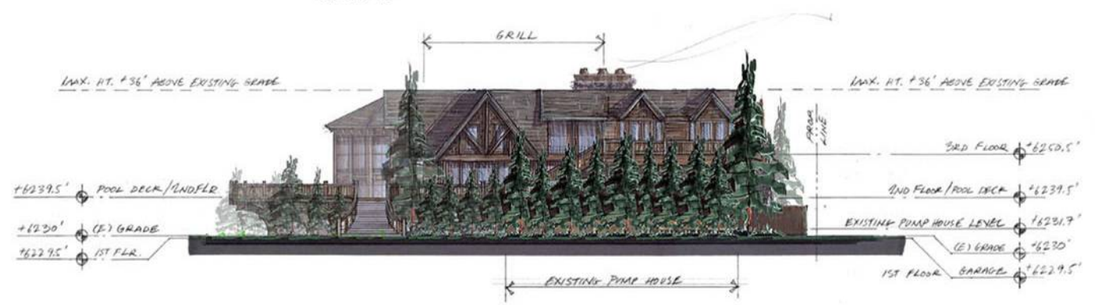
Source: DesignWorkshop 2004, Nichols Consulting Engineers 2004, Cathexes 2007

Carriage House Building Elevation **Exhibit 3-8**

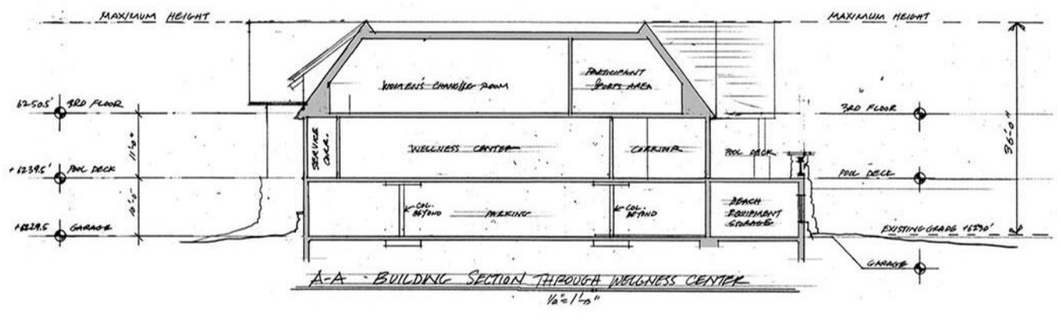
NORTH ELEVATION (Nevada State Beach Side)

SCALE : 1/16" = 1'-0"

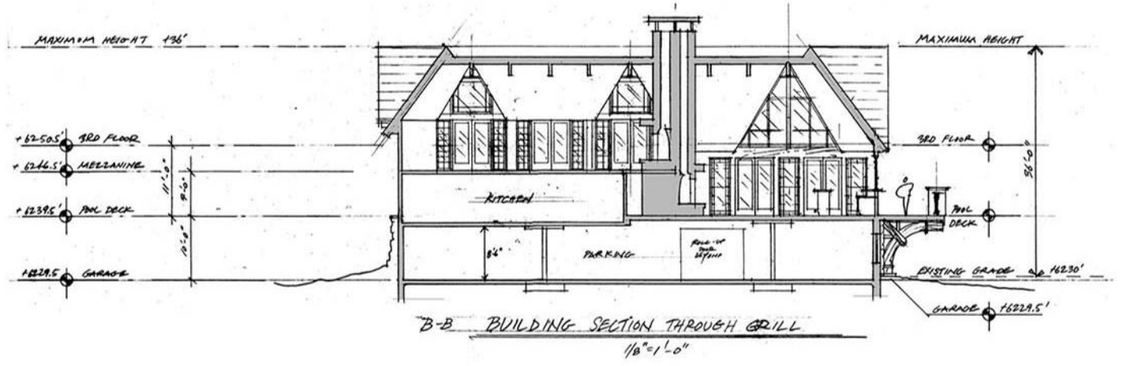




EAST ELEVATION (Lake Side)



WEST ELEVATION (Lake Side)



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Source: DesignWorkshop 2006, Nichols Consulting Engineers 2006, Cathexes 2007

Beach Club Building Elevation **Exhibit 3-9**

to comply with TRPA building height standards (TRPA Code of Ordinances Chapter 22) and would be equipped with fire sprinklers. The majority of the parking spaces would be covered spaces, with some additional surface parking spaces. The architecture of the beach and swim club would be rustic alpine styling, similar to the residential buildings. Design elements would include steeply pitched roofs, exposed wood elements, shingle and stone exteriors, and oversized porches. The building materials would include natural materials such as rock and wood, and muted colors would be used.

The swim and beach club building would have a single large wood-burning fireplace.

Table 3-1
Estimated Square Footage of Beach and Swim Club Facilities

Facility	Square Footage in PAS 070A (Recreational Land Use)	Square Footage in PAS 077 (Residential Land Use)
Lobbies	2,600	
Kitchen	1,500	
Grill	2,300	
Mezzanine	1,300	
2nd Floor Storage	480	
Wellness Center	1,600	
Stretching Center	1,300	
Sports Area	3,300	
Men's Changing Room	2,360	
Women's Changing Room	2,350	
Computer Room	370	
Indoor Pool	2,000	
Admittance	500	
Deck Storage	2,980	
Association Management Offices		620
Assembly and Party Room		3,000
Outdoor Pool and Deck	10,230	
Parking – Indoors	9,000	
Parking – Outdoors		4,100
Parking – Office		114

Source: Nichols Engineering 2007

BUILDING HEIGHTS

As stated above, all of the proposed residential and swim club buildings would be designed to comply with TRPA building height standards. TRPA Code of Ordinances Section 22.2.A defines maximum height as, "the difference between the point of lowest natural ground elevation along an exterior wall of the building, and the elevation of the coping of the highest flat roof, the deck line of the highest mansard roof or the ridge of the highest hip, gable, gambrel, shed or other pitched roof, whichever is highest. The maximum height of a structure other than a building is 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." TRPA Code of Ordinances Chapter 22, Table A, establishes the maximum allowable heights of buildings based on the slope of the project site and pitch of the proposed building roofs. The maximum allowable building height on the project site is 36 feet and 0 inches, based on a 0% slope retained across the project site and a roof pitch of 10:12 (rise:run). The majority of the proposed buildings in Alternative A, Buildings 1 through 13 (the Beach and Swim Club, the Lodge Buildings, the

Residential Estate Buildings, and the Carriage House), would be 36 feet and 0 inches in height. Three buildings would be shorter, Buildings 14 and 14a (the Gate House and associated moderate income unit) would be 34 feet and 0 inches in height and the Storage Building, Building 15, would be 20 feet and 0 inches in height.

PARKING

Based on parking rates from the *Round Hill Timeshare Traffic, Air Quality and Parking Analysis* (LSC Transportation Consultants, Inc. 1999), the *Lake Vista Apartments Traffic, Air Quality and Parking Analysis* (LSC Transportation Consultants, Inc. 1998), and the *Douglas County Consolidated Development Code*, it was determined that the proposed condominiums would generate up to 220 parked vehicles (including guests and residents). In addition, the estimated demand for parking at the beach and swim club/restaurant would be 122 spaces. Therefore, the proposed project would generate a total parking demand of 342 parking spaces. The total parking supply would exceed this demand by 16 spaces because a total of 358 parking spaces would be provided. The condominiums would be provided with 270 parking spaces and the beach and swim club/ restaurant would be provided with 88 spaces.

Approximately 90% of the project parking spaces would be provided in the residential buildings and the beach club building. The remaining 10% of parking spaces would be paved surface spaces provided throughout the project site (see Exhibit 3-4). To ensure that the surface parking spaces are available year-round, the proposed project has been designed to provide snow storage in the landscaped and paved areas throughout the site, not on parking spaces. Snow removal would be provided by the site manager.

PRIVACY AND SECURITY FENCE

A security fence would be constructed along the southern property boundary, between the project site and the 4-H Camp to the south. The fence would be a 6-foot wrought-iron fence similar to the perimeter fence of the Edgewood Golf Course. A vegetative screen would be installed along the southern boundary fence to provide a buffer for aesthetics, privacy, and noise attenuation.

PIER

The existing 109-foot private pier would be reconstructed and extended approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1) (Exhibit 3-10). The existing fixed section of the pier would be removed and replaced with an 80-foot vertically moving fixed section (intended to avoid effects on littoral processes) and a 20-foot transition section that connects the fixed section to a 59-foot floating section, extending approximately 159 feet. A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north intended to provide safer and more stable boat loading and unloading. At its widest point, the floating pier would be 30 feet wide. The floating section of the pier would be anchored by two piles spaced at 28-foot intervals in the center of the pier and a pile under each of the platforms extending to the north, while the vertically moving fixed pier section would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. The pier would extend to the TRPA designated pier headline (elevation 6219.0). The pier would follow the current alignment (perpendicular to the shoreline). The pier would be privately owned and maintained and would include a ramp capable of adapting to boat entry levels.

Operation of the 80-foot vertically moving fixed pier section would be accomplished via mechanical/hydraulic lifts that would vertically adjust the pier deck elevation from a maximum elevation of 6231.5 to a minimum elevation of 6223.0 (Lake Tahoe low water elevation) yielding a maximum vertical movement of approximately 8.5 feet. 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. It is anticipated that during a "normal lake level season" the pier would be adjusted every 2 weeks to conform to the seasonal rise and fall of Lake Tahoe. The

NOTES:
PIER DESIGN PER TRPA CODE OF ORDINANCES, CHAPTER 54.

Shorezone Tolerance District:
7: Vehicular access to the shoreline will not be permitted except where access will not causes environmental harm; and boat launching facilities and marinas must be located where nearshore shelf is of sufficient width to enable construction and use without potential for significant shelf erosion.

TRPA PLAN AREA STATEMENT (PAS)
PLAN AREA 070A - USE DETERMINATION

Permitted Uses:
Water oriented outdoor recreation concessions (A), beach recreation (A), boat launching facilities (S), tour boat operations (A), safety and navigation facilities (A), salvage operation (A), marinas (S), and water intake lines (A).

Accessory Structures:
Buoys (A), piers (A), fences (S), boat ramps (A), shoreline protective structures (S), floating docks and platforms (A), and water intake lines (A).

LAKE TAHOE

PRELIMINARY
FOR REVIEW
NOT FOR CONSTRUCTION
DATE: 08-31-07

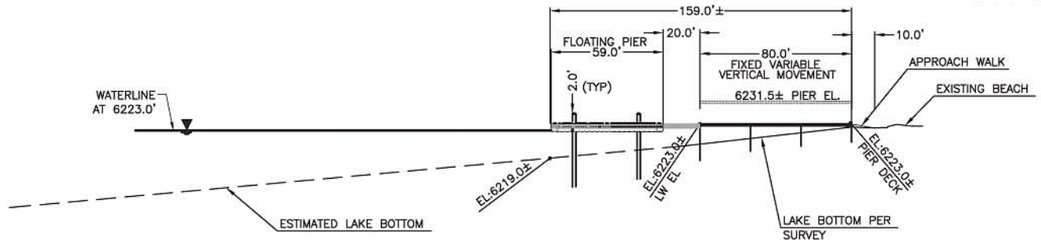
BMP NOTES:
1. TRPA BMP'S MUST BE INSTALLED PER TRPA CODE OF ORDINANCES AND MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
2. A TURBIDITY CURTAIN SHALL BE USED AT ALL TIMES DURING CONSTRUCTION OF THE PIER.

NEVADA BEACH CAMPGROUND
U.S. FOREST SERVICE
APN 1318-22-001-010
APN 1318-22-001-009

TRPA PIER HEAD LINE ELEV = 6219.0
EXISTING BUOYS TO BE REMOVED AND RELOCATED
3 EXISTING RELOCATED BUOYS
WATER SURFACE ELEVATION 6223.0 PERIODIC WATERMASTER MARK (TYP.)
LOW WATER ELEV=6223.0
HIGH WATER ELEV=6229.0
APPROX. WATERLINE 6229.5±
LOCATION OF TRPA WAVE RUN-UP ELEV=6230.4±
LOCATION OF TRPA AREA OF INSTABILITY ELEV=6230.8±
LAND CAPABILITY LINE
BACKSHORE BOUNDARY LINE
10' Be(1b) SETBACK LINE
BLDG SETBACK LINE (TYPICAL)
Be 1b
SEZ 1b
BEACH CLUB AT TAHOE
APN 1318-22-002-001 (2.59 ACRES)
APN 1318-22-002-002 (14.60 ACRES)
PROPOSED BEACH CLUB
EXISTING BUILDING
20' SETBACK FROM PROPERTY LINE PERPENDICULAR TO SHORELINE
PROPERTY LINE EXTENSION PERPENDICULAR TO SHORELINE
INTAKE MANIFOLD IE = 6170±
RESTRICTED BOATING AREA (NO BOATING ALLOWED)
640 L.F. 24" INTAKE MANIFOLD
EXIST. KGID WATER INTAKE LINE PER CES PLANS DATED 8-1-94
KGID INTAKE AND PUMP STATION
PROPOSED FLOATING PIER SECTION
FIXED PIER
TRANSITION PIER
59.0'
20.0'
30.0'
10.0'
50'±
159.0'±
BACKSHORE BOUNDARY LINE
10' Be(1b) SETBACK LINE
EXISTING KGID WATER INTAKE PUMP STATION
LAND CAPABILITY LINE


EXISTING PIER PHOTO

PIER PROFILE
NTS



NOTE:
PIER TO BE DESIGNED BY A PIER STRUCTURAL ENGINEER

LEGEND
SWIMMING AREA (NO MOTORIZED BOATING)
RESTRICTED BOATING AREA (NO BOATING ALLOWED)

0 40 80
FEET
NORTH

G 05110150.01 056

Source: Nichols Consulting Engineers 2007

Alternative A – Proposed Pier Plan **Exhibit 3-10**

Operations Plan would specify that the bottom pier deck elevation be within approximately 6 inches of the Lake surface elevation at any given time. This "operational standard" would allow the pier deck to be adjusted so as to minimize the pier's visual effects while still allowing littoral processes to occur. The mechanical/hydraulic lifts would require electricity to power a series of small electrical motors that would be located under the pier deck and on each of the eight columns. The applicant proposes to install underground electrical conduit by open-trench construction that would extend from the beach and swim club building through the beach zone and to the pier. The trench depth would be approximately 2.5 feet and trench width approximately 1.5 feet. The exact alignment of the trench would be determined as part of the final design, but would likely extend along the existing foot path that runs parallel to and just north of the KGID water supply pump station and ozone treatment plant building.

The reconstructed pier would be deeded to the Homeowner's Association and would therefore qualify as a multiple use pier (TRPA Code of Ordinances Chapter 2). As such, the pier would be eligible for deviation from the Design and Construction Standards listed in TRPA Code of Ordinances Section 54.4.B. Specifically, the multiple use pier could deviate from the 10-foot pier width standard specified in Code Section 54.4.B(1) to allow for the "L" shaped portion of the floating pier. The pier would be accessible from the project site by the Homeowner's Association (residents), members of the beach and swim club and their guests; however, no general public parking or access would be provided from the project site.

As illustrated in Exhibit 3-10, the three existing buoys associated with the project site, originally permitted and installed in 1979, would be removed and relocated to remove the buoys from the scenic recreational viewshed from Nevada Beach.

As a safety precaution for swimmers from the 4-H Camp to the south of the project site, all boat access would be prohibited along the reconstructed pier's southerly side via navigational buoys and signage (Exhibit 3-10). This restriction would be included in the TRPA permit. A swimming area would be roped off along the shore of the project site to protect swimmers from adjacent boating activities. The swimming area would extend approximately 80 feet lakeward from the high water line and from the pier north to the property line (Exhibit 3-10).

SITE COVERAGE

The proposed project site is located in land capability districts (LCD) 1b and 7. LCD 1b has a base allowable coverage of 1% and LCD 7 has a base allowable coverage of 30% (TRPA Code of Ordinances 20.3.A). The land capability districts and existing coverage were verified by TRPA on April 3, 2004 (Exhibit 3-11). If the project site was undeveloped, these land capability districts would establish the allowable coverage. However, the project site is developed and currently occupied by the Tahoe Shores Mobile Home Park. The developed land coverage on the project site is recognized by TRPA and provides the basis for the future allowable coverage rather than the land capability districts.

In 1989, the previous owner of the mobile home park prepared a plan, called the Jere Williams Plan (JWP), which was the basis for a Special Use Permit and contract with TRPA to operate the park. The JWP provides the owner the ability to replace existing mobile homes as necessary, instead of obtaining a new permit each time a mobile home needs to be replaced. The JWP also establishes the ability to convert the mobile home pads to a ratio of 70% doublewide and 30% single wide mobile homes. Pursuant to the JWP, the owner is also required to reduce the coverage on the project site by 55,579 sf by the year 2008.

As shown on Exhibit 3-11, the TRPA verified coverage for project site is 457,959 sf. The verified coverage accounts for the completion of the required 55,579 sf of coverage reduction, which was achieved by removing porches, decks and mobile homes.

Alternative A, the proposed project, would result in approximately 358,907 sf of coverage, as shown in Exhibit 3-12. This would be a reduction of approximately 99,052 sf of site coverage in comparison to the TRPA verified coverage for the site. The reduction in site coverage would result from realignment of the roadways, increased drainage and Best Management Practices (BMPs), increased landscaped areas, and SEZ restoration.

BEST MANAGEMENT PRACTICES

Lake Tahoe is losing its water clarity at a rate of more than a foot a year. At the current rate of decline, it is estimated that Lake Tahoe will lose its blue brilliance in ten years. Non-point source pollution, or pollution originating from many diffuse sources, is contributing to the decline in Lake Tahoe's water clarity. Non-point source pollution is caused when rain or snowmelt causes overland flow that transports various pollutants from the ground surface directly into the surface waters that lead to Lake Tahoe. Research has shown that the addition of sediment and nutrients such as nitrogen and phosphorus from non-point source pollution to Lake Tahoe promotes algal blooms that result in a further loss of water clarity. The best way to prevent this is to slow and store runoff using BMPs.

At Lake Tahoe, 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 of Ordinances Chapter 2.2). Pursuant to Subsection 25.5.A of the Code, all property owners in the Tahoe Basin are required to install infiltration facilities designed to accommodate the volume of runoff from a 6-hour storm with a 2-year recurrence probability (or a 20-year/1-hour storm, which is approximately 1 inch of precipitation in an hour).

BMPs vary from site-to-site, and include temporary and permanent facilities. Temporary BMPs are used to keep sediment on-site when an area is disturbed by construction. Permanent BMPs are used to minimize erosion on residential, commercial, and public service properties when they are not disturbed by active construction. A final Temporary and Permanent BMP Plan (including maintenance) would be prepared for the proposed project that identifies who would be responsible for ensuring implementation of BMPs and making the necessary updates/ modifications.

Temporary BMPs would be implemented during construction of the Beach Club Project to eliminate or reduce sediment and pollutants in stormwater runoff. Grading activities would be prohibited during winter months, unless approved by TRPA, and exposed graded areas would be protected during winter months using approved methods. Temporary construction BMPs may include the following:

- Temporary erosion control facilities to prevent the transport of earthen materials and other waste off the property;
- Temporary gravel earthen berms, sandbag dikes, or filter fence to prevent discharge of earthen materials from the site during periods of precipitation or runoff;
- Fueling and concrete washout area lined with polyethylene sheeting and protected by a silt fence;
- Designated staging and storage area protected by a silt barrier;
- Tree protection fencing around trees that are to remain in place throughout construction of the project;
- A minimum of 48-hours notice to the appropriate agencies so that a pre-grading inspection could be conducted at the site to ensure proper installation of the temporary erosion control measures;
- Minimize ground compaction and disturbance activities in unpaved areas not subject to construction and protect nonconstruction areas with fencing or other barriers to limit access;
- Stabilize all disturbed or eroding areas before October 15 of each year;
- After October 15 of each year, allow on-site construction vehicle movement only on paved roads;
- Stabilize all slopes subject to erosion;

EXISTING LAND COVERAGE CALCULATIONS: SUMMARY

Parcel 1 = APN: 1318-22-002-002
Parcel 2 = APN: 1318-22-002-001

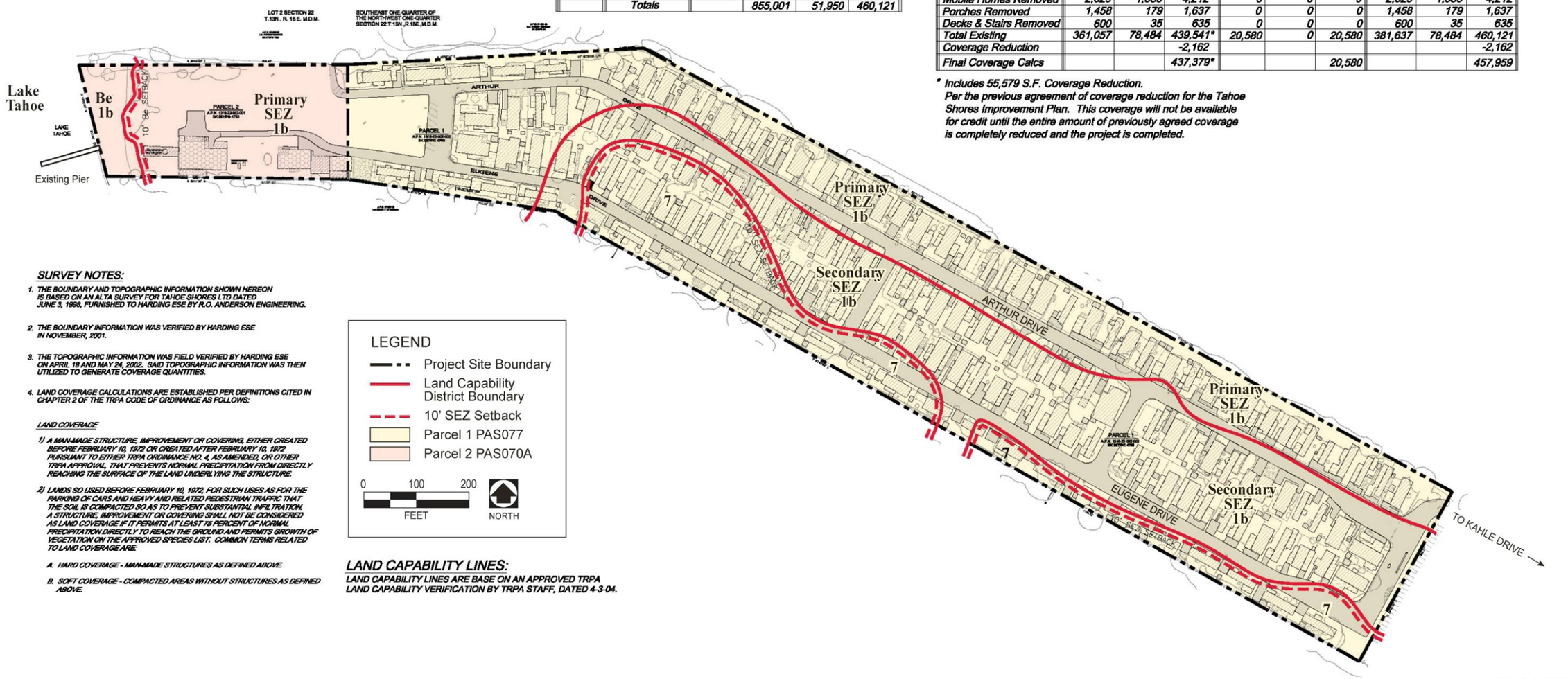
Parcel	Land Capability District	Percent Allowable	Area (sq. ft.)	Allowable Coverage	Existing Coverage
1	1b	1%	602,118	6,021	361,057
	7	30%	149,656	44,897	78,484
	Totals		751,774	50,918	439,541
2	1b	1%	103,227	1,032	20,580
	7	30%	0	0	0
	Totals		103,227	1,032	20,580
1 & 2	1b	1%	705,345	7,053	381,637
	7	30%	149,656	44,897	78,484
	Totals		855,001	51,950	460,121

EXISTING LAND COVERAGE CALCULATIONS: DETAILS

Parcel 1 = APN: 1318-22-002-002
Parcel 2 = APN: 1318-22-002-001

FEATURES	Parcel 1			Parcel 2			Parcels 1 & 2		
	LAND CAPABILITY DISTRICT								
	1b	7	Totals	1b	7	Totals	1b	7	Totals
Mobile Homes	132,795	32,182	164,977	0	0	0	132,795	32,182	164,977
Buildings	188	0	188	7,361	0	7,361	7,549	0	7,549
Sheds	7,458	2,388	9,846	0	0	0	7,458	2,388	9,846
Decks & Porches	55,402	10,877	66,279	455	0	455	55,857	10,877	66,734
Pavement & Concrete	149,279	30,323	179,602	7,995	0	7,995	157,274	30,323	187,597
Soft Coverage	11,248	917	12,165	0	0	0	11,248	917	12,165
Improvements	0	0	0	4,769	0	4,769	4,769	0	4,769
Mobile Homes Removed	2,629	1,583	4,212	0	0	0	2,629	1,583	4,212
Porches Removed	1,458	179	1,637	0	0	0	1,458	179	1,637
Decks & Stairs Removed	600	35	635	0	0	0	600	35	635
Total Existing	361,057	78,484	439,541*	20,580	0	20,580	381,637	78,484	460,121
Coverage Reduction			-2,162						-2,162
Final Coverage Calcs			437,379*			20,580			457,959

* Includes 55,579 S.F. Coverage Reduction.
Per the previous agreement of coverage reduction for the Tahoe Shores Improvement Plan. This coverage will not be available for credit until the entire amount of previously agreed coverage is completely reduced and the project is completed.



SURVEY NOTES:

1. THE BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON AN ALTA SURVEY FOR TAHOE SHORES LTD DATED JUNE 3, 1998, FURNISHED TO HARDING ESE BY R.O. ANDERSON ENGINEERING.
2. THE BOUNDARY INFORMATION WAS VERIFIED BY HARDING ESE IN NOVEMBER, 2001.
3. THE TOPOGRAPHIC INFORMATION WAS FIELD VERIFIED BY HARDING ESE ON APRIL 19 AND MAY 24, 2002. SAID TOPOGRAPHIC INFORMATION WAS THEN UTILIZED TO GENERATE COVERAGE QUANTITIES.
4. LAND COVERAGE CALCULATIONS ARE ESTABLISHED PER DEFINITIONS CITED IN CHAPTER 2 OF THE TRPA CODE OF ORDINANCE AS FOLLOWS:

LAND COVERAGE

1) A MAN-MADE STRUCTURE, IMPROVEMENT OR COVERING, EITHER CREATED BEFORE FEBRUARY 10, 1972 OR CREATED AFTER FEBRUARY 10, 1972 PURSUANT TO EITHER TRPA ORDINANCE NO. 4, AS AMENDED, OR OTHER TRPA APPROVAL, THAT PREVENTS NORMAL PRECIPITATION FROM DIRECTLY REACHING THE SURFACE OF THE LAND UNDERLYING THE STRUCTURE.

2) LANDS SO USED BEFORE FEBRUARY 10, 1972, FOR SUCH USES AS FOR THE PARKING OF CARS AND HEAVY AND RELATED PEDESTRIAN TRAFFIC THAT THE SOIL IS COMPACTED SO AS TO PREVENT SUBSTANTIAL INFILTRATION. A STRUCTURE, IMPROVEMENT OR COVERING SHALL NOT BE CONSIDERED AS LAND COVERAGE IF IT PERMITS AT LEAST 78 PERCENT OF NORMAL PRECIPITATION DIRECTLY TO REACH THE GROUND AND PERMITS GROWTH OF VEGETATION ON THE APPROVED SPECIES LIST. COMMON TERMS RELATED TO LAND COVERAGE ARE:

A. HARD COVERAGE - MAN-MADE STRUCTURES AS DEFINED ABOVE.

B. SOFT COVERAGE - COMPACTED AREAS WITHOUT STRUCTURES AS DEFINED ABOVE.

LAND CAPABILITY LINES:

LAND CAPABILITY LINES ARE BASE ON AN APPROVED TRPA LAND CAPABILITY VERIFICATION BY TRPA STAFF, DATED 4-3-04.

Source: DesignWorkshop 2004, Nichols Consulting Engineers 2004 and 2007

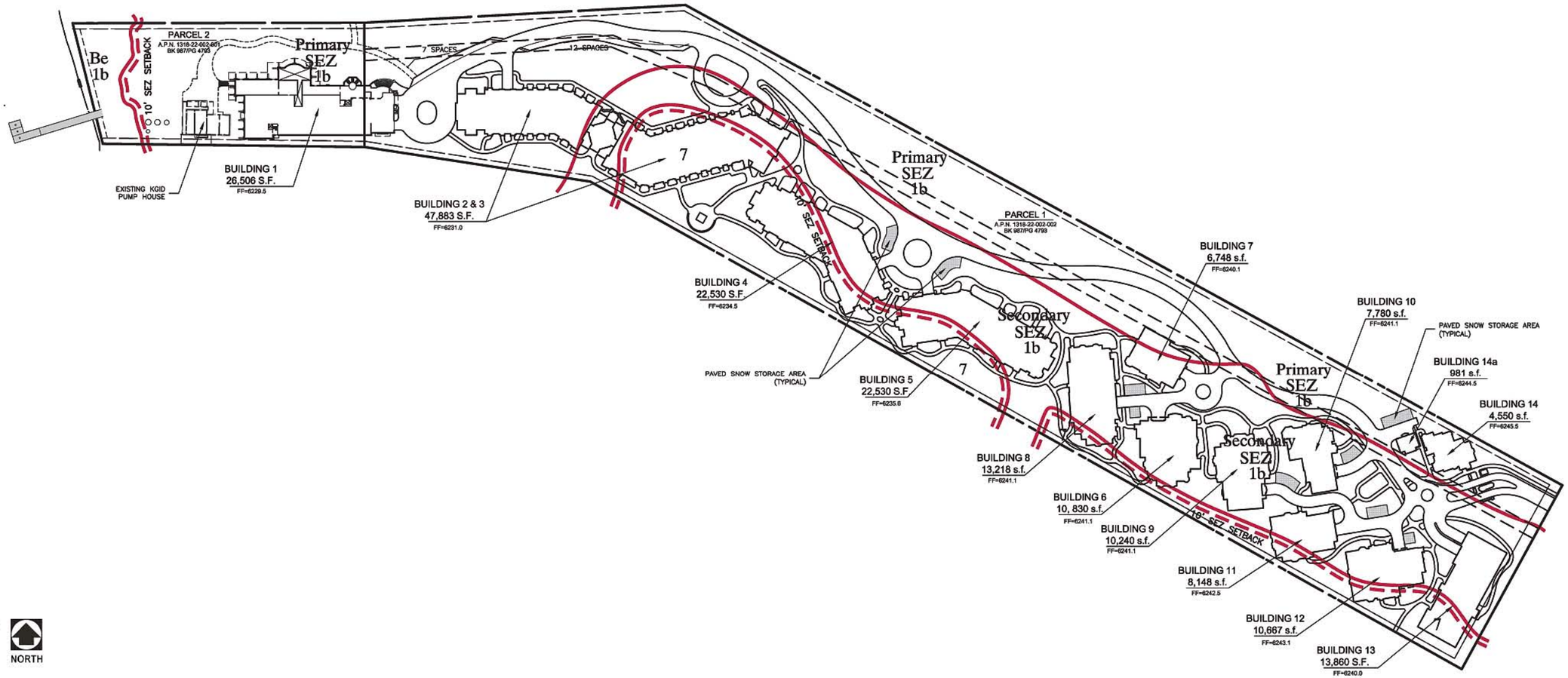
Land Capability Districts and Existing Coverage **Exhibit 3-11**

EXISTING LAND COVERAGE CALCULATIONS: SUMMARY
Parcel 1 = APN: 1318-22-002-002
Parcel 2 = APN: 1318-22-002-001

Parcel	Land Capability District	Percent Allowable	Area (sq. ft.)	Allowable Coverage	Existing Coverage
1	1b	1%	602,118	6,021	361,057
	7	30%	149,656	44,897	78,484
	Totals		751,774	50,918	439,541
2	1b	1%	103,227	1,032	20,580
	7	30%	0	0	0
	Totals		103,227	1,032	20,580
1 & 2	1b	1%	705,345	7,053	381,637
	7	30%	149,656	44,897	78,484
	Totals		855,001	51,950	460,121
Coverage Reduction					-2,162
Total Existing Coverage					457,959

PROPOSED LAND COVERAGE CALCULATIONS: DETAILS
Parcel 1 = APN: 1318-22-002-002
Parcel 2 = APN: 1318-22-002-001

FEATURES	Parcel 1			Parcel 2			Parcels 1 & 2		
	LAND CAPABILITY DISTRICT								
	1b	7	Totals	1b	7	Totals	1b	7	Totals
Buildings (SF)	127,291	51,813	179,104	21,380	0	21,380	148,671	51,813	200,484
Utility Pads (SF)	440	881	1,321	0	0	0	440	881	1,321
Roads (SF)	98,810	0	98,810	6,605	0	6,605	105,415	0	105,415
Walking Paths (SF)	31,404	15,514	46,918	0	0	0	31,404	15,514	46,918
Decks (SF)	0	0	0	3,507	0	3,507	3,507	0	3,507
Soft Coverage (SF)	0	0	0	0	0	0	0	0	0
Walls (SF)	1,111	151	1,262	0	0	0	1,111	151	1,262
Total Proposed	259,056	68,359	327,415	31,492	0	31,492	290,548	68,359	358,907



Source: Nichols Consulting Engineers 2007

Alternative A – Land Capability Districts and Proposed Coverage **Exhibit 3-12**

- Protect all loose piles of soil, silt, clay, sand, debris, or other earthen material to prevent the discharge of these materials;
- Control dust to prevent transport of such materials off the project site, into any surface water, or into any drainage course;
- Instruct onsite construction personnel in spill prevention practices;
- Provide pallets or secondary containment areas for chemicals, drums, or bagged materials and use drip pans or secondary containment measures beneath vehicles during storage;
- Immediately clean up and transport to a legal disposal site any spilled petroleum products or petroleum-contaminated soils, to the maximum extent possible and to the satisfaction of TRPA and Nevada Department of Environmental Protection;
- Place wastes (i.e., grease, oil, transmission fluids, cleaning solutions, batteries, etc.) in proper containers, store the containers in designated areas and ultimately recycle or properly dispose of the materials;
- Stabilize drainage swales disturbed by construction activities through appropriate soil stabilization measures to prevent erosion;
- Rip and revegetate with native vegetation all areas compacted by construction activities not intended to become permanent land coverage; and
- Temporary BMPs associated with pier construction (e.g., turbidity curtains, limited barge water access, etc.)

Consistent with the Storm Water Quality Improvement Committee (SWQIC) process for "Formulating and Evaluating Alternatives from Water Quality Improvement Projects in the Lake Tahoe Basin," several options were considered for permanent site improvements and BMPs for the proposed project (Alternative A). (BMP alternatives considered but rejected in lieu of the proposed BMP Plan are included in Appendix I). The proposed permanent BMPs are illustrated in Exhibit 3-13 (additional BMP details are also included in Section 5.5, "Hydrology and Water Quality"). The following BMPs are general features that would be included in the project to address stormwater runoff (including snowmelt) from the buildings, parking areas, roadways, and walkways:

- Improvements would be designed to exceed treatment and infiltration of runoff generated by the 20-year, 1-hour storm event, as required by TRPA Code of Ordinances 25.5.A.
- Improvements would be designed for at least the 10-year, 24-hour storm event to be conveyed through property and discharged to the Burke Creek meadow, as required by TRPA Code of Ordinances 25.5.D. No untreated runoff would drain directly to Lake Tahoe.
- Best Available Technology would be used, including infiltration galleries. Surface runoff would be directed through dripline infiltration trenches and drop inlets to these underground infiltration galleries.
- Multiple points of discharge would be provided along the project road, paths, and around the buildings.
- The sediment/oil separator systems would be regularly inspected to ensure that sediment is removed and oil-absorbing materials are replaced.

With the proposed BMP Plan, surface runoff captured in a series of catch basins and roof runoff collected in dripline infiltration trenches would be directed to underground infiltration galleries. Runoff from driveways and parking areas would be pretreated via water quality treatment vaults equipped with storm filters. The proposed storm filter system would capture suspended solids, metals, and nutrients by filtering runoff horizontally through media in a series of storm filter cartridges. The underground infiltrations galleries would be designed to provide

on-site storage of runoff and would allow the settling of sediment and pollutants in accordance with TRPA standards, before infiltration. Once the stored water has infiltrated, the sediments and pollutants would be removed from the underground infiltration galleries and disposed of properly. In the event of a large storm event that exceeds the design capacity of the infiltration galleries, concentrated runoff would then be conveyed to four vegetated and lined ponds that would provide additional opportunity for the settlement of suspended solids. Vegetation in the ponds would also provide for nutrient and pollutant uptake. The ponds would be lined with an impermeable membrane liner to prevent co-mingling of surface and groundwater. The underground infiltration galleries and lined ponds would also be equipped with multiple low flow perforated outlet pipes that would convey pre-treated runoff through the system to infiltration trenches in the proposed restoration area (meadow). This would allow the soils within the restoration area to become saturated during smaller storm events, such as the 5-year or 10-year event.

One type of storm filter system being considered for use is the StormFilter® System. The StormFilter® System uses cartridges containing ZPG multipurpose media (a proprietary blend of organic and inorganic media). Each cartridge can operate at a filtration rate of 7.5 gallons/minute and each system unit is equipped with an internal bypass mechanism, which is triggered during storm events that exceed the design capacity. The StormFilter® System performance yields an estimated 88% mean removal efficiency rate for Total Suspended Solids (TSS) and a 59% mean removal efficiency rate for Total Phosphorous. On-going and regular maintenance is necessary to maintain optimal pollutant removal efficiencies. To increase the effectiveness of TSS removal following installation, the cement vault must be regularly cleaned and filters conditioned. Additional maintenance activities include extracting standing water from the vault (especially at the end of spring snow melt and following summertime thunderstorm events) to eliminate the in-situ decomposition of organic matter and the release of dissolved nutrients during warm climatic conditions.

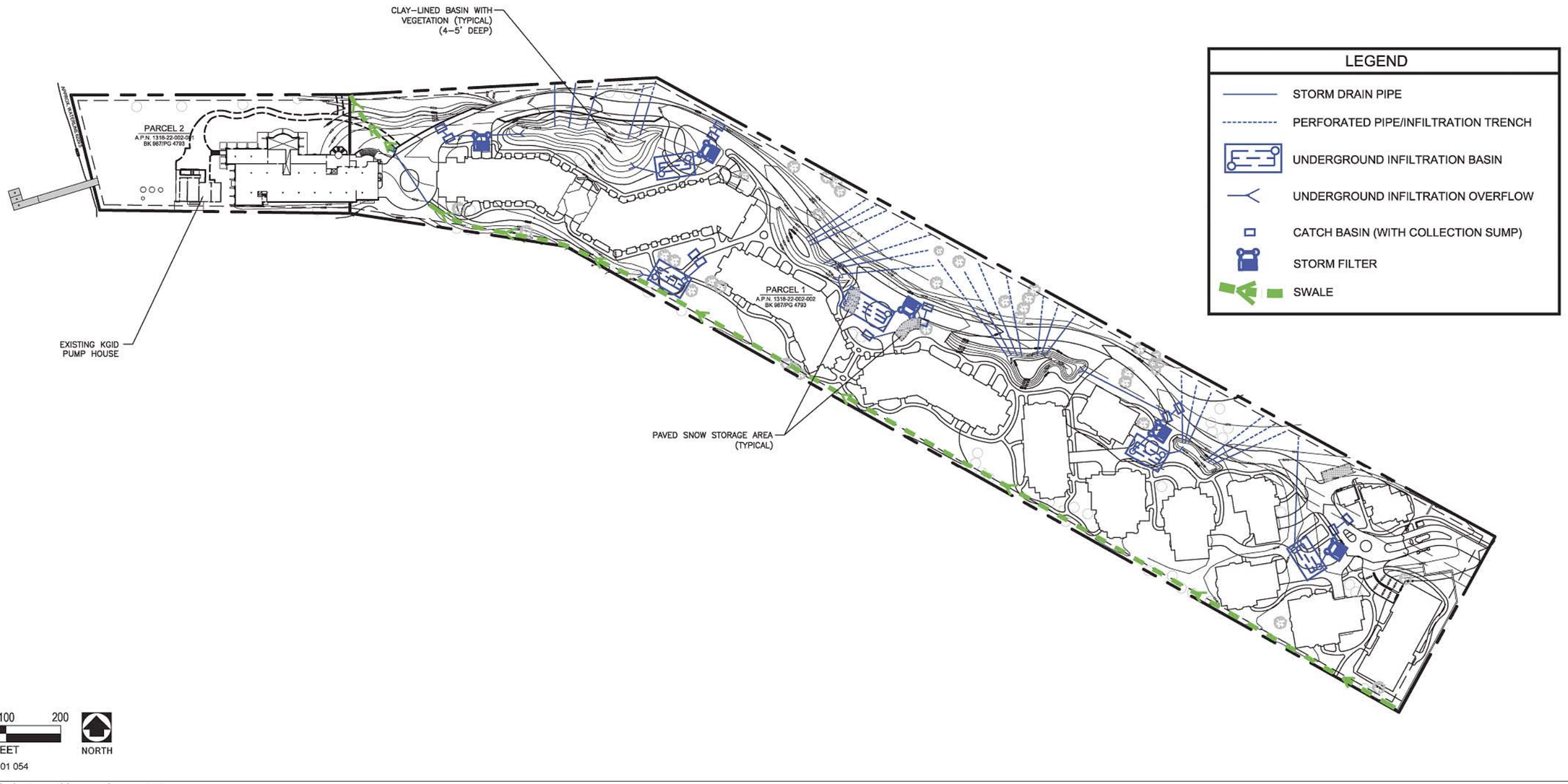
Preliminary pollutant loading estimates have been calculated for the existing project site and the proposed project. The methodology used to calculate these estimates follows Lake Tahoe Basin SWQIC guidelines regarding water quality improvement projects in the Lake Tahoe Basin (nhc 2004). Pollutant load models were developed by Northwest Hydraulics for the Committee. These models estimate annual pollutant loads based on density, land use, impervious surface area, soil conditions, precipitation, and connectivity. Connectivity refers to how quickly the runoff is conveyed to the receiving water, in this case Lake Tahoe, without infiltration or treatment. The annual pollutant load was then converted to a concentration using the TRPA 20-year, 1-hour storm event. A comparison of contaminant loading results for the existing project site and Alternative A with applicable TRPA discharge limits is shown in Table 3-2.

Table 3-2
Average Annual Pollutant Loads from Runoff at the Beach Club Project Site

	Constituent	NO_3	TKN	SRP	TP	TSS
Existing Conditions	lbs/year	13.1	48.6	6.8	29.3	11,385
	mg/l	0.203	0.752	0.106	0.454	176
Proposed Project (Alternative A)	lbs/year	1.0	3.9	0.5	2.3	898
	mg/l	0.020	0.073	0.010	0.044	17
TRPA Discharge Limits[1]	lbs/year	--	26.7	--	5.23	12,500
	mg/l	--	0.5	--	0.1	250

mg/l = milligrams per liter = parts per million
NO_3 = nitrate
TKN = Total Kjeldahl Nitrogen
SRP = Soluble Reactive Phosphorus
TP = Total Phosphorus
TSS = Total Suspended Solids

[1] TRPA Code of Ordinances Chapter 81, Section 81.2 – surface runoff pollutant concentrations shall not exceed these standards.
Source: nhc 2004; Nichols Consulting Engineers 2007



Source: Nichols Consulting Engineers 2007

Alternative A – BMP and Drainage Plan **Exhibit 3-13**

As shown in Table 3-2, the proposed project would greatly reduce the pollutant loads from runoff compared with existing conditions, such that TRPA stormwater water quality objectives would be met. The existing site includes 457,959 sf of existing coverage, native soil with limited infiltration capacity, and no BMPs. The reduction in pollutant loading from runoff would be achieved through a reduction of approximately 99,052 sf of coverage, landscaping that would include soil treatment to provide good infiltration capacity and nutrient uptake, and the BMPs implemented as part of the stormwater pre-treatment. As shown in Table 3-2, the existing project site does not meet the TRPA thresholds for pollutant loadings for total nitrogen and total phosphorus. The project would reduce pollutant loadings below the TRPA thresholds.

STREAM ENVIRONMENT ZONE RESTORATION

The proposed project would include restoration of approximately 2 acres of SEZ habitat along the northern portion of the project site adjacent to the United States Forest Service parcel and Burke Creek as shown in Exhibits 3-4 and 3-13. The fill in this northern portion of the project site, originally placed over the SEZ when the airfield was constructed in the 1960s, would be removed to reestablish wetlands and SEZ habitat adjacent to Burke Creek. The eastern portion of the abandoned ditch on the northern border of the project site would be filled to assist with rehydrating the restored meadow; the portion of the ditch between the access road to the Douglas County Sewer Improvement District Pump Station and the beach would be left in place. After removal of the fill and restoration of the ditch, the restoration area would be planted with native plugs and riparian vegetation and all disturbed areas would be seeded with a native wetland seed mixture and mulched. The conceptual plant list for landscaping and SEZ restoration area is provided in Table 3-3. A small split rail fence would be installed along the northern side of the project roadway to identify and protect the restored SEZ area. In addition, interpretive signs would be installed providing information about the restoration, Rabe Meadow, and Burke Creek.

Table 3-3
Conceptual Vegetation Plan for Landscaping and SEZ Restoration

Common Name	Scientific Name
Wetland Seed Mix – Grasses	
Alpine timothy	*Phleum alpinum (alpine)*
Tufted hairgrass	*Deschampsia caespitosa*
Blue wildrye	*Elymus glaucus*
Bluejoint reedgrass	*Calamagrostis Canadensis*
Creeping wildrye	*Leymus triticoides*
Wetland Seed Mix – Forbes	
Columbine	*Aquilegia Formosa*
Englemann aster	*Aster Englemannii*
Blue flax	*Linium lewisii*
Meadow pentstemon	*Penstemon rydbergii*
Upland Seed Mix – Grasses	
Blue wildrye	*Elymus galucus*
Bluegrass	*Poa secunda* ssp. *nevadensis*
California brome	*Bromus carinatus*
Sheep fescue	*Festuca ovina*
Bluebunch wheatgrass	*Psuedoregneria spicata* ssp. *spicata*
Creeping wildrye	*Leymus triticoides*
Upland Seed Mix – Forbes	
Blanket flower	*Gaillardia aristata*
Lewis flax	*Linium lewisii*
Mountain lupine	*Lupinus alpestris*
Palmer penstemon	*Penstemon palmeri*
Drummond phlox	*Phlox drummondii*
Pacific aster	*Aster chilensis*

Table 3-3 Conceptual Vegetation Plan for Landscaping and SEZ Restoration	
Common Name	Scientific Name
Woodland Riparian Species	
Aspen	*Populus tremuloides*
Black cottonwood	*Populus tremuloider* ssp. *trichocarpa*
Alder	*Alnus incana* ssp. *tenuifolia*
Pacific Willow	*Salix lucidia* ssp. *lasiandra*
Creeping Spike Rush	*Eleocharis palustris*
Dogwood	*Cornus sericea* ssp. *sericea*
Upland Slope Species	
Golden currant	*Ribes aureum*
Antelope bitterbrush	*Purshia Tridentata*
Jeffrey pine	*Pinus jeffreyii*
Lodgepole pine	*Pinus contorta*
Source: Nichols Consulting Engineers 2006	

TREE REMOVAL

The project site contains 140 trees (78 conifers and 62 deciduous trees) that are six inches in diameter at breast height (dbh) or greater. Ten of these trees are 24 inches dbh or greater. Exhibit 3-14 shows the location, type and size for trees 24 inches dbh or greater. Exhibit 3-14 also shows that while the proposed project would preserve trees along the northern and southern boundaries of the project site and all trees greater than 24 inches dbh, the proposed project would remove and/or relocate 51 trees (28 conifers and 23 deciduous trees). The trees marked for removal and/or relocation include those that would be directly affected by a proposed structure, roadway, pond or path footprint.

Existing willow stands located along the northern portion of the project site and within the drainage ditch that runs parallel to the northern site boundary would be unaffected by the proposed development footprint. However, the restoration of the ditch and SEZ area would likely result in the restoration or replacement of some of these stands.

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

The proposed project is currently registered with Leadership in Energy and Environmental Design (LEED®) and would seek to achieve a LEED® silver rating from the U.S. Green Building Council. (Note: the proposed project also intends to meet or exceed the requirements of Assembly Bill [AB] 32, even though it is a California requirement that is not required of Nevada projects.) 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 project applicant is evaluating the use of a number of potential strategies to reduce energy use and carbon emissions, including carbon offsetting strategies, for the proposed project. Carbon offsetting includes mitigating greenhouse gas emissions through the form of purchasing carbon credits from green initiatives. Measures that may be implemented as part of the project to achieve the LEED® rating include: use of materials acquired from local sources (within 500 miles); reducing site coverage; erosion and sedimentation control; stormwater treatment

Source: Nichols Consulting Engineers 2007

Alternative A – Proposed Tree Inventory **Exhibit 3-14**

facilities; SEZ habitat restoration; water efficient landscaping; water conservation and energy efficient devices in the buildings; storage, and collection of recyclables; and double-paned windows. Implementation of measures such as these would earn points toward LEED® rating. A LEED® accredited professional would assess the project measures, assign points, and if the project achieves 33 points, it would qualify for LEED® Silver rating.

It is anticipated that the proposed project would result in a substantial reduction in operational carbon emissions (including transportation) relative to existing conditions. Typical LEED® certified buildings are designed to save an average of 388 U.S. tons of carbon emissions annually. The average LEED® certified building uses 32% less electricity, 26% less natural gas and 30-40% less total energy as compared to a conventional building. Similarly, the average LEED-certified building saves 40% on water use as compared to a conventional building.

CONSTRUCTION ACTIVITIES

Construction of the project would commence as soon as possible after project approval, acquisition of permits, and reimbursement for relocation or purchase and removal of all existing mobile homes. Construction of the proposed project would be completed in four phases as shown in Table 3-4 below. The first phase is anticipated to begin as early as 2008, with final project completion anticipated for the fall 2011. 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 site, on previously disturbed areas, and would be secured to prevent unauthorized access.

Table 3-4
Project Construction Phasing

Project Component	Phase 1	Phase 2	Phase 3	Phase 4
Relocation/Demolition	X			
Site Grading	X	X	X	X
Gatehouse/Entry	X			X
Estates		X	X	X
Lodge Building			X	X
Moderate Income Housing		X	X	X
Beach and Swim Club		X	X	X
SEZ Restoration	X	X	X	X

Source: Nichols Consulting Engineers 2005

Construction activities would be completed between 8:00 a.m. and 6:30 p.m. 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 TRPA and Douglas County as well as local residents and emergency service providers.

Construction equipment is expected to include standard equipment such as haul trucks, backhoes, water trucks, forklifts, etc. The majority of heavy equipment would be used during Phase 1 of construction for site clearing and grading activities. Use of heavy equipment during Phase 1 would be limited to mid-day hours to keep noise and roadway disturbance to a minimum. 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 earth 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 site would be preserved as long as possible during initial construction activities to reduce dust emissions at the project site.

Construction access to the project site would be provided via Kahle Drive. Any partial street closures and traffic control would be coordinated with the Nevada Department of Transportation (NDOT) and 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, it is anticipated that between 20 and 30 laborers would be working on various aspects of the project. This would result in an estimated 20 vehicle trips per day using light truck and passenger vehicles. In addition, it is anticipated that vendor deliveries of construction materials via large trucks would occur an average of twice a week. Haul trips to export material and debris from the project site would occur primarily during Phase 1 of construction and demolition, with several large (20 cubic yard) truck trips per day. Material hauled off site would be taken to an appropriate disposal/recycling facility outside of the Tahoe Basin.

3.5 INTENDED USES OF THE EIS AND APPROVAL PROCESS

This document is intended to meet the environmental review requirements of TRPA. TRPA is the lead agency pursuant to the Compact and maintains discretionary authority over the primary project approvals.

3.5.1 PROJECT APPROVAL PROCESS

Chapter 2, "Introduction," includes a detailed discussion of the environmental review process for this Draft EIS, which includes a 60-day public review and comment period. 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 TRPA Governing Board will consider certification of the Final EIS and project approval at one or more public meetings. Certification of the EIS is required before the TRPA project approvals listed below in Table 3-5 can be considered. While the issuance of the non-TRPA permits in Table 3-5 is not necessarily contingent on EIS certification, the applicable permitting agencies may review information contained in this EIS as part of their permit approval process. Agencies typically have 30 days from the submittal date to review and respond to permit application materials.

Table 3-5
Required Permits and Reviews

Permitting Agency	Permit Name	Purpose of Permit
Douglas County	Site Improvement Permit	Grading and engineering work
Douglas County	Building Permit	Building architecture
Douglas County Sewer Improvement District	Sewer Permit	Authorization for sewer connections
Nevada Division of Environmental Protection	SWPPP	Activities related to soil disturbance
Kingsbury General Improvement District	N/A	Authorization for water connections
Nevada Division of State Lands	Lease Agreement	Pier construction or expansion
Tahoe Regional Planning Agency	TRPA Permits	Threshold protection
U.S. Army Corps of Engineers	SEZ restoration	Discharge of fill materials in waters of the U.S.
Reviewing Agency		**Issue/Authority**
Douglas County Sheriffs Department		Public safety
Tahoe Douglas Fire District		Fire safety
Nevada Department of Transportation		Traffic
Nevada Division of Wildlife		Wildlife
U.S. Fish and Wildlife Service		Wildlife
State Historic Preservation Office		Cultural Resources
Franchise Utilities (Southwest Gas, Sierra Pacific Power, Charter Communications Cable, SBC Nevada Bell)		

SWPPP = storm water pollution prevention plan

4 ALTERNATIVES

4.1 TRPA REQUIREMENTS FOR ALTERNATIVES

In accordance Article VII (a)(3) of the Tahoe Regional Planning Compact and the Tahoe Regional Planning Agency (TRPA) Code of Ordinances Section 5.8.B, this environmental document includes an analysis of alternatives that could feasibly attain the basic project objectives, a review of a "no project" alternative, and a discussion of alternatives considered but determined to be infeasible. The analysis is intended to provide a comparison of a reasonable range of alternatives that are selected based on their ability to feasibly avoid or lessen at least one significant effect of the proposed project and still achieve most of the project objectives.

The alternatives described in this chapter include two alternative development proposals, with different site plans and development intensities to provide flexibility to TRPA in selecting the alternative that best meets the needs of the community and the environment. Like the proposed project, the alternatives described in this chapter need to be capable of meeting the basic project objectives in an environmentally sensitive manner.

The no project analysis is required to discuss 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 plans and consistent with available infrastructure and community services. Accordingly, this section includes two feasible no project alternatives based on the existing conditions and approvals for the project site.

The major comparative elements of Alternatives A through E are summarized in Table 4-1. The details of each alternative are discussed below.

4.2 ALTERNATIVE A – PROPOSED PROJECT

Alternative A is the proposed Beach Club on Lake Tahoe Project (Beach Club Project), discussed in detail in Chapter 3 of this environmental impact statement (EIS) (Exhibit 3-4). Alternative A would involve compliance with the Nevada Revised Statutes (NRS 118B.177) prior to the closure of the Tahoe Shores Mobile Home Park, located on the south shore of Lake Tahoe in Douglas County, Nevada. After closure of the mobile home park, the existing access roads, Arthur Drive and Eugene Drive, would be replaced with a single two-way road running east-west through the project site. The new paved road would be constructed to meet the Tahoe Douglas Fire Protection District requirements and it would begin where Kahle Drive ends at the eastern boundary of the project site and end at the proposed beach club at the west-end of the project site. The existing utilities at the mobile home park are aging and in need of repairs; therefore the utilities would be improved and realigned to follow the new roadway or dedicated utility easements. In addition, pursuant to Chapter 30 of the TRPA Code of Ordinances, any above ground utility lines would be placed underground.

Alternative A would result in the subdivision of the project site in accordance with Chapter 43.4 of the TRPA Code of Ordinances and the construction of 124 market rate for-sale condominiums, located in lodge buildings and residential estate buildings (Exhibits 3-5 through 3-7). In addition, to mitigate for the loss of 54 moderate income housing due to subdivision of the site (TRPA Code of Ordinances, Section 43.2.B), 18 for-sale moderate-income condominiums would be constructed in the carriage house, one additional for-sale moderate-income condominium near the gate house (Exhibit 3-8), and 35 off-site residential units would be acquired and deed-restricted as moderate income housing. Since Douglas County maintains a TRPA-certified Local Government Moderate Income Housing Program, these moderate income housing units would be eligible for multi-residential bonus units pursuant to Chapter 35 of the TRPA Code of Ordinances. Accordingly, 54 multi-residential bonus units would be sought from TRPA for the 19 on-site and 35 off-site moderate income units.

Table 4-1
Major Comparative Elements of Alternatives A through E

Alternative	Brief Description	Coverage (sf)	Number of Residential Units	Subdivision?	Housing Mitigation Required?	Anticipated Sediment Reduction (lbs/year)	SEZ Restoration	Pier Extension	Buoy Relocation?
A	Includes construction of 124 market rate and 19 deed-restricted moderate-income for-sale condominiums and a beach and swim club.	358,907	143	Yes	Yes	10,487	2 acres	Extended to 159' (includes "L" shaped floating section)	Yes
B	Includes development of two single-family estates on two realigned parcels. Each estate would include a large single-family residence, pool, detached garage, guest house, entry gate house, and tennis courts.	320,000	2	No (boundary line adjustment only)	No	11,037	None	Extended to 159'	Yes
C	Includes construction of two multi-family complexes on two realigned parcels. Each parcel would include four multi-family residential buildings with approximately 20 market rate for-sale condominiums per building. Each complex would include a recreation building, pool and deck.	380,000	~155	Yes	Yes	10,528	None	Extended to 159' (includes "L" shaped floating section)	Yes

Table 4-1
Major Comparative Elements of Alternatives A through E

Alternative	Brief Description	Coverage (sf)	Number of Residential Units	Subdivision?	Housing Mitigation Required?	Anticipated Sediment Reduction (lbs/year)	SEZ Restoration	Pier Extension	Buoy Relocation?
D	The mobile home park would remain open with a gradual transition to 70% doublewide and 30% singlewide units. The 90 units owned by the park and seven vacant units would be replaced with new units. As other pads became vacant, the owner would replace the old mobile home units with new ones.	457,959	155	No	No	NA	None	None	No
E	The mobile home park would be closed and the existing units would be removed. Utility lines would be placed underground, BMPs would be installed, and 155 mobile home pads would be reestablished. High quality manufactured housing units would be sold as the market warrants with minimum 20-year lease terms.	457,959	155	No	No	NA	None	None	No

[1] NA = Not Available. The sediment reduction potential associated with Alternatives D and E related to the implementation of BMPs required by the TRPA BMP Retrofit Program has not been quantified, but is anticipated to be considerably less than that predicted for development Alternatives A through C.

Source: EDAW 2007

The proposed project would also include a beach and swim club near the lakeshore with a restaurant, bar, gym, men's and women's locker rooms, indoor and outdoor swimming pools, deck, offices, and assembly and party room (Exhibit 3-9). 'Parking would be provided for residential units at an average ratio of 1.5 spaces per unit and additional shared parking would be provided for the Beach Club. Approximately 90% of the parking would be provided inside the various buildings and approximately 10% would be surface parking. The existing private pier would be reconstructed and extended approximately 50 linear feet following the current alignment, for a total length of 159 feet. The reconstructed pier would include an 80-foot vertically moving fixed section (intended to avoid effects on littoral processes) and a 20-foot transition section that connects the fixed section to a 59-foot floating section. A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north intended to provide safer and more stable boat loading and unloading (see pier description in Chapter 3, "Project Description"). At its widest point, the floating pier would be 30 feet wide. The three existing buoys would be relocated to remove the buoys from the scenic recreational viewshed from Nevada Beach. Boat access would be prohibited along the reconstructed pier's southerly side. A swimming area would be roped off along the shore of the project site to protect swimmers from adjacent boating activities (Exhibit 3-10).

Alternative A would result in approximately 358,907 sf of coverage, as shown in Exhibit 3-12. This would be a reduction of approximately 99,052 sf of site coverage in comparison to the TRPA verified coverage for the site. Alternative A would include temporary and permanent BMPs to improve site drainage and water quality and would involve the restoration of approximately 2 acres of SEZ habitat associated with Burke Creek Meadow, along the northern boundary of the project site (Exhibits 3-4 and 3-13). The proposed development is currently registered as a LEED® project and would also seek to achieve a silver rating from the U.S. Green Building Council.

Construction of Alternative A would commence as soon as possible after project approval, acquisition of permits, and resident compensation for relocation or purchase and removal of all existing mobile homes. Construction of the proposed project would be completed in four phases. The first phase is anticipated to begin as early as 2008, with final project completion anticipated for the fall 2011. Construction activities would be continuous, except during winter months when activities may cease for a period of time. Alternative A is discussed in detail in Chapter 3 of this EIS.

4.3 DEVELOPMENT ALTERNATIVES

Two development alternatives are being considered for the Beach Club Project. Alternatives B and C would involve the closure of the Tahoe Shores Mobile Home Park, as proposed in Alternative A, but rather than constructing residential units and a beach and swim club, the owner would adjust the boundaries of the two parcels that make up the project site and sell each parcel. As described in Section 3.4.1 of this EIS, the current owner would be required to follow the Nevada Revised Statutes (NRS 118B.177) prior to closure of the Tahoe Shores Mobile Home Park. However, absent a subdivision proposal, the new owner(s) would not be required to mitigate any loss of moderate income housing. After fulfilling these obligations, the mobile home park would be closed and remaining site infrastructure including the roadways, manager's office, storage and maintenance buildings, and other infrastructure would be cleared. Maintenance roadway access would be left in place to allow for continued access to the KGID pump house and the Douglas County sewer lift station. The boundary between the two existing parcels that comprise the project site, APN 1318-22-002-001 (17.26 acres in PAS 077) and APN 1318-22-002-002 (2.37 acres in PAS 070A), would be adjusted to create two long-narrow east-west oriented lakefront parcels consisting of approximately 9.5 acres each. Each parcel would be entitled with half of the TRPA verified coverage (457,959 sf), half of the units of use, and access to the shared pier. After the boundary line adjustment in the case of Alternative B and the subdivision in the case of Alternative C, the property owner would sell the two parcels.

The subsequent owner or owners would be responsible for formulating redevelopment plans for the two parcels that would be consistent with PAS 077 and PAS 070A. Because the plan for redevelopment would be the decision of the subsequent owner(s), it is unknown at this time what final site designs would entail. For the purposes of this EIS, two alternatives have been selected that represent the proposed minimum and maximum levels of development on the two realigned parcels. Because PAS 077 and the existing coverage entitlements would allow each of the new parcels to be built either as single- or multifamily residential, either of these scenarios is foreseeable. The proposed minimum development would involve development of a single-family estate on each parcel. The proposed maximum development would involve development of both parcels with multifamily residential complexes. If a two-lot alternative is approved for the Beach Club Project, a two-lot alternative that includes a level of development somewhere between these two alternatives may ultimately be proposed by the subsequent owners. Neither of the development alternatives includes SEZ restoration. By analyzing conservative estimates of development for both a minimum and a maximum two-lot development scenario, this EIS describes the full range of potential environmental effects and mitigation measures.

4.3.1 ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

Alternative B is defined as development of two 9.5-acre single-family estates on the two realigned parcels. Each parcel would include the construction of a paved access road constructed to state, county, and local codes, and for purposes of analysis, a large single-family residential unit with a deck and a pool, a separate guest house, a detached five car garage, an entry gate house, two tennis courts, and minimal surface parking (Exhibit 4-1).

Like Alternative A, the existing 109-foot private pier would be reconstructed and extended approximately 50 linear feet. The pier would not qualify as a multiple use pier and as such would not include the two platforms that create an "L" shaped pier in Alternative A. Instead, the existing fixed pier would be removed and replaced with an 80-foot fixed pier and a 34-foot ramp that connects the fixed pier to a 45-foot floating pier. The fixed portion of the pier would not include the vertically moving feature for the fixed section and therefore would not require open-trench construction as part of pier installation. The floating pier would be anchored by two piles spaced at 28-foot intervals in the center of the pier, while the fixed pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. The pier would extend to the TRPA designated pier headline (elevation 6219.0). The pier would follow the current alignment (perpendicular to the shoreline). Both estates would share access to the private pier, which would be reconstructed and extended to a length of 159 linear feet from Lake Tahoe High Water Datum (elevation 6229.1) (Exhibit 4-2). The reconstructed pier would be consistent with the Design and Construction Standards listed in TRPA Code of Ordinances Section 54.4.B. The three existing buoys would be relocated to remove the buoys from the scenic recreational viewshed from Nevada Beach. Per TRPA Code of Ordinances Chapter 22, Table A, the residential estate buildings would be designed not to exceed 36 feet in height, based on 0% site slope and 10:12 roof pitch. The architectural design of the buildings would be similar to Alternative A with rustic alpine styling, with steeply pitched roofs, exposed wood elements, and shingle and stone exteriors. The building materials would include natural materials such as rock and wood, and muted colors would be used. This development would result in approximately 152,000 sf of coverage on the northern parcel and approximately 168,000 sf of coverage on the southern parcel (Exhibit 4-1). A total of approximately 320,000 sf of coverage over the two parcels would represent a reduction of approximately 138,000 sf of coverage from the TRPA verified coverage of 457,959 sf.

The two parcels would be separated by a utility easement; all underground utilities would be realigned, and overhead lines would be placed underground (pursuant to Chapter 30 of the TRPA Code of Ordinances) along this easement. The utility easement would also provide a paved vehicular access corridor to provide maintenance vehicle access to the Douglas County sewer lift station as well as the KGID water intake pump station, which would remain in place on the southern parcel.

Each parcel would be required to implement temporary BMPs, similar to those listed for Alternative A in Chapter 3, during construction to eliminate or reduce sediment and pollutants in stormwater runoff. Permanent BMPs, similar to those listed in Chapter 3, would be included in the site designs to address stormwater runoff

(including snowmelt) from the buildings, parking areas, roadways, walkways and other facilities and to eliminate untreated runoff of stormwater into Lake Tahoe. Alternative B would not include restoration of SEZ habitat, but would include landscape plans that incorporate native plant species.

Construction of Alternative B would commence as soon as possible after project approval, acquisition of permits, compensation for relocation or purchase and removal of all existing mobile homes, parcel boundary adjustment, sale of the parcels, and completion of construction plans. 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 site, on previously disturbed areas, and would be secured to prevent unauthorized access. Construction activities would be completed between 8:00 a.m. and 6:30 p.m. 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 TRPA and Douglas County as well as local residents and emergency service providers.

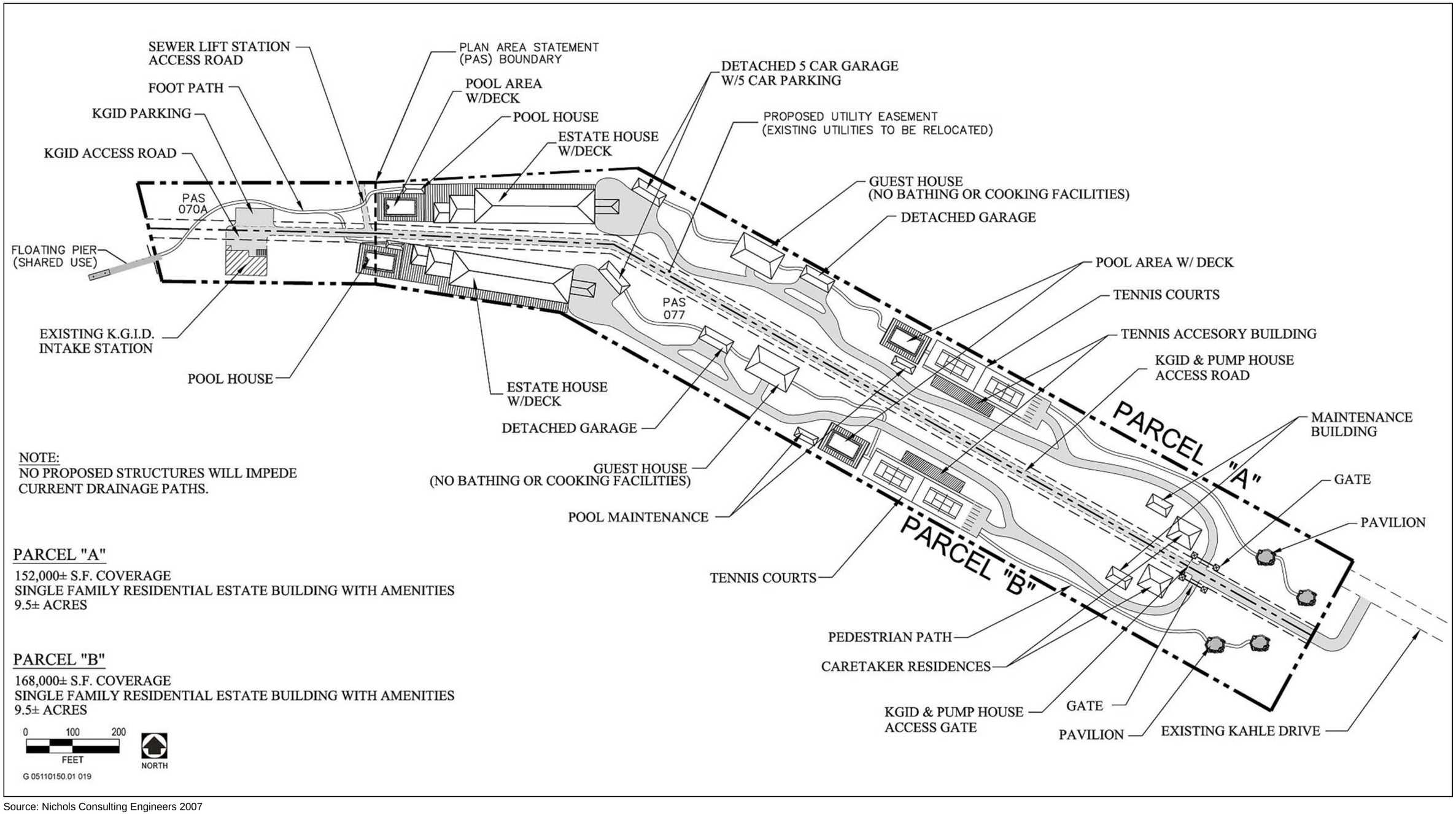
Construction equipment is expected to include standard equipment such as haul trucks, backhoes, water trucks, forklifts, etc. Construction access to the project site would be provided via Kahle Drive. Any partial street closures and traffic control would be coordinated with the Nevada Department of Transportation (NDOT) and 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.

Similar to Alternative A, it is anticipated that during construction between 20 and 30 laborers would be working on various aspects of the project. This would result in an estimated 20 vehicle trips per day using light truck and passenger vehicles. In addition, it is anticipated that vendor deliveries of construction materials via large trucks would occur an average of twice a week. Haul trips to export material and debris from the project site would occur primarily during Phase 1 of construction and demolition, with several large (20 cubic yard) truck trips per day. Material hauled off-site would be taken to an appropriate disposal/recycling facility outside the Tahoe Basin.

4.3.2 ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY COMPLEXES

Alternative C assumes development of two multifamily residential complexes and the creation of Homeowner's Associations on the two realigned parcels. The two parcels would be subdivided in accordance with Chapter 43.4 of the TRPA Code of Ordinances to allow for the construction and sale of condominiums. A single shared access road would be constructed along the boundary between the two parcels. The road would be paved and constructed to state, county, and local codes and would act as a utility easement and access road to the KGID pump house and the Douglas County sewer lift facility. Four three-story multifamily residential buildings would be constructed on each parcel. Each building would include approximately 20 units to be sold at market-rate; the total number of condominiums would not exceed 155 for the two parcels (approximately 77 condominiums on each parcel). Each complex would include a recreation building, a pool and deck, and surface parking. Alternative C would result in approximately 205,000 sf of coverage on the northern parcel and approximately 175,000 sf of coverage on the southern parcel (Exhibit 4-3). A total of approximately 380,000 sf of coverage over the two parcels would represent a reduction of approximately 78,000 sf of coverage from the TRPA verified coverage of 457,959 sf.

The buildings would be designed to comply with TRPA building height standards (TRPA Code of Ordinances Chapter 22, Table A), not exceeding 36 feet in height based on 0% site slope and a 10:12 roof pitch. The architectural design of the buildings would be similar to Alternatives A and B with rustic alpine styling, steeply pitched roofs, exposed wood elements, shingle and stone exteriors, and oversized porches.



Source: Nichols Consulting Engineers 2007

Alternative B – Two Lot Alternative: Single-Family Estates **Exhibit 4-1**

NOTES:
PIER DESIGN PER TRPA CODE OF ORDINANCES, CHAPTER 54.

Shorezone Tolerance District:
7: Vehicular access to the shoreline will not be permitted except where access will not causes environmental harm; and boat launching facilities and marinas must be located where nearshore shelf is of sufficient width to enable construction and use without potential for significant shelf erosion.

TRPA PLAN AREA STATEMENT (PAS)
PLAN AREA 070A - USE DETERMINATION

Permitted Uses:
Water oriented outdoor recreation concessions (A), beach recreation (A), boat launching facilities (S), tour boat operations (A), safety and navigation facilities (A), salvage operation (A), marinas (S), and water intake lines (A).

Accessory Structures:
Buoys (A), piers (A), fences (S), boat ramps (A), shoreline protective structures (S), floating docks and platforms (A), and water intake lines (A).

LAKE TAHOE

PRELIMINARY
FOR REVIEW
NOT FOR CONSTRUCTION
DATE: 06-21-07

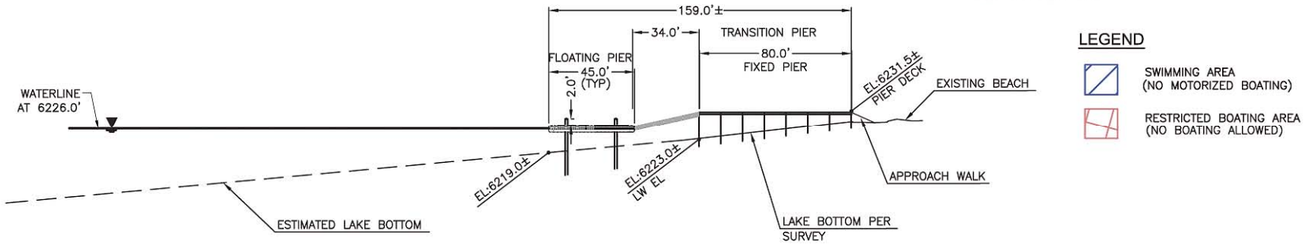
BMP NOTES:
1. TRPA BMP'S MUST BE INSTALLED PER TRPA CODE OF ORDINANCES AND MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
2. A TURBIDITY CURTAIN SHALL BE USED AT ALL TIMES DURING CONSTRUCTION OF THE PIER.

NEVADA BEACH CAMPGROUND
U.S. FOREST SERVICE
APN 1318-22-001-010
APN 1318-22-001-009

TRPA PIER HEAD LINE ELEV = 6219.0
EXISTING BUOYS TO BE REMOVED AND RELOCATED
3 EXISTING RELOCATED BUOYS
WATER SURFACE ELEVATION 6223.73 (FEDERAL WATER MASTER, MARCH 1, 2004)
LOW WATER ELEV=6223.0
HIGH WATER ELEV=6228.0
APPROX. WATERLINE 6229.5
LOCATION OF TRPA WAVE RUN-UP ELEV=6230.4±
LOCATION OF TRPA AREA OF INSTABILITY ELEV=6230.8±
LAND CAPABILITY LINE
BACKSHORE BOUNDARY LINE 10' Be(1b) SETBACK LINE
BLDG SETBACK LINE (TYPICAL)
Be 1b
SEZ 1b
BEACH CLUB AT TAHOE
APN 1318-22-002-001 (2.59 ACRES)
APN 1318-22-002-002 (14.60 ACRES)
PROPOSED BEACH CLUB
EXISTING BUILDING
10.0'
45.0'
159.0±
50'
FIXED PIER
TRANSITION PIER
PROPOSED FLOATING PIER SECTION
BACKSHORE BOUNDARY LINE 10' Be(1b) SETBACK LINE
EXISTING KGID WATER INTAKE PUMP STATION
LAND CAPABILITY LINE

20' SETBACK FROM PROPERTY LINE PERPENDICULAR TO SHORELINE
PROPERTY LINE EXTENSION PERPENDICULAR TO SHORELINE
20' SETBACK FROM PROPERTY LINE PERPENDICULAR TO SHORELINE
PROPERTY LINE EXTENSION PERPENDICULAR TO SHORELINE
INTAKE MANIFOLD IE = 6170±
RESTRICTED BOATING AREA (NO BOATING ALLOWED)
20' SETBACK FROM PROPERTY LINE PERPENDICULAR TO SHORELINE
640 L.F. 24" INTAKE MANIFOLD
EXIST. KGID WATER INTAKE LINE PER CES PLANS DATED 8-1-94
KGID INTAKE AND PUMP STATION


EXISTING PIER PHOTO



PIER PROFILE
NTS

NOTE:
PIER TO BE DESIGNED BY A PIER STRUCTURAL ENGINEER

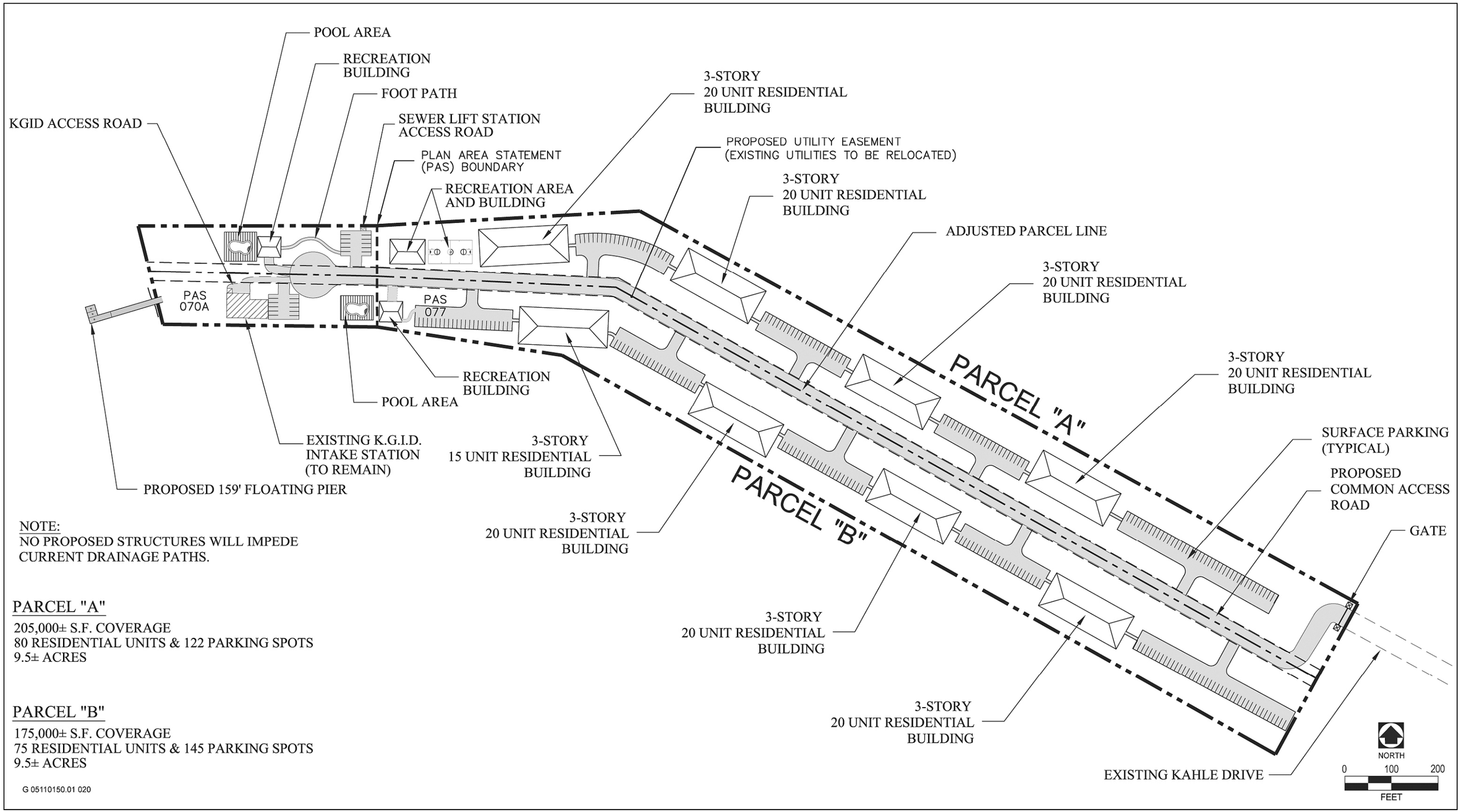
LEGEND
SWIMMING AREA (NO MOTORIZED BOATING)
RESTRICTED BOATING AREA (NO BOATING ALLOWED)

0 40 80
FEET
NORTH

G 05110150.01 005

Source: Nichols Consulting Engineers 2007

Alternative B – Pier Plan **Exhibit 4-2**



Source: Nichols Consulting Engineers 2007

Alternative C – Two Lot Alternative: Multifamily Residential **Exhibit 4-3**

As is described in Chapter 3, mitigation is required under the TRPA Code of Ordinances Chapter 43.2.B for the loss of moderate income housing due to subdivision of a site. Chapter 43.2.B states that mitigation shall be in the form of construction of an equal number of moderate income units, conversion of other structures to moderate income housing, restriction of subdivided units to moderate income housing units, or a combination of these. Because Alternative C includes the subdivision of the two realigned parcels, this alternative would be required to include 54 deed-restricted moderate income units to mitigate for the loss of 54 existing mobile homes that qualify as moderate-income (low cost) units. The moderate income units may be provided within the proposed complexes or the owner(s) could acquire off-site residential units that would become deed-restricted moderate income units.

As with Alternative A, Alternative C would include reconstruction and extension of the existing 109-foot private pier. The pier would be extended approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1) (Exhibit 3-10). Because the reconstructed pier would be deeded to the Homeowner's Associations, it would qualify as a multiple use pier (TRPA Code of Ordinances Chapter 2) and would be eligible for deviation from the Design and Construction Standards listed in TRPA Code of Ordinances Section 54.4.B. The reconstructed pier would include an 80-foot vertically moving fixed section, a 20-foot transition section that connects the fixed section to a 59-foot floating section. A 10-foot approach walk on the shoreline would also be constructed to provide stable access from the beach shore to the pier. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north intended to provide safer and more stable boat loading and unloading. At its widest point, the floating pier would be 30 feet wide. The pier would be accessible from the project site by both Homeowner's Associations (residents in both multifamily residential complexes); however, no general public parking or access would be provided.

The three existing buoys would be relocated to remove the buoys from the scenic recreational viewshed from Nevada Beach. As a safety precaution for swimmers from the 4-H Camp to the south of the project site, all boat access would be prohibited along the reconstructed pier's southerly side via navigational buoys and signage (Exhibit 3-10). This restriction would be included in the recorded Declaration of Covenants, Conditions and Restrictions documents.

Each parcel would be required to implement temporary BMPs during construction to eliminate or reduce sediment and pollutants in stormwater runoff. Temporary BMPs, similar to those listed for Alternative A in Chapter 3 would be implemented. Additionally, permanent BMPs, similar to those listed in Chapter 3, would be included in the site designs to address stormwater runoff (including snowmelt) from the buildings, parking areas, roadways, walkways and other facilities and to eliminate the untreated runoff of stormwater into Lake Tahoe. Alternative C would not include restoration of SEZ habitat, but would include landscape plans that incorporate native plant species.

Construction of Alternative C would commence as soon as possible after project approval, acquisition of permits, compensation for relocation or purchase and removal of all existing mobile homes, parcel boundary adjustment, sale of the parcels, and completion of construction plans. 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 site, on previously disturbed areas, and would be secured to prevent unauthorized access. Construction activities would be completed between 8:00 a.m. and 6:30 p.m. 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 TRPA and Douglas County as well as local residents and emergency service providers.

Construction equipment is expected to include standard equipment such as haul trucks, backhoes, water trucks, forklifts, etc. Construction access to the project site would be provided via Kahle Drive. Any partial street closures and traffic control would be coordinated with the NDOT and 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.

Similar to Alternative A, it is anticipated that during construction between 20 and 30 laborers would be working on various aspects of the project. This would result in an estimated 20 vehicle trips per day using light truck and passenger vehicles. In addition, it is anticipated that vendor deliveries of construction materials via large trucks would occur an average of twice a week. Haul trips to export material and debris from the project site would occur primarily during Phase 1 of construction and demolition, with several large (20 cubic yard) truck trips per day. Material hauled off-site would be taken to an appropriate disposal/recycling facility outside of the Tahoe Basin.

4.4 NO PROJECT ALTERNATIVES

As described in Section 3.4.2, the existing mobile home park is operating pursuant to a Special Use Permit and a contract with TRPA based on the 1989 Jere Williams Plan (JWP). Under the JWP, the owner may convert mobile homes/manufactured housing pads to support a ratio consisting of 70% doublewide and 30% singlewide homes but must also reduce coverage by 55,579 sf. Since 1989, the coverage has been reduced at the mobile home park by 55,579 sf as required, and the TRPA verified land coverage is 457,959 sf (Exhibit 3-11). If Alternatives A, B, or C are not implemented, the existing mobile park would remain in operation and would be required to comply with the existing contract with TRPA pursuant to the JWP. Therefore, the 70% doublewide and 30% singlewide ratio would be implemented and eventually achieved and the site coverage would remain at the TRPA verified coverage of 457,959 sf.

Under the No Project Alternative, the mobile home park would be retained with 155 units, basic infrastructure maintenance and upgrades would be completed, and BMPs, such as infiltration trenches and limited revegetation, would be implemented as required by the TRPA BMP Retrofit Program. The TRPA deadline for implementation of the BMPs is October 15, 2011, per Chapter 25 of the TRPA Code. This deadline is based on Section 25.3A of the TRPA Code of Ordinances and the site location in Watershed 40 (Edgewood), a Priority 3 Watershed.

Two No Project scenarios (Alternatives D and E) may be pursued as reasonable asset management strategies by the owner, or future owners, of the mobile home park: (1) maintaining the park pursuant to the JWP with site upgrades occurring on an as-needed basis or (2) clearing the park, completing improvements and replacing the mobile home pads with new manufactured housing.

4.4.1 ALTERNATIVE D – NO PROJECT – JERE WILLIAMS PLAN

No Project Alternative D would leave the mobile home park unchanged, with 155 mobile home pads. The owner would continue the gradual transition to 70% doublewide units and 30% singlewide units and would maintain the TRPA verified coverage of 457,959 sf. The 90 units now owned by the park and the seven existing vacant spaces would be replaced with new mobile home units and sold in phases. As other pads became vacant, new mobile home units would be purchased by the park owner, placed on the site and sold to new tenants. Rents for spaces in the park would move with market demand. Extended lease terms would be offered to induce the purchase of the new mobile home units. New rules and regulations would be put in place to upgrade the architectural standards for the park and the existing storage building and managers trailer would be upgraded or replaced with new manufactured buildings. Finally, existing infrastructure, including roads, sewer pipes, water pipes, and other utilities would be maintained, repaired and/or replaced, as necessary, and BMPs would be implemented as required by the TRPA BMP Retrofit Program.

4.4.2 ALTERNATIVE E – NO PROJECT – MANUFACTURED HOUSING

Alternative E would be similar to the No Project - JWP Plan scenario, but the mobile home park would be closed to allow for all site improvements to be implemented at one time. The owner would follow the Nevada Revised Statutes (NRS 118B.177) prior to closure of the Tahoe Shores Mobile Home Park. After closure of the park, improvements would include the maintenance and repair of the existing aging infrastructure, including undergrounding utility lines pursuant to Chapter 30 of the TRPA Code of Ordinances, the purchase of a new park manager's manufactured residence, a new manufactured storage building to replace the old storage building, and implementation of temporary BMPs and permanent BMPs required by the 2011 deadline.

Upon completion of the site improvements, 155 mobile home pads would be reestablished and new standards would be implemented that require all manufactured housing units placed in the park to be high quality structures. The new manufactured housing units would be one- and two-story units, would occupy both the 70% doublewide pads and the 30% singlewide pads per the JWP, and the site coverage would be restricted to the TRPA verified coverage of 457,959 sf. The units would be required to conform to all current building codes and regulations including new snow load regulations for the Tahoe area. The manufactured housing units would be sold as the market warrants with minimum 20-year lease terms. The lots on which the manufactured housing units would sit would be leased and the rents raised from current levels.

4.5 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

4.5.1 143 UNIT ALTERNATIVE

The project applicant originally considered an alternative with very similar development potential as that of the proposed project (124 market rate for-sale condominiums and 19 for-sale deed-restricted moderate income condominiums for a total of 143 residential units). This alternative differed from the proposed project (Alternative A in this EIS) in that it proposed to reconstruct the existing private pier into a floating multiple use pier that would extend approximately 251 linear feet following the current alignment, for a total length of 360 feet from Lake Tahoe High Water Datum (elevation 6229.1). The pier would include an 80-foot fixed pier and a 25-foot ramp that would connect the fixed pier to a 255-foot floating pier. At this length, the floating pier would permit full water access to the project site year-round, even during drought cycles. The pier would be multiple-use, privately owned and maintained, and would include a ramp capable of adapting to boat entry levels. Additionally, a 12-foot wide nonexclusive pedestrian access easement would be provided along the shore, providing public access between the pier and Nevada Beach to the north. With this alternative, the KGID pump house would be incorporated under the beach and swim club building's outdoor deck. Access and space for potential future expansion of the KGID pump house would be maintained. Based on concerns raised by KGID regarding the incorporation of the pump house into the beach and swim club building, and scenic concerns related to the magnitude of the proposed pier extension, this alternative was rejected from further consideration.

4.5.2 182 UNIT ALTERNATIVE

Under Subsection 21.3 of the TRPA Code of Ordinances, the project site's allowable residential density is 15 units per acre, which equates to a total density of 285 units. Based on this allowable density, the project applicant prepared a proposed plan incorporating 182 residential units on the project site. Although this density would be over 100 fewer units than the allowable density, TRPA requested soil and groundwater analyses of the project site. The project applicant completed the requested studies and determined that this alternative could not support sufficient BMPs and water quality treatment facilities nor could it support sufficient SEZ restoration acreage. Based on these analyses, the 182-unit alternative was eliminated from further consideration.

4.5.3 155 UNIT ALTERNATIVE

With the 182-unit alternative eliminated from consideration, the project applicant prepared a reduced project alternative that incorporated a total of 155 residential units. After additional consultation with TRPA staff, and additional soils and hydrology analyses, the 155-unit reduced project alternative was eliminated from further consideration. As with the 182-unit alternative, this alternative could not support sufficient SEZ restoration acreage and would limit water quality treatment opportunities at the project site. This alternative was eliminated from further consideration.

4.5.4 REDUCED MOBILE HOME PARK ALTERNATIVE

In addition to the redevelopment alternatives considered, a reduced mobile home park alternative was also considered. The current mobile home park contains 155 mobile home spaces in a densely clustered configuration. Approximately one-third of the units are located along the northern boundary adjacent to Burke Creek Meadow. The existing mobile home park includes BMPs and does not provide an opportunity for stream zone restoration.

A reduced mobile home park was considered that would eliminate approximately 50 mobile home units along the northern boundary of the project site to provide an area for SEZ restoration and water quality treatment facilities (similar to Alternative A). However, the elimination of approximately one-third of the existing mobile home density was rejected as economically infeasible because of the decrease in revenue that would occur.

4.5.5 HABITAT RESTORATION ALTERNATIVE

Based on the two land capability districts at the project site, LCD 1b with a base allowable coverage of 1% and LCD 7 with a base allowable coverage of 30% (Exhibit 3-11), the project applicant and TRPA discussed the feasibility of development pursuant to these LCDs. Because the majority of the project site is located within LCD 1b, SEZ habitat, the majority of the site would need to be cleared of all development and restored as SEZ habitat associated with Burke Creek and Rabe Meadow. A small portion of the site in LCD 7 along the southern boundary could be developed with up to 30% coverage.

Under this alternative, the project applicant would close the Tahoe Shores Mobile Home Park in compliance with the Nevada Revised Statutes (NRS 118B.177) and remove the 155 existing mobile home units. The site would then be cleared of existing infrastructure and the owner would sell the property at market rate. Because of the high cost of land, it is anticipated that it would be financially infeasible for the site to be purchased at market rate, restored to SEZ habitat, and preserved in perpetuity. Therefore, this alternative was rejected as infeasible.

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 existing environmental setting, the potential for the proposed project (Alternative A) and the project alternatives (Alternatives B through E) to significantly affect the environment, and mitigation measures to reduce or avoid potentially significant impacts. Section 5.14 contains a discussion of the cumulative impacts of project implementation considered together with other development that may exacerbate 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) except those issues for which no impact would occur and/or impacts that were adequately addressed in the Tahoe Regional Planning Agency (TRPA) Initial Environmental Checklist (agriculture, mineral resources, public services, and utilities). Appendix A contains the NOP and the scoping comments received. 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 document context, if any, 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 presents thresholds of significance and discusses potentially significant effects of Alternatives A through E on the existing environment, including the environment beyond the project boundaries. Specific guidance relative to TRPA thresholds is cited as necessary.

Project impacts are numbered sequentially for Alternatives A through E in each section. For example, impacts in Section 5.3 are numbered 5.3.A-1, 5.3.A-2, 5.3.A-3, and so on for Alternative A (Proposed Project) and impacts in Section 5.3 for Alternative B (Two Single-Family Estates) are numbered 5.3.B-1, 5.3.B-2, 5.3.B-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.

This section also provides mitigation measures to reduce potentially significant effects of the proposed project to the extent feasible. 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 TRPA's Code of Ordinances, which requires identification of significant unavoidable impacts.

5.1.2 ANALYSIS OF PROJECT ALTERNATIVES

The Beach Club at Lake Tahoe Project alternatives, Alternatives A through E, 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 the project alternatives 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 A to reduce redundancy.

5.2 HOUSING AND POPULATION

This chapter describes the existing population and housing conditions at the Tahoe Shores Mobile Home Park as of January 2004 (the time in which the TRPA Notice of Preparation [NOP] for the project was circulated and the baseline conditions for the project), presents a description of applicable regulatory considerations, and identifies the potential environmental impacts that could result from each of the proposed alternatives, A through E. The 2000 Census is used to describe general demographic conditions associated with the mobile home park. Cumulative impacts are presented in Section 5.14.

5.2.1 REGULATORY BACKGROUND

The regulations that guide the evaluation of housing impacts include the Tahoe Regional Planning Agency (TRPA) Moderate Income Housing Ordinance, TRPA Affordable Housing Definition, TRPA Initial Environmental Checklist, and Nevada Revised Statutes.

TAHOE REGIONAL PLANNING AGENCY

TRPA Definitions of Affordable Housing and Moderate Income Housing

Chapter 2 of the TRPA Code of Ordinances defines affordable housing as:

> Residential housing, deed restricted to be used exclusively for lower-income households (income not in excess of 80% of the respective county's median income) and for very low-income households (not to exceed 50% of the respective county's median income). Such housing units shall be made available for rental or sale at a cost that does not exceed the recommended state and federal standards. Each county's median income will be determined according to the income limits published annually by the Department of Housing and Urban Development. [Amended 9/25/96] For multi-person dwellings, the affordable housing determination shall be made using each resident's income and not the collective income of the dwelling.

Chapter 2 of the TRPA Code of Ordinances defines moderate incoming housing as:

> Residential housing, deed restricted to be used exclusively as a residential dwelling by permanent residents with an income not in excess of 120% of the respective county's median income. Such housing units shall be made available for rental or sale at a cost that does not exceed the recommended state and federal standards. Each county's median income will be determined according to the income limits published annually by the Department of Housing and Urban Development.

Both of these definitions are based on the "respective county's median income." For the Beach Club on Lake Tahoe Project (Beach Club Project), the applicable median income is the Douglas County Median Family Income of $63,900 for a four-person household, $57,500 for a three-person household, $51,110 for a two person household, and $44,721 for a one person household (U.S. Department of Housing and Urban Development, January 2004).

The term "affordability," as used in both TRPA definitions, includes all associated housing costs, including rent and ownership costs, ownership financing, essential utilities, insurance, and taxes.

TRPA Moderate Income Housing Ordinance

The TRPA Moderate Income Housing Ordinance is defined in two sections of the TRPA Code of Ordinances: Section 41.2F and Section 43.2B. Chapters 41 and 43 of the Code are focused on Permissible Subdivisions and Subdivision Standards, respectively. As explained in detail below, TRPA regulations regarding moderate-income

housing apply when property is subdivided. Alternative A, the proposed project, and Alternative C, the Two Lot Multifamily Residential Alternative, would both result in subdivision of the project site, and would therefore require an evaluation of impacts under the TRPA Moderate-Income Housing Ordinance and mitigation for loss of moderate income housing. Alternative B, the Two-Lot Alternative, Single-Family Estates, and Alternative D, the No Project Alternative, would not result in subdivision of the project site and therefore the Moderate-Income Housing Ordinance would not apply to these two alternatives.

Section 41.2.F of the TRPA Code of Ordinances (Chapter 41, Permissible Subdivisions) states:

> For purposes of the subdivision ordinances only (Chapters 40-49, inclusive), moderate income housing are residential units which are sold or rented at prices and rates affordable to households or tenants that earn not more than 120% of the applicable county median income. Moderate-income housing shall not include units with a rental rate that exceeds 30% of the tenant's monthly gross income. Subdivision projects shall be reviewed by TRPA Certified Local Jurisdiction Moderate-Income Housing Programs, for purposes of determining appropriate income and sales price limitations for the sales rate of moderate-income housing. In the absence of a certified local program, project proponents shall use the 4.2 multiplier, to be multiplied by 120% of median family income, to determine a maximum sales price for housing. Moderate-income units are subject to deed restriction, for long-term occupancy, at least 10 months in each calendar year, in accordance with Subsection 35.2.G.(3). The multiplier is subject to periodic amendment, to adjust for changes to median family income resulting in a numerical increase in the multiplier.

In addition, Section 43.2.B of the TRPA Code of Ordinances (Chapter 43, Subdivision Standards) states that:

> Existing residential units which are moderate income housing, as defined by 41.2.F, shall not be subdivided unless mitigation is provided on a unit for unit basis for the loss of moderate income housing. Mitigation shall be in the form of construction of an equal number of moderate-income units, conversion of other structures to moderate income housing, restriction of subdivided units to moderate income housing units, or a combination of the above.
>
> (1) To determine whether a unit is moderate-income housing, the applicant shall submit a rental/sale history for each unit for the previous five years. TRPA shall review the history and determine whether the unit has, on the whole, been available as moderate-income housing. TRPA shall use the appropriate state and federal data on median income and rental rates and mortgages for moderate to very low income households in making the determination. If a rental/sale history is unavailable or incomplete, an appraisal of the structure prepared by a qualified appraiser shall be submitted by the applicant.
>
> (2) Restriction of subdivided units to moderate-income housing shall include recordation of deed restrictions or other covenants running with the land, limiting the rental rates and sale price to those which are affordable to households or tenants that earn not more than 120% of the applicable county median income.

TRPA Initial Environmental Checklist

Review of housing and population impacts using the TRPA Initial Environmental Checklist (IEC) is required for proposals that require approval through the issuance of a permit. The TRPA IEC requires the following examination of impacts to housing:

- Will the proposal decrease the amount of housing in the Tahoe Basin?
- Will the proposal result in the loss of housing for lower-income (80% of median family income) and very-low-income (50% or less of median family income) households?

For purposes of determining housing affordability under the IEC, ownership costs associated with purchase of a mobile home must be estimated. Ownership costs include the cost to acquire a mobile home unit in addition to other costs such as rent, essential utilities, insurance, and taxes. Affordability of mobile homes under the TRPA IEC relates to the mobile home park's general affordability to perspective owners, not necessarily current residents. It is a measure that determines whether the mobile home park provides an affordable housing option for the Lake Tahoe Basin.

With respect to population, the TRPA IEC requires a determination of whether the project would:

- Alter the location, distribution, density, or growth rate of the human population planned for the Basin?
- Include or result in the temporary or permanent displacement of residents?

Applicability of Moderate Income Housing Regulations to Mobile Homes

There are some difficulties in applying the Affordable or Moderate Housing definitions, Moderate Income Housing Ordinance, and the TRPA IEC to the proposed project and the existing Tahoe Shores Mobile Home Park. Many of the moderate income housing measures are not well suited for mobile home parks for the following reasons:

- Mobile home units are personal property, not real property; mobile homes have a useful life and they depreciate in value over time. The age, condition, and size of the mobile homes in the Tahoe Shores Mobile Home Park vary significantly.

- Based upon mobile home sales data, 82 existing mobile homes at the Tahoe Shores Mobile Home Park are over 30 years old, and are considered to be beyond their useful life (as defined by Marshall Swift Valuation Service). Therefore, these units have little economic value, making it difficult to apply affordability calculations.

- Mobile home financing is difficult to obtain in Nevada and terms can vary significantly.

- At the Tahoe Shores Mobile Home Park, mobile home owners rent spaces; they do not own the property.

- Availability of rental and sale history at the Tahoe Shores Mobile Home Park is limited. Until 2003, Tahoe Shores contained mostly owner-occupied mobile homes

NEVADA REVISED STATUTES

Nevada Revised Statutes (NRS 118B.177) define the obligations of a landlord before the closure of a mobile home park. The Statute requires the following:

- If a landlord closes a manufactured home park he shall pay the amount described in subsection 2 or 3, in accordance with the choice of the tenant.

- If the tenant chooses to move the manufactured home, the landlord shall pay to the tenant:

    - The cost of moving each tenant's manufactured home and its appurtenances to a new location within 100 miles from the manufactured home park; or

    - If the new location is more than 100 miles from the manufactured home park, the cost of moving the manufactured home for the first 100 miles, including fees for inspection, any deposits for connecting utilities, and the cost of taking down, moving, setting up and leveling the manufactured home and its appurtenances in the new lot or park.

- If the tenant chooses not to move the manufactured home, the manufactured home cannot be moved without being structurally damaged, or there is no manufactured home park within 100 miles that is willing to accept the manufactured home, the landlord:
  - May remove and dispose of the manufactured home; and
  - Shall pay to the tenant the fair market value of the manufactured home.
- Written notice of the closure must be served on each tenant in the manner provided in NRS 40.280, giving the tenant at least 180 days after the date of the notice before he is required to move his manufactured home from the lot.
- For the purposes of this section, the fair market value of a manufactured home and the reasonable cost of removing and disposing of a manufactured home must be determined by:
  - A dealer licensed pursuant to chapter 489 of NRS who is agreed upon by the landlord and tenant; or
  - If the landlord and tenant cannot agree pursuant to paragraph (a), a dealer licensed pursuant to chapter 489 of NRS who is selected for this purpose by the Division.

  (Added to NRS by 1987, 931; A 1989, 1796; 1991, 2278; 2001, 1183; 2003, 2476).

5.2.2 AFFECTED ENVIRONMENT

Stateline is an unincorporated area (census-designated place [CDP]) of Douglas County, Nevada. The total population in the year 2000 in the Douglas County portion of Lake Tahoe was 6,734, and the population in Stateline CDP was 1,215 (Table 5.2-1). The majority of housing units (66.4%) in the Douglas County portion of Lake Tahoe are single-family units. Mobile homes, primarily located at Tahoe Shores Mobile Home Park, accounted for about 3% of the housing in the Douglas County portion of Lake Tahoe in 2000. Similar to most parts of the Lake Tahoe Basin, vacation and second home use accounts for a large portion of the Douglas County housing stock.

Table 5.2-1
Occupied Housing Units and Population Douglas County, Lake Tahoe, NV 2000

Occupied Housing Units	Zephyr Cove CCD*, Nevada	Kingsbury CDP, Nevada	Stateline CDP, Nevada
Total:	**4,962**	**1,925**	**562**
Owner-occupied units	1,948	806	140
Renter-occupied units	1,107	370	370
For Seasonal Vacation Use	**1,597**	**666**	**11**
Other Vacant	**310**	**83**	**41**
Total population in occupied housing units:	**6,734**	**2,619**	**1,146**
Owner occupied	4,335	1,857	320
Renter occupied	2,399	762	895

Source: U.S. Census Bureau, 2000, QT-H1, and QT-H3

* CCD: Census County Division. This is defined as a subdivision of a county that is a relatively permanent statistical area established cooperatively by the Census Bureau and state and local government authorities. It is used for presenting decennial census statistics in those states that do not have well-defined and stable minor civil divisions that serve as local governments.

The Tahoe Shores Mobile Home Park has a total of 155 mobile home spaces (Table 5.2-2). In the year 2000, Tahoe Shores had 105 owner-occupied mobile home units and 23 renter-occupied mobile home units. The balance of the 155 mobile home spaces (27) was occupied by vacation/second homeowners or they were vacant. Based on 2000 Census data, approximately 242 people lived full-time in the Tahoe Shores Mobile Home Park in the year 2000. An estimated 23 persons occupied the park on a part-time basis.

Table 5.2-2
Stateline CPD-Tahoe Shores Mobile Home Park Household Size and Occupied Units By Tenure, 2000

Household Size	Owner Occupied	Renter Occupied	Total Occupied Households	Total Persons in Occupied Units
1-person household	32	6	38	38
2-person household	55	11	66	132
3-person household	18	6	24	72
Total Households	105	23	128	242
Vacant/P.T Use				
Seasonal/Vacant (1)	27	-	27	23 (estimated)
Total Units/Spaces	132	23	155	265

Source: U.S. Census Bureau, 2000, STF 3, (1) Assumes 15 Vacant Units, 12 Occupied Part-Time and 1.89 Persons Per Households

Nearly all the owner-occupied housing units (89%) in Stateline in the year 2000 were one, two, or three person households. Based upon the 2000 Census estimates, all mobile home units in Tahoe Shores, both owner- and renter-occupied, contained one to three person households (Table 5.2-2). The majority of the 140 owner-occupied units in Stateline identified in Table 5.2-1 were mobile homes located in Tahoe Shores.

Tahoe Shores contains 155 mobile home spaces. As of February 2004, 150 spaces were occupied by mobile homes and five units were vacant needing repair or were uninhabitable (Tahoe Shores' rent roll). All mobile homes in Tahoe Shores are personal property owned by individual occupants, absentee owners, or Beach Club, Inc. As of January 2004, Beach Club, Inc. had acquired 45 units from previous owners in the park through purchase or abandonment of mobile home units. Beach Club, Inc. acquisitions increased to 60 units in October of 2004, 73 units in March of 2006, and as of November 1, 2007 Beach Club, Inc. had acquired a total of 90 units at Tahoe Shores. Of the remaining 58 owner occupied units, 36 units were occupied as full-time residences, 17 units were either rented or vacant, and 5 units had seasonal occupants as of November 1, 2007. The majority of the acquired units are two-bedroom single section mobile homes. The mobile homes acquired by Beach Club, Inc. are being used as temporary rental units to maintain the financial viability of the park. Table 5.2-3 summarizes the current inventory of units at Tahoe Shores.

5.2.3 Environmental Consequences and Recommended Mitigation Measures

Criteria of Significance

As describe above in Section 5.2.1, TRPA requires the review and discussion of housing and population impacts using the TRPA IEC. The IEC requires examination of the following issues:

- Will the proposal result in the loss of housing for lower-income (80% of median family income) and very-low-income (50% or less of median family income) households?

Table 5.2-3 Summary of Current Conditions (January 2004) Tahoe Shores Mobile Home Park	
Total Spaces	155 units
Total Units	150 units
Vacant Spaces	5 units
Beach Club Ownership/Tahoe Shores	45 units (90 units November 2007)
Absentee Ownership	22 units
Absentee Vacation use	18 units
Employee Units	1 unit
Use other than Residential	1 unit
Units 30 year of age or Older	82 units
Units 25 years of age or Older	93 units
Single-wide units	67
Double-wide units	83

- Will the proposal result in the loss of moderate income housing (up to 120% of median family income) because of subdivision of the property?

For this EIS, it is assumed that if the proposed project alternatives, which contemplate a subdivision, result in a loss of low-income housing or moderate income housing, the impact would be considered significant and would require mitigation.

The IEC also requires examination of the following issues:

- Will the proposal decrease the amount of housing in the Tahoe Basin?
- Will the proposal alter the location, distribution, density, or growth rate of the human population planned for the Basin?
- Will the proposal include or result in the temporary or permanent displacement of residents?

No specific thresholds are provided against which significance may be determined for these three issues. Therefore, the effect of the project alternatives related to a general decrease in housing, displacement of residents and alteration of human population are disclosed in the impact assessment, below, but no significance determination is made. Furthermore, the loss of housing and displacement of residents associated with the Beach Club Project would result from closure of the Tahoe Shores Mobile Home Park. Closure of a mobile home park in Nevada is regulated by the Nevada Revised Statutes described in Section 5.2.1.

HOUSING ANALYSIS METHODOLOGY

The housing analysis is based upon 150 units because although there are 155 mobile home spaces at Tahoe Shores, as of February 2004 there were five vacant spaces. In addition to the five vacant spaces, approximately 22 mobile home units in the park have been used as vacation or second homes. Such housing has not been available as affordable or moderate income housing stock at Lake Tahoe. This analysis assumes that a total of 150 moderate income units may be affected by the project. TRPA Code of Ordinances Section 41.2.F requires moderate income housing to be occupied for at least 10 months. In 2000, there were five vacant spaces and 22 seasonally occupied units in the park. As a result, the estimate of 150 moderate income housing units affected by the project could be overstated; the number may actually be 128 units. However, the more conservative number of

150 units is used in this analysis to ensure that potential effects to moderate income housing are fully assessed and mitigated.

The valuation techniques used to analyze existing mobile homes in Tahoe Shores recognizes the declining values associated with older mobile home units. The value of the mobile home has an inverse relationship to the age of the unit: as the age increases, the economic value of the mobile home approaches zero. In some cases the economic value could be negative if the disposal costs exceed the value of the mobile home unit. Unlike conventional housing structures, the useful life of older mobile home units is difficult to extend with rehabilitation because of the structural components. As a result, any analysis of mobile homes for the purposes of determining moderate income housing must take into account not only the economic value of the unit, but also its useful life.

According to Marshall Swift Valuation Services (Appraiser Handbook), mobile homes of fair to average condition typically have a useful life of 25 years for single-wide units and 30 years for double-wide units. A significant number of mobile home units in the park exceed the recommended useful life. An examination of the park inventory ranked the vast majority of older mobile homes as being in poor to fair condition. Of the 150 total occupied mobile home units in the park, 82 units are 30 years of age or older and are beyond their useful life based upon Marshall Swift guidelines, and two units are in serious disrepair.

The housing values (i.e., the cost to purchase a mobile home) of the remaining 66 mobile homes in Tahoe Shores (150 occupied units - 82 beyond their useful life - 2 units in disrepair = 66 units) range from approximately $27,000 to $82,000, as determined by a review of mobile home sales data from the Nevada Division of Manufactured Housing and sales from Lake Tahoe area mobile home parks (Tahoe Verde Estates Sales Office 4/27/04 to 4/27/05). Because a mobile home park combines elements of both rental housing and ownership, the units are valued based not only on the cost to acquire a mobile home, but also rent, utilities, taxes, and insurance. This total estimate of housing costs was then used to determine if the mobile homes qualify as affordable or moderate income housing in accordance with the TRPA Code of Ordinances. Per the TRPA Code of Ordinances, Chapter 2, housing is considered affordable when not more than 30% of household income is used for housing related costs (acquisition, rent, taxes, insurance, and essential utilities). Households paying more than 30% of their income on housing are incurring a housing cost burden. The estimate of monthly gross housing costs is not based upon specific occupant households in Tahoe Shores but the cost generally incurred to acquire housing in Tahoe Shores. Table 5.2-4, below illustrates an estimated occupancy cost for a typical unit in the Tahoe Shores Mobile Home Park as of January 2004.

Table 5.2-4
Estimated Occupancy Cost for a Typical Unit in the Tahoe Shores Mobile Home Park

$315/month	Loan Payment (PI) – $28,000, LTV 95%, 12% for 15 years. Terms based upon interviews with Nevada lenders.
$50/month	Taxes and insurance – 20-year-old maximum for insurance-State Farm Insurance and Douglas County Assessor Personal Property Tax.
$225/month	Utility allowance – Section 8 Utility Allowance plus sewer and water for Tahoe Shores. NV.
$725/month	Announced site rents in December 2003 (average)
$1,315/month	Total Estimated Occupancy Cost for a Unit at Tahoe Shores

Low-Income Housing

As shown in Table 5.2-4, based on a monthly loan payment for a mobile home unit valued at $28,000 and other monthly ownership costs, the average estimated occupancy cost at Tahoe Shores is $1,315 per month. As shown in Tables 5.2-5 and 5.2-6 below, the average estimated monthly occupancy cost at Tahoe Shores exceeds the

affordable cost limits for affordable housing (up to 80% of median income). Therefore, none of the mobile home units at Tahoe Shores qualify as low-income housing.

Table 5.2-5
Douglas County Median Family Affordable Housing Costs Limits: 50% of Median Family Income

Household Size	50% MFI	Affordable Housing Costs Limits
1 person	$22,350	$559/mo
2 person	$25,550	$639/mo
3 person	$28,750	$719/mo
4 person	$31,950	$799/mo

Source: MFI-US Dept. of Housing and Urban Development as of January 2004

Table 5.2-6
Douglas County Median Family Affordable Housing Costs Limits: 80% of Median Family Income

Household Size	80% MFI	Affordable Housing Costs Limits
1 person	$28,640	$895/mo
2 person	$32,720	$1,022/mo
3 person	$36,800	$1,150/mo
4 person	$51,120	$1,278/mo

Affordable housing cost limits = (MFI*.8*.30)/12 months or (MFI*.5*.30)/12 months
Source: MFI-US Dept. of Housing and Urban Development as of January 2004

Moderate-Income Housing

Moderate-income housing cost levels for those earning not more than 120% of the Douglas County median family income (moderate income housing), adjusted for family size, are provided in Table 5.2-7.

Table 5.2-7
Low-Income and Moderate Income Housing Cost Levels
Based on the Douglas County Median Family Income

Household Size	Housing Cost Levels 120% of median
1 person	$1,342/mo
2 person	$1,534/mo
3 person	$1,725/mo
4 person	$1,917/mo

Source: U.S. Department of Housing and Urban Development 2004

Table 5.2-8, below, provides an estimate of the number of mobile homes at Tahoe Shores that qualify as moderate-income housing based on these 120% of median housing cost thresholds. The estimate is based on the 66 newer units in the park (1975 or newer and in good condition) and the distribution of households by size and corresponding affordability levels. Based upon the 2000 Census, one-person households at Tahoe Shores

occupied 30% of the units (45 units), two person households 52% (78 units), and three person households 18% (27 units).

Table 5.2-8 also shows the distribution levels of households by affordability level. For example, a mobile home unit below $26,000 would meet the moderate housing affordability level for one, two, and three person households. Such a unit would be moderate-income housing for all (100%) households because the total occupancy costs would be below the affordability levels for all household sizes. Mobile home units with an estimated value between $26,000 and $41,000 would potentially be moderate-income housing for two and three person households. Approximately 70% of Tahoe Shores occupants were two and three person households in 2000. Finally, the mobile home's estimated value corresponding to a three person household ($41,000 to $55,800) would be moderate income housing for 18% of the occupants. Mobile homes with an estimated value above $41,000 would be in excess of the moderate housing affordability level established for one and two person households.

Only a limited number of mobile home units would meet the affordability levels for moderate income households, adjusted for household size. Two of the 66 newer mobile home units (1.5%) have an estimated equivalent mobile home value below $26,000. Just over 39% of units (41 units) have a value between $26,000 and $41,000, and nearly 38% (10 units) had a value between $41,000 and $55,800. As shown in Table 5.2-8, the estimated number of moderate-income housing units (by size and affordability level) is the product of the total number of mobile homes (150) multiplied by column 2 (the percent of households at the moderate income level) multiplied by column 3 (the percent of units available by affordability level). Based on this analysis, there are 54 mobile home units at the Tahoe Shores Mobile Home Park that qualify as moderate income units.

Table 5.2-8
Moderate-Housing by Household Size and Affordability Level

Household Size and Affordability Level	1	2	3	4*
	% of Tahoe Shores Households By Size-2000 Census	% of Households at the Moderate Income Level	% of Units Available by Affordability Level	Estimated Number of Moderate Units By Household Size
1-person (<$26,000)	30.00	100.00	1.5	2.3
2-person ($26,000-$41,000)	52.00	70.00	39.5	41.4
3-person ($41,000-$55,800)	18.00	18.00	37.9	10.3

* The estimated number of moderate income units by household size was calculated by multiplying 150 units by column 2 (the percent of households at the moderate income level) by column 3 (the percent of units available by affordability level).

NEVADA REVISED STATUTES

As described above, closure of the Tahoe Shores Mobile Home Park is regulated by the Nevada Revised Statutes (NRS 118B.177) described in Section 5.2.1. Except for Alternative D, the proposed Beach Club Project alternatives would be required to follow the Nevada Revised Statutes for the purchase and removal or compensation for relocation of existing mobile homes, before closure of Tahoe Shores Mobile Home Park. Because Beach Club, Inc. has purchased 90 of the units at Tahoe Shores, they have already implemented the requirements of the Nevada Revised Statutes and have assumed disposal liability for those 90 units. Beach Club, Inc. now rents the 90 units on month-to-month leases. The remaining 60 mobile homes would receive compensation (relocation or disposal) under NRS 118B.177 if Tahoe Shores is closed.

Upon closure of Tahoe Shores, it is reasonable to assume that some of the newer mobile home units would be relocated to other parks inside or outside the Tahoe Basin. The total number of relocated mobile homes could be as high as 30 units, based upon the age and condition of units and the ability to structurally withstand relocation.

It is also reasonable to assume that some of the existing park occupants may incur costs to remove their older mobile home unit from the park. This is because most mobile home parks will not accept older units, so it would be difficult to relocate to another park at time of closure. Secondly, the existing physical condition of older mobile homes makes it difficult to relocate without incurring damage to the unit during transit.

In the event that a mobile home cannot be moved, Nevada Revised Statutes require the owner of the park to pay the market value of the mobile as determined by a mobile home dealer less the disposal costs. Because of the age of many current units and unlikely acceptance at another park, many existing mobile homes units would be disposed and mobile home owners would receive monetary compensation equal to the market value of unit minus disposal costs. For some older units, the owners could be financially responsible for all or a portion of disposal costs if the value of the mobile home does not exceed the disposal costs. Disposal costs for most units would be approximately $5,000 per unit.

POPULATION ANALYSIS METHODOLOGY

Population, which is directly related to housing, is addressed in this section with the housing impacts. Population projections assume that the number of full-time residents at the proposed Beach Club Project would be similar to the entire Lake Tahoe portion of Douglas County. In 2000, just over 32% of the households in the Lake Tahoe portion of Douglas County were occupied by part-time residents. However, the current percentage of part-time residents at the mobile home park is approximately 15%. Therefore, it is assumed that the population at the project site would change to be a greater number of part-time residents. The projections also assume that the full-time residents under the proposed project would more closely resemble the Douglas County portion of Lake Tahoe where the full-time persons per household is 2.2 versus 1.89 for the Tahoe Shores Mobile Home Park (US Census 2000).

In general, a reduction of housing and residents would result in associated decreases in environmental impacts, such as lower traffic generation and fewer associated air emissions. However, the loss of housing and residents can also be seen as a detrimental social effect. The loss of housing to support the population in the Basin could be induce relocation of residents outside of the Basin and increased commuting back into the Basin for employment. Such relocation and commuting could also be connected to secondary environmental effects, such as more traffic and greater air quality impacts. Quantification of beneficial or adverse effects associated with a change in population would be speculative; therefore, the analysis simply presents the project-related change without a determination of significance.

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.2.A-1 Loss of Affordable Housing. *The Tahoe Shores Mobile Home Park is not deed restricted and does not explicitly provide affordable housing to low-income households (80% of median income or less). Therefore, the closure and redevelopment of Tahoe Shores would not result in the loss of affordable housing resources. This impact is considered* ***less than significant****.*

With respect to the affordable housing definition of the TRPA Code of Ordinances (provided in Section 5.2.1), Tahoe Shores Mobile Home Park is not currently deed restricted, and is therefore, by definition, not affordable housing. In addition, the valuation of mobile home units at Tahoe Shores determined that the park does not provide an affordable housing option for very-low income (50% of median income or less) and low-income households (80% of median income or less). The average estimated occupancy cost (acquisition, rent, utilities, insurance, and taxes) at Tahoe Shores is $1,315 per month, which exceeds affordability thresholds (80% of the Douglas County median income) of $1,278 for four-person households. This average estimated occupancy cost further exceeds the affordability threshold because, based upon the 2000 Census, all households in Tahoe Shores were three-person households or smaller (Table 5.2-2). Therefore, when adjusted for household size, affordability levels are exceeded by even greater margins. As a result, there is no impact to housing that is affordable to low and very-low income households.

The following findings further support this conclusion:

1. The Tahoe Shores site rent ($725 per month), without any other occupancy costs (acquisition, utilities, insurance, taxes), exceeds affordability levels for very low-income households (50% of median income or less for a four person household). Therefore, Tahoe Shores does not provide affordable housing to very-low income households.

2. New and used double-wide mobile homes (age 1975-2004) are generally not affordable based upon comparable unit sales reviewed in Douglas County, Carson City, and Washoe County (Nevada Manufactured Housing Division Title Sales 2004). The price of new double-wide mobile homes generally starts at or above $75,000 based upon interviews with several manufacturers and dealers in northern Nevada and survey work completed for the Town of Truckee (Draft Truckee Affordable Housing Land Use Evaluation Study 2003). Therefore, the cost of acquiring a double-wide mobile home would exceed affordable housing standards.

3. New and used single section mobile homes (age 1980–2004) are generally not affordable. The average reported sale price in Carson City, Douglas County, and Washoe County was just over $29,000 (Nevada Manufactured Housing Division Title Sales 2004). The total cost of occupancy (cost of acquisition, rent, utilities, insurance, and taxes) for a 700 square foot mobile home would exceed the total affordable housing costs allowed for households at or below 80% of the Douglas County median family income. Therefore, single section mobile homes would not provide an affordable housing option even for a four-person household.

4. Vacation or second homes are not considered affordable because they have not been available or rented to lower income households. In 2004, approximately 22 units at Tahoe Shores were seasonal second homes (See Table 5.2-3).

Because the mobile homes at Tahoe Shores Mobile Home Park are not deed restricted and do not qualify as affordable housing, closure and redevelopment of Tahoe Shores would not have an impact on affordable housing available for households at or below 80% of median family income. This impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.2.A-2 **Loss of Moderate Income Housing.** *Alternative A would result in the closure of the Tahoe Shores Mobile Home Park, the subdivision of the project site, and the loss of 54 mobile homes that qualify as moderate income housing units. The TRPA Code of Ordinances states that existing moderate income housing units, as defined by Section 41.2.F, shall not be lost through land subdivision unless mitigation is provided on a unit for unit basis for the loss of moderate income housing. Therefore, this impact is considered* ***significant****.*

Alternative A would result in the closure of the Tahoe Shores Mobile Home Park and removal of all 155 mobile home spaces, including 54 mobile homes that qualify as moderate income housing (see Section 5.2.3, “Housing Analysis Methodology”). After closure and removal of Tahoe Shores, the project site would be subdivided. Section 43.2.B of the TRPA Code of Ordinances states that existing moderate income housing units, as defined by Section 41.2.F, shall not be lost through land subdivision unless mitigation is provided on a unit for unit basis for the loss of moderate income housing. Therefore, 54 moderate income units would need to be provided to mitigate for the 54 moderate income mobile homes that would be removed. This impact is considered **significant**.

Mitigation Measure 5.2.A-2. Replacement of Moderate Income Housing. Mitigation shall be in the form of construction of an equal number of moderate income units, conversion of other structures to moderate income housing, restriction of subdivided units to moderate income housing units, or a combination of the above. The applicant shall provide 54 moderate income units as follows:

1. A total of 19 deed-restricted moderate income condominiums shall be constructed on the project site. Preference for on-site mitigation units will be given first to income-qualified Tahoe Shores residents and then to qualified Beach Club employees. Such units will consist of one, two, and three bedroom units. The units will be sold at prices consistent with TRPA guidelines for moderate income housing.

2. A total of 35 off-site housing units shall be purchased and converted to deed-restricted moderate income units. The units will be located in the Oliver Park subdivision (directly east of the project - Douglas County, Nevada). The composition of such units in terms of the number of bedrooms shall be consistent with household demographics of Tahoe Shores Mobile Home Park and the Douglas County portion of Lake Tahoe. The majority of households including those in the Tahoe Shores mobile home park are comprised of one to three person households. Preference will be given first to income qualified Tahoe Shores residents, and then to qualified Beach Club employees. The units will be rented at rates consistent with TRPA guidelines for moderate income housing.

3. Provide additional financial assistance for qualified hardship cases in the mobile home park.

Implementation of Mitigation Measure 5.2.A-2 would provide one-to-one replacement for 54 units of moderate income housing and would reduce the impact of loss of moderate income housing units to a **less than significant** level.

IMPACT 5.2.A-3 Decrease in Housing Availability/Displacement of Residents. *Alternative A would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied, and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) The Nevada Revised Statutes would be followed to account for the Park's closure and the displacement of residents. Alternative A would then result in the construction of 143 condominiums, including 19 deed-restricted moderate income units. (As part of Mitigation Measure 5.2.A-2, a total of 35 off-site housing units would be purchased and converted to deed-restricted moderate income units, for a total of 54 moderate income units.) The loss of up to 12 units would not be a substantial reduction in the total housing stock in Stateline or Douglas County because the actual number of occupied mobile homes at Tahoe Shores has ranged between 140 and 150 units. Furthermore, the reduction of as many as 12 units only represents 0.25% of the total housing stock in Douglas County (4,769 units).*

Alternative A would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces. Closure of the Tahoe Shores Mobile Home Park would permanently displace 128 mobile homes with full time residents and 22 units with seasonal occupants (five spaces at the park are currently vacant). (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) As described above in methodology, the loss of the mobile homes and the permanent displacement of the residents of the park would occur in accordance with the requirements of the Nevada Revised Statutes, described above in Section 5.2.1. The Nevada Revised Statutes require that the owner of the park provide written notice of closure; provide at least 180 days after the notice before requiring residents to move their mobile homes; and compensation of residents for relocation of their mobile homes and their appurtenances or for the disposal costs if the resident decides not to move the unit or the unit cannot be moved without being structurally damaged.

There are currently 150 occupied spaces at the Tahoe Shores Mobile Home Park and there are five vacancies. However, in 2000, the total number of vacant spaces at Tahoe Shores was 15, with 140 occupied units. This illustrates the variation in vacancy rates that has occurred over time at Tahoe Shores. After closure of the Park, Alternative A would result in the construction of 143 condominiums, which would result in 12 fewer units than the maximum capacity of 155 spaces at Tahoe Shores. However, accounting for the current vacancies, the actual reduction in occupied housing units would be seven units. The loss of up to 12 units is not considered to be a substantial reduction in total housing units because the total number of occupied mobile home units has fluctuated between 140 and 155, and the reduction of 12 units only represents 0.25% of the total housing in Douglas County (4,769 units). Furthermore, the total loss of units would actually be lower considering the required mitigation to provide 54 deed-restricted moderate income units in the proposed project, the relocation of mobile homes to other parks (possibly up to 30), and the potential for Tahoe Shores residents to acquire market rate units at the Beach Club. The permanent displacement may actually be less than 40 households. These households would have to seek housing in the private market.

Table 5.2-9 summarizes potential changes in population between the current conditions at the Tahoe Shores Mobile Home Park and Alternative A. As explained under methodology, the population projections assume that the number of part-time (seasonal) residents at the project site would increase with the construction of the condominiums. The projections also assume that full-time residents under the proposed action would more closely resemble the Douglas County portion of Lake Tahoe where the full-time persons per household households is 2.2 versus 1.89 for the Tahoe Shores Mobile Home Park (US Census 2000).

Table 5.2-9
Change in Population between Existing Conditions and Alternative A

	Existing Conditions-Tahoe Shores		Proposed Action
	2000	2004	
Full-Time Population	242	249	222
Part-Time	23	34	88
Total	265	283	310

2000 Census, and Tahoe Shores Inventory 2004

Under Alternative A, the total full-time population at the project site would be reduced by approximately 27 residents and the part-time population would increase by approximately 54 residents. The total population at the project site would increase by approximately 27. This change in population is not considered substantial.

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.2.B-1 Loss of Affordable Housing. *This impact is the same as Alternative A, described above in Impact 5.2.A-1. The Tahoe Shores Mobile Home Park is not deed restricted and does not provide affordable housing to low-income households (80% of median income or less). Therefore, the closure and redevelopment of Tahoe Shores would not result in the loss of affordable housing resources. This impact is considered* ***less than significant.***

Mitigation Measures

No mitigation is required.

IMPACT 5.2.B-2 Impacts to Moderate Income Housing. *Alternative B would result in the closure of the Tahoe Shores Mobile Home Park and the loss of 54 mobile homes that qualify as moderate income housing units under the TRPA Code of Ordinances (see Section 5.2.3, "Housing Analysis Methodology"). However, using a strict interpretation of the Code, mitigation for the loss of moderate income housing is only required by TRPA when associated with the subdivision of a property. Under Alternative B, the project site would not be subdivided. The two parcels that make up the project site would be realigned, the site would be sold, and two single-family estates would be constructed. Because this alternative would not require subdivision, mitigation for the loss of moderate income housing would not be required. Therefore, this impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.2.B-3 Decrease in the Housing Availability/Displacement of Residents. *Similar to Alternative A, Alternative B would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) The Nevada Revised Statutes would be followed to account for the Park's closure and the displacement of residents. Alternative B would then result in the construction of two single-family estates and the residual loss of up to 153 units. The reduction of 153 units represents 3% of the total housing stock in Douglas County.*

Alternative B would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces. Closure of the Tahoe Shores Mobile Home Park would permanently displace 128 mobile homes with full time residents and 22 units with seasonal occupants. As described above in methodology, the loss of the mobile homes and the permanent displacement of the residents of the park would occur in accordance with the Nevada Revised Statutes, described above in Section 5.2.1. The Nevada Revised Statutes require that the owner of the park provide written notice of closure; provide at least 180 days after the notice before requiring residents to move their mobile homes; and compensation of residents for relocation of their mobile homes and their appurtenances or for the disposal costs if the resident decides not to move the unit or the unit cannot be moved without being structurally damaged.

Alternative B proposes the construction of two single-family estates on the project site after closure of Tahoe Shores. This would result in the loss of up to 153 units. This would represent a reduction of approximately 3% of the total units in Douglas County (4,769 units). Occupants of Tahoe Shores would have to seek new housing (rentals or ownership) within the Lake Tahoe Basin or relocate outside the Basin; however, it would be speculative to provide specific numbers or locations for relocation. Depending on where residents relocate, this could represent a substantial reduction in the population of Stateline (approximately 3.0% if the loss of housing units is an indicator). Although the loss of housing can be viewed as either adverse or beneficial as described above, Alternative B would result in the greatest loss of housing of any of the proposed project alternatives and is considered the least desirable in terms of overall housing impacts.

ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

IMPACT 5.2.C-1 Loss of Affordable Housing. *This impact is the same as Alternative A, described above in Impact 5.2.A-1. The Tahoe Shores Mobile Home Park is not deed restricted and does not provide affordable housing to low-income households (80% of median income or less). Therefore, the closure and redevelopment of Tahoe Shores would not result in the loss of affordable housing resources. This impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.2.C-2 Loss of Moderate Income Housing. *Similar to Alternative A, described in Impact 5.2.A-2, Alternative C would result in the closure of the Tahoe Shores Mobile Home Park, the subdivision of the project site for market rate condominiums, and the loss of 54 mobile homes that qualify as moderate income housing units. The TRPA Code of Ordinances states that existing moderate income housing units, as defined by Section 41.2.F, shall not be lost through land subdivision unless mitigation is provided on a unit for unit basis for the loss of moderate income housing. Therefore, this impact is the same as Alternative A and is considered* ***significant****.*

Mitigation Measures 5.2.C-2. Replacement of Moderate Income Housing. Mitigation shall be in the form of construction of an equal number of moderate income units, conversion of other structures to moderate income housing, restriction of subdivided units to moderate income housing units, or a combination thereof. The applicant shall provide 54 deed-restricted moderate income units either on-site or off-site. Off-site units may be located in the Oliver Park subdivision (directly east of the project - Douglas County, Nevada). Preference for on-site mitigation units will be given to first to income-qualified Tahoe Shores residents and then to qualified Beach Club employees. Units will consist of one-, two-, and three-bedroom units. The units will be rented or sold at rates and/or prices consistent with TRPA guidelines for moderate income housing.

The implementation of Mitigation Measure 5.2.C-2 would provide one-to-one replacement for 54 units of moderate income housing and would reduce the impact of loss of moderate income housing units to a **less-than-significant** level.

IMPACT 5.2.C-3 Decrease in Housing Availability/Displacement of Residents. *As with Alternative A, Alternative C would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied, and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) The Nevada Revised Statutes would be followed to account for the Park's closure and the displacement of residents. Alternative C would then result in the construction of 155 condominiums. (As part of Mitigation Measure 5.2.C-2, a total of 54 housing units would either be constructed on-site or purchased off-site and converted to deed-restricted moderate income units.) There would be no net loss of housing stock or population in Stateline or Douglas County.*

Alternative C would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces. Closure of the Tahoe Shores Mobile Home Park would permanently displace 128 mobile homes with full time residents and 22 units with seasonal occupants (5 spaces at the park are currently vacant). As described above in methodology, the loss of the mobile homes and the permanent displacement of the residents of the park would occur in accordance with the Nevada Revised Statutes, described above in Section 5.2.1. The Nevada Revised Statutes require the owner of the park to provide written notice of closure; provide at least 180 days after the notice before requiring residents to move their mobile homes; and compensation of residents for

relocation of their mobile homes and their appurtenances or for the disposal costs if the resident decides not to move the unit or the unit cannot be moved without structural damage.

After closure of Tahoe Shores, Alternative C would result in the construction of 155 condominiums. Therefore, there would be no net loss of housing units on the project site. However, as explained under methodology, the population projections assume that the number of part-time (seasonal) residents at the project site would increase with the construction of the condominiums. The projections also assume that full-time residents under the proposed action would more closely resemble the Douglas County portion of Lake Tahoe where the full-time persons per household households is 2.2 versus 1.89 for the Tahoe Shores Mobile Home Park (US Census 2000). Therefore, although the total population on-site would be very similar to existing conditions, it is anticipated that the part-time population would increase and the full-time population would decrease.

ALTERNATIVE D – NO PROJECT ALTERNATIVE, JERE WILLIAMS PLAN

Alternative D, the No Project, Jere Williams Plan, would not result in the closure of the Tahoe Shores Mobile Home Park. Therefore, this alternative would not require the implementation of the Nevada Revised Statutes. All 155 mobile home spaces would remain, no residents would be displaced, and the population would remain essentially the same.

The Jere Williams Plan was completed in 1989, and provides for site improvements at Tahoe Shores, including a stringent architectural code for individual mobile home units and transition in the overall composition of the park to 70% double-wide and 30% single-wide mobile homes. In addition, the Jere Williams Plan contemplates physical improvement to the Park's common areas, utilities, landscaping and community amenities. These improvements to the park could increase the cost of housing at Tahoe Shores. Total site rents would likely increase to capitalize the investment in park improvements and to reflect market demand. Tahoe Shores would grant an extended lease replacing the month-to-month rental agreements currently in place.

Tahoe Shores Mobile Home Park is not deed restricted and does not provide affordable housing to low-income households (80% of median income or less). Therefore, Alternative D would not affect affordable housing resources.

Although the total number of mobile homes would remain the same, the availability of moderate income housing in the park (currently 54 units) may be reduced overtime as park improvements are made, units are replaced, and costs increase for individual mobile home owners. However, Alternative D would not include subdivision of the project site. Therefore, an examination of impacts to moderate income housing is not required under TRPA's Code of Ordinances.

ALTERNATIVE E – NO PROJECT ALTERNATIVE, MANUFACTURED HOUSING

Alternative E, the No Project, Manufactured Housing Alternative, would result in the temporary closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied, and 128 of which have full-time residents. The Nevada Revised Statutes would be followed to accommodate for the Park's closure and the displacement of residents. After implementation of site improvements to the common areas, utilities, landscaping and community amenities, Alternative E would then result in the re-opening of Tahoe Shores with 155 manufactured housing units. The manufactured housing units would reflect the Jere Williams Plan regarding 70% double-wide and 30% single-wide units as well as a strict architectural code and long-term leases.

Tahoe Shores Mobile Home Park is not deed restricted and does not provide affordable housing to low-income households (80% of median income or less). Therefore, Alternative E would not affect affordable housing resources.

Alternative E would result in the temporary closure of the Tahoe Shores Mobile Home Park and the loss of 54 mobile homes that qualify as moderate income housing units under the TRPA Code of Ordinances. After site improvements per the Jere Williams Plan are implemented, 155 manufactured housing units would be placed at Tahoe Shores and would require long-term leases for residents. The manufactured housing would be higher quality structures that meet current building codes and requirements for heavy snow loads. The quality of new units would maintain values for a significant period of time and have longer useful life as compared to the existing mobile homes. However, the manufactured housing units would exceed a value of $75,000 based upon information collected from mobile home dealers and the long-term leases would further increase the housing costs at Tahoe Shores through substantial increases in site rents. As a result, the ability of the Tahoe Shores to offer moderate income housing options could be greatly reduced. Therefore, 54 moderate-income housing units would potentially be lost. However, Alternative E would not include subdivision of the project site. Therefore, an examination of impacts to moderate income housing is not required under TRPA's Code of Ordinances.

ALTERNATIVES HOUSING MITIGATION SUMMARY

Table 5.2-10, below, compares the housing mitigation requirements for the proposed Beach Club Project alternatives.

Table 5.2-10
Summary of Housing Mitigation Requirements

Alternatives	Brief Housing Description	Subdivision?	Housing Mitigation
Alternative A	Includes construction of 124 market rate and 19 deed-restricted moderate-income for-sale condominiums.	Yes	54 deed-restricted moderate-income units
Alternative B	Includes development of two single-family estates on two realigned parcels.	No (boundary line adjustment only)	None required
Alternative C	Includes construction of two multi-family complexes on two realigned parcels. Each parcel would include four multi-family residential buildings with approximately 20 market rate for-sale condominiums per building.	Yes	54 deed-restricted moderate-income units
Alternative D	The mobile home park would remain open with a gradual transition to 70% doublewide and 30% singlewide units. The 75 units owned by the park and seven vacant units would be replaced with new units. As other pads became vacant, the owner would replace the old mobile home units with new ones.	No	None required
Alternative E	The mobile home park would be closed and the existing units would be removed. Utility lines would be placed underground, BMPs would be installed, and 155 mobile home pads would be reestablished. High quality manufactured housing units would be sold as the market warrants with minimum 20-year lease terms.	No	None required

5.3 LAND USE

This chapter describes the regulatory background, existing land uses of the project site and vicinity, and impacts of Alternatives A through E on land use.

5.3.1 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 Beach Club on Lake Tahoe Project (Beach Club project).

FEDERAL

U.S. Forest Service

The Lake Tahoe Basin Management Unit (LTBMU) of the U.S. Forest Service (USFS) consists of parts of three national forests. National forests are managed on a multiple-use, sustained-yield basis for production of forage, wildlife, wood, fish, water, and outdoor recreation. Wilderness management, as well as protection of forest areas containing historic, scenic, geologic, ecological, or other special qualities, are included in the Forest Service's management policies. In the Tahoe Region, the management of USFS lands is guided by the LTBMU Forest Plan, adopted in 1988. Unique to the LTBMU Forest Plan are the emphases on watershed, wildlife and fisheries restoration, and outdoor recreation, and the de-emphasis on grazing and timber production. The USFS mission statement calls for the lands in the LTBMU to be managed, protected, and enhanced for the people. The Forest Service is in the process of revising and updating its Forest Plan through the Pathway process, a multi-agency land use planning effort taking place in the Basin. Forest Service holdings in the project area include Nevada Beach and Burke Creek (Rabe) Meadow north of the site (USFS 2006).

TAHOE REGIONAL PLANNING AGENCY

The Tahoe Regional Planning Agency (TRPA) implements its authority to regulate growth and development in the Lake Tahoe region through the Regional Plan for the Lake Tahoe Basin. The Regional Plan includes the following: environmental threshold carrying capacities (adopted in 1982 and evaluated every five years since 1991), Goals and Policies (September 1986), Regional Transportation Plan—Air Quality Plan (1992), Water Quality Management Plan (1988), Scenic Quality Improvement Program (1989), Plan Area Statements (PASs) (August 1987 and updated), and Code of Ordinances (May 1987 and updated). These documents are described below.

Environmental Threshold Carrying Capacities

In August 1982, TRPA adopted Resolution No. 82-11, which established environmental threshold carrying capacities for the Lake Tahoe Basin. These thresholds were established to provide standards against which all projects and activities would be measured to achieve the goals established in the TRPA Compact. These thresholds are currently being reevaluated as part of the Pathway /Regional Plan update process. In April of 2007 TRPA released the 2006 Draft Threshold Evaluation Report, which proposes amending some of the 1982 threshold indicators and standards. TRPA threshold criteria have been established for the following environmental impact statement (EIS) environmental resource topics: water quality, air quality, scenic resources, soil conservation, fish habitat, vegetation, wildlife habitat, noise, and recreation. Every five years TRPA conducts a comprehensive evaluation of threshold achievement and/or maintenance, recommends specific actions to address problem areas, and directs general planning efforts for the next 5-year period. Both attainment and maintenance of the thresholds are required, and TRPA does not have flexibility in its enforcement when evaluating projects. 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 criteria of significance for each resource evaluation in Chapter 5 of this document.

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. TRPA goals and policies are included in six elements: land use, transportation, conservation, recreation, public services and facilities, and implementation (TRPA 1986). The goals and policies relevant to the Beach Club project are discussed in Table 5.3-1.

Regional Transportation Plan—Air Quality Plan

The purpose of the integrated Regional Transportation Plan—Air Quality Plan is to attain and maintain the Environmental Threshold Carrying Capacities (established by TRPA in 1982 and currently being reviewed as part of the Pathway /Regional Plan update process), as well as all applicable federal, state, and local standards pertaining to air quality and transportation. The TRPA Code of Ordinances, Chapter 91, establishes air quality control regulations.

Water Quality Management Plan

The Water Quality Management Plan (208 Plan) for the Lake Tahoe region fulfills TRPA's responsibilities under Section 208 of the federal Clean Water Act. The 208 Plan includes the Water Quality Management Plan, Handbook of Best Management Practices, Stream Environment Zone Protection and Restoration Program, and Capital Improvements Program for Erosion and Runoff Control (TRPA 1988).

Scenic Quality Improvement Program

The Scenic Quality Improvement Program presents the prescriptions for scenic restoration required to attain and maintain the scenic quality thresholds. It includes design review guidelines and development standards for different visual environments, assigns implementation responsibilities, and identifies potential funding sources (TRPA 1989).

Tahoe Regional Planning Agency Plan Area Statements

Chapter 13, "Plan Area Statements and Plan Area Maps," of 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 more than 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. These statements address how that particular area should be regulated to achieve regional environmental and land use objectives and provide detailed plans and policies for specific areas of the basin. The PAS written text and maps provide specific land use policies and regulations for each planning area. PASs also serve to promote and protect the public health and safety as well as the general welfare and environment.

The proposed project site is located within two Plan Areas: 070A (Edgewood) (APN 1318-22-002-001), which is 2.37 acres with 217 feet of lake frontage, and 077 (Oliver Park) (APN 1318-22-002-001), which includes the remaining 17.26-acre upland portion of the property (TRPA 2005). Approximately 90% of the project site is located in PAS 077.

PAS 070A (Edgewood)

PAS 070A includes the Edgewood Golf course area at south Stateline. The existing land uses include the Edgewood Golf Course, the 4-H camp area, and some miscellaneous private uses. Approximately 60% of the existing environment is classified stream environment zone (SEZ) and 40% is low hazard.

The PAS 070A land use designation is Recreation. PAS 070A allows for eating and drinking places, beach recreation, day use areas, participant sports facilities, outdoor recreation concessions, and group facilities as well as other public service, residential, and resource management permissible uses. 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." Accessory uses related to these allowed land uses (e.g., shorezone access) will also be permitted. Special policies of PAS 070A that apply to the project site include consistency with the planning direction provided in Chapter I of the Stateline Community Plan and protection of populations of Tahoe yellow cress, which is listed as critically endangered in Nevada, endangered in California, federally listed as a candidate species under the Endangered Species Act, a Forest Service R-5 sensitive species, and a TRPA special indicator status species (TRPA 2002a).

PAS 077 (Oliver Park)

PAS 077 is located along Kahle Drive just west of U.S. Highway 50 (U.S. 50). Existing land uses consist of lower income residential uses which include a large trailer court, large apartment complex, and other residential units. The area is 95% built out. The existing environment is identified as SEZ, existing land coverage is 50%, and the disturbance is 35%.

The PAS 077 land use designation is Residential with a special designation of Multi-Residential Units. Permissible uses in the Plan Area include single-family dwellings, multiple-family dwellings, multi-person dwellings, employee housing and mobile home dwellings, as well as some public service, recreation, and resource management permissible uses. PAS 077 states, "This area should continue to serve as a residential area subject to a rehabilitation program." PAS 077 calls for the area to continue to serve as residential and any new development should conform to a rehabilitation plan that provides for scenic and SEZ restoration (TRPA 2002b).

Tahoe Regional Planning Agency Code of Ordinances

The TRPA Code of Ordinances establishes standards and regulations for implementation of the Regional Plan for the Lake Tahoe Basin. Public agencies and organizations in the Lake Tahoe Basin must comply with TRPA provisions or may establish equivalent or higher requirements in their jurisdiction. The Code of Ordinances compiles all of the laws and ordinances needed to implement the Goals and Policies of the Regional Plan; these include the Tahoe Regional Planning Compact, Environmental Threshold Carrying Capacities, Goals and Policies, the PAS and maps, and other TRPA plans and programs.

Shorezone Uses

The TRPA regulates uses in the shorezone and the lakezone based on Chapter 51, "Permissible Uses and Accessory Structures in the Shorezone and Lakezone," of the Code of Ordinances. 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, and are identified by tolerance district.

Chapter 2, "Definitions," of the TRPA Code of Ordinances defines the shorezone as the land and water area along the shoreline of the lake consisting of the nearshore, foreshore, and backshore. Chapter 2 further defines these three components of the shorezone as follows:

- **Nearshore:** The zone extending from the low water elevation of Lake Tahoe (6223.0 feet Lake Tahoe Datum) to a lake bottom elevation of 6,193 feet Lake Tahoe Datum, but in any case, a minimum lateral distance of 350 feet measured from the shoreline (6229.1 feet Lake Tahoe Datum). In other lakes within the Region, the nearshore extends to a depth of 25 feet below the low water elevation.

- **Foreshore:** The zone of 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 consists of the area of instability and includes a ten-foot buffer measured landward from the mapped area of instability. A backshore determination has been completed and the backshore boundary is shown in Exhibit 3-10.

Shorezone Tolerance District 7

According to the TRPA PAS 070A, the proposed project site is located in Shorezone Tolerance District 7. 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 as described in Chapter 53, "Shorezone Tolerance Districts and Development Standards," of the Code of Ordinances.

Shorezone Tolerance District 7 is described in Chapter 53 of the Code as "comparatively level shorezone underlain by morainic and alluvial materials with slopes of zero to nine percent (0–9%)" (TRPA 2001). Shorezone Tolerance District 7 allows for water-oriented recreation facilities (beach recreation, buoys, piers, floating docks and platforms, water intake lines, boat ramps, etc.) in the backshore, nearshore, and foreshore (TRPA Code of Ordinances Chapter 53.9).

Development standards for Tolerance District 7 are set forth in Subsection 53.8.B of Chapter 53:

- 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.

- 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.

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

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

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

Additional standards are set forth in Subsection 53.9B of Chapter 53:

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

STATE

Nevada Revised Statutes (NRS 118B.177)

Before closure of the Tahoe Shores Mobile Home Park, the owner would be required to comply with the Nevada Revised Statutes (NRS 118B.177) as follows:

1. If the landlord closes the mobile home park, the landlord is required to pay the tenant:
    - The costs of moving each tenant's manufactured home and its appurtenances to a new location within 100 miles from the manufactured home park; or
    - If the new location is more than 100 miles from the manufactured home park, the cost of moving the manufactured home for the first 100 miles, including fees for inspection, any deposits for connecting utilities, and the cost of taking down, moving, setting up, and leveling the manufactured home and its appurtenances in the new lot or park.
2. If a tenant chooses not to move the manufactured home, the manufactured home cannot be moved without being structurally damaged, or there is no manufactured home park within 100 miles that is willing to accept the manufactured home, the landlord:
    - May remove and dispose of the manufactured home; and
    - Shall pay the tenant the fair market value of the manufactured home.
3. Written notice must be served on each tenant in a manner provided in NRS 40.280, giving the tenant at least 180 days after the date of the notice before he/she is required to move his/her manufactured home from the lot.
4. The fair market value of a manufactured home and the reasonable cost of removing and disposing of a manufactured home must be determined by:
    - A dealer licensed pursuant to Chapter 489 of NRS who is agreed on by the landlord and tenant; or
    - If the landlord and tenant cannot agree, a dealer licensed pursuant to Chapter 489 of NRS will be selected for this purpose by the Division.

LOCAL

Douglas County Master Plan

The *Draft 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 Douglas County Land Use Map designates the project area as part of the Lake Tahoe Planning Area. This planning area is located on the western edge of Douglas County. The area totals 28,431 acres or about 6.5% of the county. Approximately 10% of the Lake Tahoe Planning Area is urbanized, 80% is in public ownership or control, and the remaining 10% is in private nonurban use.

The Lake Tahoe Planning Area consists of the communities of Round Hill/Zephyr Cove, Stateline, Cave Rock/Glenbrook, and Kingsbury, and community plans have been prepared for the primary communities within the planning area. 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 PASs.

The Lake Tahoe Planning Area is not included as part of the Land Use Element of the *Douglas County Master Plan* because the area is within the jurisdiction of TRPA. The other plan elements 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.

5.3.2 AFFECTED ENVIRONMENT

HISTORIC AND EXISTING LAND USES

As described in Chapter 3, "Project Description," the Beach Club project would be located on the site of the existing Tahoe Shores Mobile Home Park on the south shore of Lake Tahoe in unincorporated Stateline, Douglas County, Nevada. Prior to development, the project site was part of Burke Creek Meadow, which was largely stream environment zone (SEZ). In the 1960s, the site was graded and used as an airport runway for the South Lake Tahoe area. In 1969 and 1970, Oliver Kahle developed the mobile home community. During this time, fill material was placed in the northern portion of the project site over the SEZ for construction of the airfield.

The 19.63 acre project site consists of two parcels: Assessor's Parcel Number (APN) 1318-22-002-001 is 17.26 acres and APN 1318-22-002-002 is 2.37 acres with 217 feet of lake frontage. The site is accessed via Kahle Drive, which has a signalized intersection at U.S. 50 approximately 0.8 miles northeast of the California-Nevada state line. The Tahoe Shores Mobile Home Park consists of 155 mobile home units clustered on the 17.26-acre parcel (Exhibit 3-3). The Tahoe Shores Mobile Home Park is gated and fenced; there is no public access through the site. The project site is gently sloping, rising approximately 22 feet above lake level at its highest point, 0.5 mile from the edge of Lake Tahoe. The 2.37-acre lakefront parcel is occupied by the Kingsbury General Improvement District (KGID) water supply pump station, a mobile home that serves as the Tahoe Shores manager's office, storage and maintenance buildings, electrical stations, beach, and a 109-foot recreational pier. KGID holds an easement for the land occupied by the pump station. As described above, the project area is located within two planning areas: 070A (Edgewood) which includes the 217 feet of beach area (2.37 acres) and 077 (Oliver Park) which includes the remaining upland portion of the property (17.26 acres). Approximately 90% of the site is located in PAS 077. PAS 070A land use designation is recreation and PAS 077 is designated as residential. The lakeshore portion of the project site is in Shorezone Tolerance District 7.

Site Coverage

The proposed project site is located in land capability districts (LCD) 1b and 7. LCD 1b has a base allowable coverage of 1% and LCD 7 has a base allowable coverage of 30% (TRPA Code of Ordinances 20.3.A). The land capability districts were verified by TRPA on April 3, 2004. If the project site were undeveloped, these land capability districts would establish the allowable coverage for the site. However, the project site is developed and currently occupied by the Tahoe Shores Mobile Home Park. The developed land coverage on the project site is recognized by TRPA and provides the basis for allowing some of the excess land coverage to remain.

In 1989, the previous owner of the mobile home park prepared a plan, called the Jere Williams Plan (JWP), which was the basis for a Special Use Permit and contract with TRPA to operate the park. The JWP provides the owner

the ability to replace existing mobile homes as necessary, instead of obtaining a new permit each time a mobile home needs to be replaced. Pursuant to the JWP, the owner is required to reduce the coverage on the project site by 55,579 square feet (sf) by the year 2008.

As shown on Exhibit 3-11, the TRPA-verified coverage for the project site is 457,959 sf. The verified coverage accounts for the required 55,579 sf of coverage reduction, which was achieved by removing porches, decks and mobile homes.

SURROUNDING LAND USES

The project site is surrounded by USFS lands, including Burke Creek (Rabe) Meadow and Nevada Beach Campground to the north; the Meadowbrook Apartments and the Oliver Park GID to the east; the University of Nevada 4-H Camp and Edgewood Golf Course to the south; and Lake Tahoe to the west. These land uses are discussed in more detail below and illustrated in Exhibit 3-2.

U.S. Forest Service Lands

North of the project site is Burke Creek (Rabe) Meadow and Nevada Beach Campground, which are located on USFS lands. Burke Creek (Rabe) Meadow, immediately adjacent to the northern edge of the project area, is popular with local running clubs and bike riders, and contains single-track dirt trails.

The Nevada Beach Campground is operated by a private concessionaire, California Land Management. The elevation of the campground area is 6,100 above sea level and contains 53 campsites. The season extends from mid-May through mid-October and there is a 14-day maximum length of stay. The campground facilities include barbeque grills, running water, flush toilets, and public phones. Beach access is available from the campground, and there is a pavilion located on the beach area that California Land Management (an outdoor recreation facilities management company) rents out for group day use (U.S. National Forest Campground Guide 2006).

Meadowbrook Apartments and Oliver Park GID

The Meadowbrook Apartments are east of the project site and owned by Meadowbrook Associates L.P., a development company based in Round Hill, Nevada. Construction was recently completed in 2004, and the 5-acre complex includes the Oliver Park GID storm water treatment system and 32 affordable apartments. The site also includes seven, two-story buildings; 39 parking spaces; and restored SEZ. The Oliver Park GID storm water treatment system was required by TRPA's Environmental Improvement Program (EIP) because the project is in a stream environment zone.

Nevada State 4-H Camp

The Nevada State 4-H Camp encompasses 33 acres directly south of the project area. The camp has been in operation at the site since 1939. The beachfront portion of the 4-H Camp was acquired later, after WWII, in 1947. Per NRS 550, "The purpose of the state 4-H camp is to provide a living environment to members for 4-H clubs and other youth groups which is conducive to stimulating the development of youth to a high standard of useful and productive citizenship."

The camp is used primarily by youth educational groups for outdoor education and recreation during the months of May through October. Overnight uses are available and include cabins and camping facilities. In 2004, the facility was leased to 26 groups with an approximate total of 2,285 campers. While at the camp, the youth engage in challenge course leadership development activities, swimming, kayaking and canoeing, basketball, volleyball, ping-pong, horseshoes, races, contests, etc. All the groups use the camp for education purposes, also the campgrounds for outdoor educational activities (University of Nevada Cooperative Extension 2006).

Edgewood Golf Course

Edgewood Golf Club, southeast of the project site, was developed in 1963 as a private country club. In 1986 it was converted to a public facility. The golf club includes a clubhouse with a pro shop and two restaurants and hosts tournaments and events (Edgewood Tahoe Golf Course 2006).

5.3.3 Environmental Consequences and Recommended Mitigation Measures

Criteria of Significance

Land use is not one of TRPA's nine established environmental thresholds; however, land coverage, as described in the Land Use Element of TRPA Goals and Policies, is one of those thresholds. To determine significance of land use impacts, the project is reviewed for consistency with applicable Goals and Policies of the Regional Plan. Inconsistency of the project with such policies would constitute a significant impact requiring mitigation.

Land Use Plan Consistency

Table 5.3-1 identifies Goals and Policies applicable to the Beach Club project, makes a consistency determination, and provides supporting narrative. Alternatives A through C are development alternatives and Alternatives D and E are No Project alternatives.

Table 5.3-1
Land Use Policy Consistency Analysis

TRPA Goals and Policies	
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.
Consistent	Alternative A, the proposed project, would result in the construction of residential housing units and recreational facilities, which would support the permanent and vacation population in South Lake Tahoe. The project alternatives (Alternatives B and C) would result in the construction of residential housing units and would also support the permanent and vacation population in South Lake Tahoe. Alternatives D and E would maintain the Tahoe Shores Mobile Home Park, which would continue to support permanent residents and vacationers. With the implementation of appropriate mitigation measures, all project alternatives would comply with the Tahoe Regional Planning Agency (TRPA) scenic regulations to maintain the integrity of scenic view points to and from the lake. As documented in this EIS, the project's environmental effects are less than significant or the implementation of mitigation measures recommended in this EIS reduce significant impacts to a less-than-significant level.
Policy 2	The Regional Plan gives a high priority to correcting past deficiencies in land use. The Plan shall encourage a redirection strategy for substantially and adversely altered areas, wherever feasible.
Consistent	All project alternatives would be consistent with the existing land use designations for PAS 077 (residential) and PAS 070A (recreation) and would be constructed on an existing developed site, the Tahoe Shores Mobile Home Park. Alternatives A, B, and C would result in a decrease in site coverage and increased best management practices (BMPs) and improved runoff water quality. Alternative A would result in the restoration of approximately 2 acres of stream environment zone (SEZ) habitat. Alternatives D and E, the No Project Alternatives, would result in the continued operation of the Tahoe Shores Mobile Home Park and limited site improvements would be made.
Policy 3	The Plan shall seek to maintain a balance between economic health and the environment.

Table 5.3-1 Land Use Policy Consistency Analysis	
Consistent	The Beach Club project would not foster substantial economic growth or generate a significant number of new jobs. The Beach Club project would not generate an increase in residential units on the project site and would not directly foster growth nor remove obstacles to growth. As documented in this EIS, the project's environmental effects are less than significant or the implementation of mitigation measures recommended in this EIS reduce significant impacts to a less-than-significant level.
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 1	The total population permitted in the region at one time shall be a function of the constraints of the Plan and the Environmental Threshold Carrying Capacities.
Consistent	The proposed project alternatives would either result in a reduction in total population at the project site or a roughly equivalent population to the existing Tahoe Shores Mobile Home Park. TRPA threshold criteria applicable to the Beach Club project are identified for each EIS environmental resource topic addressed in Chapter 5 of this document. These thresholds are incorporated into the criteria of significance against which the project impacts are analyzed. Beach Club Alternatives A through E result in less-than-significant impacts; potentially significant impacts that are identified can be mitigated to less-than-significant levels.
Policy 3	The Plan Area Statements shall also identify the management theme for each planning area by designating each area for (1) maximum regulation, (2) development with mitigation, or (3) redirection of development. These designations shall provide additional policy direction for regulating land use.
Consistent	Beach Club Alternatives A through E would be consistent with the land use designations in PAS 077 (residential) and PAS 070A (recreation) by constructing residential housing units in PAS 077 and recreational facilities such as a beach and club and beach access in PAS 070A.
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.
Consistent	Any subdivision or parcel boundary changes would not alter the existing entitlements for the project site. Under Alternatives A and C, in order to develop and sell condominiums, the project site would be subdivided. After approval of the proposed development as a multifamily residential development, the project site would be subdivided in accordance with Chapter 43.4 of the TRPA Code of Ordinances. Subdivision would allow for the development and sale of individual condominiums, which would then be considered single-family units. Because both single-family and multifamily residential land uses are allowed in PAS 077, subdivision and sale of condominiums would be permissible land uses. Alternative B proposes the realignment of the two project site parcels; however, no subdivision would be required.
Policy 13	Redevelopment shall be encouraged in areas designated for redirection to improve environmental quality and community character
Consistent	Alternatives A, B, and C would result in the removal of the Tahoe Shores Mobile Home Park and redevelopment with residential housing and recreational structures near the shoreline, the reduction of site coverage, undergrounding of utility lines, and implementation of BMPs to improve site drainage and water quality. In addition, Alternative A would also include restoration of approximately 2 acres of SEZ habitat. Alternatives D and E would maintain the tahoe Shores Mobile Home Park, but BMPs would be implemented per the Jere Williams Plan agreement.
Goal #3	**All new development shall conform to the coefficients of allowable land coverage as set forth in "The Land Capability Classification of the Lake Tahoe Basin, California-Nevada, a Guide for Planning, Bailey, 1974."**

Table 5.3-1
Land Use Policy Consistency Analysis

Policy 1 Allowed base land coverage for all new projects and activities shall be calculated by applying the Bailey coefficients, as shown below, to the applicable area within the parcel boundary.

Land Capability District	Maximum Allowed Land Coverage
1a	1%
1b	1%
1c	1%
2	1%
3	5%
4	20%
5	25%
6	30%
7	30%

Consistent The proposed project site is located in land capability districts (LCD) 1b and 7. Approximately 149,656 sf (3.44 acres) of the project site is currently designated as LCD 7, which has a base allowable coverage of 30% (44,897 sf or 1.03 acres). Approximately 705,345 sf (16.19 acres) of the project site is designated as LCD 1b, which has a base allowable coverage of 1% (7,053 sf or 0.16 acre).

The project site is developed and currently occupied by the Tahoe Shores Mobile Home Park. The developed land coverage on the project site is recognized by TRPA and provides the basis for the future allowable coverage rather than the land capability districts. Therefore, the allowable site coverage would be 457,959 sf (10.51 acres) (April 3, 2004).

Alternative A would result in a total of approximately 358,907 sf (8.24 acres) of coverage, a total reduction in site coverage of approximately 99,052 sf (2.27 acres) or 22% from the TRPA verified coverage (457,959 sf or (10.51 acres).

Alternative B would result in a total of approximately 320,000 sf (7.35 acres) of coverage, a total reduction in site coverage of approximately 137,959 sf (3.17 acres) or 30.1% from the TRPA verified coverage (457,959 sf or 10.51 acres).
Alternative C would result in a total of approximately 380,000 sf (8.72 acres) of coverage, a total reduction in site coverage of approximately 77,959 sf (1.79 acres), or 17% from the TRPA verified coverage (457,959 sf or 10.51 acres).

Alternatives D and E would not change the total site coverage; it would remain at 457,959 sf (10.51 acres).

Policy 3 Rehabilitation, reconstruction, and upgrading of existing inventory of structures, or other forms of coverage in the Tahoe Region, are high priorities of the Regional Plan.

Consistent Alternatives A, B, and C would result in the removal of the existing Tahoe Shores Mobile Home Park and the reconstruction of the site with new residential units and recreation facilities near the shore. Alternatives A, B, and C would result in a reduction in the total site coverage, and Alternative A would include approximately 2 acres of SEZ restoration. Alternatives D and E would result in the continued operation of the mobile home park, but would involve some site improvements and BMPs as necessary to adhere to the Jere Williams Plan. Alternatives D and E would maintain the TRPA verified land coverage of 457,959 sf or 10.51 acres.

Goal #4 **Provide to the greatest possible extent, 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 use and enjoy the region's natural resources and amenities.

Consistent The project site is private property and provides private access to the shoreline for residents of the Tahoe Shores Mobile Home Park. The park does not provide public access to the shore. Under all project alternatives the site would remain private and would continue to provide only residents of the site, members and their guests with access to the shorezone.

Policy 2 No person or persons shall develop property so as to endanger the public health, safety, and welfare.

Consistent Construction of Alternatives A through E would likely involve the use of hazardous materials, such as fuels and other materials, but this would be temporary and all materials would be used in accordance with

Table 5.3-1 Land Use Policy Consistency Analysis	
	applicable federal, state, and local laws. In addition, according to the Earthquake Potential Map for Portions of Eastern California and Western Nevada (CGS 2005), the South Lake Tahoe area is considered to have a relatively low potential for shaking caused by seismic-related activity. Alternatives A through E would be constructed on a relatively level project site where no known nonseismic geologic hazards have occurred. The project would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3. Therefore, the Beach Club project would not endanger public health, safety, or welfare.
Housing	
Goal #1	**To the extent possible, affordable housing will be provided in suitable locations for the residents of the region.**
Policy 1	Special incentives, such as bonus development units, will be given to promote affordable or government-assisted housing for lower income households (80% of respective county's median income) and for very low income households (50% of respective county's median income). Each county's median income will be determined according to the income limits published annually by HUD.
Consistent	With respect to the TRPA Code of Ordinance's affordable housing definition (provided in Section 5.2.1), Tahoe Shores Mobile Home Park is not currently deed restricted, and is therefore, by definition, not affordable housing. In addition, the valuation of mobile home units at Tahoe Shores determined that the park does not provide an affordable housing option for very-low income (50% of median income or less) and low-income households (80% of median income or less). The average estimated occupancy cost (acquisition, rent, utilities, insurance, and taxes) at Tahoe Shores is $1,315 per month, which exceeds affordability thresholds (80% of the Douglas County median income) of $1,278 for four-person households. This average estimated occupancy cost further exceeds the affordability threshold because, based upon the 2000 Census, all households in Tahoe Shores were three-person households or smaller. Therefore, when adjusted for household size, affordability levels are exceeded by even greater margins.
Policy 2	Local governments will be encouraged to assume their "fair share" of the responsibility to provide lower and very low-income housing.
Consistent	As discussed above, the Tahoe Shores Mobile Home Park is not currently defined as affordable housing for very-low income and low-income households. However, the valuation of mobile home units at Tahoe Shores (Section 5.2, "Population and Housing") determined that there are 54 mobile home units that qualify as moderate income units. Alternatives A, B, and C would result in closure of the Tahoe Shores Mobile Home Park and removal of all 155 mobile home spaces, including 54 mobile homes that qualify as moderate income housing. Because Alternatives A and C would result in the subdivision of the project site, per Section 43.2.B of the TRPA Code of Ordinances these two alternatives would be required to replace all 54 moderate income units that would be removed. Alternative A, the proposed project, would include the construction of 19 deed-restricted moderate-income for-sale condominiums on the project site, and 35 off-site residential units that would also become deed-restricted moderate income units. Alternative C would also provide for 54 deed-restricted moderate-income units either on the project site or off-site. The proposed units in Alternatives A and C would be affordable to moderate-income households with incomes ranging up to 120% of the Douglas County median household income. In 2004, the county's median household income for a family of four was $63,900. The deed restrictions placed on the moderate income units would not expire, and could only be changed or revoked with approval from TRPA or its successor agency. Alternative B, the project site would not be subdivided. The two parcels that make up the project site would be realigned, the site would be sold, and two single-family estates would be constructed. Because this alternative does not involve subdivision, mitigation for the loss of moderate income housing is not required under the TRPA Code of Ordinances. Alternatives D and E, the No Project Alternatives, would maintain the Tahoe Shores Mobile Home Park but because of site improvements, more stringent requirements for mobile home units, and increases in site rents, it is anticipated that the moderate income units may be lost. However, because this alternative does not involve subdivision, mitigation for the loss of moderate income housing is not required under the TRPA Code of Ordinances.

Table 5.3-1 Land Use Policy Consistency Analysis	
Policy 3	Facilities shall be designed and occupied in accordance with local, regional, state, and federal standards for the assistance of households with low and very low incomes. Such housing units shall be made available for rental or sale at a cost to such persons that would not exceed the recommended state and federal standards.
Consistent	With respect to the TRPA Code of Ordinance's affordable housing definition (provided in Section 5.2.1), Tahoe Shores Mobile Home Park is not currently deed restricted, and is therefore, by definition, not affordable housing. In addition, the valuation of mobile home units at Tahoe Shores determined that the park does not provide an affordable housing option for very-low income (50% of median income or less) and low-income households (80% of median income or less). The average estimated occupancy cost (acquisition, rent, utilities, insurance, and taxes) at Tahoe Shores is $1,315 per month, which exceeds affordability thresholds (80% of the Douglas County median income) of $1,278 for four-person households. This average estimated occupancy cost further exceeds the affordability threshold because, based on the 2000 Census, all households in Tahoe Shores were three-person households or smaller. Therefore, when adjusted for household size, affordability levels are exceeded by even greater margins.
Policy 4	Affordable or government assisted housing for lower income households should be located in close proximity to employment centers, government services, and transit facilities. Such housing must be compatible with the scale and density of the surrounding neighborhood.
Consistent	Alternative A, the proposed project, and Alternative C would include 54 deed-restricted moderate-income for-sale condominiums as follows: 1) 19 deed-restricted moderate income condominiums would be constructed on the project site; and 2) 35 off-site housing units in the Oliver Park subdivision (directly east of the project site) would be purchased and converted to deed-restricted moderate income units. The project site and the adjacent Oliver Park subdivision are located near U.S. 50 approximately 0.8 miles northeast of the California-Nevada state line in Stateline, Nevada. Stateline includes services and employment opportunities for residents. Given that the project site and off-site units would be in currently developed areas, services and employment opportunities would be located in close proximity.
Goal #2	**To the extent possible, without compromising the growth management provision of the Plan, the attainment of threshold goals, and affordable housing incentive programs, moderate income housing will be encouraged in suitable locations for the residents of the region.**
Consistent	As discussed above, the Tahoe Shores Mobile Home Park is not currently defined as affordable housing for very-low income and low-income households. However, the valuation of mobile home units at Tahoe Shores (Section 5.2, "Population and Housing") determined that there are 54 mobile home units that qualify as moderate income units. Alternatives A, B, and C would result in closure of the Tahoe Shores Mobile Home Park and removal of all 155 mobile home spaces, including 54 mobile homes that qualify as moderate income housing. Because Alternatives A and C would result in the subdivision of the project site, per Section 43.2.B of the TRPA Code of Ordinances, they would be required to mitigate for the loss of the 54 moderate income units. Therefore Alternatives A and C would include 54 deed-restricted moderate-income for-sale condominiums either constructed on the project site or provided off-site. The units would be affordable to moderate-income households with incomes ranging up to 120% of the Douglas County median household income. In 2004, the county's median household income for a family of four was $63,900. The deed restrictions would not expire, and could only be changed or revoked with approval from TRPA or its successor agency. With Alternatives B, D, and E, the project site would not be subdivided. Although up to 54 moderate-income units may be lost, mitigation for the loss of moderate income housing is not required under the TRPA Code of Ordinances.
Noise	
Goal #1	**Single-event noise standards shall be attained and maintained.**
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.
Consistent	As discussed in Section 5.8, "Noise," noise from construction activities that occur between 8:00 AM and 6:30 PM is considered exempt from the provisions of the applicable standards. In addition, according to the project description, construction activities would not occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) and would be temporary in nature. Thus, project-generated construction source noise levels would not exceed the applicable standards or result in annoyance and/or sleep

Table 5.3-1 Land Use Policy Consistency Analysis	
	disruption to occupants of existing nearby noise-sensitive land uses. As a result, this would be a less-than-significant impact. As discussed in Impact 5.8.A-2, long-term project-generated non-traffic source noise levels (i.e., heating ventilation and air conditioning [HVAC] equipment) under Alternative A could exceed applicable noise standards at off-site existing nearby noise-sensitive land uses. However, implementation of Mitigation Measure 5.8.A-2 would reduce HVAC equipment noise levels to a less-than-significant level. The same impact would apply to development Alternative C. In addition, all of the residential buildings would be constructed with materials that abate noise transmission (such as double paned windows) to address the potential for noise disturbance generated by 4-H activities. All buyers and residents at the project site would also be provided a disclosure statement in the Declaration of Covenants, Conditions, and Restrictions documents that includes a description of 4-H Camp events, activities, and the potential for noise.
Goal #2	**Community noise equivalent levels shall be attained and maintained.**
Policy 1	Transmission of noise from the transportation corridors shall be reduced.
Consistent	As discussed in Section 5.8, "Noise," implementation of Alternative A would result in an increase of approximately 104 to 199 trips in the annual average daily traffic volumes on the affected segments of U.S. 50, and 360 trips on Kahle Drive. Such traffic increases would not result in noise level increases along U.S. 50 (refer to Table 5.8-9). In addition, such traffic increases would result in noise level increases of less than 1.6 dBA along Kahle Drive, which would be imperceptible to the human ear. Thus, traffic associated with the long-term operation of Alternative A would not result in a perceptible (e.g., 3 dBA or greater) increase in noise levels along affected local roadways or highways. As a result, this would be a less-than-significant impact. The same would be true of development Alternatives B and C.
Natural Hazards	
Goal #1	**Risks from natural hazards (e.g., flood, fire, avalanche, earthquake) 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, 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 flood plain and area of wave run-up to be constructed or maintained to prevent damage from flooding and to not cause flooding.
Consistent	Based on the HEC-RAS analysis conducted for the project site and use of the most recent flow data, Alternative A would not impede or redirect flood flows, or place housing or other structures in the 100-year flood zone (Exhibits 5.5-6, 5.5-7 and 5.5-8). Potential flooding risks would be alleviated through implementation of the proposed grading plan and the Alternative A site design, which considers the location of the 100-year flood zone and proposes to construct all structures above it. In addition, the stormwater treatment system would convey 100-year flood flows through the proposed treatment ponds to the northern boundary of the project site and then outlet to Lake Tahoe, south of the Burke Creek outfall. Exhibit 5.5-9 demonstrates how the stormwater treatment system for Alternative A would convey 100-year flood flows through the proposed treatment ponds to accomplish this. For these reasons, this impact is considered less than significant.
	Under Alternatives B and C, residential estates and associated structures in the northern parcel would not result in any residential estates or associated structures being located in the 100-year floodplain. See Section 5.5, "Hydrology and Water Quality," for more detail.
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.
Consistent	The Beach Club residents would be informed of the wildfire hazard associated with occupancy in the basin and all project buildings would be equipped with sprinklers and fire resistant roofs, and would be required to comply with building codes related to fire safety.

Table 5.3-1 Land Use Policy Consistency Analysis	
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 subsurface runoff, and restore 80% of the disturbed lands.**
Policy 2	All persons who own land and all public agencies that manage public lands in the Lake Tahoe region shall put BMPs in place; maintain their BMPs; protect vegetation on their land from unnecessary damage; and restore the disturbed soils on their land.
Consistent	Alternatives A through E would include appropriate temporary and permanent BMPs, implementation of which would be the responsibility of the project applicant. Disturbed soils would be restored in compliance with the storm water pollution prevention plan (SWPPP) that would be approved before construction.
Policy 3	Application of BMPs to projects shall be required as a condition of approval for all projects.
Consistent	The project applicant would be required to prepare a SWPPP that would include temporary and permanent BMPs. As a condition of project approval, the SWPPP would be prepared and approved before construction.
Policy 8	Transportation and air quality measures aimed at reducing airborne emissions of oxides of nitrogen (NO_X) in the Tahoe basin shall be carried out.
Consistent	As described in Section 5.7, "Air Quality," implementation of Mitigation Measure 5.7.A-1 would reduce construction-related fugitive PM_{10} dust emissions and prevent dispersion, thereof, beyond the property boundary. Implementation of Mitigation Measure 5.7.A-1 would also reduce construction-related diesel equipment exhaust emissions of ROG, NO_x and PM_{10}. In addition, Alternatives A through E would be required to comply with all applicable TRPA and State of Nevada Division of Environmental Protection (NDEP) Bureau of Air Pollution Control (BAPC) and Bureau of Air Quality Planning (BAQP) regulations, particularly TRPA Code of Ordinances Chapter 25 (Best Management Practices), Chapter 64 (Grading Standards), and Chapter 91 (Air Quality Control). Long-term operational emissions associated with the proposed project alternatives would not exceed TRPA's stationary source thresholds or the mass emission thresholds for NO_x. Therefore, project implementation 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 traffic analysis in Section 5.6, "Transportation and Parking," discusses the amount of the contribution to the Air Quality Mitigation Fund, as required by Chapter 93.3.D of the TRPA Code of Ordinances. 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.
Goal #2	**Reduce or eliminate the addition of other pollutants that affect, or potentially affect, water quality in the Tahoe basin.**
Policy 1	All persons engaging in public snow disposal operations in the Tahoe region shall dispose of snow in accordance with site criteria and management standards in the *Handbook of Best Management Practices.*
Consistent	The site manager would provide snow removal on the on-site road and emergency access points, and Douglas County would be responsible for snow removal within the County's right-of-way. Snow removal would occur in accordance with the *Handbook of Best Management Practices.* Section 5.5, "Hydrology and Water Quality," of this document addresses stormwater runoff at the project site.
Policy 5	No person shall discharge solid wastes in the Lake Tahoe region by depositing them on or in the land, except as provided by TRPA ordinance.
Consistent	As discussed in Chapter 3, "Project Description," of this document, solid waste disposal services for the project site 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 5.3-1
Land Use Policy Consistency Analysis

Community Design	
Goal #1	**Ensure 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	The scenic quality ratings established by the environmental thresholds shall be maintained or improved.
Consistent	As discussed in Section 5.10, "Scenic Resources," of this document, with implementation of appropriate mitigation, Alternatives A through E would comply with scenic quality standards for TRPA, including TRPA's Scenic Resource Thresholds identified in TRPA's Code of Ordinances and TRPA's Design Review Guidelines regarding the design of the buildings and lighting.
Goal #2	**Regional building and community design criteria shall be established to ensure attainment of the scenic thresholds, maintenance of desired community character, compatibility of land uses, and coordinated project review.**
Policy 1	Regional design review shall include the following to be used in evaluating projects throughout the region. This review may entail additional requirements for or special requirements not listed below. A. Site Design: All new development shall consider site design which includes, at a minimum: 1) Existing natural features to be retained and incorporated into the site design. 2) Building placement and design to be compatible with adjacent properties and consideration of solar exposure, climate, noise, safety, fire protection, and privacy. 3) Site planning to include a drainage, infiltration, and grading plan meeting BMP standards. B) Access, parking, and circulation to be logical, safe, and meet the requirements of the transportation element. 1) 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. 2) Building height limits shall be established to ensure that buildings do not project above the forest canopy, ridge lines, or otherwise detract from the viewshed. 3) Buffer requirements shall be established for noise, snow removal, aesthetic, and environmental purposes. 4) The scale of structures should be consistent with surrounding uses. 5) Viewshed should be considered in all new construction. Emphasis should be placed on lake views from major transportation corridors.
	C. Landscaping: The following should be considered with respect to this design component of a project: 1) Native vegetation should be utilized whenever possible. 2) Vegetation should be used to screen parking and to alleviate long strips of parking space. 3) Plants should be used to give privacy, reduce glare and heat, deflect wind, muffle noise, prevent erosion, and soften the line of architecture. D. Lighting: Lighting increases the operational efficiency of a site. In determining the lighting for a project, the following should be considered: 1) Exterior lighting should be minimized with an emphasis on safety and should be consistent with the architectural design. 2) Overall levels should be compatible with the neighborhood light level. Emphasis should be placed on a few, well placed, low intensity lights. 3) Lights should not blink, flash, or change intensity. E. Signing: In determining sign design, the following should be considered: 1) Off premise signs are prohibited. 2) Signs should be incorporated into building design. 3) When possible, signs should be consolidated into clusters to avoid clutter. 4) Signage should be attached to buildings when possible. 5) Standards for height, lighting, and square footage for on premise signs shall be formulated and shall be consistent with the land uses permitted in each district.
Consistent	As described in Chapters 3, 4, and 5 of this EIS, all development alternatives (Alternatives A, B, and C) would

Table 5.3-1 Land Use Policy Consistency Analysis	
	include reduced site coverage, improved drainage, temporary and permanent BMPs, sufficient vehicular site access, emergency access, sufficient parking, the undergrounding of utility lines, building designs that comply with TRPA scenic thresholds, building heights that are consistent with TRPA height standards, native landscaping, compatible lighting, and no off-site signs.
Transportation	
Objective 2	**Plan for and promote land use changes and development patterns that will encourage the use of alternative transportation modes and minimize impacts on the existing transportation system.**
Policy A	Community Plans shall promote land use development patterns and designs that will increase the ability to use public transportation, waterborne, bicycle, and pedestrian facilities.
Consistent	In keeping with observed travel modes for Tahoe residents, and in view of the fact that the residents have the option to use the BlueGo Flex Route service, it is estimated that 2% of trips made to and from the proposed condominiums would be made via public transit, pedestrian or bicycle travelers. In addition, under Alternative A, a shuttle service would be provided by the project applicant that would operate on demand, providing service within the project site (for residents of the outlying residential units traveling to the Beach Club) as well as along the U.S. 50 corridors between Heavenly Village on the south and Round Hill Square on the north. The hours of operation would be from 8:00 AM to 10:00 PM, at a minimum, during peak seasons.
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.
Consistent	The Beach Club project site is a developed site (Tahoe Shores Mobile Home Park) surrounded by USFS lands, including Burke Creek (Rabe) Meadow and Nevada Beach Campground to the north; the Meadowbrook Apartments and the Oliver Park GID to the east; the University of Nevada 4-H Camp and Edgewood Golf Course to the south; and Lake Tahoe to the west. The project site is located near U.S. 50 approximately 0.8 mile northeast of the California-Nevada state line area, which includes the casino core, gondola areas, and associated tourist services. Residents at the project site have access to the BlueGo Flex Route service on U.S. 50. In addition, under Alternative A, a shuttle service would be provided by the project applicant that would operate on demand, providing service within the project site (for residents of the outlying residential units traveling to the Beach Club) as well as along the U.S. 50 corridors between Heavenly Village on the south and Round Hill Square on the north. The hours of operation would be from 8:00 AM to 10:00 PM, at a minimum, during peak seasons.
Policy D	New, expanded, or revised developments shall fully mitigate their regional and cumulative traffic impacts.
Consistent	Section 5.14, "Cumulative Impacts," of this document analyzes the cumulative transportation-related effects of Alternatives A through E. Mitigation measures are identified to ensure that the project contributes its fair share to mitigate its contribution to regional and cumulative traffic impacts.
Policy E	Parking for residential usage shall meet TRPA standards and shall be provided on-site.
Consistent	As discussed in Section 5.6, "Transportation and Parking," of this document, Alternative A would include an adequate supply of parking to meet the demand generated by the Beach Club project. A total of 220 spaces would be required for residential uses, and the beach and swim club/restaurant uses would require a total of 122 spaces. The total parking supply for Alternative A would be 358 spaces, which would exceed the parking demand. Under Alternative B, the two single-family estates would each include a five-car detached parking garage and minimal surface parking, which would be sufficient to meet the parking demand associated with each estate. Alternative C would require a total of 265 parking spaces; however, Alternative C proposes an overall parking supply of 267 spaces, resulting in a surplus of parking spaces. Alternatives D and E would not alter the existing parking at Tahoe Shores Mobile Home Park.
Policy F	Parking for nonresidential 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.
Consistent	Only Alternative A would require parking for nonresidential uses. As discussed in Impact 5.6.A-3 in Section 5.6,

Table 5.3-1 Land Use Policy Consistency Analysis	
	"Transportation and Parking," Alternative A would include an adequate supply of parking to meet the demand generated by the Beach Club project. The nonresidential beach and swim club/restaurant uses would require a total of 122 spaces and the residential uses would require 220 spaces. The total parking supply for Alternative A would be 358 spaces, which would exceed the parking demand.
Policy G	Driveways shall be designed and sited to minimize impacts on public transportation, adjacent roadways and intersections, bicycle and pedestrian facilities.
Consistent	Kahle Drive, which provides access to the project site, is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. The proposed project would generate a moderate level of pedestrian and bicycle activity, similar to existing conditions. As per the *Lake Tahoe Regional Bicycle and Pedestrian Master Plan*, there are no planned facilities that the proposed project would conflict with. Although the pedestrian and bicycle facilities in the project area are limited, the project would not alter existing or planned facilities. As discussed in Section 5.6, "Transportation and Parking," of this document, none of the project alternatives would result in intersections with inadequate driver sight distance or other characteristics that would create an undue potential safety hazard. Under Alternative A, the proposed project would include realigning the two parallel roads on the site. Arthur Drive and Eugene Drive would be removed and replaced by a single two-way road running east-west through the project site. The new paved road would begin where Kahle Drive ends at the eastern boundary of the project site and would end at the proposed beach and swim club at the west-end of the project site. Alternative B would result in the realignment of the existing project site roadways into two private driveways, one on each realigned parcel to serve each single-family estate. Under Alternative C, the existing project site roadways would be realigned to a single two-way road running east-west through the project site that would serve both multifamily residential complexes. In Alternatives D and E, Arthur Drive and Eugene Drive would remain unchanged.
Objective 4	**Develop and encourage the use of pedestrian and bicycle facilities as a safe and viable alternative to automobile use.**
Policy A	There shall be a high priority on constructing pedestrian and bicycle facilities in urbanized areas of the Region and where reductions in congestion will result.
Consistent	Kahle Drive, which provides access to the project site, is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. The proposed project would generate a moderate level of pedestrian and bicycle activity, similar to existing conditions. As per the *Lake Tahoe Regional Bicycle and Pedestrian Master Plan*, there are no planned facilities that the proposed project would conflict with. Although the pedestrian and bicycle facilities in the project area are limited, the project would not alter existing or planned facilities.
Policy E	Bicycle and pedestrian linkages shall be provided between residential and nonresidential areas.
Consistent	Kahle Drive, which provides access to the project site, is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. The proposed project would generate a moderate level of pedestrian and bicycle activity, similar to existing conditions. As per the *Lake Tahoe Regional Bicycle and Pedestrian Master Plan*, there are no planned facilities that the proposed project would conflict with. Although the pedestrian and bicycle facilities in the project area are limited, the project would not alter existing or planned facilities.
Policy D	Local roadways connecting residential areas, and connecting residential areas with nonresidential areas, may be constructed, provided these roadways are designed to improve local circulation and will not induce through traffic.
Consistent	As with current site conditions, Alternatives A through E would result in a paved roadway that would connect to Kahle Drive at the at the eastern boundary of the project site, which then connects to U.S. 50. This roadway would provide access for residents, members of the beach and swim club and their guests and emergency access to the site, but would not induce through traffic because there is no roadway connection from the project site to the north, west, or south.

Table 5.3-1 Land Use Policy Consistency Analysis	
Objective 5	**Implement transportation demand management (TDM) measures to reduce the number of vehicle trips on the Region's highways.**
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.
Consistent	In keeping with observed travel modes for Tahoe residents, and in view of the fact that the residents have the option to use the BlueGo Flex Route service, it is estimated that 2% of trips made to and from the proposed condominiums would be made via public transit, pedestrian or bicycle travelers. In addition, under Alternative A, a shuttle service would be provided by the project applicant that would operate on demand, providing service within the project site (for residents of the outlying residential units traveling to the Beach Club) as well as along the U.S. 50 corridors between Heavenly Village on the south and Round Hill Square on the north. The hours of operation would be from 8:00 AM to 10:00 PM, at a minimum, during peak seasons.
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.
Consistent	As discussed in Section 5.9, "Biological Resources," of this document, vegetation removal would remain within the approved project site boundaries. Implementation of the development alternatives could result in the loss or disturbance of low quality, disturbed grassland/big sagebrush scrub habitat and deciduous riparian habitat. No other vegetation types would be affected.
Policy 6	The management of vegetation in urban areas shall be in accordance with the policies of this plan and shall include provisions that allow for the perpetuation of the natural-appearing landscape.
Consistent	With implementation of the mitigation measures identified in Section 5.9, "Biological Resources," of this document, Alternatives A through E would be in compliance with TRPA's Goals and Policies with respect to the management of vegetation in urban areas.
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.
Consistent	All development alternatives, Alternatives A, B, and C, would include native landscaping based on an approved list of species from TRPA. The conceptual plant list for landscaping and SEZ restoration for Alternative A is provided in Table 3-3.
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.
Consistent	The project site is developed with the Tahoe Shores Mobile Home Park and does not support any high-quality TRPA common threshold vegetation types other than deciduous riparian vegetation along the drainage ditch at the northern boundary of the site. The project site does not support any uncommon vegetation or late seral/old growth ecosystems as defined by TRPA. Low quality disturbed grassland/big sagebrush scrub habitat is present on the western portion of the project site. Removal or disturbance of this already disturbed vegetation is not considered a significant impact. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. Implementation of Alternatives A, B, or C would likely have very little effect on nesting special-status bird species, raptors, and other migratory birds, due to lack of suitable nesting habitat on the project site. Implementation of Alternatives A, B, or C would also result in less-than-significant impacts related to fisheries. Furthermore, Alternatives A, B, and C would reduce site coverage and would include BMPs and site drainage to properly collect and infiltrate site runoff, as well as improve the water quality of runoff from the project site. Alternatives D and E would keep the Tahoe Shores Mobile Home Park and minor site improvements and BMPs would be implemented.
Goal #2	**Provide for the maintenance and restoration of such unique eco-systems as wetlands, meadows, and other riparian vegetation.**

Table 5.3-1 Land Use Policy Consistency Analysis	
Policy 2	Riparian plant communities shall be restored or expanded whenever and wherever possible.
Consistent	Alternative A, the proposed project, would include restoration of approximately 2 acres of SEZ habitat along the northern portion of the project site adjacent to the United State Forest Service parcel and Burke Creek as shown in Exhibits 3-4 and 3-13. The fill in this northern portion of the project site, originally placed over the SEZ when the airfield was constructed, would be removed to reestablish wetlands and SEZ habitat adjacent to Burke Creek. The abandoned ditch on the northern border of the project site would be filled to assist with rehydrating the restored meadow. After removal of the fill and restoration of the ditch, the restoration area would be planted with native plugs and riparian vegetation and all disturbed areas would be seeded with a native wetland seed mixture and mulched. The conceptual plant list for landscaping and SEZ restoration area is provided in Table 3-3. A small split rail fence would be installed along the northern side of the project roadway to identify and protect the restored SEZ area. In addition, interpretive signs would be installed providing information about the restoration, Rabe Meadow, and Burke Creek. Alternatives B, C, D, and E would not include restoration of SEZ habitat.
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.
Consistent	The project site is developed and includes roadways, concrete pads for 155 mobile home units, and landscaping associated with the Tahoe Shores Mobile Home Park. At the western end of the project site, the Kingsbury General Improvement District (KGID) water supply pump station, a mobile home that serves as the Tahoe Shores manager's office, storage and maintenance buildings, electrical stations, and a recreational pier are present. Habitats present on the project site include the beach zone, a drainage ditch, willow scrub, big sagebrush scrub, and dry meadow. There is Jeffrey pine forest, big sagebrush scrub, montane meadow, and riparian scrub/woodland habitats to the north and south of the project site. One uncommon plant community, Tahoe yellow cress, has been identified on the project site. During the EDAW special-status plant survey on June 21, 2006, 11 plants of Tahoe yellow cress were encountered in four locations on the project site. All 11 Tahoe yellow cress plants were located in the backshore zone on the north side of the project site on the north and south sides of the drainage ditch in moist sand 1 to 4 feet from the water's edge (Exhibit 5.9-1). As addressed in Mitigation Measure 5.9.A-4 in Section 5.9, "Biological Resources," all project development alternatives would include mitigation to avoid disturbance or removal of Tahoe yellow cress and to implement measures to counteract potential adverse effects related to site hydrology and changed use patterns for the Beach Club project and construction-related impacts. In addition, the project would include an interpretive path that would direct people away from the Tahoe yellow cress populations.
Policy 3	The conservation strategy for Tahoe Yellow Cress in the Lake Tahoe Basin shall foster stewardship for this species.
Consistent	Tahoe yellow cress is known to occur in the backshore zone of the project site along the northern drainage ditch. Implementation of the development alternatives, Alternatives A, B, or C, could disturb Tahoe yellow cress. Therefore, implementation of Mitigation Measure 5.9.A-4 would be required to avoid disturbance or removal of Tahoe yellow cress and to implement measures to counteract potential adverse effects related to site hydrology and changed use patterns for the Beach Club project and construction-related impacts. Implementation of the mitigation would reduce the project's impact on Tahoe yellow cress to a less-than-significant level.
Wildlife	
Goal #1	**Maintain suitable habitats for all indigenous species of wildlife without preference to game or nongame species through maintenance of habitat diversity.**
Policy 1	All proposed actions shall consider impacts to wildlife.
Consistent	Section 5.9, "Biological Resources," of this document describes and analyzes potential impacts to wildlife resulting from Alternatives A through E. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. Implementation of the project alternatives would likely have very little effect on nesting special-status bird species, raptors, and other migratory birds, due to lack of suitable nesting habitat on the project site. Implementation the project alternatives would likely have little

Table 5.3-1 Land Use Policy Consistency Analysis	
	effect on foraging osprey and bald-headed eagle that potentially forage on Lake Tahoe in the vicinity of the project site. Implementation the project alternatives is not expected have any effects on nesting waterfowl due to the lack of suitable nesting habitat on the project site. Alternatives A, B and C include the reconstruction and expansion of the existing pier and the relocation of the three existing buoys, which is not expected to result in disturbance during fish spawning periods and would not affect fish rearing.
Policy 2	Riparian vegetation shall be protected and managed for wildlife.
Consistent	The Kahle ditch, a man-made intermittent drainage ditch, is present along the northern border of the project site and drains to Lake Tahoe, which is considered a water of the United States by USACE. Tributaries of waters of the United States are considered jurisdictional by USACE. Therefore USACE would have jurisdiction over the Kahle Ditch. Implementation of Alternatives A, B, and C would include implementation of BMPs for site drainage and water quality treatment. (In addition, Alternative A would include restoration of approximately 2 acres of SEZ area on the northern edge of the project site.) Construction of Alternative A would result in fill of the Kahle Ditch and removal of willow scrub and riparian vegetation currently lining the ditch. In addition, some willow scrub and riparian vegetation present on the western portion of the project site and along the shallow drainage ditch on the southern boundary of the project site would likely be removed or disturbed during project implementation. However, conversion of this ditch to meadow would be beneficial in terms of improved water quality, increased wetness in burke creek meadow and re-establishment of native plant community that provides better ground cover. Deciduous riparian vegetation is also one of TRPA's threshold common vegetation types with an attainment threshold of 4%. Removal of this vegetation type needs to be addressed during the TRPA permitting process. Mitigation Measure 5.9.A-1 requires a delineation of waters of the United States, prior to the start of construction activities at the project site. If, based on the USACE 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 on a "no net loss" basis in accordance with USACE and TRPA regulations. Restoration of the SEZ adjacent to the Kahle Ditch would likely be considered an appropriate mitigation measure for loss of deciduous riparian vegetation by both USACE and TRPA. In addition, fill of the Kahle Ditch is likely to have a beneficial effect on the water table of the meadow and SEZ ecosystems to the north of the project site. Nevertheless, habitat restoration, enhancement, and/or replacement shall be at a location and by methods agreeable to USACE as determined during the permitting processes for Clean Water Act Section 404 and by TRPA during its permitting process.
Goal #2	**Preserve, enhance, and, wherever 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.
Consistent	The only endangered, threatened, rare, or special status species that has been identified at the project site is the Tahoe yellow cress. Tahoe yellow cress is known to occur in the backshore zone of the project site along the northern drainage ditch in the backshore zone. Implementation of the development alternatives, Alternatives A, B, or C, could disturb Tahoe yellow cress. Therefore, Mitigation Measure 5.9.A-4 requires avoidance of disturbance or removal of Tahoe yellow cress and the implementation of measures to counteract potential adverse effects related to site hydrology and changed use patterns and construction-related impacts. Implementation of the mitigation would reduce the project's impact on Tahoe yellow cress to a less-than-significant level.
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.
Consistent	Section 5.9, "Biological Resources," evaluates the impact of all project alternatives on fisheries. Alternatives D and E would result in no impacts to fisheries because no pier expansion would be completed. Alternatives

Table 5.3-1 Land Use Policy Consistency Analysis	
	A, B, and C would include the reconstruction and expansion of the existing pier and the relocation of the three existing buoys, which is not expected to result in disturbance during fish spawning periods or in disturbance during fish rearing. Implementation of Alternatives A, B, and C would also result in drainage improvements and BMPs that would have a beneficial impact on water quality and associated fisheries habitat.
Policy 4	Standards for boating activity shall be established for the shallow zone of Lake Tahoe.
Consistent	As described in the Section 5.5, "Hydrology and Water Quality," Impacts 5.5.A-5 and 5.5.A-6, Alternatives A, B, and C would include the relocation of the three existing buoys, but would not include any additional buoys (see Exhibits 3-10 and 4-2). Therefore, the project would not contribute to an increase in the number of boats moored at the lake nor would it contribute to increased boating activity.
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.
Consistent	The project site is developed and currently occupied by the Tahoe Shores Mobile Home Park. The developed land coverage on the project site (457,959 sf) is recognized by TRPA and provides the basis for the future allowable coverage rather than the land capability districts. Therefore, the allowable site coverage would be 457,959 sf. Alternatives A, B, and C would result in a reduction in the total site coverage to 358,907 sf, 320,000 sf, and 380,000 sf, respectively. Therefore, all three development alternatives would be below the TRPA verified coverage for the site. Alternatives D and E would maintain the site coverage at 457,959 sf.
Policy 6	Grading, filling, clearing of vegetation (that disturbs soil), or other disturbances of the soil are prohibited during inclement weather and for the resulting period 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 from October 15 to May 1.
Consistent	Section 5.4, "Geology, Soils, and Land Capability and Coverage," discusses potential soil disturbances resulting from project construction. Mitigation Measure 5.4.A-3a (submit Final Geotechnical Report and Improvement Plans) includes the requirement that a winterization plan be provided with project improvement plans. The project applicant would be responsible for ensuring proper installation and maintenance of erosion control winterization during project construction. In addition, the project applicant would be required to prepare a SWPPP that would include temporary and permanent BMPs. As a condition of project approval, the SWPPP would be prepared and approved before construction.
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.
Consistent	Installation of electrical conduit to power the mechanical/hydraulic lifts for the vertically moving fixed section of the proposed pier associated with Alternatives A and C, and construction of the 10-foot approach walk constructed on the shoreline to provide stable access from the beach shore to the pier under Alternatives A, B and C would require construction in the beach zone of the project site. No other construction activities or construction staging would occur in the beach zone. The proposed pier reconstruction and expansion would occur from a barge on the lake and all construction staging for the project would occur on previously disturbed portions of the project site outside of the beach zone. Although there would not be direct disturbance of vegetation on the beach, Tahoe yellow cress is known to occur in the backshore zone of the project site along the northern drainage ditch. Implementation of the development alternatives, Alternatives A, B, or C, could disturb Tahoe yellow cress. Therefore, Mitigation Measure 5.9.A-4 requires avoidance of disturbance or removal of Tahoe yellow cress and the implementation of measures to counteract potential adverse effects related to site hydrology and changed use patterns. Implementation of the mitigation would reduce the project's impact on Tahoe yellow cress to a less-than-significant level.

Table 5.3-1 Land Use Policy Consistency Analysis	
Policy 2	Construction activity should be set back to ensure no disturbance of the interface between high capability backshore and unstable cliff areas.
Consistent	See discussion under Policy 1 above. Because there are no cliff areas on or near the project site, construction activities associated with development Alternatives A, B and C would not cause any disturbance of the interface between high capability backshore and unstable cliff areas.
Policy 3	The use of lawns or ornamental vegetation in the shorezone shall be discouraged.
Consistent	The proposed project and project alternatives would not include the use of lawns or ornamental vegetation in the shorezone of the project site.
Policy 7	Water dependent recreational facilities and residential buildings are acceptable in Class 6, 7, and 8 capability shorezones so long as such uses (1) Provide for the natural equilibrium of the shoreline interface, (2) do not accelerate the nearshore shelf erosion, (3) minimize disturbance of vegetation, (4) consider visual amenities, and (5) comply with other relevant policies of this subelement.
Consistent	The project site is located in Shorezone Tolerance District 7, which allows for water-oriented recreation facilities (beach recreation, buoys, piers, floating docks and platforms, water intake lines, boat ramps, etc.) in the backshore, nearshore, and foreshore (TRPA Code of Ordinances Chapter 53.9). The existing 109-foot private pier is an allowable use in Shorezone Tolerance District 7 and under Alternatives A, B and C, it would be reconstructed and extended approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). The reconstructed pier would extend to the TRPA designated pier headline (elevation 6219.0). The pier would follow the current alignment (perpendicular to the shoreline). The reconstructed pier would be consistent with the Design and Construction Standards listed in TRPA Code Section 54.4.B, except as allowed under Code Section 54.4.B(1). In addition, the three existing buoys would be relocated to just north of the expanded pier.
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.
Consistent	The proposed pier plan applicable to Alternatives A and C is shown on Exhibit 3-10. The Alternative B pier plan is shown on Exhibit 4-2. With Alternatives A, B and C, the existing 109-foot private pier would be reconstructed and expanded approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). The pier would extend to the TRPA designated pier headline (elevation 6219.0). With Alternatives A and C, the existing pier would be reconstructed with an 80-foot vertically moving fixed section (intended to avoid effects on littoral processes) and a 20-foot transition section that connects the fixed section to a 59-foot floating section. A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north intended to provide safer and more stable boat loading and unloading. At its widest point, the floating pier would be 30 feet wide. The Alternative B pier would include an 80-foot fixed section and a 34-foot ramp that connects the fixed pier to a 45-foot floating pier. The floating pier would be anchored by two piles spaced approximately 28 feet apart. Each pile would extend through a hole, encircled by rollers, in the floor of the pier which would allow vertical movement of the pier from wave action, but not horizontal movement. No work would be done at or below water level, and BMPs would be in place to prevent spillage of debris, machine oils, or other construction related materials from the pier work area into the lake water. The three relocated buoys would be attached to a 4 x 4 x 2-foot concrete block, slowly placed on the lake bottom so as not to generate excess sedimentation. No dredging or other lake bottom removal would be utilized in buoy placement. Construction staging for the pier 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 driving of the pier piles.

Table 5.3-1 Land Use Policy Consistency Analysis	
	The proposed pier expansion and buoy relocation in Alternatives A, B, and C would not be in conflict with the fishery threshold nondegradation standard for essential fish habitat and is not expected to result in disturbance during fish rearing.
Policy 11	The agency shall regulate the maintenance, repair, and modification of piers and other structures in the nearshore and foreshore.
Consistent	The proposed pier plan for Alternatives A and C is shown on Exhibit 3-10. The Alternative B pier plan is shown on Exhibit 4-2. With Alternatives A, B, and C, the reconstructed pier would be consistent with the Design and Construction Standards listed in TRPA Code Section 54.4.B, or with exceptions allowed under Code Section 54.4.B(1).
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 view from roadways, bike paths, public recreation areas, and Lake Tahoe.
Consistent	Section 5.10, "Scenic Resources," of this document analyzes the project's effects on scenic resources, including views from roadways, bike paths, public recreation areas, and Lake Tahoe. With implementation of appropriate mitigation measures, Alternatives A through E would comply with scenic quality standards for TRPA, including TRPA's Scenic Resource Thresholds identified in TRPA's Code of Ordinances and TRPA's Design Review Guidelines regarding the design of the buildings and lighting.
Policy 2	Any development proposed in areas targeted for scenic restoration or within a unit highly sensitive to change shall demonstrate the effect of the project on the 1982 Travel Route Ratings of the Scenic Thresholds.
Consistent	As discussed in Section 5.10, "Scenic Resources," of this document, with implementation of appropriate mitigation, Alternatives A through E would result in less-than-significant impacts related to TRPA's Travel Route Threshold Ratings.
Stream Environment Zone	
Goal # 1	**Provide for the long-term preservation and restoration of stream environment zones.**
Policy 1	Restore all disturbed stream environment zone lands in undeveloped, unsubdivided lands, and restore 25 percent of the SEZ lands that have been disturbed, developed, or subdivided.
Consistent	Alternative A would include restoration of approximately 2 acres of SEZ habitat along the northern portion of the project site adjacent to the United State Forest Service parcel and Burke Creek as shown in Exhibits 3-4 and 3-13. The fill in this northern portion of the project site, originally placed over the SEZ when the airfield was constructed, would be removed to reestablish wetlands and SEZ habitat adjacent to Burke Creek. The abandoned ditch on the northern border of the project site would be filled to assist with rehydrating the restored meadow. After removal of the fill and restoration of the ditch, the restoration area would be planted with native plugs and riparian vegetation and all disturbed areas would be seeded with a native wetland seed mixture and mulched. The conceptual plant list for landscaping and SEZ restoration area is provided in Table 3-3. A small split-rail fence would be installed along the northern side of the project roadway to identify and protect the restored SEZ area. In addition, interpretive signs would be installed providing information about the restoration, Rabe Meadow, and Burke Creek. Alternatives B, C, D, and E would not include restoration of SEZ habitat.
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.
Consistent	The project site is developed and currently occupied by the Tahoe Shores Mobile Home Park. The developed land coverage on the project site (457,959 sf) is recognized by TRPA and provides the basis for the future allowable coverage rather than the land capability districts. Therefore, the allowable site coverage would be 457,959 sf. Alternatives A, B, and C would result in a reduction in the total site coverage below the TRPA verified coverage for the site. Alternatives D and E would maintain the site coverage at 457,959 sf. All site alternatives would implement BMPs to improve the water quality of runoff from the project site. In addition, Alternative A would result in the restoration of approximately 2 acres of SEZ habitat along the northern

Table 5.3-1 Land Use Policy Consistency Analysis	
	border of the project site.
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.
Consistent	The record search and the field survey conducted on the project site identified no historic cultural resources on the project site. Mitigation identified in Section 5.11, "Cultural Resources," would ensure that impacts on previously undiscovered cultural resources would be reduced to less-than-significant levels.
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.
Consistent	The record search and the field survey conducted on the project site identified no historic cultural resources on the project site. Mitigation identified in Section 5.11, "Cultural Resources," would ensure that impacts on previously undiscovered cultural resources would be reduced to less-than-significant levels.
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.
Consistent	Alternatives A through E would comply with state and federal energy efficiency standards. The proposed project, Alternative A, would seek to achieve a Leadership in Energy and Environmental Design (LEED®) silver rating from the U.S. Green Building Council.
Policy 2	A coordinated program to encourage recycling of waste products should be developed.
Consistent	As described in Chapter 3, "Project Description" and Chapter 4, "Alternatives" of this document, all alternatives include plans to provide solid waste and recycling service to residents of the new development.
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.
Consistent	The proposed project site is located in Shorezone Tolerance District 7, which allows for water-oriented recreation facilities (beach recreation, buoys, piers, floating docks and platforms, water intake lines, boat ramps, etc.) in the backshore, nearshore, and foreshore (TRPA Code of Ordinances Chapter 53.9). The existing 109-foot private pier is an allowable use in Shorezone Tolerance District 7 and would be reconstructed and extended approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). The proposed pier plan is common for Alternatives A and C and is shown on Exhibit 3-10. The Alternative B pier plan is shown on Exhibit 4-2. The reconstructed pier would be consistent with the Design and Construction Standards listed in TRPA Code Section 54.4.B, or with exceptions allowed under Code Section 54.4.B(1). No pier expansion would occur in Alternatives D and E.
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.
Consistent	The proposed pier plan for Alternatives A and C is shown on Exhibit 3-10. The Alternative B pier plan is shown on Exhibit 4-2. The reconstructed floating pier would be consistent with the Design and Construction Standards listed in TRPA Code Section 54.4.B, or with exceptions allowed under Code Section 54.4.B(1). The proposed pier expansion and relocation of the three existing buoys in Alternatives A, B, and C would not disrupt recreational boating activities. The pier expansion would remain 100 feet from the Hobart's Hole fishing area and would not impact top-line fishing. No pier expansion would occur in Alternatives D and E and, therefore, there would be no impacts to recreational boating or top-line fishing.

Table 5.3-1 Land Use Policy Consistency Analysis	
Developed Recreation	
Goal #2	**Provide for the appropriate type, location, and rate of development of outdoor recreational uses.**
Policy 1	Expansion of recreational facilities and opportunities should be in response to demand.
Consistent	Under Alternative A, the beach and swim club would increase recreational facilities for the residents of the project site and members of the club. The reconstructed pier would be consistent with the Design and Construction Standards listed in TRPA Code Section 54.4.B, except as allowed under Code Section 54.4.B(1). Under Alternative B, two single-family estates, each estate would have recreational facilities such as a pool and tennis courts in addition to beach access. Under Alternative C, each multifamily residential complex would have recreational facilities. Alternatives B and C would also include a reconstructed floating pier as in Alternative A. Under Alternatives D and E, recreational facilities would remain as they currently are and no pier expansion would occur.
Policy 3	Public boat launching facilities shall be expanded, where appropriate, and when consistent with environmental constraints.
Consistent	The project site does not provide public boat launching facilities and none of the proposed Alternatives, A through E, would result in the construction or expansion of public boat launching facilities.
Public Services and Facilities 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 2	Expansion of public services and facilities should be phased to meet the needs of new development without creating inefficiencies from overexpansion or under-expansion.
Consistent	Alternatives A through E would require provision of the following public services and utilities: water, wastewater, electricity and natural gas, solid waste, and telecommunications. Consultation with purveyors of these utilities has confirmed that service would be provided. Because the population on the project would either remain essentially the same or would be reduced, the project would result in no increased demands for public services such as police, fire, emergency services, public schools, or recreation.
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.
Consistent	Alternatives A through E would include the installation of appropriate devices to conserve water and reduce water consumption.
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.
Consistent	KGID has sufficient water to serve the project and would continue to provide water service to the project site and project vicinity. However, the existing underground water main would be realigned with the new roadway and/or dedicated utility easement. The 6–8-inch water main would connect to underground distribution pipes to serve the proposed buildings.

Table 5.3-1 Land Use Policy Consistency Analysis	
Policy 3	No additional development requiring water shall be allowed in any area unless there exist adequate storage and distribution systems to deliver an adequate quantity and quality of water for domestic consumption and fire protection.
Consistent	KGID has sufficient water to serve the project and would continue to provide water service to the project site and project vicinity. However, the existing underground water main would be realigned with the new roadway and/or dedicated utility easement. The 6–8-inch water main would connect to underground distribution pipes to serve the proposed buildings.
Goal #3	**Prevent liquid and solid wastes from degrading Lake Tahoe and the surface waters and groundwaters of the region.**
Policy 2	All solid wastes shall be exported from the region. Consolidation and transfer methods shall be developed to achieve a reduction in the volume of wastes being transported to landfills. The discharge of municipal or industrial wastewaters to the surface waters and groundwaters of the Tahoe region is prohibited, except for existing development discharging wastewaters under a state- or TRPA-approved disposal plan.
Consistent	Solid waste at the project site would be contained in two bear-resistant 20-yard dumpster enclosures. Solid waste disposal services 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 in Nevada with sufficient capacity. The Douglas County Sewer Improvement District collects and treats wastewater from the project site. The proposed project would continue to be served by the existing gravity-flow sewer system. It is estimated that 4–8-inch wastewater pipelines would be installed and/or realigned as necessary to serve the proposed project buildings. Additionally, an existing 12-inch sewer force main that runs the length of the property would remain in its current underground alignment and utility easement. These existing and realigned sewer lines would gravity feed to a pump station just north of the project site, where the wastewater would be pumped to the District's treatment plant at Round Hill.
Policy 3	Garbage pick-up service shall be mandatory throughout the region, and will be so structured as to encourage cleanups and recycling.
Consistent	Solid waste disposal services 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 in Nevada with sufficient capacity.
Goal #4	**To ensure protection of the public health, safety, and general welfare of the region, educational and public safety services should be sized to be consistent with projected growth levels in this Plan.**
Policy 1	The impact on educational and public safety services shall be considered when reviewing projects and plan amendments proposed in the region. To the extent feasible, adverse impacts should be mitigated as part of the review process.
Consistent	Because the population on the project would either remain essentially the same or would be reduced, the project would not increase demand for public services such as police, fire, emergency services, public schools, or recreation.
Institutional	
Goal #1	**Coordinate all planning and development review activities with the affected jurisdictions and agencies.**
Policy 1	All projects proposed in the region [other than those to be reviewed and approved under the special provisions of the Compact relating to gaming] shall obtain the review and approval of the Agency.
Consistent	TRPA maintains discretionary authority over primary Beach Club project approvals.

Table 5.3-1 Land Use Policy Consistency Analysis	
Policy 2	No project may be approved unless it is found to comply with the Regional Plan and with any ordinances, rules, and regulations enacted to effectuate the Regional Plan.
Consistent	Based on this consistency evaluation, Alternatives A through E would be consistent with the Goals and Policies of the Regional Plan.
Development and Implementation Priorities	
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 through one of the following methods: A. Implementing off-site erosion and runoff control projects as a condition of project approval and subject to Agency concurrence as to effectiveness, or B. Contributing to a fund established by the Agency for implementing off-site erosion and runoff control projects. The amount of such contributions is established by Agency ordinance.
Consistent	As discussed in Section 5.5, "Hydrology and Water Quality," Alternatives A through E would include erosion controls and implementation of appropriate BMPs to control runoff.
Policy 2	All projects shall offset the transportation and air quality impacts of their development.
Consistent	As discussed in Section 5.6, "Traffic, Parking, and Circulation," pursuant to Chapter 93.3.C of the TRPA Code of Ordinance, an air quality mitigation fee of $36.20 per daily vehicle trip end is required for new trips associated with the new nonresidential land uses and $325.84 per daily vehicle trip end for new trips associated with new residential land uses. All project alternatives would involve payment of the air quality mitigation fee associated with the residential and nonresidential daily vehicle trip ends.
Sources: TRPA 1986; Consistency analysis conducted by EDAW in 2007	

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.3.A-1 Consistency with Regional Plan Land Use Goals and Policies. *Alternative A would result in 143 for-sale condominiums, construction of a beach and swim club, expansion of the existing pier, and relocation of three existing buoys. Alternative A would result in approximately 358,907 sf of site coverage representing a reduction of approximately 99,052 sf of site coverage in comparison to the TRPA verified coverage for the site. Alternative A would be consistent with the Goals and Policies of the Regional Plan as described in Table 5.3-1. This impact is considered* ***less than significant****.*

Single-family and multifamily residential dwellings as well as multi-person dwellings are allowed uses in PAS 077. The maximum residential density permitted in PAS 077 is 15 multifamily units per acre. Alternative A proposes a total of 143 for-sale condominiums on the 17.26-acre parcel (PAS 077), which would result in a density of approximately 8.3 units per acre. This proposed land use and density is consistent with the provisions of PAS 077.

In order to develop and sell condominiums, the project site would be subdivided. After approval of the proposed development as a multifamily residential development, the project site would be subdivided in accordance with Chapter 43.4 of the TRPA Code of Ordinances. Subdivision would allow for the development and sale of individual condominiums, which would then be considered single-family units. Because both single-family and multifamily residential land uses are allowed in PAS 077, subdivision and sale of condominiums would be permissible land uses. In addition, proposed SEZ restoration in this Plan Area is a permissible use in PAS 077.

The proposed project site is located in LCD 1b and 7. The project site is developed and currently occupied by the Tahoe Shores Mobile Home Park. The developed land coverage on the project site is recognized by TRPA and

provides the basis for the future allowable coverage rather than the land capability districts. Therefore, the allowable site coverage for Alternative A would be 457,959 sf.

Alternative A would result in approximately 358,907 sf of site coverage, as shown in Exhibit 3-12. This would be a reduction of approximately 99,052 sf of site coverage in comparison to the TRPA verified coverage for the site. The reduction in site coverage would result from realignment of the roadways, increased drainage and BMPs, increased landscaped areas, and SEZ restoration. Alternative A would further the policy of restoring 25% of disturbed/developed SEZ lands by restoring 2 acres of SEZ lands. Accordingly, the project would contribute to the attainment of TRPA's thresholds for SEZs.

The beach and swim club would be located on the 2.37-acre lakefront parcel, which is located in PAS 070A and is designated for recreational land uses. Based on the current PAS boundary lines, a small portion of the beach club building would extend into PAS 077, which is designated for residential uses. The portion of the club building in PAS 077 would include the assembly room and administrative office, which are allowable accessory uses to the residential uses in this PAS. No PAS amendment would be required, nor is being requested, for the proposed project.

The existing 109-foot private pier would be reconstructed and extended approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). The reconstructed pier would extend to the TRPA designated pier headline (elevation 6219.0). The pier would follow the current alignment (perpendicular to the shoreline). The reconstructed pier would be consistent with the Design and Construction Standards listed in TRPA Code Section 54.4.B, except as allowed under Code Section 54.4.B(1). In addition, as illustrated in Exhibit 3-10, the three existing buoys associated with the project site would be removed from their current location and relocated north of and parallel to the reconstructed pier and out of the scenic recreational viewshed from Nevada Beach.

The shorezone portion of the project site is located in Shorezone Tolerance District 7, which allows for the water-oriented recreation facilities (beach recreation, buoys, piers, floating docks and platforms, water intake lines, boat ramps, etc.) in the backshore, nearshore, and foreshore (TRPA Code of Ordinances Chapter 53.9). Therefore, the pier expansion and relocated buoys would be allowable uses in Shorezone Tolerance District 7.

As shown in Table 5.3-1, Alternative A would be consistent with the Goals and Policies of the Regional Plan. Therefore, with implementation of mitigation measures identified in Table 1-1 of this document, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.3.A-2 Potential for Division of an Existing Community (or Land Use Compatibility). *Alternative A would result in the replacement of the existing mobile home community by removing the 155-space Tahoe Shores Mobile Home Park, with approximately 150 mobile homes, and constructing 143 single-family for-sale condominiums. The owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation or purchase and removal of mobile homes. In addition, noise abatement measures would be implemented to reduce any land use conflicts with the 4-H Camp south of the project site. This project would not divide an established community, but would change the type of residential community on the project site. This impact is considered* ***less than significant****.*

Alternative A would be located on the site of the existing Tahoe Shores Mobile Home Park on the south shore of Lake Tahoe in unincorporated Stateline, Douglas County, Nevada. This project would not divide an established community, but would change the type of residential community on the project site. The project would remove the existing 155-space Tahoe Shores Mobile Home Park, which has approximately 150 mobile homes. Before

closure of Tahoe Shores, the owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation or purchase and removal of mobile homes and residents. The project site would then be redeveloped with 143 single-family condominiums and a beach and swim club. The residential units would include 124 market-rate for-sale condominiums and 19 deed-restricted moderate-income for-sale condominiums. In addition, the project would be required to acquire 35 off-site residential units to be deed-restricted as moderate-income units. Therefore, although the project site would remain in residential use, the community would change from a mobile home park to condominiums.

The project site is surrounded by USFS lands, including Burke Creek (Rabe) Meadow and Nevada Beach Campground to the north; the Meadowbrook Apartments and the Oliver Park GID to the east; and the University of Nevada 4-H Camp and Edgewood Golf Course to the south. The proposed project would include restoration of approximately 2 acres of SEZ habitat along the northern portion of the project site adjacent to the USFS parcel and Burke Creek. The proposed residential uses and the beach and swim club would be consistent with the adjacent land uses at the Meadowbrook Apartments and the Edgewood Golf Course. Noise generated by recreational activities at the 4-H Camp could potentially conflict with residential uses on the project site during the months of May through October; however, all of the proposed residential buildings would be constructed with materials that abate noise transmission. Beach Club, Inc. would provide buyers and residents a disclosure statement in the Declaration of Covenants, Conditions and Restrictions documents that includes a description of 4-H Camp events, activities, and the potential for noise.

Because Alternative A would follow NRS 118B.177 requiring the reimbursement for relocation or purchase and removal of mobile homes, would result in a new type of residential development, and would implement noise abatement measures to reduce any land use conflicts with the 4-H Camp south of the project site, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.3.B-1 Consistency with Regional Plan Land Use Goals and Policies. *Alternative B would construct two single-family estates on two 9.5-acre realigned parcels. Each estate would have a deck and a pool, a separate guest house (without bathing or cooking facilities), a detached five car garage, an entry gatehouse, two tennis courts, limited surface parking, expansion of the existing pier, and relocation of three existing buoys. Both estates would share access to the beach extended private pier. A total of approximately 320,000 sf of site coverage over the two parcels (152,000 sf of coverage on the northern parcel and 168,000 sf of coverage on the southern parcel) would represent a reduction of approximately 138,000 sf of site coverage from the TRPA verified coverage of 457,959 sf. Alternative B would be consistent with the Goals and Policies of the Regional Plan as described in Table 5.3-1. This impact is considered* ***less than significant****.*

Alternative B would involve the realignment of the two project site parcels (APN 1318-22-002-001 and APN 1318-22-002-002) into two long-narrow 9.5-acre parcels with beach access. A single-family estate would be developed on each of the two realigned parcels, including a paved access road, a large single-family residential unit with a deck and a pool, a separate guest house (without bathing or cooking facilities), a detached five-car garage, an entry gatehouse, two tennis courts, and limited surface parking (Exhibit 4-1). Both estates would share access to the beach and the extended private pier as described for Alternative A. No subdivision would be required for Alternative B.

Both of the realigned parcels would include a small area along the lake located within PAS 070A, and the majority of each parcel would be located in PAS 077. If any development were to occur in PAS 070A, it would be recreational facilities such as a pool, deck, pool house, and foot path as shown for Parcel "B" in Exhibit 4-1.

These recreation-related structures would be consistent with the allowable recreational uses of PAS 070A. The portion of the two realigned parcels located within PAS077 would be developed with the estate house, detached garage, guest house (without bathing or cooking facilities), entry gate, tennis courts, and access road. Single-family and multifamily residential dwellings and accessory structures as well as multi-person dwellings are allowed uses and the maximum residential density permitted in PAS 077 is one single-family unit per parcel. Therefore, the proposed land use and density in Alternative B is consistent with the provisions of PAS 077.

The two single-family estates would result in approximately 152,000 sf of site coverage on the northern parcel and approximately 168,000 sf of coverage on the southern parcel. A total of approximately 320,000 sf of site coverage over the two parcels would represent a reduction of approximately 138,000 sf of coverage from the TRPA verified site coverage of 457,959 sf. Alternative B would not include restoration of SEZ habitat, but would include landscape plans that incorporate native plant species.

As shown in Table 5.3-1, Alternative B would be consistent with the Goals and Policies of the Regional Plan. This impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.3.B-2 Potential for Division of an Existing Community (or Land Use Compatibility). *This impact is the same as Impact 5.3.A-2 described above for Alternative A. Alternative B would result in the replacement of the existing mobile home community by removing the 155-space Tahoe Shores Mobile Home Park, with approximately 150 mobile homes, and constructing two single-family estates. The owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation or purchase and removal of mobile homes. In addition, noise abatement measures would be implemented to reduce any land use conflicts with the 4-H Camp south of the project site. This project would not divide an established community, but would reduce the density of the community on the project site and change the type of residential units. This impact is considered* ***less than significant****.*

Alternative B would be located on the same site as Alternative A, the existing Tahoe Shores Mobile Home Park on the south shore of Lake Tahoe in unincorporated Stateline, Douglas County, Nevada. As with Alternative A, Alternative B would not divide an established community, but would change the type of residential community on the project site. The project would remove the existing 155-space Tahoe Shores Mobile Home Park, which has approximately 150 mobile homes. Before closure of Tahoe Shores, the owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation or purchase and removal of mobile homes and residents. The project site would then be redeveloped with two single-family estates. Therefore, although the project site would remain in residential use, the number of residential units would drop by 153 units and no moderate income units would be provided to mitigate for those lost due to removal of the mobile home park.

Alternative B would generally be consistent with the adjacent land uses at the Meadowbrook Apartments and the Edgewood Golf Course, but like current conditions, this alternative would not include SEZ restoration adjacent to Burke Creek. Noise generated by recreational activities at the 4-H Camp could potentially conflict with residential uses on the project site during the months of May through October; however, the proposed residential buildings would be constructed with materials that abate noise transmission.

Because Alternative B would follow NRS 118B.177 requiring the reimbursement for relocation or purchase and removal of mobile homes, would result in a new type of residential development, and would implement noise abatement measures to reduce any land use conflicts with the 4-H Camp south of the project site, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

IMPACT 5.3.C-1 **Consistency with Regional Plan Land Use Goals and Policies.** *Alternative C would result in the realignment of the two project site parcels and the development of a multifamily residential complex on each parcel. Each complex would include a recreation building and pool near the lake shore, expansion of the existing pier, and relocation of three existing buoys. Alternative C would result in a total of approximately 380,000 sf of site coverage on the two parcels, which would represent a reduction of approximately 77,959 sf of site coverage from the TRPA verified coverage. Alternative C would be consistent with the Goals and Policies of the Regional Plan as described in Table 5.3-1. This impact is considered* ***less than significant****.*

Alternative C proposes the realignment of the two project site parcels (APN 1318-22-002-001 and APN 1318-22-002-002) into two long-narrow 9.5-acre parcels with beach access, and then the development of two multifamily residential complexes on the two realigned parcels. Each complex would have approximately 77 units, with no more than 155 units total between the two parcels. This number of units is consistent with the existing mobile home park and this land use and density is consistent with the provisions of PAS 077.

In order to develop and sell condominiums in the two proposed complexes, the two parcels would be subdivided. After approval of the proposed development as a multifamily residential development, each parcel would be subdivided in accordance with Chapter 43.4 of the TRPA Code of Ordinances. Subdivision would allow for the development and sale of individual condominiums, which would then be considered single-family units. Because both single-family and multifamily residential land uses are allowed in PAS 077, subdivision and sale of condominiums would be permissible land uses.

Alternative C would result in approximately 205,000 sf of site coverage on the northern parcel and approximately 175,000 sf of site coverage on the southern parcel (Exhibit 4-3). A total of approximately 380,000 sf of site coverage over the two parcels would represent a reduction of approximately 77,959 sf of coverage from the TRPA verified coverage of 457,959 sf. Alternative C would not include restoration of SEZ habitat, but would include landscape plans that incorporate native plant species.

As proposed in Alternative A, Alternative C would include reconstructing the existing 109-foot private pier and expanding it approximately 50 feet for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1), as well as relocating the three existing buoys. The reconstructed pier and relocated buoys would be consistent with the allowable uses in Shorezone Tolerance District 7, the Design and Construction Standards listed in TRPA Code Section 54.4.B, except as allowed under Code Section 54.4.B(1).

Alternative C would be consistent with the Goals and Policies of the Regional Plan shown in Table 5.3-1. This impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.3.C-2 Potential for Division of an Existing Community (or Land Use Compatibility). *This impact is the same as Impact 5.3.A-2 described above for Alternative A. Alternative C would result in the replacement of the existing mobile home community by removing the 155-space Tahoe Shores Mobile Home Park, with approximately 150 mobile homes, and constructing two multifamily condominium complexes with up to a total of 155 units. The owner would be required to follow the obligations of the NRS 118B.177, including reimbursement for relocation or purchase and removal of mobile homes. In addition, noise abatement measures would be implemented to reduce any land use conflicts with the 4-H Camp south of the project site. This project would not divide an established community, but would change the type of residential community on the project site. This impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT ALTERNATIVE, JERE WILLIAMS PLAN

Alternative D, No Project – Jere Williams Plan Plan, would leave the mobile home park in place with 155 mobile home pads. The owner would implement site improvements as necessary and would continue the gradual transition to 70% doublewide units and 30% singlewide units in accordance with the JWP. Therefore, this alternative would not divide an established neighborhood and would be consistent with local and regional plans.

ALTERNATIVE E – NO PROJECT ALTERNATIVE – MANUFACTURED HOUSING

Alternative E, No Project Alternative – Manufactured Housing, would be similar to the No Project–JWP Plan scenario, but the mobile home park would be closed to allow for all site improvements to be implemented at one time. The owner would follow the Nevada Revised Statutes (NRS 118B.177) requirements for reimbursement for relocation or purchase and removal of mobile homes before the closure of the Tahoe Shores Mobile Home Park. Upon completion of the site improvements, 155 mobile home pads would be reestablished, and the new manufactured housing units would occupy both the 70% double-wide pads and the 30% singlewide pads per the JWP. Therefore, this alternative would not divide an established neighborhood and would be consistent with local and regional plans.

5.4 GEOLOGY, SOILS, LAND CAPABILITY, AND COVERAGE

This section discusses the regulatory guidance for earth resources and evaluates potential adverse environmental effects related to geology, soils, seismic conditions, and land capability and coverage associated with implementation of the proposed Beach Club project alternatives, A through E. This section describes existing conditions, geologic setting, relevant soil properties as they relate to geotechnical issues, and associated elements of land capability and coverage. Environmental effects to these resources are assessed using planning guidelines and regulations established by TRPA. Potential environmental effects related to water quality resulting from soil erosion and other stormwater issues are addressed in Section 5.5, "Hydrology and Water Quality." Cumulative impacts are presented in Section 5.14.

The examination of geology, soils, seismic hazards, and land capability and coverage is based on information from: (1) site observations; (2) review of academic research and available information published by local, state and federal agencies; (3) the Soils Report (R. J. Poff & Associates 2003); (4) the Soils/Hydrologic Final Report (Kleinfelder 2003); and (5) the Preliminary Geotechnical Investigation (Harding ESE 2002). These documents are included in Appendix B of this EIS.

5.4.1 REGULATORY BACKGROUND

TAHOE REGIONAL PLANNING AGENCY LAND COVERAGE REGULATIONS

Soil conservation is essential for the maintenance of healthy plant communities, prevention of erosion, protection of water quality, maintenance of healthy stream systems, and protection of lake clarity. Soil conservation in the Lake Tahoe Basin is addressed in the context of two key concepts: impervious land coverage and SEZ. Impervious land coverage, such as asphalt, concrete, and roofs, prevents stormwater runoff from absorbing into the ground. When runoff bypasses natural processes of infiltration and migration through soil, it is not filtered by the soil and does not contribute to local groundwater supplies. Excess runoff overloads stream channels, erodes stream banks and unnecessarily damages vegetation. Stream channel erosion transports nutrients and sediments to Lake Tahoe and contributes to the degradation of water clarity. SEZs are meadows, marshes, and wetlands that slow runoff by dispersing it over a large area, allowing sediment to settle out and vegetation to take up nutrients.

LAND CAPABILITY DISTRICTS

Since February 10, 1972, regulatory agencies in the Lake Tahoe Basin, primarily TRPA, have used the land capability classification system known as the "Bailey System" (Land-Capability Classification of the Lake Tahoe Basin, California-Nevada: A Guide to Planning [Bailey 1974]) to evaluate applications that request either additional land coverage to existing developed lots or building permits for new development. The Bailey System was developed as an erosion control technique to mitigate the deleterious effects to stream systems and water quality that result from excessive land coverage. The Bailey System restricts the amount of impervious land coverage on all parcels and generally prohibits new land coverage in areas classified as SEZ.

Land capability is defined as "the level of use an area can tolerate without sustaining permanent (environmental) damage through erosion and other causes" (Bailey 1974). The Bailey system uses land capability districts (LCD) ranging from 1 to 7, which assign a percentage of land coverage allowable in the designated LCD area (Table 5.4-1). Land coverage includes impervious surfaces such as roadways, sidewalks, and structures that prevent precipitation from directly reaching the soil surface.

Table 5.4-1
Capability Districts for Lake Tahoe Basin Lands

Capability Levels	Tolerance for Use	Slope Percent	Relative Erosion Control	Runoff Potential	Disturbance Hazards
7	Most	0–5	Slight	Low to moderately low	Low-hazard lands
6		0–16		Low to moderately low	
5		0–16		Moderately high to high	
4		9–30	Moderate	Low to moderately low	Moderate-hazard lands
3		9–30	Moderate	Moderately high to high	
2		30–50	High	Low to moderately low	
1a	Least (Poor Natural Drainage) (Fragile Flora and Fauna)	30+	High	Moderately high to high	High-hazard lands
1b					
1c					

Source: TRPA 2000

LCDs were derived by analyzing the frequency and magnitude of hazards that may be encountered and by considering the type and intensity of uses suitable for each unit (TRPA 2000). The integration of the LCD and land use suitability resulted in limits on land-surface modifications for each LCD that are expressed as a percentage of each area that can be used for impervious coverage.

Chapter 2 of the TRPA Code of Ordinances defines land coverage as 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. Examples include roofs, decks, patios, and surfaces paved with asphalt, concrete, or stone. Such structures are defined as "hard coverage." Compacted areas without structures are defined as "soft coverage." A structure, improvement, or covering shall not be considered land coverage if it permits at least 75% of normal precipitation to directly reach the ground and permits growth of vegetation described on TRPA's approved species list (TRPA 1991). TRPA Code of Ordinances Chapter 20, Land Coverage Standards identify the allowable land coverage (in terms of percent) by LCD (Table 5.4-2).

Table 5.4-2
Tahoe Regional Planning Agency Base Land Coverage Requirements

Land Capability District	Base Coverage
6, 7	30%
5	25%
4	20%
3	5%
2	1%
1a, 1b, 1c	1%

Source: TRPA 1991

FEDERAL EARTHQUAKE HAZARDS REDUCTION ACT

The U.S. Congress passed the Earthquake Hazards Reduction Act in 1997 to "reduce the risks to life and property from future earthquakes in the United States" through the establishment and maintenance of an effective

earthquake hazards and reduction program. To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA) by refining the description of the agency responsibilities, program goals, and objectives.

NEHRP's mission 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 it several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the U.S. Geological Survey (USGS).

BUILDING CODES

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 International Residential Code (IRC), among others. Douglas County adheres to 2003 IRC for seismic regulations of residential developments.

DOUGLAS COUNTY

For projects within the Lake Tahoe Basin, Douglas County defers to TRPA regulations where the TRPA Code of Ordinances are more stringent. However, Douglas County requires development applications; reviews project plans and specifications; and issues various permits including grading and structural building permits.

The *Draft 2006 Douglas County Master Plan* contains the following goals and policies relevant to geology, soils, and seismicity in the project area.

- **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.

- **Policy 5.01.04:** Restrict location of utility lines within an appropriate distance from active fault traces. Utility lines crossing active fault traces should be specifically designed to withstand the expected movement. Utility lines would include electricity, water, gas, and sewer.

- **Policy 5.02.03:** Douglas County shall consider the use of clustering and other flexible design techniques for development of land in areas of moderate to steep slopes, in order to minimize the environmental, seismic, aesthetic, and service impacts of the development.

- **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.

5.4.2 AFFECTED ENVIRONMENT

GEOLOGY

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. The Sierra Nevada is the most prominent mountain range in California, and in conjunction with the Central Basin, forms part of the Sierra Nevada microplate, an element of the broad Pacific–North American plate boundary (Argus and Gordon 1991). The motion of the Sierra Nevada microplate relative to the stable North American plate is approximately parallel to the strike of the San Andreas Fault system in central and northern California, oriented from N35W to N40W. Before becoming part of the transform plate margin, the Sierra Nevada was the site of a Cenozoic volcanic arc, with related deposits draping over pre-Cenozoic metamorphic and plutonic rocks (Wakabayashi and Sawyer 2000). The general asymmetry of the Sierra Nevada reflects uplift and gentle westward tilting.

The Lake Tahoe Basin was formed over 2 million years ago by a combination of faulting and volcanism. As a result, the basin contains a combination of granitic, metamorphic, and volcanic rock. The predominant bedrock in the basin is Cretaceous granodiorite of the Sierra Nevada batholith. Cretaceous rock is from the third and last period of the Mesozoic Era, characterized by the development of flowering plants and ending with the sudden extinction of the dinosaurs and many other forms of life. Pre-Cretaceous metamorphic rocks are found in localized areas, and volcanic andesitic mudflows and lava extend from the top of Martis Peak to the northern lakeshore (Kleinfelder 2001).

Over the past 1.5 million years, the Lake Tahoe region has been altered by glacial activity, and most of the landforms surrounding the lake are a result of glaciation. During glacial activities, valley glaciers dammed the Truckee River canyon, raising the water level of Lake Tahoe. Lacustrine sediment deposits resulted in the bays and canyons around the lake that resulted from the rising of lake levels (Kleinfelder 2001). Rocks found near the surface in the Lake Tahoe basin are of many types and ages because of the complex geologic history of the area. The faulting, folding, and in some cases overturning of rock formations that has taken place during various periods of geologic activity, in combination with erosion, deposition, and subsequent cementation of rock materials that occurred during relatively quiet periods, have left a complex arrangement of geologic rock types and structures in the area. However, the extraordinary clarity of Lake Tahoe is mostly related to the prevalence of highly fractured bedrock, moderate to highly permeable soils, and gentle slopes immediately surrounding Lake Tahoe.

The Geologic Map of the Lake Tahoe Basin, California and Nevada (California Department of Conservation California Geological Survey 2005) indicates that the project site is located on three 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 flood-plain deposits (Qfp) of gravelly to silty sand and sandy to clayey silt located inland of the beach. The more easterly portion of the project site is located on Pleistocene era (1.8 million to 10,000 years ago) lacustrine terrace deposits (Qlt), which are poorly to moderately sorted silt, sand and gravel forming low terraces 5–10 meters above lake level. There are no known significant mineral resources associated with the project site.

Topography

The project site is located along the south shore of Lake Tahoe in Stateline, Nevada. The project site includes an upland area and a small beach area. Topography of the site is gently sloping to the east, rising approximately 22 feet above lake level at its highest point, ½ mile from the edge of Lake Tahoe. Drainage of the project site is in a general northwest direction, eventually flowing into the drainage ditch at the northern boundary of the site.

Faults

A fault is defined as a fracture or zone 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.

The North Tahoe Fault, located beneath the lake, is a northeast-trending fault, approximately 7.0 miles long. It is estimated to be capable of generating an earthquake of magnitude 7.0; however, it has been inactive for at least 10,000 years (Kleinfelder 2001 and Jennings 1992). The East Tahoe Fault borders the east side of Lake Tahoe Basin also crossing through Douglas County (Sawyer 1999).

Predicting when an earthquake will occur is difficult; however, predicting the response of the ground surface to seismic vibration can be much more plausible. Therefore, site geology is essential in predicting the results of future earthquakes. One measure of this is the likelihood of liquefaction to occur on a project site. Based on site investigations by Harding ESE, the potential exists for liquefaction to occur on the project site due to the presence of saturated granular soils (2002).

SOILS

Soils are a critical element in land-use planning and environmental analyses in the Lake Tahoe region because the TRPA Land Capability Districts are determined based on soil types. The U.S. Department of Agriculture, Natural Resources Conservation Service (formerly the Soil Conservation Service) soil surveys show soils on the project site are primarily from the Elmira Series. There are also areas of Elmira Series, Wet Variant and Beaches within the project site.

A soils report prepared by R. J. Poff & Associates (2003) identified the following three soils classes on the project site: (1) well-drained upland soils (equivalent to Elmira), (2) an upland-meadow transition (between Elmira and Elmira, Wet Variant), and (3) wet meadow soils (equivalent to Elmira, Wet Variant). The upland meadow soil in the project area is characterized by a dark-colored, humic A horizon, typically 12-18 inches thick. The underlying subsoil is mostly gleyed and composed of mixed alluvium that may have seasonal high water in places.

According to the 1974 Soil Conservation Service soil survey, the Elmira Series consists of nearly level to moderately steep, somewhat excessively drained soils that are underlain by sandy granitic alluvium or highly weathered till. These soils are on glacial outwash fans and moraines. The parent material is mixed, but is predominantly granitic alluvium. Slopes are 0 to 30%, and elevations are between 6,200 to 6,500 feet.

The 1974 soil survey also describes the Elmira Series, Wet Variant consists of nearly level to gently sloping, poorly drained soils that are underlain by stratified alluvium. These soils are in drainageways of glacial outwash fans. The parent material is mixed, but is predominantly granitic alluvium. Slopes are 0 to 5%, and elevations are between 6,200 and 6,500 feet.

The Beaches classification is a miscellaneous map unit that is adjacent to the lake shore, mainly the south shore. It is coarse sand derived from granitic alluvium.

Subsurface Conditions

A total of 13 test pits were excavated on the site as part of soils studies prepared for the project. Nine test pits were excavated by R. J. Poff & Associates in May 2003 and four additional test pits were excavated by Kleinfelder in June 2003.

The upland meadow soils on the project site typically had 12 to 18 inches of a humic A over a gleyed C of very coarse sand. Some areas, that appear to be old buried stream channels, have a silty clay C horizon. Some redoximorphic features were observed on the site at various depths. Redoximorphic features are color patterns in the

soil formed by the oxidation and reduction of iron and/or manganese caused by saturated conditions within the soil**.** Because of the extensive modification of soils on the site, and because of the current and possibly historic water-line leak, the redoximorphic indicators of aquic conditions that were observed may not be reliable indicators of past or current conditions. Some of the redoximorphic features observed may be relic, (i.e., developed before the site was graded) when the soil was in a different position relative to the water table. Other redoximorphic features could be recent; the consequence of water-line leaks. A number of iron masses were also encountered ranging in depth from 14 to 55 inches (R. J. Poff & Associates 2003). Further study of the shallow water table during the early part of the growing season would be necessary to determine if the redoximorphic features are active or relict. Until such study is done, those soils having redoximorphic features in the upper 20 inches would be considered to meet the soil requirements for an SEZ.

The exact locations of the borings and additional descriptive information on subsurface conditions at the project site are presented in the "Soils Report, Tahoe Beach Club," (May 2003) and the "Soils/Hydrologic Final Report," (June 2003) included as Appendix B of this EIS.

LAND CAPABILITY

The proposed project site is located in LCDs 1b and 7. LCD 1b has a base allowable coverage of 1% and LCD 7 has a base allowable coverage of 30% (TRPA Code of Ordinances 20.3.A). If the project site were undeveloped, these land capability districts would establish the allowable coverage for the site. However, the project site is developed and currently occupied by the Tahoe Shores Mobile Home Park. The developed land coverage on the project site is recognized by TRPA and provides the basis for allowing excess coverage to remain.

Table 5.4-3 lists the LCDs associated with the project site, the area (in acres and square feet) of each LCD, the allowable percentage of coverage for an undeveloped site, and the allowable percentage coverage that has been recognized by TRPA for the project site. Mitigation of the excess land coverage would occur as specified by Chapter 20 of the TRPA Code of Ordinances.

Table 5.4-3
Beach Club on Lake Tahoe Project Site LCDs and Bailey Allowable Coverage

Project Site LCD	Area of Project Site (acres / sf)	% Base Allowable Coverage	Allowable Coverage for Undeveloped Site (acres / sf)	Allowable Coverage Recognized by TRPA (acres / sf)
1b	16.20 ac / 705,345 sf	1	0.16 ac / 7,053 sf	8.71 ac / 379,475 sf
7	3.44 ac / 149,656 sf	30	1.03 ac / 44,897 sf	1.80 ac / 78,484 sf
Total	**19.63 ac / 855,001 sf**		**1.19 ac / 51,950 sf**	**10.51 ac / 457,959 sf**

sf = square feet LCDs = land capability districts
Source: Design Workshop 2004, Nichols Consulting Engineers 2004

A Request for Verification of Land Capability was filed with TRPA to verify the LCDs associated with APNs 1318-22-002-002 (old APN 07-090-05) and 1318-22-002-001 (old APN 07-090-06). The land capability was mapped in terms of soil map unit and the LCD 1b and LCD 7 districts described in Table 5.4-3 were verified as accurate and true on April 3, 2004 (Exhibit 3-11) (Appendix B).

The majority of the project site is designated LCD 1b. This area is approximately 82.5% of the project site and would have allowable land coverage of 1%, or 7,053 sf (0.16 acre) if it were an undeveloped site. However, based on the existing coverage recognized by the TRPA Verification (April 3, 2004), the approved LCD 1b land coverage for the project site is 379,475 sf (8.73 acres). The remainder of the site is designated LCD 7. The area designated LCD 7 occupies approximately 17.5% of the site. Allowable land coverage for LCD 7 would be 30%,

or 44,897 sf (1.03 acres) if it were an undeveloped site. Again, based on the TRPA Verification (April 3, 2004) the approved LCD 7 land coverage for the project site is 78,484 sf (1.80 acres).

5.4.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

CRITERIA OF SIGNIFICANCE

The TRPA Land Classification System (Tables 5.4-1 through 5.4-3) is used to analyze potential impacts to sensitive slope, soils, and drainage conditions. The TRPA Code of Ordinances does not contain other additional policies or thresholds related to land coverage or geologic hazards.

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 with impervious surfaces beyond the limits allowed in the land capability districts;
- expose people or property to seismic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards;
- be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; or
- cause a change in deposition or erosion of beach sand, or change in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake.

Significance criteria used in the analysis of land coverage relate directly to the TRPA Land Classification system and coverage requirements. Seismic hazards may include earthquake, liquefaction, subsidence, tsunami, and seiche potential. Non-seismic geologic hazards are discussed with regard to potential impacts on the alteration of the land surface (naturally or through human actions), including grading, deposition or erosion, landslides, avalanche, or any effects that are because of or that may alter soil properties or geotechnical issues. Although landslide, mudslides, avalanche, and other geomorphological events can be triggered by seismic activity, it is not necessarily a prerequisite. Therefore, they are addressed under non-seismic geologic hazards unless site-specific conditions warrant otherwise.

ALTERNATIVE A—PROPOSED PROJECT

IMPACT 5.4.A-1 Land Coverage. *Alternative A would result in a total of approximately 358,907 sf (8.24 acres) of coverage, a reduction in site coverage of approximately 99,052 sf (2.27 acres) or 22% from the TRPA-verified coverage (457,959 sf or 10.51 acres); the majority of the coverage reduction would be within primary SEZ (LCD 1b) areas. Alternative A would also result in the relocation of some existing coverage and the restoration of approximately 2 acres of SEZ habitat. On the whole, the coverage reduction, the relocation of coverage, and the proposed restoration associated with Alternative A would provide a net environmental benefit. For this reason this would be a* **beneficial** *impact.*

Approximately 149,656 sf (3.44 acres) of the project site is currently designated as LCD 7, which has a base allowable coverage of 30% (44,897 sf or 1.03 acres). However, because the site is developed, the TRPA-verified site coverage in LCD 7 of 78,484 sf (1.80 acres) provides the basis of the allowed coverage for this portion of the project site. Alternative A would reduce coverage in LCD 7 to approximately 68,359 sf (1.57 acres). Although this is approximately 23,462 sf (0.54 acre) over that which would be allowed on an undeveloped site, the coverage proposed under Alternative A would be a reduction of approximately 10,125 sf (0.23 acre) in LCD 7 compared to existing conditions.

Approximately 705,345 sf (16.19 acres) of the project site is designated as LCD 1b, which has a base allowable coverage of 1% (7,053 sf or 0.16 acre). However, as explained above for LCD 7, the TRPA-verified coverage in LCD 1b of 381,637 sf (8.76 acres) provides the basis of the allowed coverage for this portion of the project site. Alternative A would reduce the coverage in LCD 1b to approximately 290,548 sf (6.67 acres). Although this is approximately 283,495 sf (6.51 acres) over that which would be allowed on an undeveloped site, the coverage proposed under Alternative A would be a reduction of approximately 91,089 sf (2.09 acres) compared to existing conditions.

The applicant would be required to either remove coverage in excess of the LCD base allowable, or submit an excess coverage mitigation fee. Beach Club, Inc. would submit an excess coverage mitigation fee to retain the excess coverage in LCD 1b and LCD 7, as determined by TRPA Code of Ordinances Section 20.5.A(3). The mitigation fee shall be based on the area of excess coverage, approximately 306,957 sf (7.05 acres) for the entire project site under Alternative A, in accordance with subparagraph 20.5.A(3)(a) of the TRPA Code of Ordinances. The excess coverage square footage is then multiplied by the appropriate Mitigation Fee Coverage Cost Factor to determine the excess coverage mitigation fee. The mitigation fee coverage cost factor is established by TRPA staff before January 1 of each year, based on a certified real estate appraiser's estimate of the land bank's cost to acquire land coverage under the TRPA Excess Land Coverage Mitigation Fee program. Before project implementation, the proposed mitigation for excess land coverage shall be formalized through a written agreement between TRPA and Beach Club, Inc.

In addition to reducing coverage on the project site, Alternative A would cause a portion of the existing coverage to be relocated. TRPA Code of Ordinances Section 20.5.C describes the conditions under which existing land coverage may be relocated on the same parcel or project area. As discussed above, Alternative A would reduce the amount of coverage in the two LCDs on the site (LCD 1b and 7). A comparison of Exhibit 3-3 and 3-11 in Chapter 3, "Project Description," shows that proposed development would largely occur within areas that have already been developed and disturbed. The footprint of the proposed swim and beach club building and the western terminus of the project roadway would occur in an area with limited existing development, but likely the site of previous disturbance. As required by TRPA Code of Ordinances Section 20.5.C(2), any area from which land coverage was removed for relocation must be restored. It is expected that with the reduction and relocation of coverage combined with the proposed 2 acres of SEZ restoration that there would be a net environmental benefit to the function of the SEZ. Consistent with TRPA Code of Ordinances Section 20.5.C(4)(c), a SEZ Coverage Relocation Report was prepared for the project (Nichols Consulting Engineers & Telesto Nevada 2007). The report breaks down the 22% reduction in site coverage by LCD that would occur with implementation of Alternative A as follows:

- 16% reduction within Primary SEZ areas (LCD 1b)
- 4% reduction within Secondary SEZ areas (LCD 1b)
- 2% reduction within LCD 7

About 48% of the Primary SEZ (LCD 1b) coverage reduction would be from a sensitive area directly adjacent to Burke Creek Meadow, an area that currently consists of mobile home units and paved areas with a cut-off drainage ditch that intercepts high flows. This area would be restored to a natural SEZ condition to enhance the functionality of the floodplain and reestablish the historical habitat. The restoration area consists of the removal of the cut-off ditch and the non-native fill material, along with replacement of soils and vegetation that is consistent with the adjacent Burke Creek Meadow. The restoration would aid in the functioning of the SEZ within the project area and enhance the quality of the habitats within the meadow. About 13% of the Primary SEZ (LCD 1b) reduction would be relocated to a less sensitive area near the KGID water supply pump station, and the remainder would be banked. On the whole, the proposed coverage reduction associated with the project, the relocated coverage and restoration would provide a net environmental benefit. For this reason, this would be a **beneficial** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.4.A-2 Seismic Hazards. *The project site is located near several faults in South Lake Tahoe and Douglas County that could subject the site to ground shaking. Because the project would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3, there would be no substantial increased risk of injury or property damage from strong ground shaking or earthquake-induced liquefaction or landslides caused by unstable soils. This is considered a* ***less-than-significant*** *impact.*

There are several active faults in the project vicinity including the North Tahoe fault, the East Tahoe fault, and the Genoa fault. According to the Earthquake Potential Map for Portions of Eastern California and Western Nevada (California Geological Survey [CGS] 2005), the South Tahoe area is considered to have a moderate potential for shaking from seismic-related activity. The project facilities would be designed and constructed in accordance with the current design requirements for UBC Seismic Zone 3 and International Residential Code (IRC). Therefore, there would be no substantial increased risk of injury or property damage from strong ground shaking. Should additional information become available indicating an increased risk of seismic activity near the project site, a seismic risk analysis by a professional geologist should be performed before construction.

Other potential seismic hazards include tsunami or seiche. A tsunami is a 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. A sieche results in a potentially damaging wave, similar to a tsunami, which may result from seismic activity near a large lake. A seiche (wave) may occur in periods that differ from a tsunami. But should the period of wave propagation occur simultaneously with a tsunami, it could result in cumulative seismic-related wave effects. Ichinose et al. (1999) show through simulations that model wave propagation for various earthquake scenarios that if a large earthquake (~M7) were to occur, there exists the potential for both tsunami and seiche-related waves to impact lakeside communities on the California and Nevada sides of Lake Tahoe.

To date, modeling has not been conducted to determine a minimum level of high ground or safety in the event of a seiche or tsunami. The average surface elevation of Lake Tahoe is 6,225 feet above mean sea level (USGS 2005b), and the project site extends to lake level. The probability of an earthquake strong enough to cause a seiche in Lake Tahoe is relatively low: only 3–4% in 50 years (Ichinose, et. al. 1999), so effects from a tsunami or seiche are not considered likely to occur.

Although the potential for seismic hazards exist in the project area and throughout the Tahoe Basin in general, the local earthquake-induced shaking potential is not considered high (CGS 2005), and current building codes substantially reduce the potential for damage and loss of life by preventing building collapse. Therefore, impacts related to seismic hazards at the project site for Alternative A are considered **less than significant**.

Mitigation Measure

No mitigation is required.

IMPACT 5.4.A-3 Non-Seismic Geologic Hazards. *The project site is relatively level and is not subject to landslides or mudslides. However, the soils/hydrologic subsurface investigation found loose to medium dense, moist to wet, granular soils in the upper 6 feet of the project site which may exhibit excessive settlement if spread footings are founded within them. This is a* ***potentially significant*** *impact.*

Alternative A and its associated infrastructure would be constructed on a gently sloping project site, which is not subject to landslides or mudslides. Approximately 21,000 cubic yards (CY) of cut would be required for

Alterative A, and approximately 24,000 CY of fill would be required. The cut and fill would be generally balanced; however, a small volume of imported soil may be needed. This is an estimate based on the preliminary grading plan and does not take into consideration several factors, including the shrink/swell potential of the soil or the potential use of the net cut as fill that would be needed for roadwork on site, such as asphalt paving or aggregate base.

Investigations for the Preliminary Geotechnical Investigation Monitoring Well/Piezometer Installation Tahoe Shores Development (Preliminary Geotechnical Investigation) determined that loose to medium dense, moist to wet, granular soils in the upper 6 feet of soil on the project site may exhibit excessive settlement if spread footings are founded directly on them (Harding ESE 2002). Excessive settlement of foundations could cause significant safety hazards. Therefore, Alternative A would have **potentially significant** impacts related to non-seismic geologic hazards.

Mitigation Measure 5.4.A-3a. Submit Final Geotechnical Engineering Report and Improvement Plans to TRPA and Douglas County. The project applicant shall implement the following:

- Submit to TRPA for review and approval a geotechnical engineering report produced by a qualified professional civil engineer or geotechnical engineer. The report shall address and make recommendations on the following: (1) road, pavement, and parking area design; (2) structural foundations and spread footings in response to the potential for liquefaction; (3) grading practices; (4) erosion/winterization; (5) special problems discovered on-site (i.e., groundwater, expansive/unstable soils; and (6) slope stability. Once approved by TRPA, two copies of the final report shall be provided to TRPA and one copy to the Douglas County Building Department for their use. If the soils report indicates the presence of critically expansive or other soils problems which, if not corrected, could lead to structural defects, a certification of completion of the requirements of the soils report may be required before issuance of building permits. It is the responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

- The applicant shall prepare and submit Improvement Plans, specifications, and cost estimates to TRPA and Douglas County for review and approval of project construction. The plans shall show all conditions for the project, as well as pertinent topographical features both on- and off-site. All existing and proposed utilities and easements, on-site and adjacent to the project, which may be affected by planned construction shall be shown on the plans. All landscaping and irrigation facilities in the public right-of-way or public easement, or landscaping within sight distance areas at intersections, shall be included in the Improvement Plans. The applicant shall pay plan check and inspection fees and before plan approval, all applicable recording and production costs shall be paid. The cost of the above-noted landscape and irrigation facilities shall be included in the estimates used to determine these fees. It is the applicant's responsibility to obtain all required agency signatures on the plans and to secure TRPA and County approvals. If the Design/Site Review and/or Design Review Committee (DRC) review is required as a condition of approval for the project, said review process shall be completed before submittal of Improvement Plans. Record drawings shall be prepared and signed by a Nevada Registered Civil Engineer at the applicant's expense and shall be submitted to TRPA and Douglas County before acceptance of site improvements.

- All proposed grading, drainage, and utility improvements, and vegetation and tree removal shall be shown on the improvement plans, and all work shall conform to provisions of the Douglas County Grading Ordinance that are in effect at the time of the submittal. No grading, clearing, or tree disturbance shall take place until the improvement plans are approved and all temporary construction fencing has been installed and inspected by a member of the Design Review Committee. All cut/fill slopes shall be at 2:1 (horizontal:vertical) unless a soils report supports a steeper slope and TRPA concurs with said recommendation. The applicant shall revegetate all disturbed areas. Revegetation undertaken from April 1 to October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with project improvement plans. It is the applicant's responsibility to ensure proper installation and maintenance of erosion control winterization

during project construction. Where soil stockpiling or borrow areas are to remain for more than one construction season, proper erosion control measures shall be applied as specified in the improvement plans/grading plans. Provide for erosion control where roadside drainage is off the pavement to the satisfaction of TRPA. The applicant shall also submit to TRPA an adequate security in accordance with TRPA Attachment J before improvement plan approval to guarantee protection against erosion and improper grading practices. On TRPA's acceptance of improvements and satisfactory completion of a 1-year maintenance period, unused portions of the security deposit shall be refunded to the project applicant or authorized agent.

- If at any time during construction a field review by TRPA personnel indicates a significant deviation from the proposed grading shown on the improvement plans, specifically with regard to slope heights, slope ratios, erosion control, winterization, tree disturbance, and/or pad elevations and configurations, the plans shall be reviewed by the Design Review Committee/TRPA for a determination of substantial conformance to the project approvals before any further work proceeds. Failure of the Design Review Committee/TRPA to make a determination of substantial conformance may serve as grounds for revocation/modification of the project approval by the appropriate hearing body.

- The applicant shall provide TRPA with a letter from the Tahoe Douglas Fire Protection District describing conditions under which the service would be provided to the project. Said letter shall be provided before the approval of Improvement Plans, and a fire district representative's signature shall be provided on the plans.

Mitigation Measure 5.4.A-3b. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4. The dewatering plan developed and implemented as part of Mitigation Measure 5.5.A-4 (see Section 5.5, "Hydrology and Water Quality") must detail procedures for safely and appropriately dealing with seasonal groundwater encountered during excavation.

Mitigation Measure 5.4.A-3c. Obtain Grading Permit from TRPA and Douglas County and Ensure that All Earthwork is Monitored by a Geotechnical Engineer. The project applicant shall ensure the following:

- Obtain a Grading Permit from TRPA and Douglas County before export or import of any soil or other material to or from an off-site location.

- The construction and/excavation contractor secures a source of transportation and a location for deposition and/or storage of all exaction materials removed from the project site.

- All earthwork is monitored by a geotechnical engineer tasked with the responsibility of providing oversight during all excavation activities, placement of fill, and disposal of materials removed from and deposited on the project site.

Mitigation Measure 5.4.A-3d. Perform Project Specific Design Foundation Investigation. Based on the Preliminary Geotechnical Investigation, it is recommended that a project specific design foundation investigation is performed on the project site to further evaluate the suitability of soils on the project site for placement of foundations. It is also recommended that the option of a mat or deep foundation (piers/piles) system is considered to mitigate potential excessive settlement and liquefaction concerns.

Implementation of Mitigation Measures 5.4.A-3a through d would reduce the potential non-seismic geologic hazard impacts of Alternative A to a **less-than-significant** level.

IMPACT 5.4.A-4 Interception of Groundwater Table During Construction. *Excavation during construction of Alternative A could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed buildings would be approximately 3 to 5 feet. The deepest excavations could reach a maximum depth of approximately 5 to 8 feet below ground surface and groundwater has been encountered within the upper 6 feet of soils on the project site. This is a* ***potentially significant*** *impact.*

For a detailed discussion of this impact refer to Impact 5.5.A-4 in Section 5.5, "Hydrology and Water Quality."

Mitigation Measure 5.4.A-4. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4. See Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply.

Implementation of Mitigation Measure 5.5.A-4 would reduce Impact 5.4.A-4 to a **less-than-significant** level.

IMPACT 5.4.A-5 Littoral Zone Sedimentation. *The proposed reconstruction and expansion of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. The expanded pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with the proposed project are expected to be the same as existing conditions. Therefore, this impact is considered* ***less than significant.***

For a detailed discussion of this impact refer to Impacts 5.5.A-5 and 5.5.A-6 in Section 5.5, "Hydrology and Water Quality."

Mitigation Measure

None mitigation is required.

ALTERNATIVE B—TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.4.B-1 Land Coverage. *Because Alternative B would result in substantial coverage reductions similar to Alternative A, this impact is similar to Impact 5.4.A-1 described above. Alternative B would result in a total of approximately 320,000 sf (7.35 acres) of coverage, a total reduction in site coverage of approximately 137,959 sf (3.17 acres) or 30.1% from the TRPA-verified coverage (457,959 sf or 10.51 acres). Alternative B would also result in the relocation of some existing coverage, but would not include the proposed SEZ restoration included as part of Alternative A. On the whole, it is expected that the coverage reduction and the relocation of coverage associated with Alternative B would provide a net environmental benefit. For this reason this would be a* ***beneficial*** *impact.*

Approximately 149,656 sf (3.44 acres) of the project site is currently designated as LCD 7, which has a base allowable coverage of 30% (44,897 sf or 1.03 acres). However, because the site is developed, the TRPA-verified site coverage in LCD 7 of 78,484 sf (1.80 acres) provides the basis of the allowed coverage for the project site. Alternative B would reduce coverage in LCD 7 to approximately 56,000 sf (1.29 acres). Although this is approximately 11,103 sf (0.25 acre) over that which would be allowed on an undeveloped site, the coverage proposed under Alternative B would be a reduction of approximately 22,484 sf (0.52 acre) compared to existing conditions.

Approximately 705,345 sf (16.19 acres) of the project site is designated as LCD 1b, which has a base allowable coverage of 1% (7,053 sf or 0.16 acre). However, as explained above for LCD 7, the TRPA-verified coverage in LCD 1b of 381,637 sf (8.76 acres) provides the basis of the allowed coverage for the project site. Alternative B

would result in approximately 264,000 sf (6.06 acres) of coverage in LCD 1b (based on a total of 320,000 sf of coverage on the project site and 82.5% of the site being located in LCD 1b). Although this coverage is approximately 256,947 sf (5.90 acres) over the base-allowable 1% coverage that would apply to an undeveloped site, Alternative B would result in a reduction in approximately 117,637 sf (2.70 acres) of coverage compared to the existing TRPA-verified site coverage in LCD 1b.

The applicant would be required to either remove coverage in excess of the LCD base allowable coverage or submit an excess coverage mitigation fee. Beach Club, Inc. would submit an excess coverage mitigation fee to retain the portion of coverage that exceeds the base allowable coverage in LCD 1b and LCD 7, as determined by TRPA Code of Ordinances Section 20.5.A(3). The excess coverage mitigation fee shall be calculated by determining the amount of excess coverage, approximately 258,050 sf (5.92 acres) for the entire project site under Alternative B, in accordance with subparagraph 20.5.A(3)(a) of the TRPA Code of Ordinances. The excess coverage square footage is then multiplied by the appropriate Mitigation Fee Coverage Cost Factor to determine the excess coverage mitigation fee. The mitigation fee coverage cost factor is established by TRPA staff before January 1 of each year, based on a certified real estate appraiser's estimate of the land bank's cost to acquire land coverage under the TRPA Excess Land Coverage Mitigation Fee program. Before project implementation, the proposed mitigation for excess land coverage shall be formalized through a written agreement between TRPA and Beach Club, Inc.

In addition to reducing coverage on the project site, Alternative B would cause a portion of the existing coverage to be relocated. It is expected that, as with Alternative A (see Impact 5.4.A-1 above), Alternative B would be designed or conditioned by TRPA such that with the reduction and relocation of coverage there would be a net environmental benefit to the function of the SEZ. For this reason, this would be a **beneficial** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.4.B-2 Seismic Hazards. *Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-2 described above. The project site is located near several faults in South Lake Tahoe and Douglas County that could subject the site to ground shaking. Because the Alternative B project components would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3, there would be no substantial increased risk of injury or property damage from strong ground shaking or earthquake-induced liquefaction or landslides caused by unstable soils. This is considered a* ***less-than-significant*** *impact.*

Mitigation Measures

No mitigation is required.

IMPACT 5.4.B-3 Non-Seismic Geologic Hazards. *Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-3 described above. The project site is relatively level and is not subject to landslides or mudslides. However, the soils/hydrologic subsurface investigation found loose to medium dense, moist to wet granular soils in the upper 6 feet of the project site, which may exhibit excessive settlement if footings are founded within them. This is a* ***potentially significant*** *impact.*

Mitigation Measure 5.4.B-3a. Submit Final Geotechnical Engineering Report and Improvement Plans to TRPA and Douglas County. See Mitigation Measure 5.4.A-3a described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.4.B-3b. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4. See Mitigation Measure 5.4.A-3b above and Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply.

Mitigation Measure 5.4.B-3c. Obtain Grading Permit from TRPA and Douglas County and Ensure that All Earthwork is Monitored by a Geotechnical Engineer. See Mitigation Measure 5.4.A-3c described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.4.B-3d. Perform Project Specific Design Foundation Investigation. See Mitigation Measure 5.4.A-3d described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measures 5.4.B-3a through d would reduce Impact 5.4.B-3 to a **less-than-significant** level.

IMPACT 5.4.B-4 Interception of Groundwater Table During Construction. *Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-4 described above. Excavation during construction of Alternative B could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed buildings would be approximately 3 to 5 feet. The deepest excavations could reach a maximum depth of approximately 5 to 8 feet below ground surface and groundwater has been encountered within the upper 6 feet of soils on the project site. This is a* ***potentially significant*** *impact.*

Mitigation Measure 5.4.B-4. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4. See Mitigation Measure 5.5.A-4 described in Section 5.5 "Hydrology and Water Quality." The same mitigation would apply.

Implementation of Mitigation Measure 5.5.A-4 would reduce Impact 5.4.B-4 to a **less-than-significant** level.

IMPACT 5.4.B-5 Littoral Zone Sedimentation. *This impact is similar to Impact 5.4.A-5, described above for Alternative A. Under Alternative B, the proposed reconstruction and expansion of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with TRPA Code of Ordinances Section 54.4.B Design and Construction Standards. The expanded pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative B are expected to be the same as existing conditions. Therefore, this impact is considered* ***less than significant****.*

Mitigation Measure

No mitigation is required.

ALTERNATIVE C—TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

IMPACT 5.4.C-1 Land Coverage. *Because Alternative C would result in substantial coverage reductions similar to Alternative A, this impact is similar to Impact 5.4.A-1 described above. Alternative C would result in a total of approximately 380,000 sf (8.72 acres) of coverage, a total reduction in site coverage of approximately 77,959 sf (1.79 acres), or 17% from the TRPA-verified coverage (457,959 sf or 10.51 acres). Alternative C would also result in the relocation of some existing coverage, but would not include the proposed SEZ restoration included as part of Alternative A. On the whole, it is expected that the coverage reduction and the relocation of coverage associated with Alternative C would provide a net environmental benefit. For this reason this would be a* ***beneficial*** *impact.*

Approximately 149,656 sf (3.44 acres) of the project site is currently designated as LCD 7, which has a base allowable coverage of 30% (44,897 sf or 1.03 acres). However, because the site is developed, the TRPA-verified site coverage in LCD 7 of 78,484 sf (1.80 acres) provides the basis of the allowed coverage for this portion of the project site. Alternative C would reduce coverage in LCD 7 to approximately 66,500 sf (1.53 acres). Although this is approximately 21,603 sf (0.50 acre) over that which would be allowed on an undeveloped site, the coverage proposed under Alternative C would be a reduction of approximately 11,984 sf (0.28 acre) compared to existing conditions.

Approximately 705,345 sf (16.19 acres) of the project site is designated as LCD 1b, which has a base allowable coverage of 1% (7,053 sf or 0.16 acre). However, as explained above for LCD 7, the TRPA-verified coverage in LCD 1b of 381,637 sf (8.76 acres) provides the basis of the allowed coverage for the project site. Alternative C would result in approximately 313,500 sf (7.20 acres) of coverage in LCD 1b (based on a total of 380,000 sf of coverage on the project site and 82.5% of the site being located in LCD 1b). Although this coverage is approximately 306,447 sf (7.04 acres) over the base-allowable 1% coverage that would apply to an undeveloped site, Alternative C would result in a reduction in approximately 68,137 sf (1.56 acres) of coverage compared to the existing TRPA-verified site coverage in LCD 1b.

The applicant would be required to either remove coverage in excess of the LCD base allowable coverage or submit an excess coverage mitigation fee. Beach Club, Inc. would submit an excess coverage mitigation fee to retain the portion of coverage that exceeds the base allowable coverage in LCD 1b and LCD 7, as determined by TRPA Code of Ordinances Section 20.5.A(3). The excess coverage mitigation fee shall be calculated by determining the amount of excess coverage, approximately 328,050 sf (7.53 acres) for the entire project site under Alternative C, in accordance with subparagraph 20.5.A(3)(a) of the TRPA Code of Ordinances. The excess coverage square footage is then multiplied by the appropriate Mitigation Fee Coverage Cost Factor to determine the excess coverage mitigation fee. The mitigation fee coverage cost factor is established by TRPA staff before January 1 of each year, based on a certified real estate appraiser's estimate of the land bank's cost to acquire land coverage under the TRPA Excess Land Coverage Mitigation Fee program. Before project implementation, the proposed mitigation for excess land coverage shall be formalized through a written agreement between TRPA and Beach Club, Inc.

In addition to reducing coverage on the project site, Alternative C would cause a portion of the existing coverage to be relocated. It is expected that, as with Alternative A (see Impact 5.4.A-1 above), Alternative C would be designed or conditioned by TRPA such that with the reduction and relocation of coverage there would be a net environmental benefit to the function of the SEZ. For this reason, this would be a **beneficial** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.4.C-2 Seismic Hazards. *Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-2 described above. The project site is located near several faults that could subject the site to ground shaking. Because the Alternative C project components would be designed and constructed in accordance with the current design requirements of UBC Seismic Zone 3, there would be no substantial increased risk of injury or property damage from strong ground shaking or earthquake-induced liquefaction or landslides caused by unstable soils. This is considered a* ***less-than-significant*** *impact.*

Mitigation Measures

No mitigation is required.

IMPACT 5.4.C-3 Non-Seismic Geologic Hazards. *Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-3 described above. The project site is relatively level and is not subject to landslides or mudslides. However, the soils/hydrologic subsurface investigation found loose to medium dense, moist to wet, granular soils in the upper 6 feet of the project site which may exhibit excessive settlement if spread footings are founded within them. This is a* ***potentially significant*** *impact.*

Mitigation Measure 5.4.C-3a. Submit Final Geotechnical Engineering Report and Improvement Plans to TRPA and Douglas County. See Mitigation Measure 5.4.A-3a described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.4.C-3b. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4. See Mitigation Measure 5.4.A-3b above and Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply.

Mitigation Measure 5.4.C-3c. Obtain Grading Permit from TRPA and Douglas County and Ensure that All Earthwork is Monitored by a Geotechnical Engineer. See Mitigation Measure 5.4.A-3c described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.4.C-3d. Perform Project Specific Design Foundation Investigation. See Mitigation Measure 5.4.A-3d described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measures 5.4.C-3a through d would reduce Impact 5.4.C-3 to a **less-than-significant** level.

IMPACT 5.4.C-4 Interception of Groundwater Table During Construction. *Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.4.A-4 described above. Excavation during construction of Alternative C could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed buildings would be approximately 3 to 5 feet. The deepest excavations could reach a maximum depth of approximately 5 to 8 feet below ground surface and groundwater has been encountered within the upper 6 feet of soils on the project site. This is a* ***potentially significant*** *impact.*

Mitigation Measure 5.4.C-4. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4. See Mitigation Measure 5.5.A-4 described in Section 5.5, "Hydrology and Water Quality." The same mitigation would apply.

Implementation of Mitigation Measure 5.5.A-4 would reduce Impact 5.4.C-4 to a **less-than-significant** level.

IMPACT 5.4.C-5 Littoral Zone Sedimentation. *This impact is the same as Impact 5.4.A-5, described above for Alternative A. Under Alternative C, the proposed reconstruction and expansion of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. The expanded pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative C are expected to be the same as existing conditions. Therefore, this impact is considered* ***less than significant.***

Mitigation Measure

No mitigation is required.

ALTERNATIVE D—NO PROJECT ALTERNATIVE, JERE WILLIAMS PLAN

Under Alternative D, the existing mobile home park would remain on the project site. The owner would continue the gradual transition to 70% double-wide units and 30% singlewide units and would maintain the total site coverage at no more than the TRPA-verified coverage of 457,959 sf (10.51 acres). With implementation of this alternative, coverage in the area designated LCD 7 would remain at 78,484 sf (1.80 acres), and coverage in the area designated as LCD 1b would remain at 379,475 (8.71 acres) as approved by TRPA. Although the coverage exceeds the base allowable coverage in LCD 7 by 33,587 sf (0.77 acre) and in LCD 1b by 372,422 sf (8.55 acres), the coverage has been verified by TRPA (April 3, 2004) for the project site (Appendix B). Alternative D would not result in relocated coverage.

Although minor improvements would be made to the project site, there would be no substantial construction or excavation; therefore, it is not anticipated that site improvements would encounter groundwater. No additional geotechnical studies would be required for Alternative D. Although no non-seismic geologic hazards are known in the project area, the project site is located near several faults. The risk of damage or injury due to seismic shaking or liquefaction would be the same with under Alternative D as with existing conditions.

The existing pier would remain in place and would not be expanded or improved. Therefore, Alternative D would not have any impacts on littoral processes in the project area.

All geology, soils, and coverage impacts associated with implementation of Alternative D would be **less than significant**.

ALTERNATIVE E—NO PROJECT ALTERNATIVE, MANUFACTURED HOUSING

Under Alternative E, the existing mobile home park would remain on the project site; however, the mobile home park would be closed to allow for all site improvements to be implemented at one time instead of gradually as proposed under Alternative D.

The owner would continue the gradual transition to 70% double-wide units and 30% singlewide units and would maintain the total site coverage at no more than the TRPA-verified coverage of 457,959 sf (10.51 acres). With implementation of this alternative, the percentage coverage designated as LCD 7 would remain at 78,484 sf (1.80 acres), and the percentage coverage designated as LCD 1b would remain at 379,475 (8.71 acres) as approved by TRPA. Although the coverage exceeds the base allowable coverage in LCD 7 by 33,587 sf (0.77 acre) and in LCD 1b by 372,422 sf (8.55 acres), the coverage has been verified and approved by TRPA (April 3, 2004). Alternative D would not result in relocated coverage.

Although site improvements would be made, there would be no substantial construction or excavation and it is not anticipated that site improvements would encounter groundwater. No additional geotechnical studies would be required for Alternative E. Although no non-seismic geologic hazards are known in the project area, the project site is located near several faults. The risk of damage or injury due to seismic shaking or liquefaction would be the same under Alternative E as with existing conditions.

The existing pier would remain in place and would not be expanded or improved. Therefore, Alternative E would not have any impacts on littoral processes in the project area.

All geology, soils, and coverage impacts associated with implementation of Alternative E would be **less than significant**.

ALTERNATIVES COVERAGE SUMMARY

Table 5.4-4, below, compares the land coverage impacts for all of the proposed Beach Club Project alternatives.

Table 5.4-4
Summary of Land Coverage Impacts for all Alternatives

Alternatives	Acres of Coverage Proposed	Allowable Acres of Coverage*	Proposed % Site Coverage	Allowable % Site Coverage	Acres of Coverage in Excess of LCDs	LCD Coverage Mitigation	Impact to Land Coverage
Alternative A	8.24	10.51	42.0%	53.5%	7.05 acres	excess coverage mitigation fee	Beneficial
Alternative B	7.12	10.51	36.3%	53.5%	5.92 acres	excess coverage mitigation fee	Beneficial
Alternative C	8.72	10.51	44.4%	53.5%	7.54 acres	excess coverage mitigation fee	Beneficial
Alternative D	10.51	10.51	53.5%	53.5%	9.32 acres		Less than Significant
Alternative E	10.51	10.51	53.5%	53.5%	9.32 acres		Less than Significant

*Because the project site is developed, the total allowable acres of coverage is based on the TRPA-verified land coverage of 457,959 sf (10.51 acres) (April 3, 2004).

5.5 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, A through E, on hydrology and water quality. Cumulative impacts are presented in Section 5.14.

Water quality and the lake clarity are issues of vital concern at Lake Tahoe. Since 1968, the clarity of the deep waters of the lake has declined, on average approximately 1 foot per year (Goldman 1988). The primary direct causes of this decline are believed to be elevated nutrient and sediment inputs to the lake (Reuter and Miller 2000). The sources of these elevated nutrient and sediment inputs involve a wide range of activities, including soil erosion, fertilizer application, automobile and motorized watercraft operation, and wood burning. In addition to issues of clarity, other potential water quality issues include the discharge of chemicals that are potentially toxic to humans and other living organisms. The primary activities in the Shorezone that contribute significantly to water quality degradation are dredging, boating activities, and backshore development.

5.5.1 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 water quality requirements applicable to the Beach Club Project.

FEDERAL

Clean Water Act

The Clean Water Act (CWA) consists of the Federal Water Pollution Control Act of 1972 and subsequent amendments. The CWA establishes the basic structure for regulation of discharges of pollutants to surface waters within the United States. It authorizes the United States Environmental Protection Agency (U.S. EPA) to set effluent limits for discharges and requires the U.S. EPA to set water quality standards for contaminants in surface waters.

Federal Antidegradation Policy

The U.S. EPA has designated Lake Tahoe an Outstanding National Resource Water (ONRW). ONRWs are provided the highest level of protection under U.S. EPA's Antidegradation Policy. This policy provides for protection of water quality in high-quality waters that constitute an ONRW by prohibiting the lowering of water quality. ONRWs are often regarded as the highest quality waters of the United States.

U.S. EPA's antidegradation guidance for ONRWs provides that states may allow some limited activities that result in temporary and short-term changes to water quality, but such changes should not impair existing uses or alter the essential character or special use that makes the water an ONRW. EPA interprets this provision to mean no new or increased discharges to ONRWs and no new or increased discharges that would result in lower water quality. Temporary activities "must not permanently degrade quality or result in water quality lower than that necessary to protect the existing uses in the ONRW" (EPA 1994).

The federal Antidegradation Policy is designed to protect existing beneficial uses and the level of water quality necessary to protect existing uses. It also provides protection for high-quality water resources and water resources of national importance. The federal policy directs states to adopt a statewide policy that includes the following provisions:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where high quality waters constitute an outstanding national resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected (40 Code of Federal Regulations [CFR] 131.12).

Lake Tahoe Basin Management Unit Land and Resource Management Plan

The United States Department of Agriculture Forest Service (USFS) prepared the Lake Tahoe Basin Management Unit Land and Resource Management Plan (LTBMU Forest Plan). The LTBMU Forest Plan includes "Practice 30, Water Quality Maintenance and Improvement," which contains practice standards and guidelines to prevent water quality degradation and remedy impaired water quality. Some of the main practice standards and guidelines in the LTBMU Forest Plan include:

- Implement BMPs to meet water quality objectives and maintain and improve the quality of surface water on the forest;
- Prohibit soil disturbing activities from October 15 to May 1 of each year;
- Ensure temporary erosion control measures will be in place prior to commencing any soil disturbing activities;
- Manage stream environment zone (SEZ) lands in their natural hydrologic conditions; and
- Permit public works projects in SEZ where necessary for health, safety or environmental protection, where there is no reasonable alternative, and where impacts are fully mitigated and where disturbed SEZ beyond allowed coverage is restored at 150% of the amount disturbed.

These practices, standards, and guidelines are generally paralleled in TRPA's Code of Ordinances, described below.

TAHOE REGIONAL PLANNING AGENCY

TRPA was designated as an area-wide regional planning agency under Section 208 of the Federal Clean Water Act in 1974. TRPA has established environmental thresholds, goals and policies, and ordinances directed at protecting and improving water quality in Lake Tahoe and the Tahoe Basin. Under those auspices, TRPA has developed a Water Quality Management Plan (208 Plan) for the Lake Tahoe Region.

Water Quality Thresholds

TRPA has established a number of measurable water quality objectives for Lake Tahoe. The thresholds applicable to the Beach Club project, and their current status, are provided in Table 5.5-1. TRPA water quality thresholds are numeric limits for surface waters and groundwater. TRPA identified a broad suite of actions to be undertaken in effort to meet these standards, ranging from erosion and runoff control capital projects to implementing BMPs on residential and commercial properties, and restoration and revegetation of disturbed areas.

TRPA last adopted an evaluation of the status of attainment of the environmental thresholds in 2001 (TRPA 2002). A draft version of the 2006 threshold evaluation was released in April 2007 for public comment; this document has not yet been adopted (TRPA 2007). The 2001 attainment designations for the thresholds applicable to the project (Table 5.5-1) are upheld in the draft 2006 evaluation. Only one of the seven water quality thresholds is considered to be in attainment. Although certain thresholds indicated what may be positive trends, the overall conclusion of the 2001 review was a trend toward water quality degradation. However, following the 2001 review, TRPA implemented a ban on two-stroke carbureted boat engines and BMPs for more effective control of soil erosion and sedimentation. Monitoring studies conducted since 2002 have shown improved water clarity and reduced concentrations of hydrocarbons in Lake Tahoe. In addition, an ONRW boat pollution reduction program

may be implemented as part of the Shorezone Ordinance amendments, if the amendments are adopted by the TRPA Governing Board. These programs and the observed trend toward improved water clarity and water quality support a more positive assessment of threshold attainment than that provided in the 2001 review. The draft 2006 evaluation finds a positive trend in the lake clarity and tributary water quality thresholds, but an increasing trend in phytoplankton primary productivity. While the analysis in this EIS is based on the last adopted threshold attainment status from 2001, which is presented in Table 5.5-1, the attainment designations are the same in the draft 2006 evaluation.

Table 5.5-1
Relevant TRPA Water Quality Thresholds

Threshold	Description	Parameter	Standard	Status
WQ-1	Shallow waters 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 waters of Lake Tahoe	Clarity, winter, pelagic Lake Tahoe	Average Secchi depth, December–March, shall not be less than 33.4 meters.	Nonattainment
WQ-3	Water quality	Phytoplankton primary productivity	Annual mean phytoplankton primary productivity shall not exceed 52 gC/M2/yr.	Nonattainment
WQ-5	Stormwater runoff quality	Surface discharge to surface water	Discharges to surface water not to exceed: ► dissolved inorganic nitrogen, 0.5 mg/l ► dissolved phosphorus, 0.1 mg/l ► dissolved iron, 0.5 mg/l ► suspended sediment, 250 mg/l	Nonattainment
WQ-6	Stormwater runoff quality	Ground water	Surface infiltration into groundwater shall comply with the Uniform Regional Runoff Guide: ► 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).	Nonattainment

Source: TRPA 2002; TRPA 2007
mg/l = milligrams per liter
NTU = Nephelometric Turbidity Units
gC/M2/yr = Quantified by number of grams C bound into organic C per square meters of ocean surface per year

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 of Ordinances contains requirements and standards intended to help achieve water quality thresholds, goals, and policies. Chapters 81 and 82 of the TRPA Code of Ordinances are directed specifically at water quality, but a number of other chapters contain provisions related to installation of BMPs, physical processes important to maintaining Shorezone aquatic health, and standards for grading and excavation (Table 5.5-2).

Table 5.5-2
Selected Code Requirements Related to Proposed Project Water Quality

Ordinance	Requirement
Chapter 25	Excess runoff shall be controlled with implementation of Best Management Practices (BMPs).
Chapter 50	Defines findings required prior to approving a project in the Shorezone, including requirements that a project will not adversely impact littoral processes.
Chapter 54	Sets standards and provisions for new structures lakeward of high water.
Chapter 64	Sets standards for grading and excavation. Grading is permitted only between May 1 and October 15.
Chapter 81	Sets discharge standards for runoff and discharge to surface and groundwater.
Chapter 82	For projects which 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: Code of Ordinances (TRPA 2004a)

Numerical discharge standard limitations are specified in the TRPA Code of Ordinances for nitrogen, phosphorus, iron, turbidity, suspended sediments, and grease and oil. All surface flows generated within the proposed project or as a result of development of the proposed project that are discharged to land treatment systems and/or surface waters, shall not contain constituents in excess of the concentrations listed in Table 5.5-3. In addition to numerical discharge limits, TRPA Code also restricts the discharge of wastewater and toxic substances, sets requirements for snow removal and control of salts, and sets criteria for pesticide use and fertilizer control.

Table 5.5-3
Tahoe Regional Planning Agency Water Discharge Limits

Constituent	Units	Discharge to Surface Waters [2, 3]
Dissolved Inorganic Nitrogen	mg/l as N	0.5
Dissolved Phosphate	mg/l as P	0.1
Dissolved Iron	mg/l	0.5
Turbidity	NTU[1]	–
Suspended Sediment	mg/l	250
Grease and Oil	mg/l	2.0

1 Nephelometric Turbidity Units
2 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.
3 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.
mg/l = milligrams per liter
P = phosphorus
N = nitrogen
Source: TRPA 2002

Water Quality Management Plan for the Lake Tahoe Region (208 Plan)

Section 208 of the CWA (33 USC 466 et seq.) and the Code of Federal Regulations (40 CFR Part 130 and Part 35) authorize the preparation of areawide wastewater management plans. TRPA developed a Water Quality Management Plan for the Lake Tahoe Region (208 Plan), most recently revised in 1988 (TRPA 1988). TRPA is

required to apply the strictest standards that apply to a jurisdiction by the Tahoe Regional Planning Compact (adopted in 1969, amended in 1980), regardless of whether they are state, federal, or TRPA standards. 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 Best Management Practices (BMP) Handbook, and a Capital Improvements Program of remedial erosion and surface water runoff control projects.

Implementation of water quality control programs in the Tahoe Basin is of necessity a bi-state, interagency effort between TRPA, the Lahontan Regional Water Quality Control Board in California, and the Nevada Division of Environmental Protection in Nevada. These agencies implement their respective water quality plans in a complementary manner, and entered into a Memorandum of Understanding in 1994 to increase their level of coordination. TRPA's Compact directs the agency to attain and maintain federal, state, or local water quality standards, whichever are the strictest in the jurisdiction where those standards apply.

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 influence within the Lake Tahoe Basin. The TRPA threshold numerical standard for SEZ was designed to preserve existing naturally functioning riparian communities and to restore disturbed riparian communities to a naturally functioning hydrologic condition (Bailey 1974). The threshold requires that 25% of disturbed, developed, or subdivided SEZ lands are restored to attain a 5% increase in the overall area of naturally functioning SEZ. The threshold numerical standards for SEZs also apply to lands mapped in Shorezone Tolerance District 1, as required in the TRPA Code of Ordinances and TRPA Goals and Policies (TRPA 2004a). Subsection 74.2 of the Code 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 action including, but 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, or to provide defensible fuel breaks (Code sections 4.2.A (5), 4.3.A (6), 55.4, 65.2, 74.2).

Primary SEZ Indicators

Primary indicators for the presence of SEZs include:

- Evidence of surface water flow, including perennial, ephemeral and intermittent streams, but not including rills or man-made channels;
- Primary riparian vegetation;
- Near surface groundwater;
- Lakes or ponds;
- Beach (Be) soil; or
- One of the following alluvial soils:
  - Elmira loamy coarse sand, wet variant (Ev).
  - Marsh (Mh).

Secondary SEZ Indicators

Secondary indicators for the presence of SEZs include:

- Designated floodplain;
- Groundwater within 20–40 inches of the surface;
- Secondary riparian vegetation; and
- One of the following alluvial soils:
  - Loamy alluvial land (Lo);
  - Celio gravelly loamy coarse sand (Co); or
  - Gravely alluvial land (Gr).

GROUNDWATER

According to TRPA Code of Ordinances, Chapter 64, groundwater impacts are considered significant if implementation of the project would result in the interception or interference of groundwater 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 Code, Chapter 64, Section 64.7.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 65.2.E, 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 Section 64.5 and the project area's natural topography is maintained pursuant to Subparagraph 30.5.A(1); 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 64.7.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. 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.

Nevada relies on U.S. 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 are:

- irrigation;
- watering of livestock;
- recreation not involving contact with the water;
- recreation involving contact with the water;
- industrial supply;
- propagation of wildlife;
- 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 Elements

The *Draft 2006 Douglas County Master Plan* Conservation Element (Chapter 5) contains water quality goals and policies to protect surface and groundwater quality (Table 5.5-4). These apply to the Tahoe planning area to the extent that they do not conflict with the provisions of plans or regulations adopted by TRPA.

Table 5.5-4
Selected Douglas County Master Plan Goals Related to Beach Club Project Water Quality

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.

Source: Douglas County, NV Master Plan (2007)

5.5.2 AFFECTED ENVIRONMENT

The project site, the existing Tahoe Shores Mobile Home Park, includes an upland area containing an entry gate, mobile homes, porches, paved driveways, and paved access roads, as well as a small beach area (0.42 acres) with a 109-foot fixed pier (Exhibit 3-3). The TRPA verified land coverage on the project site is 457,959 square feet (sf) (Exhibit 3-11). Slopes at the project site range from approximately 0.05% to 3.0%. The average slope on the site is approximately 1.0%.

Presently, the project site has few drainage and BMP facilities to treat on-site runoff before draining to the lake. Runoff from the project site is currently conveyed as sheet flows over the project site in a general northwest direction, eventually flowing into the drainage ditch at the northern boundary of the site (Carter-Burgess 2003, Figure 5). The ditch conveys flows to a point of intersection with the historical Burke Creek alignment near the shoreline of Lake Tahoe. Therefore, runoff from the project site's impervious surfaces, disturbed areas and landscaped areas may be a source of sediments and nutrients that are conveyed to the lake with no water treatment or BMPs prior to discharge to Lake Tahoe. Furthermore, this ditch has experienced erosion problems and stagnant water collection resulting in nuisance vector breeding.

Runoff from the adjacent subdivision to the east of the project site is conveyed to a set of three water treatment ponds, Kahle Treatment Ponds, near the eastern boundary of the project site. The Kahle Treatment Ponds, which have been in place for over two years, collect and treat the runoff from the adjacent development, which used to flow onto the project site. Because of the Kahle Treatment Ponds, the project site now receives very little off-site runoff; however, the runoff after treatment from the adjacent development still enters the ditch along the north side of the project site.

REGIONAL HYDROLOGY

The Beach Club project site is situated on a predominantly northwest facing slope located within the southern portion of the Lake Tahoe Hydrologic Unit. This unit is located along the Nevada-California border in the Sierra Nevada mountain range.

LOCAL WATERSHED DESCRIPTION

The existing property is located within the Burke Creek Watershed, a subwatershed of the Lake Tahoe Hydrologic Unit. Burke Creek flows through a large meadow (Rabe Meadow) to the north of the project site, and discharges to Lake Tahoe (Exhibits 3-2 and 3-3).

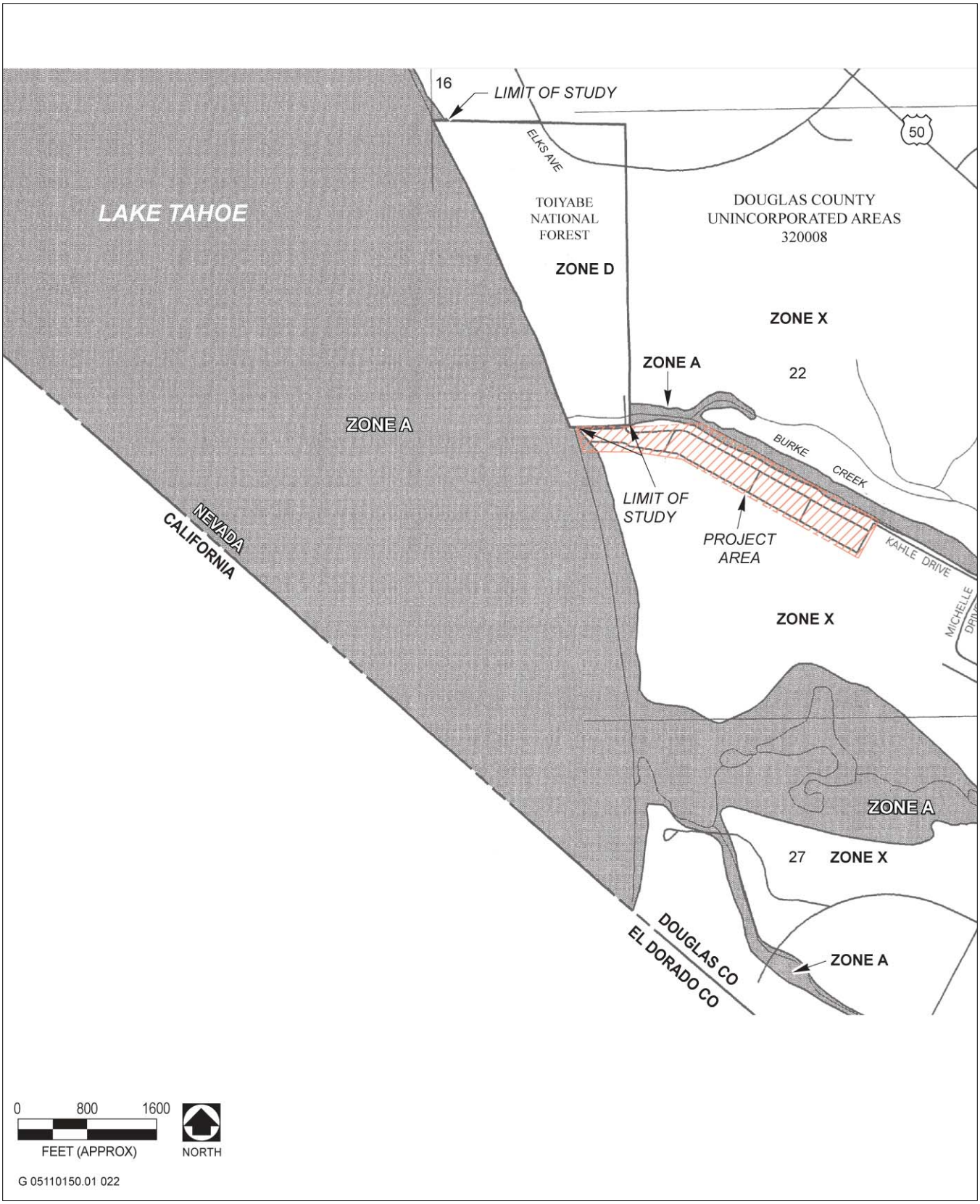
Based on the Soil Survey for the Tahoe Basin Area, California and Nevada, by the U.S. Department of Agriculture (USDA) Soil Conservation Service and Forest Service (USDA 1974), the project site contains soil type Be (beaches adjacent to the lake shore), Ev (Elmira-Gefo loamy coarse sands, 0% to 5% slopes, wet variant), and EfB (Elmira-Gefo loamy coarse sands, 0% to 5% slopes). The beach soil type is coarse sand derived mainly from granitic alluvium, and the entire Be acreage is used for recreation. The Elmira Series consists of nearly level to moderately steep, somewhat excessively drained soils that are underlain by sandy granitic alluvium or highly weathered till. These soils are on glacial outwash fans and moraines. The parent material is mixed, but is predominantly granitic alluvium. Slopes are 0 to 30%, and elevations are between 6,200 to 6,500 feet.

100-YEAR FLOODPLAIN

According to the FEMA Flood Insurance Rate Map for Douglas County, Nevada dated November 8, 1999 (Community Panel No. 32005 C 0205 F), a small portion of the project site was determined to be in Zone A (Exhibit 5.5-1). Zone A is the flood insurance zone that corresponds to the 100-year floodplain determined in the Flood Insurance Study (FIS) by approximate methods (Carter-Burgess 2003). Because detailed hydraulic analyses are not conducted for these areas, no base flood elevations (BFEs) are shown for the project site. A Hydrologic Engineering Centers River Analysis System (HEC-RAS) analysis using current flow data was performed to show the effects on the Burke Creek floodplain due to the existing project site conditions (Nichols Consulting Engineers 2007). Exhibit 5.5-2 illustrates the existing constricted condition of the floodplain in comparison to the primary SEZ area on the project site, which characterizes the historical extent of wet soils and flood zones, but not necessarily the 100-year floodplain.

GROUNDWATER

The proposed project is located in the Truckee River Hydrographic Region (Truckee River Region), within the Basin and Range Physiographic Province. Truckee River Region encompasses 2,300 square miles containing parts of Washoe, Pershing, Churchill, Lyon, Douglas, Carson City, and Storey counties in Nevada, comprising 12 hydrographic areas. The Truckee River Region originates in the Sierra Nevada Mountains, the State of California and the Lake Tahoe Basin and terminates in Pyramid Lake (Washoe County) (Nevada Department of Cultural Affairs 2006). The project site is located within the Lake Tahoe Basin groundwater basin within the Truckee River Hydrographic Region. Water bearing formations within the southern portion of the Lake Tahoe Basin consist of exposed Tertiary and Quaternary age glacial, fluvial, and lacustrine sediments, collectively referred to as basin-fill deposits (DWR 2004).



Source: Federal Emergency Management Agency, Map Revised November 8, 1999

Flood Insurance Rate Map Douglas County, NV and Incorporated Areas **Exhibit 5.5-1**

Typically, in meadow environments groundwater elevations are influenced by a combination of subsurface conditions, such as bedrock or glacial outwash textures and densities, and surface water channels. Deep channels can dewater the meadow, lowering local water surface elevations. Nonetheless, groundwater can still be at or near the surface due to the substratum and hydraulic head from upgradient areas. The groundwater, in the lower elevations of the site, is also likely influenced by water surface elevations of Lake Tahoe given its close proximity.

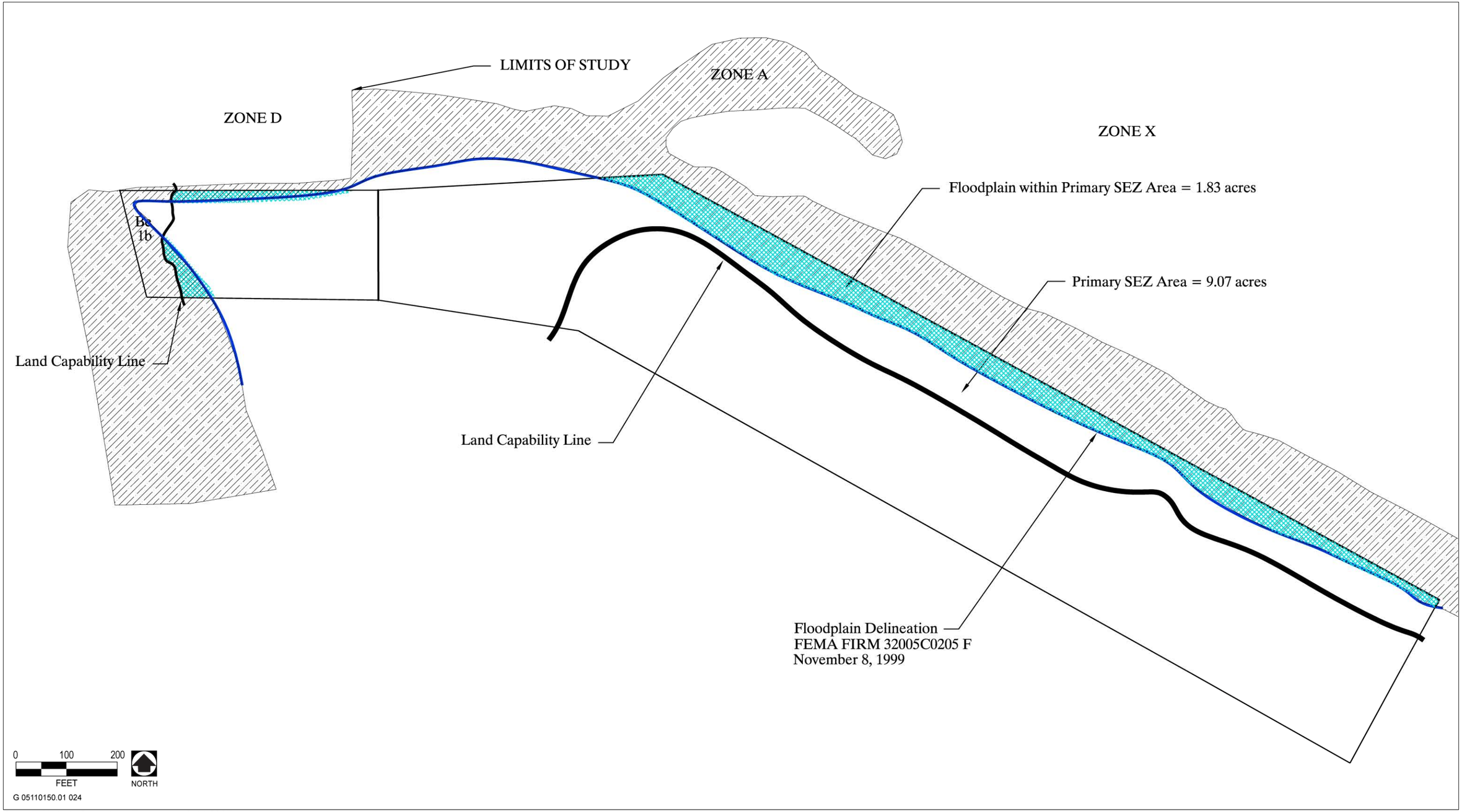
In the soils and hydrology study completed for the proposed project, 11 representative soil test pits were excavated throughout the project site in May and June 2003 (Kleinfelder 2003). Groundwater was encountered at Test Pit 10, at the proposed location for Building 13, at 10 feet below ground surface (bgs), rising to 9.5 feet bgs after a few minutes. Test pit 11, at the proposed location of Building 1, encountered groundwater at 6.5 feet bgs. Shallow groundwater was encountered in Test Pits 7 and 8, with subsequent water level drops. Although this was initially explained as an anthropogenic source, *i.e.*, a broken water pipe, the cause of this elevated groundwater was in fact found to be a perched aquifer. A perched aquifer is one in which a confining layer below the main groundwater table causes an elevation in places above that of the main groundwater level. The perched aquifer areas at the project site have been approximately located and considered in project planning (Nichols Consulting Engineers, pers. comm., May 17, 2006). Since 2003 was a relatively dry year, with low water elevations of Lake Tahoe, these groundwater elevations may be abnormally low. Pursuant to TRPA requirements, surface discharge standards are required to be met where separation of infiltrated water and groundwater cannot be demonstrated. At the request of TRPA staff, piezometers were installed in July 2007 and are being used to monitor shallow groundwater, and to determine if confining conditions exist in shallow soils. Water levels in the piezometers and monitoring wells will be actively measured for at least 1 year, through a full cycle of seasonal groundwater fluctuations. The groundwater monitoring locations (Piezometer and deep monitoring well) are shown in Exhibit 5.5-3.

5.5.3 Environmental Consequences and Recommended Mitigation Measures

Criteria of Significance

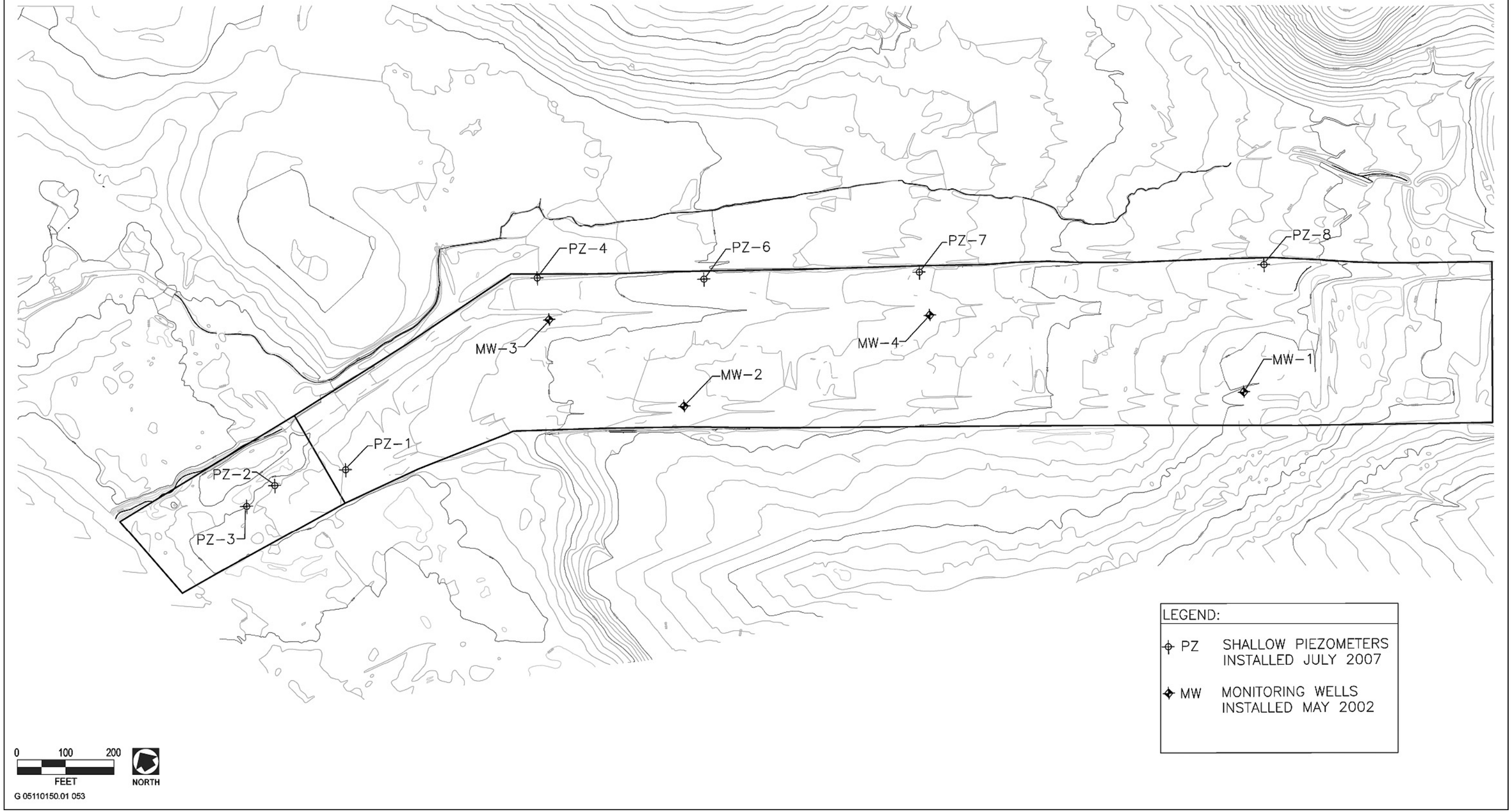
An impact would be considered significant if the Beach Club Project caused any of the following:

- substantial contribution to the nonattainment of TRPA environmental thresholds for water quality (see Table 5.5-1);
- violation any of the 208 Plan policies or TRPA Code of Ordinances standards (see Tables 5.5-2 and 5.5-3);
- substantial alteration the existing surface water drainage patterns or cause increased runoff resulting in substantial erosion or siltation on- or off-site or causing existing or planned stormwater drainage systems to exceed capacity;
- any permanent or long-term degradation of Lake Tahoe water clarity;
- interference with groundwater movement or reduce groundwater infiltration, or mixing of groundwater and surface water;
- substantial alteration of the existing drainage pattern of the site or substantially increase the amount of surface runoff in a manner which would result in flooding on- or off-site;
- housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- structures that would impede or redirect flood flows within a 100-year flood hazard area; or
- substantial interference with or adverse effects on littoral processes in the project area.



Source: Nichols Consulting Engineers, Chtd 2005

Existing Condition (Tahoe Shores) SEZ Area vs. Floodplain **Exhibit 5.5-2**



Source: Nichols Consulting Engineers, Chtd 2007

Groundwater Monitoring Locations **Exhibit 5.5-3**

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.5.A-1 **Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies During Construction.** *Slope and soil disturbance associated with Alternative A construction could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. However, implementation of required BMPs would prevent soil erosion and maintain this potentially significant impact on water quality at a less-than-significant level. Therefore, this impact is considered* ***less than significant****.*

Project construction would commence as soon as possible after project approval and acquisition of permits. Construction would be completed in four phases as shown in Table 3-4 in Chapter 3, "Project Description." Phase 1 would include relocation/demolition of existing mobile homes, site grading, utilities work, and construction of the gatehouse and entry. Phase 2 would include site grading and construction of the residential estate buildings, the beach and swim club building and moderate incoming housing units. Phase 3 would include site grading, the on-going construction of the residential estate buildings, moderate income units, and the beach and swim club building, and construction of the lodge buildings. Phase 4 would include the final completion of all the buildings and landscaping. SEZ restoration activities would commence with Phase 1. Construction activities would be continuous, except during winter months when activities may cease for a period of time.

Construction would be expected to make use of standard construction equipment, including haul trucks, backhoes, water trucks, forklifts, etc. Construction staging would be established on the project site, on previously disturbed areas, and would be secured to prevent unauthorized access. Temporary construction BMPs are described in Chapter 3, "Project Description."

The project would require approximately 21,000 cubic yards of cut, primarily for SEZ restoration along the northern boundary of the site, and approximately 24,000 cubic yards of fill. The cut and fill would be generally balanced; however, there may be a need for a small volume of imported soil. Grading for SEZ restoration would mostly involve removal of old fill material. To avoid damage or partial dewatering of adjacent SEZ areas, grading in the SEZ restoration area would not cut below the native elevation.

The project applicant would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) pursuant to the National Pollution Discharge Elimination System (NPDES) Phase II Stormwater Program. The SWPPP would describe the site, erosion and sediment controls, means of waste disposal, implementation of approved local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and management controls unrelated to stormwater. The SWPPP would be submitted to TRPA for review, and the applicant would be required to ensure that all construction contractors retain a copy of the approved SWPPP on the construction site. BMPs identified in the SWPPP would be implemented during all site development activities. Water quality controls outlined in the SWPPP must be consistent with TRPA and NDEP guidelines, and would be required to ensure that runoff quality meets or surpasses TRPA water quality objectives and the Federal Antidegradation policy, and maintains beneficial uses of Lake Tahoe, as defined by the Nevada Administrative Code NAC 445A.191. Stormwater quality sampling and reporting requirements outlined in the SWPPP would be the responsibility of the project applicant.

Pursuant to TRPA Code of Ordinances 64.2, grading activities would be prohibited during winter months, unless approved by TRPA. Exposed graded areas would be required to be protected during winter months using approved methods. Site disturbance, such as clearing and grubbing, grading, and cut/fill, would be limited to the period from May 1 to October 15 without special authorization from the appropriate agencies.

Access to the project site via gravel, concrete slurry, paving, or other stabilization techniques would be completed as early as possible in the construction process and used for parking to limit unnecessary traffic on and compaction of exposed soil. To the maximum extent possible, permanent BMPs would be installed prior to

construction of building walls and roofs. Temporary construction and permanent BMPs are shown in Exhibits 5.5-4 and 5.5-5A through D and discussed in Impact 5.5.A-2 and Chapter 3, "Project Description."

Several technical studies have been conducted regarding water quality control feature impacts on groundwater (e.g., Nationwide Urban Runoff Project [U.S. EPA 1983]; Cumulative Water Quality Analysis Report for the Lahontan Development 1996–2002 [Huffman & Carpenter 2003]). These studies have identified that water quality control features, such as the proposed revegetation, erosion control measures, detention basins, and infiltration basins, have been successful in controlling groundwater quality and avoiding water quality impacts (i.e., metals and organic compounds associated with stormwater are typically lost within the first few feet of the soil of the retention basins avoiding infiltration into groundwater). Technical studies associated with the Lahontan Development demonstrated that the use of a variety BMPs, such as source control, detention basins, revegetation, and erosion control, have been able to maintain surface water quality conditions in adjacent receiving waters. Because the proposed project would be required to conform with all applicable local and state regulations pertaining to construction discharges, this impact is considered **less than significant**.

Mitigation Measures

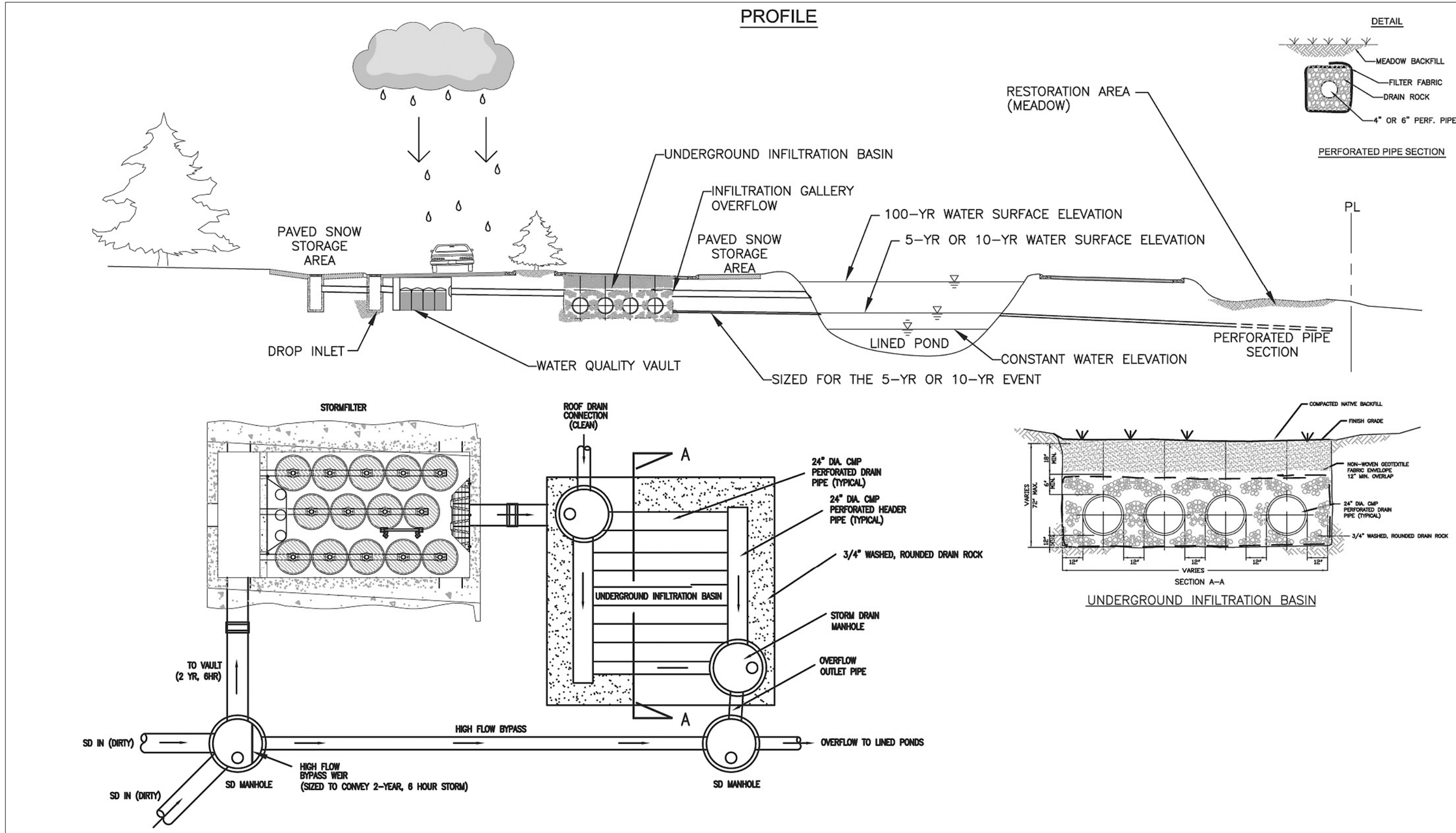
No mitigation is required.

IMPACT 5.5.A-2 **Impervious Surface Area and Runoff**. *Development of Alternative A would result in approximately 358,907 sf of coverage, a reduction of approximately 99,052 sf from the existing TRPA verified coverage (457,959 sf) on the project site. Alternative A would alter the course and volume of runoff from the project site during storm events, but the runoff volume would be reduced through the decrease in coverage and the design and implementation of BMPs and drainage facilities that meet or exceed TRPA requirements. This impact is considered* ***beneficial****.*

The project site is currently occupied by the Tahoe Shores Mobile Home Park, consisting of paved roads and driveways, concrete pads with mobile homes and porches, and other structures. The project site has few drainage facilities and BMPs, and project site runoff drains untreated to the drainage ditch along the northern boundary of the project site and then to Burke Creek and Lake Tahoe. With the development of Alternative A, the existing mobile home park, including all structures and roadways, would be removed and a new roadway, new residential buildings, a beach and swim club, and associated facilities would be constructed. Alternative A would result in a total of approximately 358,907 sf of coverage, a reduction of approximately 99,052 sf from the existing TRPA verified coverage (457,959 sf). The land coverage calculations for each feature are shown by land capability district in Exhibit 3-12. In addition, Alternative A would implement permanent BMPs that would include runoff flow conveyance, runoff flow storage, and runoff water quality treatment facilities. Implementation of permanent BMPs would ensure water quality treatment for the proposed project. BMPs would be installed by the construction contractor and when necessary, maintained by the project applicant.

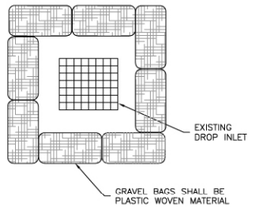
The proposed BMP and drainage plan layout is illustrated in Exhibit 3-13. In addition, Exhibits 5.5-4 and 5.5-5A through D provide a drainage system cross section and BMP details, including infiltration basins, infiltration trenches, snow storage, sediment barriers and silt fences. A general description of the temporary and permanent BMPs for the proposed project is provided in Chapter 3, "Project Description." Due to the high water table in the primary SEZs within the project site, infiltration galleries would not be located within these zones.

With the proposed BMP Plan, surface runoff captured in a series of catch basins and roof runoff collected in dripline infiltration trenches would be directed to underground infiltration galleries. Runoff from driveways and parking areas would be pretreated via water quality treatment vaults equipped with storm filters. The proposed storm filter system would capture suspended solids, metals, and nutrients by filtering runoff horizontally through media in a series of storm filter cartridges. The underground infiltrations galleries would be designed to provide on-site storage of runoff and would allow the settling of sediment and pollutants in accordance with TRPA



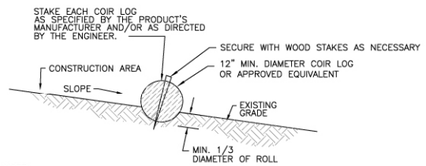
Source: Nichols Consulting Engineers, Chtd 2007

Alternative A – BMP Plan: Drainage System Cross Section **Exhibit 5.5-4**



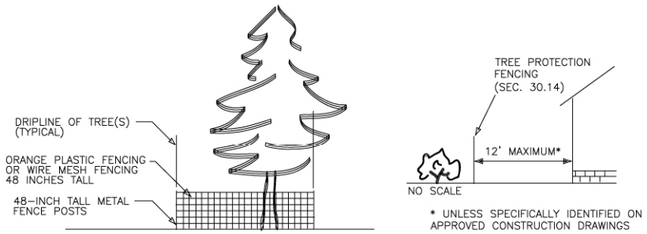
NOTES
1. GRAVEL BAG CONFIGURATION SHOWN SHALL BE USED FOR UNPAVED AREAS WITH SLOPES LESS THAN 5%
2. GRAVEL BAGS SHALL BE CONFIGURED IN ACCORDANCE WITH TRPA BMP: GRAVEL BAG CURB INLET SEDIMENT BARRIER. PLACE UPSLOPE OF THE DROP INLET IF THE SLOPE EXCEEDS 5%.

GRAVEL BAG INLET SEDIMENT BARRIER — BMP–12 — NO SCALE — 1 / D1



NOTE:
COIR LOG LOGS SHALL BE WEIGHTED WITH GRAVEL BAGS WHEN PLACED ON PAVED AREAS

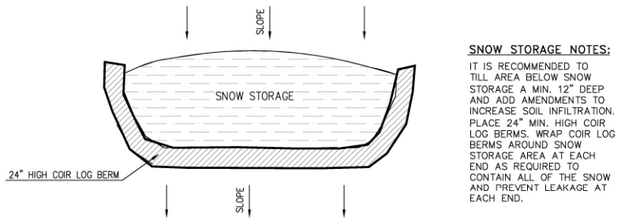
COIR LOG — BMP–9 — NO SCALE — 2 / D1



* UNLESS SPECIFICALLY IDENTIFIED ON APPROVED CONSTRUCTION DRAWINGS

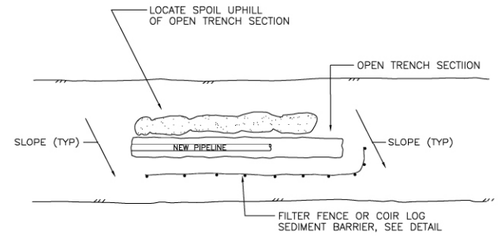
NOTES:
1. PLACING ANY MATERIAL – TEMPORARY OR OTHERWISE – WITHIN PROTECTIVE FENCING OR ENTERING PROTECTION AREAS MAY RESULT IN UP TO A $5,000 PENALTY PER VIOLATION PER DAY. (SECT 65.2 I AND J)
2. THESE CONDITIONS ARE PART OF ALL PROJECTS AS CONDITIONS OF ATTACHMENTS R, S, AND Q.
3. METAL OR WIRE MESH FENCING MAY BE REQUIRED.

TREE PROTECTION FENCING — BMP–8 — NO SCALE — 3 / D1



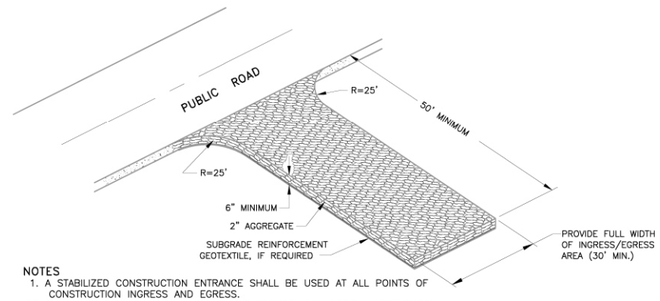
SNOW STORAGE NOTES:
IT IS RECOMMENDED TO TILL AREA BELOW SNOW STORAGE A MIN. 12" DEEP AND ADD AMENDMENTS TO INCREASE SOIL INFILTRATION. PLACE 24" MIN. HIGH COIR LOG BERMS. WRAP COIR LOG BERMS AROUND SNOW STORAGE AREA AT EACH END AS REQUIRED TO CONTAIN ALL OF THE SNOW AND PREVENT LEAKAGE AT EACH END.

SNOW STORAGE COIR LOG FILTER BERMS — NO SCALE — 4 / D1



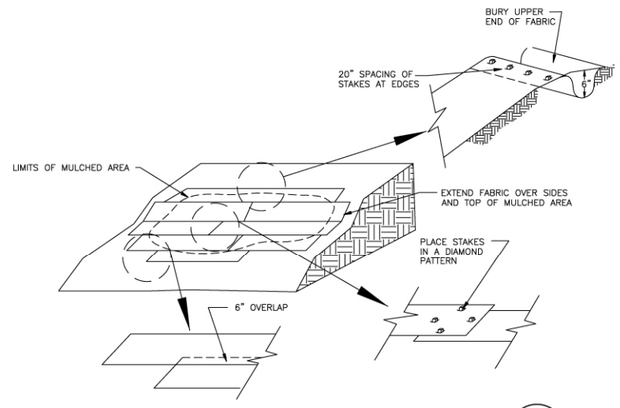
NOTE: RELOCATE FILTER FENCE / COIR LOG SEDIMENT BARRIER AS NECESSARY

TYPICAL OPEN TRENCH SECTION
NO SCALE

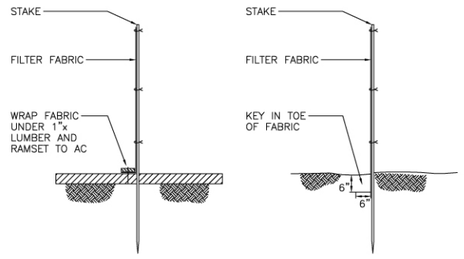


NOTES
1. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE USED AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS.
2. THE AGGREGATE SHALL BE 2 IN. CRUSHED ROCK OR 1 TO 3 IN. DIAMETER WASHED WELL–GRADED GRAVEL.
3. THE ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
4. THE ENTRANCE SHALL BE CONSTRUCTED ON LEVEL GROUND.
5. PERIODIC TOP DRESSING WITH ADDITIONAL STONE SHALL BE PROVIDED TO ENSURE THE INTEGRITY OF THE ENTRANCE DURING CONSTRUCTION.
6. THE ENTRANCE SHALL BE INSPECTED MONTHLY AND AFTER EACH RAINFALL.
7. CRUSHED ROCK MATERIAL SHALL BE ADDED WHEN SURFACE VOIDS ARE NOT VISIBLE.
8. ALL SEDIMENT DEPOSITS ON PAVED ROADWAYS SHALL BE REMOVED WITHIN 24 HOURS.
9. THE CRUSHED ROCK AND GEOTEXTILE SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION.

CONSTRUCTION ENTRANCE — NO SCALE — 7 / D1



EROSION CONTROL FABRIC INSTALLATION — NO SCALE — 5 / D1



FENCE IN PAVEMENT SECTION — FENCE IN NATIVE SOIL

SILT FENCE — BMP–10 — NO SCALE — 6 / D1

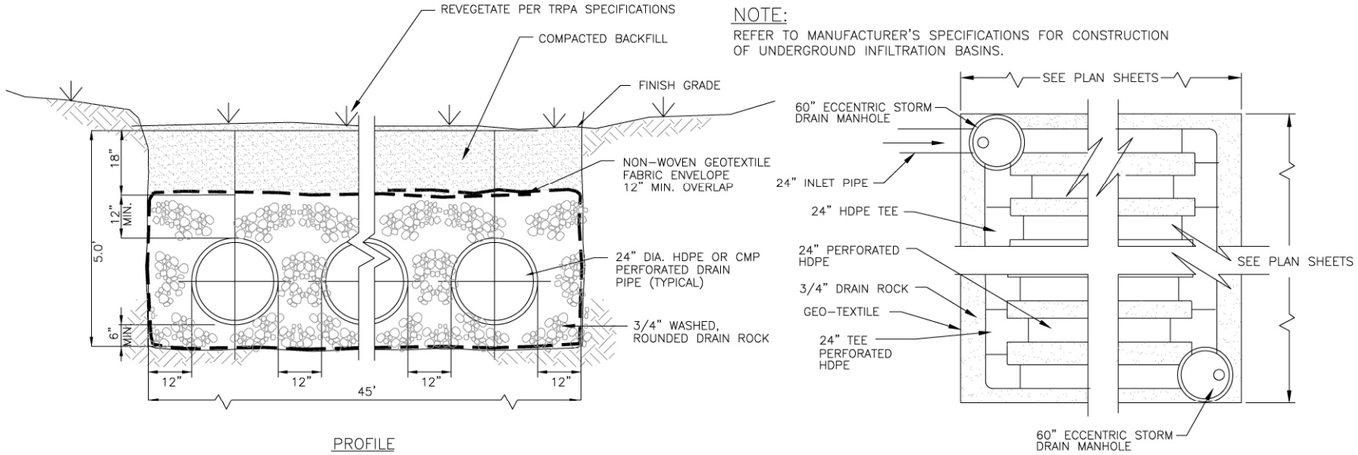
TWO DAYS BEFORE YOU DIG
CALL USA TOLL FREE
1–800–227–2600

PRELIMINARY
FOR REVIEW
NOT FOR CONSTRUCTION
DATE: 4–4–06

G 05110150.01 026

Source: Nichols Consulting Engineers, Chtd 2007

Best Management Practices Details **Exhibit 5.5-5A**

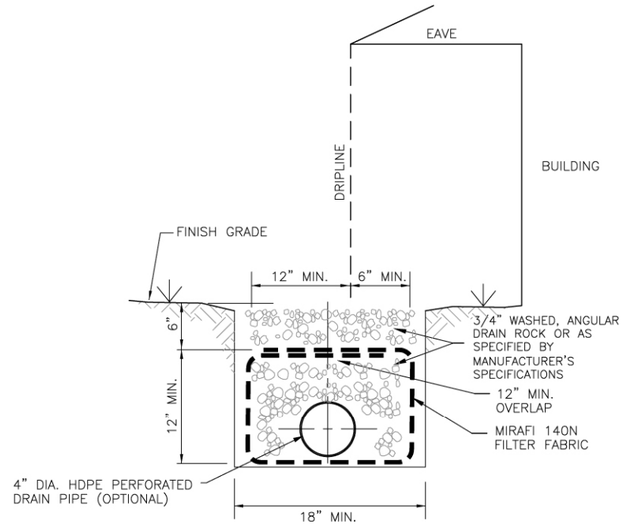


PROFILE

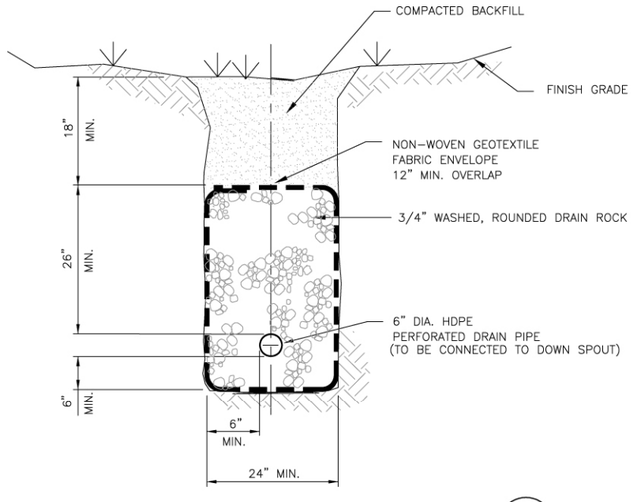
NOTE:
REFER TO MANUFACTURER'S SPECIFICATIONS FOR CONSTRUCTION OF UNDERGROUND INFILTRATION BASINS.

PLAN

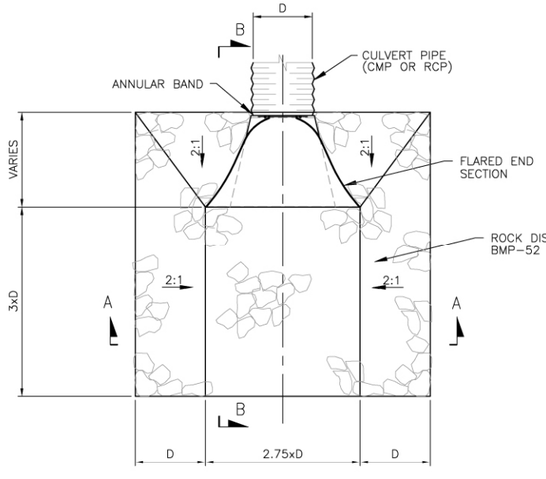
UNDERGROUND INFILTRATION BASIN — 1/D2
BMP–41
NO SCALE



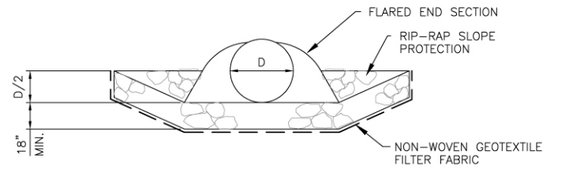
DRIPLINE INFILTRATION TRENCH — 2/D2
NO SCALE



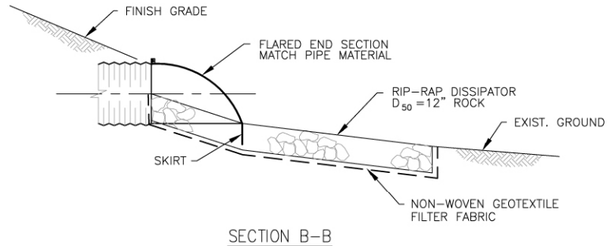
INFILTRATION TRENCH DRAIN SYSTEM — 3/D2
BMP–41
NO SCALE



PLAN



SECTION A–A



SECTION B–B

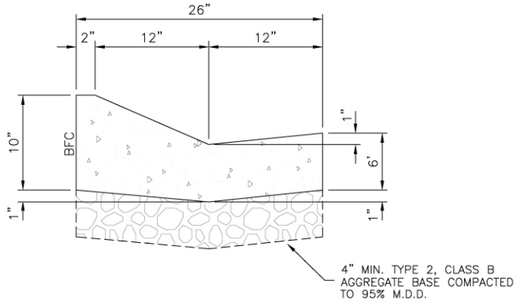
NOTE:
FLARED END SECTION INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

TYPICAL FLARED END SECTION W/ ROCK DISCHARGE APRON — 4/D2
BMP–52
NO SCALE

G 05110150.01 043

Source: Nichols Consulting Engineers, Chtd 2007

Best Management Practices Details **Exhibit 5.5-5B**

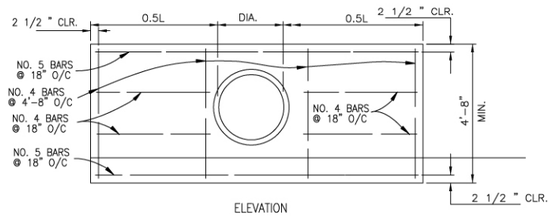


CURB NOTES:

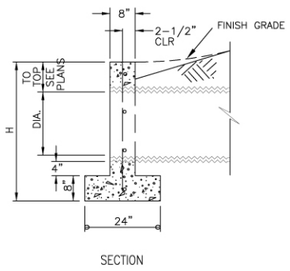
1. LOCATE 1/2" PREMOLDED TRANSVERSE EXPANSION JOINTS OF ASPHALT IMPREGNATED CELOTEX IN CURB AND GUTTER AT 20' INTERVALS.
2. CONCRETE TO CONFORM TO SPECIFICATIONS (WITH 6% AIR ENTRAINMENT)
3. THE MATERIALS AND METHOD OF PLACEMENT SHALL CONFORM TO THE SPECIFICATIONS UNDER SECTION COVERING CONCRETE PLACEMENT.
4. CURB AND GUTTER SHALL BE SPRAYED UNIFORMLY WITH A CLEAR PIGMENTED CURING COMPOUND. THE MATERIAL, METHOD AND RATE OF APPLICATION SHALL CONFORM TO THE SPECIFICATIONS.
5. ALL CURB AND GUTTER SHALL BE WATER TESTED.
6. REPLACEMENT OF ASPHALT CURB AND GUTTERS SHALL MATCH THE CONFIGURATION OF THE EXISTING FACILITIES

TYPE 2 (ROLLED) P.C.C. CURB & GUTTER (1 / D3)

NO SCALE



ELEVATION



SECTION

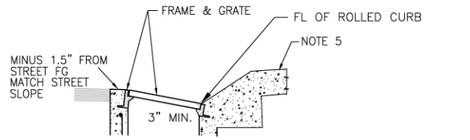
HEADWALL NOTES:

REFER TO NDOT STANDARD PLANS FOR CONSTRUCTION 2001

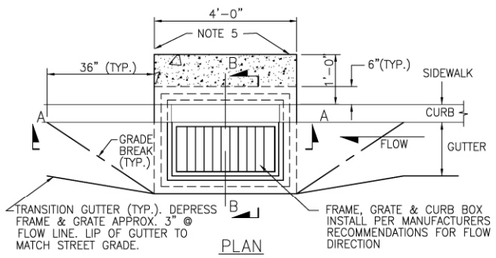
1. CONCRETE SHALL BE CLASS A OR AA.
2. REINFORCING STEEL SHALL BE DEFORMED BARS WITH MAXIMUM SPACING OF 18" SET 2 1/2" CLEAR OF SURFACE OF CONCRETE EXCEPT AS NOTED. BAR ENDS SHALL BE KEPT 1 1/2" CLEAR OF SURFACE OF CONCRETE. REINFORCING BARS MAY BE CUT AND BENT IN FIELD.
3. FOOTINGS SHOWN ARE OF MINIMUM DEPTH AND SHALL BE EXTENDED IF SOIL IS UNSUITABLE OR LIABLE TO SCOUR.
4. CULVERT PIPES TO BE SET ON A SKEW SHALL BE MITERED WHEN HEADWALLS ARE CONSTRUCTED. WHEN HEADWALLS ARE NOT CONSTRUCTED THE PIPES SHALL NOT BE MITERED EXCEPT IN OVERFLOW SECTION.

CONCRETE HEADWALL DETAIL (NDOT) (2 / D3)

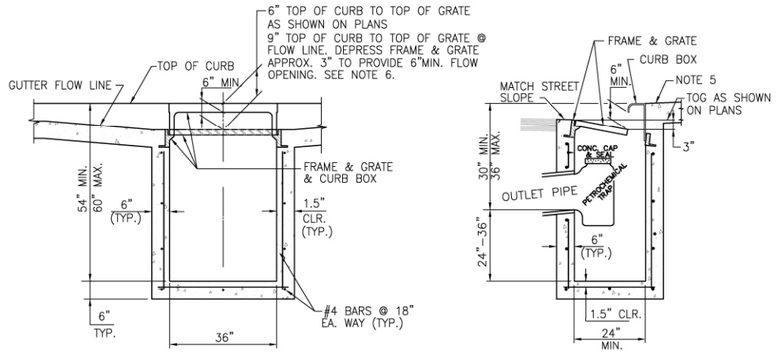
NO SCALE



ROLLED CURB CONSTRUCTION



PLAN



SECTION A–A SECTION B–B

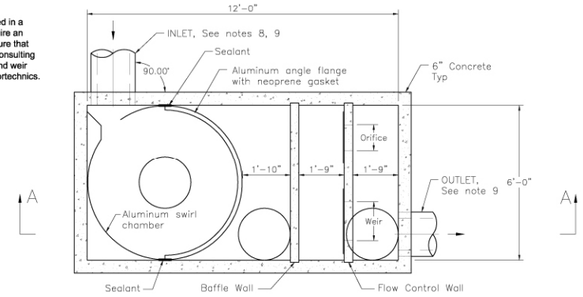
NOTES:

1. CONCRETE FOR CAST IN PLACE CATCH BASIN AND 4'x4' CONCRETE PAD SHALL BE 6.25 SACK 4000psi WITH 4.5–7.5% ENTRAINED AIR.
2. REINFORCING SHALL BE FIBERMESH UNLESS OTHERWISE NOTED. REINFORCING STEEL SHALL BE GRADE 40. REINFORCEING SHALL BE PLACED PER ORANGE BOOK STANDARDS.
3. CONCRETE STRUCTURE MAY BE A PRE–CAST CONCRETE UNIT UPON APPROVAL OF RHGID.
4. FRAME AND GRATE SHALL BE NEENAH R–3067–V (VANE GRATE) OR APPROVED EQUAL.
5. 8 INCH THICK CONCRETE PAD SHALL BE CONSTRUCTED AS SHOWN WHEN NOT LOCATED IN A SIDEWALK. 6 INCHES OF TYPE 2 CLASS B AGGREGATE BASE SHALL BE PLACED AND COMPACTED BENEATH 1'x4' PAD TO 90% RELATIVE COMPACTION.
6. TYPE 4R CATCH BASINS SHALL BE USED ON ALL GRADES AND IN ALL SUMP LOCATIONS WITHIN ROADWAY SECTION.
7. ALL OUTLET PIPES SHALL BE 12"ø AND CONSTRUCTED 2% SLOPE TO THE SDMH UNLESS OTHERWISE STATED IN THE PLANS.

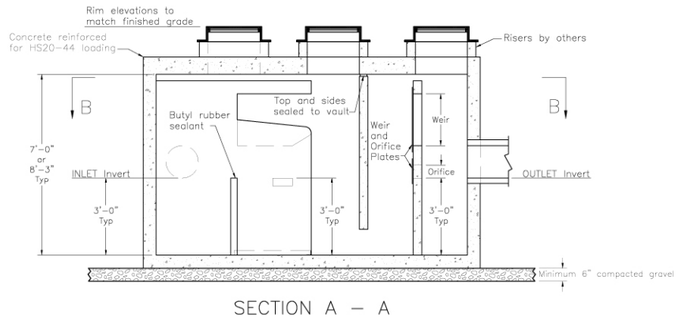
MODIFIED TYPE 4R CATCH BASIN (3 / D3)

NO SCALE

NOTE:
Vortechs Systems installed in a bypass configuration require an upstream diversion structure that shall be detailed by the Consulting Engineer with elevation and weir width data provided by Vortechnics.



PLAN VIEW B – B



SECTION A – A

NOTES:

1. Stormwater Treatment System (SWTS) shall have:
   Peak treatment capacity: 6 cfs
   Sediment storage: 2.5 cu yd
   Oil storage: 700 gallons
   Sediment chamber dia: 6' min
2. SWTS shall be contained in one rectangular structure
3. SWTS shall remove 80% of annual TSS loading
4. SWTS shall retain floatables and trapped sediment up to and including peak treatment capacity
5. SWTS inverts in and out shall be at the same elevation
6. SWTS shall not be compromised by effects of downstream tailwater
7. SWTS shall have no internal components that obstruct maintenance access
8. Inlet pipe must be perpendicular to the structure
9. Pipe orientation may vary; see site plan for size and location
10. Puchaser shall not be responsible for assembly of unit
11. Manhole frames and perforated covers supplied with system, not installed
12. Purchaser to prepare excavation and provide lifting equipment

This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by Vortechnics, Inc. and may only be transferred to other documents exactly as provided by Vortechnics. Title block information, excluding the Vortechnics logo and the Vortechs™ Stormwater Treatment System designation and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with Vortechnics shall be considered unauthorized use of proprietary information.

Vortechnics™
41 Evergreen Drive
Portland, ME 04103
Tel.: 207-878-3662
Fax: 207-878-8507

STANDARD DETAIL
STORMWATER TREATMENT SYSTEM
VORTECHS™ MODEL 4000 U.S. PATENT No. 5,759,415
PROPRIETARY INFORMATION – NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATE:	6/24/99	SCALE:	1/4" = 1'-0"	FILE NAME:	STD4K	DRAWN BY:	AP/NDG	CHECKED BY:	KJM

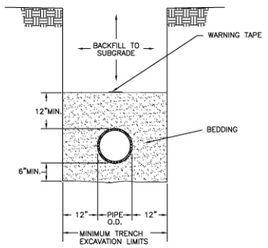
WATER QUALITY TREATMENT VAULT (4 / D3)

NO SCALE

G 05110150.01 044

Source: Nichols Consulting Engineers, Chtd 2007

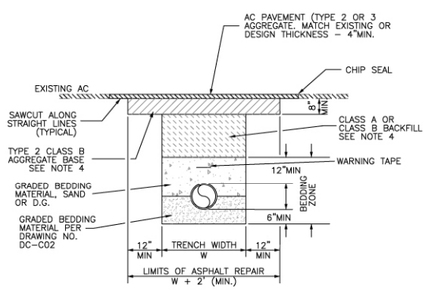
Best Management Practices Details **Exhibit 5.5-5C**



GENERAL NOTES:

1. BACKFILL SHALL MEET THE REQUIREMENTS FOR CLASS "E" BACKFILL AS SHOWN IN SUBSECTION 200.03.06 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OR AS SPECIFIED BY THE ENGINEERING DIVISION. MATERIAL SHALL BE PLACED IN LIFT THICKNESSES AND MECHANICALLY COMPACTED IN ACCORDANCE WITH SECTION 305 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. BEDDING SHALL MEET THE REQUIREMENTS FOR CLASS "A" BACKFILL AS SHOWN IN SUBSECTION 200.03.02 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OR AS SPECIFIED BY THE ENGINEERING DIVISION. MATERIAL SHALL BE PLACED IN LIFT THICKNESSES AND MECHANICALLY COMPACTED IN ACCORDANCE WITH SECTION 305 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. BEDDING FOR GRAVITY SEWER LINES MAY BE CLASS "C" BACKFILL.
4. CLASS "C" BACKFILL WITH FILTER FABRIC MAY BE USED TO SUPPORT BEDDING IN HIGH GROUND–WATER OR UNSTABLE SOIL CONDITIONS WITH THE APPROVAL OF THE UTILITY DEPARTMENT.
5. FOR TRENCHES IN ROADWAY SECTION, SEE STREET CUT REPAIR DETAIL DC–A41.
6. SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY. ALL EXCAVATIONS SHALL CONFORM TO THE MOST RECENT OSHA REQUIREMENTS.
7. PLACE WARNING TAPE 1 FT. ABOVE WATER, AND RECLAIMED WATER PIPE.
8. WATER STOPS SHALL BE USED IN HIGH GROUND–WATER CONDITIONS PER DETAIL DC–A21.

TRENCH AND BACKFILL DETAIL 1/D4
NO SCALE

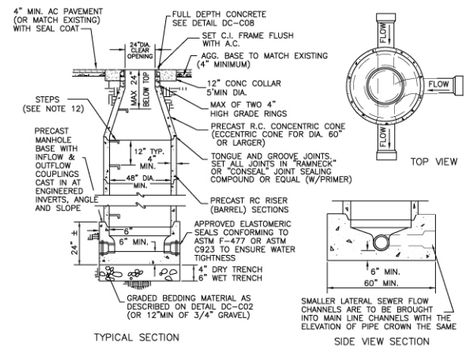


NOTE:

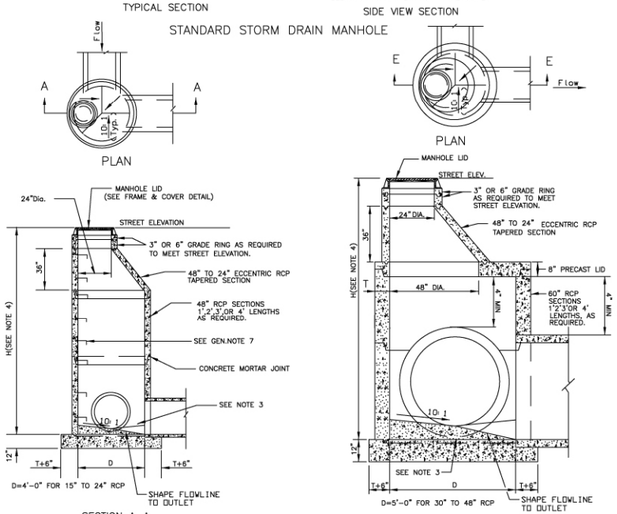
1. SURFACE TOLERANCES FOR AC PAVEMENT REPAIR SHALL BE DETERMINED BY PLACING AN APPROVED METAL STRAIGHT EDGE ACROSS THE REPAIRED SECTION. SURFACE TOLERANCES SHALL BE MEASURED FROM THE BASE OF THE STRAIGHT EDGE TO THE EXISTING PAVEMENT OR PAVEMENT REPAIR SECTION AND SHALL NOT EXCEED A VERTICAL TOLERANCE OF 0.02" (1/4") PAVEMENT REPAIRS NOT MEETING THESE TOLERANCES SHALL BE REMOVED AND REPLACED TO ESTABLISH THE REQUIRED TOLERANCE.
2. PLACE CHIP SEAL ON COMPLETED TRENCH REPAIR SECTION OVERLAPPING COVERAGE 18" MINIMUM ONTO EXISTING PAVEMENT ON ALL SIDES OF THE REPAIRED SECTION.
3. REPAIRS SHALL BE CHIP SEALED WITH MINIMUM 12" OVERLAP ONTO PAVEMENT.
4. ONE SACK SLURRY MIX SHALL BE USED IN TRENCHES LESS THAN 12" IN WIDTH.
5. ASPHALT CONCRETE AND MATERIALS SHALL CONFORM TO SECTION 320 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
6. TYPE 2 CLASS B AGGREGATE BASE SHALL CONFORM TO SECTION 200 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED IN CONFORMANCE WITH SECTION 308.05 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
7. BEDDING SHALL CONFORM TO DRAWING NO. DC–C02, OR AS SPECIFIED BY THE UTILITY. BEDDING SHALL BE MECHANICALLY COMPACTED IN ACCORDANCE WITH SECTION 305.10 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION TO NOT LESS THAN 90 PERCENT RELATIVE COMPACTION.

PAVEMENT TRENCH DETAIL 2/D4
NO SCALE

G 05110150.01 045



STANDARD STORM DRAIN MANHOLE



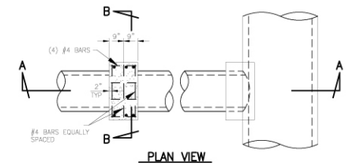
48" MANHOLE ECCENTRIC

60" MANHOLE ECCENTRIC

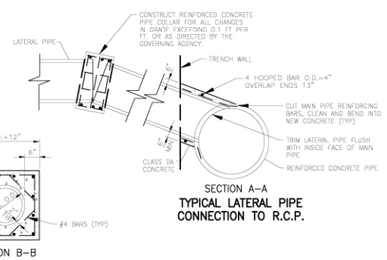
NOTES:

1. CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL UTILITIES 48 HOURS PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION SHALL CONFORM TO DOUGLAS COUNTY STANDARDS AND NO BACKFILLING WILL BE ALLOWED UNTIL INSPECTED AND APPROVED BY THE SEWER UTILITY.
3. MANHOLE SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE SECTIONS CONFORMING TO ASTM DESIGNATION C478.
4. EXCAVATION FOR MANHOLE MUST BE MADE TO A MINIMUM OF ONE FOOT OUTSIDE OF THE MANHOLE WALL TO PROVIDE FOR ADEQUATE WORKSPACE. SPACE OUTSIDE OF THE MANHOLE SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 8" IN DEPTH. EACH LAYER SHALL BE THOROUGHLY COMPACTED TO THE DENSITY OF THE EARTH IN THE ADJACENT TRENCH SECTIONS. (MIN. 90% IN EXISTING OR PROPOSED STREET OR ALLEY RIGHTS–OF–WAY).
5. CAST IRON FRAME AND COVER SHALL BE 24" DIAMETER (CLEAR OPENING) AND SHALL BE MANUFACTURED FROM GRAY CAST IRON CONFORMING TO ASTM DESIGNATION: A 48, CLASS 30 AND DESIGNED FOR A MINIMUM HS–20 TRAFFIC LOADING. COVERS AND FRAMES SHALL BE MATCH–MARKED IN PAIRS AND SEATING SURFACES MACHINED SO THAT COVER IS NON–ROCKING. COVERS SHALL HAVE ONE PICK HOLE, AND ONE CENTRALLY LOCATED 1" DIG HOLE. COVERS SHALL HAVE NO "THRU" HOLES.
6. ALL BASES MUST BE PRECAST UNLESS OTHERWISE APPROVED BY THE SEWER UTILITY.
7. ALL JOINTS AND CONNECTIONS TO NEW OR EXISTING MANHOLES SHALL BE WATERTIGHT.
8. CONCRETE FOR CAST–IN–PLACE MANHOLE BASE, IF APPROVED BY THE SEWER UTILITY FOR USE, SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
9. INVERTS SHALL BE FORMED DIRECTLY IN CONCRETE OF MANHOLE BASE AND SHALL BE SMOOTH AND ACCURATELY SHAPED TO A SEMI–CIRCULAR BOTTOM CONFORMING TO THE INSIDE OF THE ADJACENT STORM DRAIN SECTION.
10. STEPS ARE REQUIRED WHERE MANHOLE DEPTH IS 54" (4'– 6") OR GREATER, STEPS SHALL BE ALIGNED VERTICALLY (1" MAX. TOLERANCE) AND HORIZONTALLY (0.5" TOLERANCE) SO AS TO FORM A CONTINUOUS LADDER, AND SHALL CONFORM WITH THE DESIGN REQUIREMENTS OF THE STATE OF NEVADA, OSHA STANDARDS, SECTION 1910.27 (DEPTH IS RIM ELEV. TO TOP OF PIPE).
11. WHERE MANHOLES ARE NOT LOCATED IN STREETS, PLACE TOP OF MANHOLE 8" ABOVE EXISTING GROUND UNLESS OTHERWISE REQUIRED BY DOUGLAS COUNTY. INSTALL THE CONCRETE COLLAR FROM A POINT 6" OUTSIDE THE TOP OF THE COVER FRAME AND EXTEND A MINIMUM OF 6 INCHES BELOW THE SURROUNDING GROUND SURFACE. TAPER THE CONCRETE COLLAR FROM TOP TO BOTTOM AT A 1:1 SLOPE OR FLATTER.

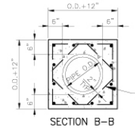
STORM DRAIN MANHOLE 3/D4
NO SCALE



PLAN VIEW

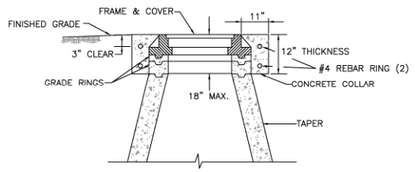


TYPICAL LATERAL PIPE CONNECTION TO R.C.P.

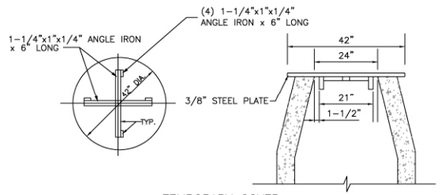


TYPICAL REINFORCED CONCRETE PIPE COLLAR

STORM DRAIN LATERAL 5/D4
NO SCALE



MANHOLE COLLAR DETAIL



TEMPORARY COVER

GENERAL NOTES

1. EXISTING PAVEMENT TO BE MATCHED SHALL BE NEATLY CUT.
2. CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 202.12 OF THE STANDARD SPECIFICATIONS.
3. IN ALL AREAS, COVERS SHALL BE SET FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED.
4. APPLY BLACK COLORANT TO SURFACE OF P.C.C. COLLAR.

MANHOLE COLLAR & TEMPORARY COVER 6/D4
NO SCALE

Source: Nichols Consulting Engineers, Chtd 2007

Best Management Practices Details **Exhibit 5.5-5D**

standards, before infiltration. Once the stored water has infiltrated, the sediments and pollutants would be removed from the underground infiltration galleries and disposed of properly. In the event of a large storm event that exceeds the design capacity of the infiltration galleries, concentrated runoff would then be conveyed to four vegetated and lined ponds that would provide additional opportunity for the settlement of suspended solids. Vegetation in the ponds would also provide for nutrient and pollutant uptake. The ponds would be lined with an impermeable membrane liner to prevent co-mingling of surface and groundwater. The underground infiltration galleries and lined ponds would also be equipped with multiple low flow perforated outlet pipes that would convey pre-treated runoff through the system to infiltration trenches in the proposed restoration area (meadow). This would allow the soils within the restoration area to become saturated during smaller storm events, such as the 5-year or 10-year event.

One type of storm filter system being considered for use is the StormFilter® System. The StormFilter® System cartridges contain ZPG multipurpose media (a proprietary blend of organic and inorganic media). Each cartridge can operate at a filtration rate of 7.5 gallons/minute and each system unit is equipped with an internal bypass mechanism, which is triggered during storm events that exceed the design capacity. The StormFilter® System performance yields an estimated 88% mean removal efficiency rate for Total Suspended Solids (TSS) and a 59% mean removal efficiency rate for Total Phosphorous. On-going and regular maintenance is necessary to maintain optimal pollutant removal efficiencies. To increase the effectiveness of TSS removal following installation, the cement vault must be regularly cleaned and filters conditioned. Additional maintenance activities include extracting standing water from the vault (especially at the end of spring snow melt and following summertime thunderstorm events) to eliminate the in-situ decomposition of organic matter and the release of dissolved nutrients during warm climatic conditions.

The proposed stormwater treatment system would reduce surface runoff and associated erosion at the project site relative to existing conditions. A preliminary Technical Drainage Study was prepared for Alternative A based on the criteria set forth in the TRPA Regional Plan and Douglas County Code (Carter-Burgess 2003). Based on the study and follow-up calculations, the runoff currently produced by the project site is approximately 34.2 cubic feet per second (cfs) for the 10-year storm event and 74.5 cfs for the 100-year storm event. The proposed project (Alternative A) would generate 12.5 cfs for the 10-year storm event and 32.9 cfs for the 100-year storm event, a reduction from current conditions of 36.5% and 44%, respectively.

Prior to permit acknowledgment, the applicant would prepare and submit a final drainage report to TRPA prepared by a Registered Civil Engineer that includes the following:

- A written report addressing existing conditions, the effects of project improvements, all appropriate calculations, a watershed map, changes in downstream flows, proposed on- and off-site improvements and detention facilities, features to protect downstream uses and property, and drainage and treatment easements to accommodate downstream flows from this project. The report shall identify water quality protection features and methods to be used both during construction and for long-term post-construction water quality protection. BMP measures shall be provided to reduce erosion, water quality degradation, and prevent the discharge of pollutants to stormwater to the maximum extent possible.

- Confirmation that stormwater runoff shall be reduced through the installation of retention/detention facilities.

- Full integration of all related underground and surface drainage systems that would generate runoff. These areas would include rooftops, sidewalks, cut/fill slopes, patio areas, streets, parking lots, up gradient off-site source areas, and impervious landscaping areas. Off-site source areas would require conveyance but not treatment. Seepage from underground sources must also be addressed.

- Confirmation that storm drainage from on-and off-site impervious surfaces (including roads) shall be collected and routed through specially designed water quality treatment facilities (BMPs) for removal of pollutants of concern (e.g., sediment, oil/grease, etc.), as approved by TRPA. The applicant shall verify that

proposed BMPs are appropriate to treat the pollutants of concern from this project. Maintenance of these facilities shall be provided by the project applicant.

Several technical studies have been conducted regarding water quality control feature impacts on groundwater (e.g., Nationwide Urban Runoff Project [U.S. EPA 1983]; Cumulative Water Quality Analysis Report for the Lahontan Development 1996–2002 [Huffman & Carpenter 2003]). These studies have identified that detention and infiltration basins and other water quality control features in the proposed BMP Plan, have been successful in reducing surface runoff and erosion and maintaining their impacts at a less-than-significant level. Under Alternative A, impervious surfaces would be reduced and the volume and rate of runoff from the project site would be reduced through these BMPs and drainage facilities, which meet or exceed TRPA requirements. Therefore, this impact is considered **beneficial**.

Mitigation Measures

No mitigation is required.

IMPACT 5.5.A-3 **Urban Contaminants in Surface Runoff**. *Alternative A would decrease impervious site coverage and implement BMPs in accordance with TRPA requirements. Operation of Alternative A would result in a decrease in urban contaminants in surface runoff from the project site. This impact is considered* ***beneficial.***

Under Alternative A, there would be a reduction in impervious site coverage of approximately 99,052 sf. Although there would be a reduction of impervious surface compared with the current site conditions, implementation of Alternative A would result in residential buildings, a beach and swim club, a paved road, surface parking, and associated facilities, which would result in 358,907 sf of impervious surfaces on the project site. Residential and swim club activities could contribute to water quality degradation through maintenance of landscaping associated with the use of fertilizers, herbicides, and pesticides; motor vehicle operation and maintenance; and animal waste. Runoff from the proposed project would typically contain contaminants such as oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), nutrients, sediment, and other pollutants. Therefore, the proposed change in current site conditions has the potential to result in impacts on the water quality in downstream water bodies and to groundwater.

Preliminary pollutant loading estimates have been calculated for the existing project site and for Alternative A. The methodology used to calculate these estimates follows the Lake Tahoe Basin Storm Water Quality Improvement Committee (SWQIC) guidelines regarding water quality improvement projects in the Lake Tahoe Basin (Northwest Hydraulics [nhc] 2004). Pollutant load models were developed by Northwest Hydraulics (nhc) for the Committee. These models estimate annual pollutant loads based on density, land use, impervious surface area, soil conditions, precipitation, and connectivity. Connectivity refers to how quickly the runoff is conveyed to the receiving water, in this case Burke Creek, offsite SEZ or Lake Tahoe, without infiltration or treatment. The annual pollutant load was then converted to a concentration using the TRPA 20-year, 1-hour storm event. Using the SWQIC runoff spreadsheet (SWQIC 2004), annual runoff contaminant characteristics were estimated for comparison with existing conditions and applicable TRPA discharge limits. The model uses historic rainfall, land use area percentages, and impervious surface area of the proposed project area. The modeling results are shown in Table 5.5-5.

Table 5.5-5 shows that the proposed project would greatly reduce the pollutant loads from runoff compared with existing conditions, such that TRPA stormwater water quality objectives would be met.

The BMPs that would be implemented as part of the stormwater pre-treatment, including dripline infiltration trenches, infiltration galleries, underground infiltration basins, and treatment ponds as described in Impact 5.5.A-2 and shown in Exhibits 3-13 and 5.5-4 would further reduce contaminant loading.

Table 5.5-5
Average Annual Pollutant Loads from Runoff at the Beach Club Project Site

	Unit	NO_3	TKN	SRP	TP	TSS
Existing Conditions	lbs	13.1	48.6	6.8	29.3	11,385
	mg/l	0.203	0.752	0.106	0.454	176
Alternative A	lbs	1.0	3.9	0.5	2.3	898
	mg/l	0.020	0.073	0.010	0.044	17
Alternative B	lbs	0.1	1.3	0.1	1.1	348
	mg/l	0.003	0.024	0.002	0.021	7
Alternative C	lbs	1.0	3.7	0.5	2.2	857
	mg/l	0.019	0.070	0.010	0.042	16
TRPA Discharge Limits[1]	mg/l	--	0.5	--	0.1	250

mg/l = milligrams per liter = parts per million
NO_3 = nitrate
TKN = Total Kjeldahl Nitrogen
TSS = Total Suspended Solids
SRP = Soluble Reactive Phosphorus
TP = Total Phosphorus
TSS = Total Suspended Solids
Source: nhc 2004; Nichols Consulting Engineers 2007

The expected pollutant removal success rates listed in Table 5.5-6 suggest that multiple BMPs, when properly installed and maintained, can achieve significant sediment and nutrient removal. Multiple temporary construction and permanent BMPs would, therefore, be used in combination to achieve this result. BMPs would be selected and designed with the objective of achieving maximum contaminant removal, using the best available technology that is economically feasible, and explicitly identifying the expected level of BMP effectiveness in removing contaminants. Using the expected pollutant removal values in Table 5.5-6 to analyze the pollutant removal effectiveness of the proposed BMP Plan, Table 5.5-7 predicts the average total pollutant removal rates for the proposed BMP Plan.

Several technical studies have been conducted regarding water quality control feature impacts on groundwater (e.g., Nationwide Urban Runoff Project [U.S. EPA 1983]; Cumulative Water Quality Analysis Report for the Lahontan Development 1996–2002 [Huffman & Carpenter 2003]). These studies have identified that water quality control features, such as those identified for the proposed BMP Plan, including project revegetation, erosion control measures, detention and infiltration basins have been successful in controlling water quality and avoiding water quality impacts (metals and organic compounds associated with stormwater are typically lost within the first few feet of the soil of the retention basins associated with groundwater). Technical studies associated with the Lahontan Development demonstrated that the use of a variety BMPs such as source control, detention basins, revegetation and erosion control, have been able to maintain surface water quality conditions in adjacent receiving waters. Because Alternative A would implement permanent BMPs and reduce the pollutant loads in runoff from the project site relative to existing conditions, this impact is considered **beneficial**.

Table 5.5-6
Expected Pollutant Removal Efficiency of Various Best Management Practices

BMP Type	Typical Pollutant Removal (%)				
	TSS	Nitrogen	Phosphorus	Pathogens	Metals
Structural BMPs					
Dry detention basins	30–65	15–45	15–45	<30	15–45
Retention basins	50–80	30–65	30–65	<30	50–80
Constructed wetlands	50–80	<30	15–45	<30	50–80
Infiltration basins	50–80	50–80	50–80	65–100	50–80
Infiltration trenches, dry wells	50–80	50–80	15–45	65–100	50–80
Porous pavement	65–100	65–100	30–65	65–100	65–100
Grassed swales	30–65	15–45	15–45	<30	15–45
Vegetated filter strips	50–80	50–80	50–80	<30	50–80
Surface sand filters	50–80	<30	50–80	<30	50–80
Other media filters	65–100	15–45	<30	<30	50–80
Construction Site BMPs					
Silt fence	50–80				
Sediment basin	55–100				
Sediment trap	60				

Note:
BMP = best management practice
Source: EPA 1999

Table 5.5-7
Expected Pollutant Removal Efficiency for the Proposed BMP Plan

BMP Type	Average Pollutant Removal (%)				
	TSS	Nitrogen	Phosphorus	Pathogens	Metals
Media filter	82.5	30	15	15	65
Dry well (underground infiltration gallery)	65	65	30	82.5	65
Retention Basin (lined pond)	65	47.5	47.5	15	65
Infiltration Trench	65	65	30	82.5	65
Pollutant Load Remaining (%)	0.8	4.5	21.9	2.2	1.5
Total Removal for the full Treatment Sequence (%)	99.2	95.5	78.1	97.8	98.5

Source: EPA 1999; Nichols Consulting Engineers, Chtd. 2007

Mitigation Measures

No mitigation is required.

IMPACT 5.5.A-4 Interception of Groundwater Table During Construction. *Excavation during construction of Alternative A could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed beach and swim club and residential buildings would have an average depth of approximately 3 to 5 feet below ground surface and may reach a maximum depth of approximately 5 to 8 feet below ground surface. Based on data generated during the soils/hydrologic subsurface investigation, proposed construction excavation would generally not encounter groundwater; however, variable subsurface conditions may be present that would cause groundwater to be shallow enough to be intercepted. This impact is considered* ***potentially significant***

Based on data generated during the soils/hydrologic subsurface investigation, excavation activities during construction of Alternative A would not intercept the groundwater table and would not create the potential for introduction of contaminants to groundwater. Excavation activities for the foundations of the proposed beach and swim club, lodge buildings, residential estate buildings, carriage house, gate house, and associated structures would reach a depth of approximately 3 to 5 feet, with the deepest excavations, associated with building footing design, potentially reaching a maximum depth of approximately 5 to 8 feet below ground surface (Appendix B) (Kleinfelder 2003). The final building footing design would be placed, and BMPs specifically chosen, so as not to intercept the groundwater table (Nichols Consulting Engineers, pers. comm., May 17, 2006). The approximate location of the perched (i.e., elevated) aquifer areas have been identified and would be avoided.

Excavation for the SEZ restoration area along the northern boundary of the project site would involve removing the non-SEZ soils from the project site, which vary in elevation. Excavation for the restoration is, therefore, estimated to vary between approximately six inches and a maximum of 3 feet (Nichols Consulting Engineers, pers. comm., May 17, 2006).

TRPA Ordinances prohibit excavation deeper than 5 feet because of the potential for groundwater interception or interference, except under certain defined and permitted conditions. Excavation is prohibited if it interferes with or intercepts the seasonal high water table by: (a) altering the direction of groundwater flow; (b) altering the rate of flow of ground water; (c) intercepting ground water; (d) adding or withdrawing ground water; or (e) raising or lowering the water table (TRPA 1991).

TRPA may approve exceptions to the prohibition of groundwater interception or interference if TRPA finds that: (a) excavation is required by the Uniform Building Code (UBC) or local building code for minimum depth below natural ground for above ground structures; (b) retaining walls are necessary to stabilize an existing unstable cut or fill slope; (c) drainage structures are necessary to protect the structural integrity of an existing structure; (d) it is necessary for the public safety and health; (e) it is a necessary measure for the protection or improvement of water quality; (f) it is for a water well; (g) 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 groundwater, if any is interfered with, is rerouted in the ground water flow to avoid adverse impacts to riparian vegetation, if any would be so affected; (h) it is necessary to provide two off-street parking spaces, there is no less environmentally harmful alternative, and measures are taken to prevent groundwater from leaving the project area as surface flow; (i) it is necessary to provide below grade parking for projects, qualifying for additional height under Subsection 22.4.D, to achieve environmental goals including scenic improvements, land coverage reduction, and areawide drainage systems; and measures are included in the project to prevent ground water from leaving the project area as surface flow and that groundwater, if any is interfered with, is rerouted into the groundwater flow to avoid adverse impacts to hydrologic conditions, SEZ vegetation, and mature trees; or (j) it is necessary for a marina expansion approved pursuant to Chapter 16, and the environmental documentation demonstrates that there would be no adverse effect on water quality (TRPA 1991).

Excavations in excess of 5 feet in depth or where there exists a reasonable possibility of interference or interception of a water table, shall be prohibited unless TRPA finds that (TRPA Code 64.7.B): (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

would 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 65.2.E (TRPA Code), 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 would not occur as a result of the excavation); and (3) excavated material is disposed of pursuant to Section 64.5 (TRPA Code) and the project area's natural topography is maintained pursuant to Subparagraph 30.5.A(1); or if groundwater interception or interference would occur as demonstrated by a soils/hydrologic report prepared by a qualified professional, the excavation could be made as an exception pursuant to Subparagraph 64.7.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 water flow from leaving the project area as surface flow (TRPA 1991). It is anticipated that the project activities would meet the necessary conditions to receive an approved exemption from TRPA.

Based on data generated during the soils and hydrologic subsurface investigation, proposed excavation on the site would not encounter groundwater. However, variations could exist in soil or groundwater conditions at the proposed project site that are different than those at the time of investigation, and future variations could occur due to variations in precipitation, temperature, regional water usage, or other factors. Therefore, there is a potential for excavation activities associated with Alternative A to intercept groundwater. If groundwater is encountered, contaminants, such as nutrients, sediment, and hydrocarbons could enter groundwater. Therefore, this impact is considered **potentially significant**.

Mitigation Measure 5.5.A-4. Develop and Implement a Dewatering Plan A Dewatering Plan shall be developed and implemented to prevent or minimize sediment and contaminant releases into groundwater during excavations, and methods to clean up releases if they do occur. If necessary, dewatering shall be done in a manner that allows discharge to an infiltration basin approved by the TRPA. Measures to prevent or minimize sediment and contaminant releases into groundwater during excavations and methods to clean up releases 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.

Under the conditions of the TRPA approval of excavation depth for the proposed project (TRPA File # 20030501, Appendix B), the following conditions shall be included in the Dewatering Plan:

- If groundwater is intercepted at any depth, the TRPA shall immediately be notified and the excavation and foundation design shall be revised immediately so as not to intercept groundwater. The revised depth shall be subject to approval by the TRPA.

- If subsurface conditions are found that are significantly different than those that the soils and hydrologic studies have found, then the TRPA shall immediately be notified.

- If groundwater is intercepted at any depth during excavation, permanent BMP alternatives for high groundwater shall be implemented to maintain separation between surface runoff and groundwater. Depths of any underground or below ground surface infiltration devices or other BMPs shall be adjusted accordingly. Alternatives, such as treatment wetlands, and pump and treat BMPs, shall be included in these contingency plans.

Implementation of Mitigation Measure 5.5.A-4 would reduce Impact 5.5.A-4 to a **less-than-significant** level.

IMPACT 5.5.A-5 Interference with Littoral Processes from Pier Extension and Buoy Relocation. *The proposed reconstruction and extension of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. Based on information pertaining to the effects of piers and floating docks, the extended pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with the proposed project are expected to be the same as existing conditions. Therefore, this impact is considered* ***less than significant****.*

The proposed pier plan is shown on Exhibit 3-10. The existing 109-foot private pier would be reconstructed and extended approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). As described in Chapter 3, "Project Description," the existing fixed section of the pier would be removed and replaced with an 80-foot vertically moving fixed section designed to avoid effects on littoral processes and a 20-foot transition section that connects the fixed section to a 59-foot floating section, extending approximately 159 feet and to the TRPA-designated pierhead line (elevation 6219.0). A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north; the floating section would be 30 feet wide at its widest point. The floating section of the pier would be anchored by two piles spaced at 28-foot intervals in the center of the pier and a pile under each of the platforms extending to the north, while the vertically moving fixed pier section would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. The pier would follow the current alignment (perpendicular to the shoreline).

The reconstructed pier would be deeded to the Homeowner's Association and would therefore qualify as a multiple use pier (TRPA Code of Ordinances Chapter 2). Because the reconstructed pier would be deeded to the Homeowner's Association and would therefore qualify as a multiple use pier (TRPA Code of Ordinances Chapter 2), it would be eligible for deviation from the Design and Construction Standards listed in TRPA Code of Ordinances Section 54.4.B, Subparagraph (1). Specifically, the multiple use pier could deviate from the 10-foot pier width standard specified in Code Section 54.4.B(1) to allow for the "L" shaped portion of the floating pier.

Construction staging for the pier reconstruction and buoy relocation 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 and buoy relocation. 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 driving of the pier piles. The reconstructed pier and relocated buoys would be consistent with TRPA Code Section 54.4.B Design and Construction Standards, except for the exception allowed under Subparagraph (1) as mentioned above. The TRPA design and construction standards per Section 54.4 B are:

(1) 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

(2) 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.

(3) 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.

(4) 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.

(5) Fueling facilities shall not be permitted on piers located adjacent to littoral parcels on which the primary use is residential.

(6) 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 G). 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.

Operation of the 80-foot vertically moving fixed pier section would be accomplished via mechanical/hydraulic lifts that would vertically adjust the pier deck elevation from a maximum elevation of 6231.5 feet to a minimum elevation of 6223.0 feet (Lake Tahoe low water elevation) yielding a maximum vertical movement of approximately 8.5 feet. 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. It is anticipated that during a "normal lake level season" the pier would be adjusted every two weeks to conform to the seasonal rise and fall of Lake Tahoe. The Operations Plan would specify that the bottom pier deck elevation be within approximately 6 inches of the Lake surface elevation at any given time, which would allow the pier deck to be adjusted so as to minimize the pier's visual effects while still allowing littoral processes to occur. The mechanical/hydraulic lifts would require electricity to power a series of small electrical motors that would be located under the pier deck and on each of the eight columns. The mechanical and hydraulic lift infrastructure would be operated and maintained such that grease, oils, and hydraulic fluids would not contact the Lake water or shoreline. These procedures would be described in detail in the Operations Plan.

Because the proposed pier extension, adjustable pier section, and buoy relocation would be designed and constructed to the TRPA standards described above, 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 project would have no significant adverse impacts to littoral transport or backshore stability. Therefore, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.5.A-6 Degradation of Water Quality During Pier Extension and Buoy Relocation Activities. *Alternative A includes reconstruction and extension of the existing pier and the relocation of three existing buoys. The floating portion of the pier would be anchored by a single line of two piles in the center of the pier spaced at 28-foot intervals, while the fixed portion of the pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. Pier installation and relocation of the three existing buoys 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 A would not adversely affect Lake Tahoe water quality nor cause established water quality standards to be exceeded. However, the open-trench construction through the beach zone and to the pier that would be necessary to install electrical conduit to power the vertically moving fixed pier section could result in degradation of water quality if groundwater is intercepted. Therefore, this impact is considered* ***potentially significant****.*

Floating piers and buoys built to TRPA Code Section 54.4.B Design and Construction Standards (described in Impact 5.5.A-5) 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 (BMP Manual), which sets forth the guidelines for water quality protection approved by TRPA based on proven water quality protection measures. The proposed facilities would not be composed of biostimulatory materials (i.e., substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses), and they would be installed without significant disturbance to the lake bottom.

The primary activities in the Shorezone that contribute significantly to water quality degradation are dredging, boating activities (including marina operations), and backshore development (TRPA 2004c). Alternative A would not include dredging, marina operations, or backshore development. As described in Impact 5.5.A-5, construction staging for the pier and relocated buoys would be provided by a barge on the lake.. In addition, a turbidity curtain, as described in 5.5.A-5, would be used at all times during construction of the floating pier and relocation of the three buoys, which would prevent fine and coarse suspended sediment transport away from areas of water-based construction activities, in this case the driving of the pier piles. However, the applicant proposes to install underground electrical conduit using open-trench construction techniques that would extend from the beach and swim club building through the beach zone and to the pier. The trench depth would be approximately 2.5 feet and trench width approximately 1.5 feet. The exact alignment of the trench would be determined as part of the final design, but would likely extend along the existing foot path that runs parallel to and just north of the KGID water supply pump station and ozone treatment plant building. Although the trench depth would be shallow and its width narrow, because it is in the shorezone there is a potential to intercept groundwater which could result in sediment and contaminant releases into groundwater or nearby Lake water during trenching. Therefore, this impact is considered **potentially significant**.

Mitigation Measure 5.5.A-6. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.A-4. See Mitigation Measure 5.5.A-4 described above for Alternative A. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.5.A-4 would reduce Impact 5.5.A-6 to a **less-than-significant** level.

IMPACT 5.5.A-7 Degradation of Water Quality from Increased Boating Activity. *Alternative A would include the reconstruction and extension of the existing pier and relocation of the three existing buoys. The project would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, the project would not contribute to an increase in the number of boats on the lake. In addition, because the project would not provide any additional permanent mooring, the project would not result in a change in boating activity on the lake. Therefore, Alternative A would result in a* ***less-than-significant*** *impact related to boating activity and water quality.*

Alternative A would include the reconstruction and extension of the existing pier and removal and relocation of the three existing buoys parallel to and north of the reconstructed pier, as shown in Exhibit 3-10. The proposed pier extension (an increase in length of 50 feet) and relocation of the existing buoys 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.

A Kingsbury General Improvement District (KGID) water supply intake manifold is located more than 360 feet beyond the endpoint of the proposed extended pier (see Exhibit 3-10). The placement of the reconstructed pier (in line with the existing pier) and buoys would have a nominal effect on existing boat activity near the water supply intake, as any increases in boat activity in the vicinity of the project site related to a 50-foot increase in pier length would be nominal. Measures that are in place to protect water quality from boating activities included 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 TRPA Code of Ordinances Chapter 81, which prohibits discharge of wastewater (bilge water, human waste) to Lake Tahoe. Therefore, the proposed project would result in a **less-than-significant** impact related to boating activity and water quality.

Mitigation Measures

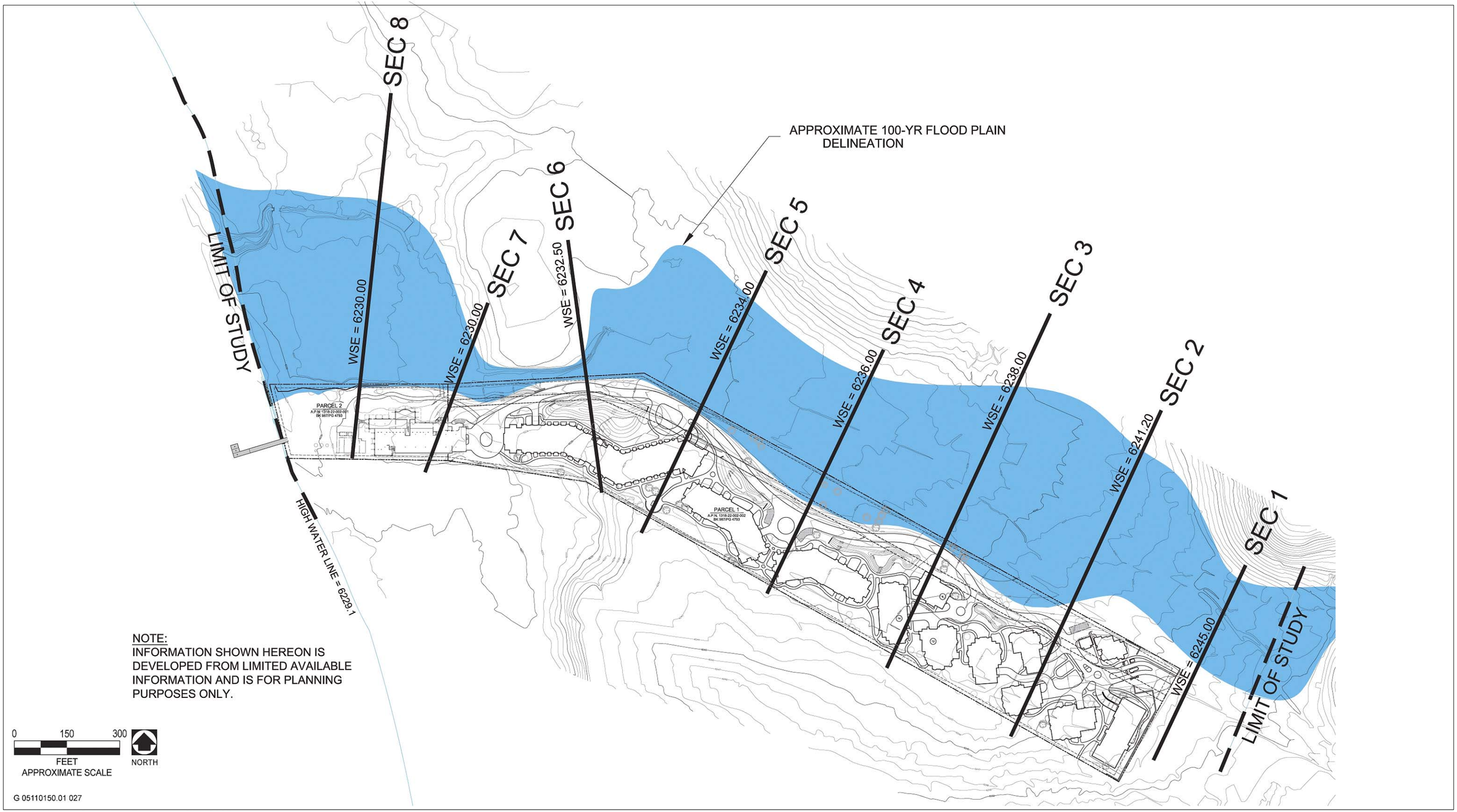
No mitigation is required.

IMPACT 5.5.A-8 Flood Hazard Effects. *The proposed project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map and would not place within a 100-year flood hazard area structures which would impede or redirect flood flows. Therefore, this is considered a* ***less-than-significant*** *impact.*

Based on the HEC-RAS analysis conducted for the project site and use of the most recent flow data, the proposed project (Alternative A) would not impede or redirect flood flows, or place housing or other structures in the 100-year flood zone (Exhibits 5.5-6, 5.5-7, and 5.5-8). Potential flooding risks would be alleviated through implementation of the proposed grading plan and the Alternative A site design, which considers the location of the 100-year flood zone and proposes to construct all structures above it. The stormwater treatment system for the project would be designed to convey 100-year flood flows to the northern boundary of the project site and then out to Lake Tahoe, south of the Burke Creek outfall. Exhibit 5.5-9 demonstrates how the stormwater treatment system for Alternative A would convey 100-year flood flows through the proposed treatment ponds to accomplish this. For these reasons, this impact is considered **less than significant**.

Mitigation Measures

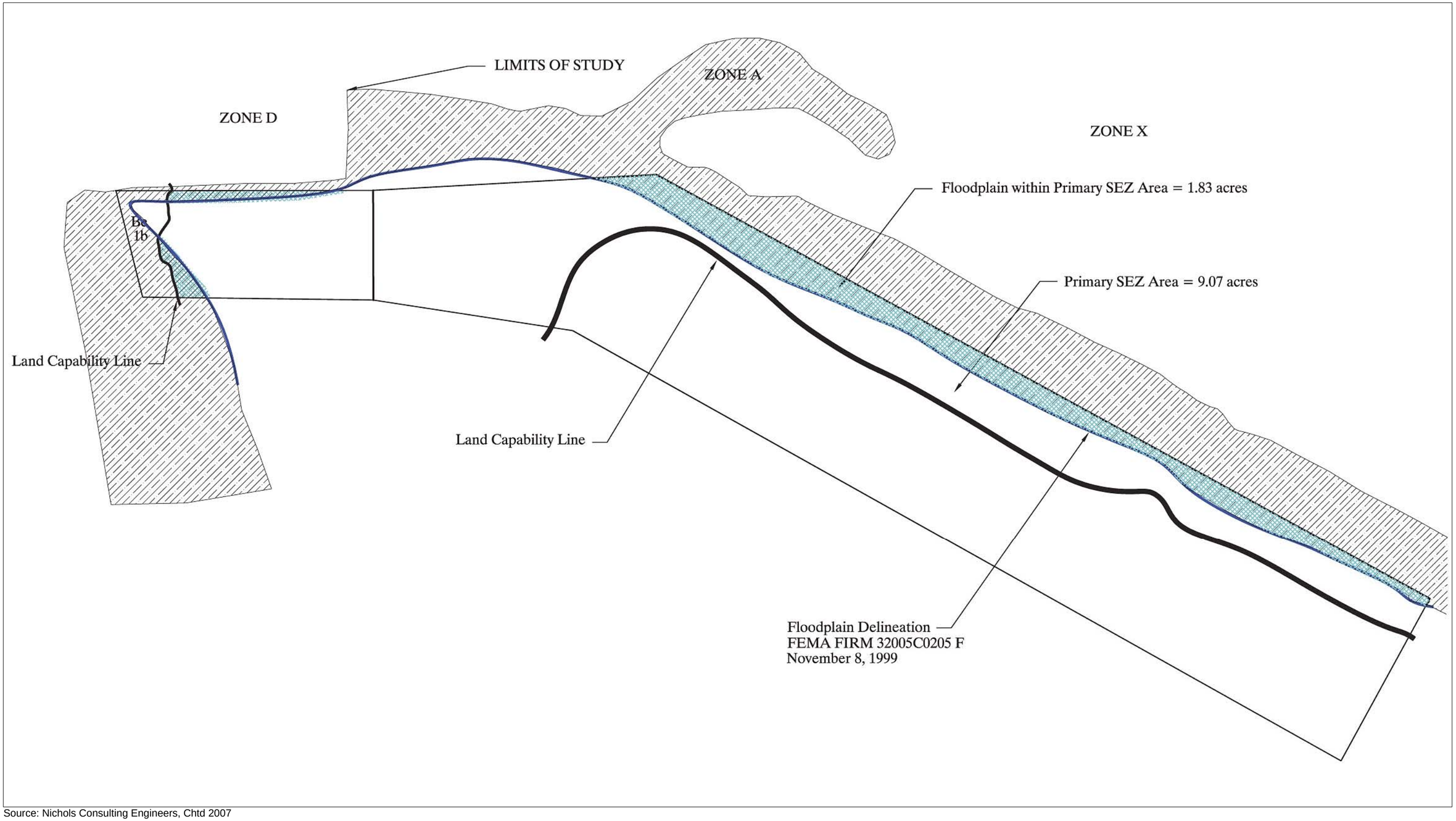
No mitigation is required.



Source: Nichols Consulting Engineers, Chtd 2007

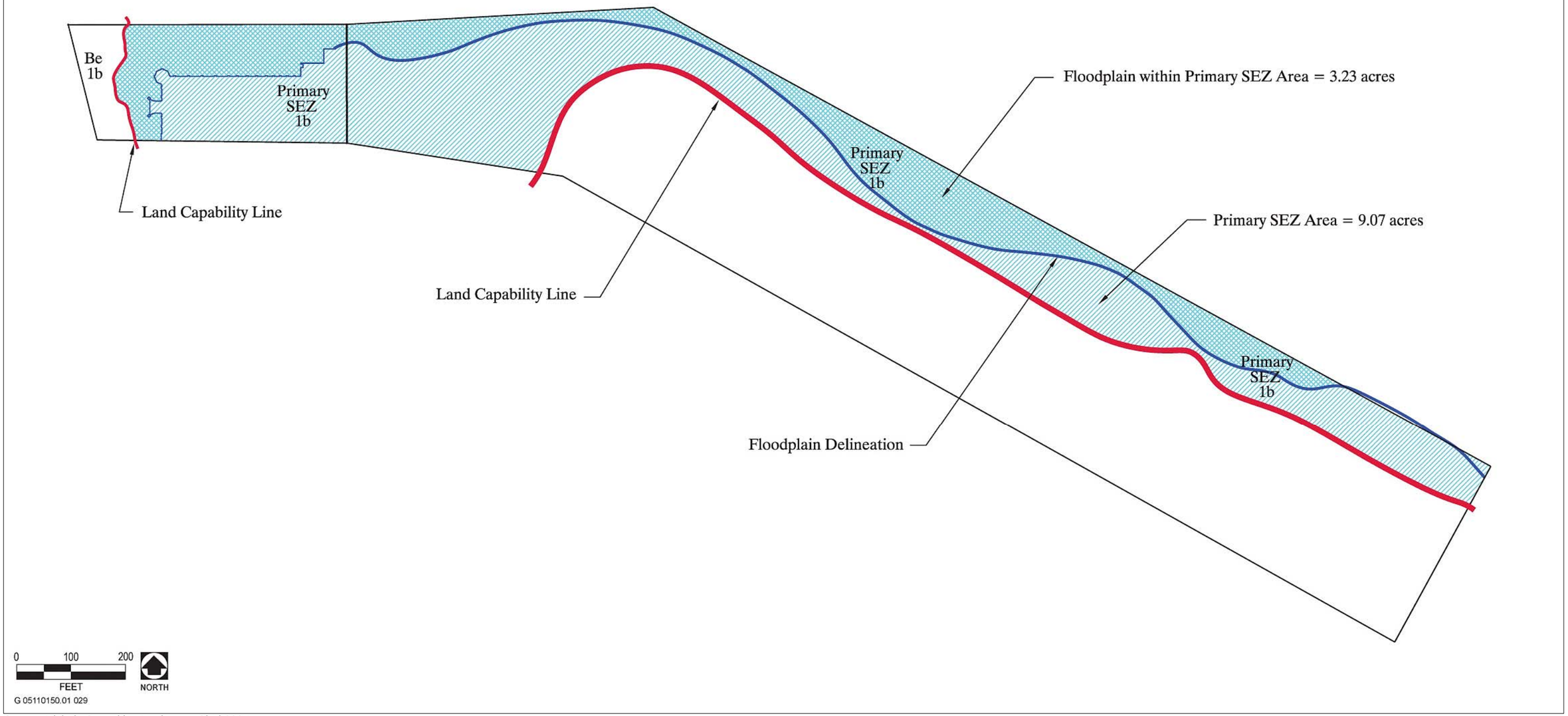
Alternative A - Preliminary HEC-RAS 100-Year Model

Exhibit 5.5-6



Source: Nichols Consulting Engineers, Chtd 2007

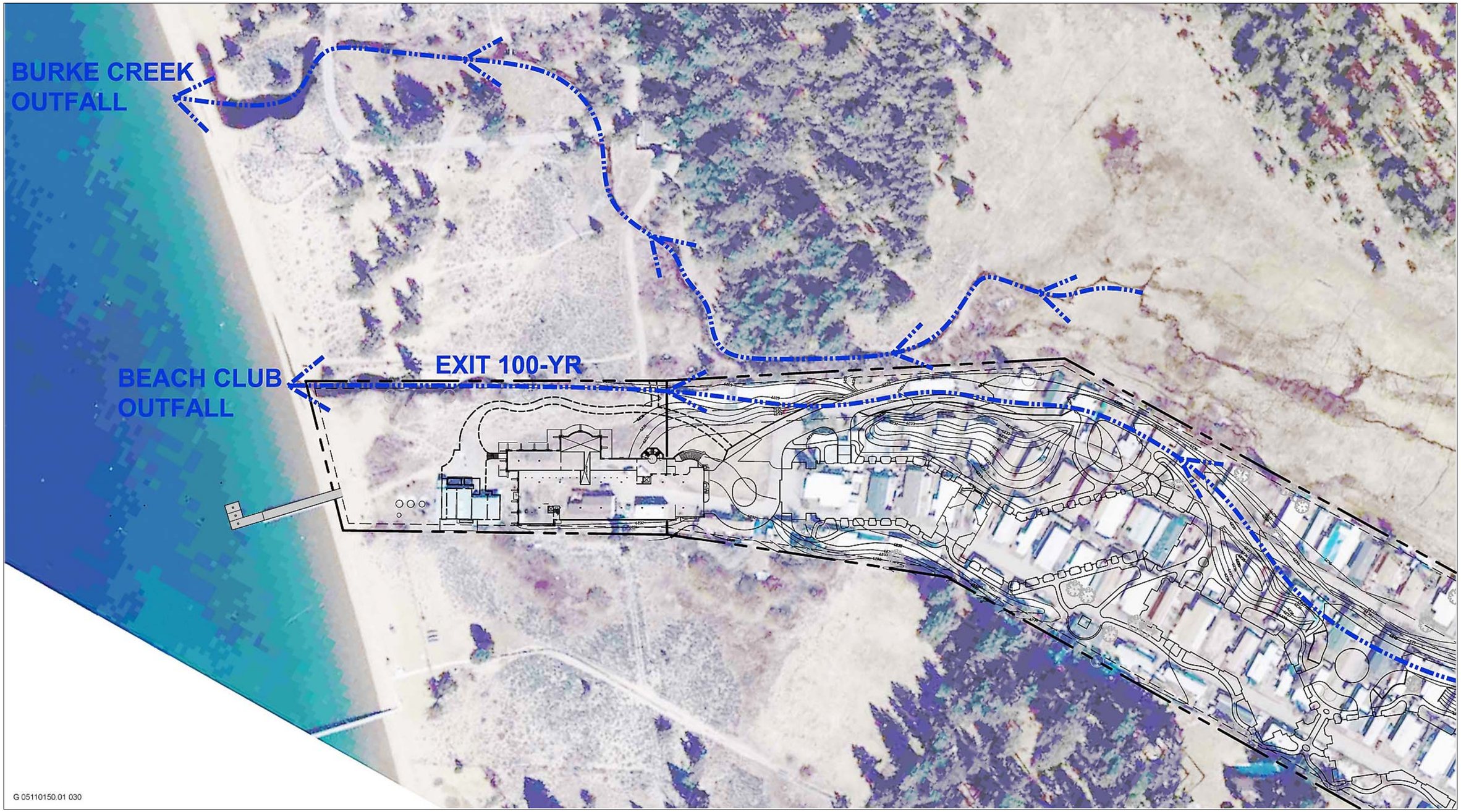
Alternative A – Existing SEZ Area vs. Floodplain **Exhibit 5.5-7**



Source: Nichols Consulting Engineers, Chtd 2007

Alternative A - Proposed SEZ Area vs. Floodplain

Exhibit 5.5-8



Source: Nichols Consulting Engineers, Chtd 2005

Alternative A – 100-Year Flood Flow Outlet **Exhibit 5.5-9**

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.5.B-1 Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies During Construction. *Because Alterative B would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-1 described above for Alternative A. Slope and soil disturbance associated with Alternative B construction could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. However, implementation of required BMPs would prevent soil erosion and maintain this potentially significant impact on water quality at a less-than-significant level. Therefore, this impact is considered* ***less than significant****.*

Mitigation Measure

No mitigation is required.

IMPACT 5.5.B-2 Impervious Surface Area and Runoff. *Because Alternative B would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-2 described above for Alternative A. However, development of Alternative B would result in a greater reduction of coverage than Alternative A, with a reduction of approximately 138,000 sf of impervious surfaces on the project site from current conditions. Alternative B would alter the course and volume of runoff from the project site during storm events, but the runoff volume would be reduced through the decrease in coverage and the design and implementation of BMPs and drainage facilities that meet or exceed TRPA requirements. This impact is considered* ***beneficial****.*

Mitigation Measure

No mitigation required.

IMPACT 5.5.B-3 Urban Contaminants in Surface Runoff. *Because Alternative B would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-3 described above for Alternative A. Alternative B would decrease impervious site coverage and implement BMPs in accordance with TRPA requirements. Operation of Alternative B would result in a decrease in urban contaminants in surface runoff from the project site. This impact is considered* ***beneficial****.*

Mitigation Measures

No mitigation required.

IMPACT 5.5.B-4 Interception of Groundwater Table During Construction. *Because Alternative B would be constructed on the same site as Alternative A, this impact is the same as Impact 5.5.A-4 described above for Alternative A. Excavation activities for the foundations of the single-family estates may reach a depth of approximately 5 feet below ground surface. Based on data generated during the soils/hydrologic subsurface investigation, proposed construction excavation would generally not encounter groundwater; however, variable subsurface conditions may be present that would cause groundwater to be shallow enough to be intercepted. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.5.B-4. Develop and Implement a Dewatering Plan. See Mitigation Measure 5.5.A-4 described above for Alternative A. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.5.B-4 would reduce Impact 5.5.B-4 to a **less-than-significant** level.

IMPACT 5.5.B-5 Interference with Littoral Processes from Pier Extension and Buoy Relocation. *Because Alternative B would result in a similar pier extension (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same buoy relocation as Alternative A, this impact is similar to Impact 5.5.A-5 described above for Alternative A. The Alternative B reconstruction and extension of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with TRPA Code of Ordinances Section 54.4.B Design and Construction Standards. Based on information pertaining to the effects of piers and floating docks, the extended pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative B are expected to be the same as existing conditions. Therefore, this impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.5.B-6 Degradation of Water Quality During Pier Extension and Buoy Relocation Activities. *Because Alternative B would result in a similar pier extension (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same buoy relocation as with Alternative A, this impact is would be similar to Impact 5.5.A-6 described above for Alternative A. Alternative B includes the reconstruction and extension of the existing pier and the relocation of the three existing buoys. The floating portion of the pier would be anchored by a single line of two piles in the center of the pier spaced at 28-foot intervals, while the fixed portion of the pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. Pier installation and relocation of the buoys 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 B would not adversely affect Lake Tahoe water quality nor cause established water quality standards to be exceeded. Because Alternative B would not require the open-trench construction and installation of electrical conduct required under Alternative A, this impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.5.B-7 Degradation of Water Quality from Increased Boating Activity. *Like Alternative A, Alternative B would include the reconstruction and extension of the existing pier and relocation of the three existing buoys. Alternative B would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative B would not contribute to an increase in the number of boats on the lake. In addition, because Alternative B would not provide any additional permanent mooring, Alternative B would not result in a change in boating activity on the lake. Therefore, Alternative B would result in a* ***less-than-significant*** *impact related to boating activity and water quality.*

Mitigation Measures

No mitigation is required.

IMPACT 5.5.B-8 Flood Hazard Effects. *Alternative B would reduce the impedance of flood flows and would not increase the area of the 100-year floodplain. Like Alternative A, Alternative B would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map and would not place within a 100-year flood hazard area structures which would impede or redirect flood flows. Therefore, this is considered a* ***less-than-significant*** *impact.*

Under Alternative B, the two realigned project site parcels would each be developed with a single-family estate. Exhibit 4-1 shows the conceptual layout of Alternative B. Similar to Alternative A, Alternative B would be engineered to alleviate potential flooding risks by incorporating grading and design considerations such that it would not result in the placement of housing and structures within a 100-year flood hazard area. The residential estate structures would reduce the amount of development and coverage in the floodplain relative to existing conditions. Therefore, Alternative B would reduce the impedance of flood flows and would not increase the area of the 100-year floodplain.

Both residential estates in Alternative B would include a drainage plan and temporary and permanent BMPs, similar to those identified for Alternative A in Chapter 3. Permanent BMPs would be included in the site design and would be designed to convey 100-year flood flows. The implementation of BMPs would improve existing drainage conditions on the site and would reduce the risks to structures within the floodplain. The grading plan for the two residential estates would remove structures from the floodplain pursuant to Douglas County floodplain management and FEMA standards. Therefore, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

IMPACT 5.5.C-1 Potential Short-Term Accelerated Soil Erosion and Sedimentation and/or Release of Pollutants to Nearby Water Bodies during Construction. *Because Alterative C would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-1 described above for Alternative A. Slope and soil disturbance associated with Alternative C construction could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. However, implementation of required BMPs would prevent soil erosion and maintain this potentially significant impact on water quality at a less-than-significant level. Therefore, this impact is considered* ***less than significant****.*

Mitigation Measure

No mitigation is required.

IMPACT 5.5.C-2 Impervious Surface Area and Runoff. *Because Alternative C would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-2 described above for Alternative A. Development of Alternative C would result in a similar reduction of coverage to Alternative A, with a reduction of approximately 78,000 sf of impervious surfaces on the project site from existing conditions. Alternative C would alter runoff from the project site during storm events, but the runoff volume would be reduced through the decrease in coverage and the design and implementation of BMPs and drainage facilities that meet or exceed TRPA requirements. This impact is considered* ***beneficial****.*

Mitigation Measure

No mitigation is required.

IMPACT 5.5.C-3 Urban Contaminants in Surface Runoff. *Because Alternative C would be constructed on the same site and would result in a similar level of development as with Alternative A, this impact is the same as Impact 5.5.A-3 described above for Alternative A. Alternative C would decrease impervious site coverage and implement BMPs in accordance with TRPA requirements. Operation of Alternative C would result in a decrease in urban contaminants in surface runoff from the project site. This impact is considered* ***beneficial****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.5.C-4 Interception of Groundwater Table During Construction. *Because Alternative C would be constructed on the same site as Alternative A, this impact is the same as Impact 5.5.A-4 described above for Alternative A. Excavation activities for the foundations of the multifamily residential complexes may reach approximately 3 to 5 feet, with the deepest excavations, associated with building footing design, potentially reaching a maximum depth of approximately 5 to 8 feet below ground surface. Based on data generated during the soils/hydrologic subsurface investigation, proposed construction excavation would generally not encounter groundwater; however, variable subsurface conditions may be present that would cause groundwater to be shallow enough to be intercepted. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.5.C-4. Develop and Implement a Dewatering Plan. See Mitigation Measure 5.5.A-4 described above for Alternative A. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.5.C-4 would reduce Impact 5.5.C-4 to a **less-than-significant** level.

IMPACT 5.5.C-5 Interference with Littoral Processes from Pier Extension and Buoy Relocation. *Because Alternative C would result in the same pier extension and buoy relocation as Alternative A, this impact is the same as Impact 5.5.A-5 described above for Alternative A. The proposed reconstruction and extension of the existing pier and the relocation of the three existing buoys would be designed and constructed consistent with the provisions of TRPA Code of Ordinances Section 54.4.B Design and Construction Standards relevant to littoral processes. Based on information pertaining to the effects of piers and floating docks, the extended pier and relocated buoys would not substantially interfere with littoral processes. The littoral processes with Alternative C are expected to be the same as existing conditions. Therefore, this impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.5.C-6 Degradation of Water Quality during Pier Extension and Buoy Relocation Activities. *Because Alternative C would result in the same pier extension and buoy relocation as with Alternative A, this impact is the same as Impact 5.5.A-6 described above for Alternative A. Alternative C includes the reconstruction and extension of the existing pier and the relocation of the three existing buoys. The floating portion of the pier would be anchored by a single line of two piles in the center of the pier spaced at 28-foot intervals, while the fixed portion of the pier would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. Pier installation and relocation of the buoys 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 C would not adversely affect Lake Tahoe water quality nor cause established water quality standards to be exceeded. However, the open-trench construction through the beach zone and to the pier that would be necessary to install electrical conduit to power the vertically moving fixed pier section could result in degradation of water quality if groundwater is intercepted. Therefore, this impact is considered* ***potentially significant****.*

Mitigation Measure 5.5.C-6. Develop and Implement a Dewatering Plan Pursuant to Mitigation Measure 5.5.C-4. See Mitigation Measure 5.5.C-4 described above for Alternative A. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.5.C-4 would reduce Impact 5.5.C-6 to a **less-than-significant** level.

IMPACT 5.5.C-7 Degradation of Water Quality from Increased Boating Activity. *Like Alternative A, Alternative C would include the reconstruction and extension of the existing pier and relocation of the three existing buoys. Alternative C would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative C would not contribute to an increase in the number of boats on the lake. In addition, because Alternative C would not provide any additional permanent mooring, Alternative C would not result in a change in boating activity on the lake. Therefore, Alternative C would result in a* ***less-than-significant*** *impact related to boating activity and water quality.*

Mitigation Measures

No mitigation is required.

IMPACT 5.5.C-8 Flood Hazard Effects. *Alternative C would reduce the impedance of flood flows and would not increase the area of the 100-year floodplain. Like Alternative A, Alternative C would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map and would not place within a 100-year flood hazard area structures which would impede or redirect flood flows. Therefore, this is considered a* ***less-than-significant*** *impact.*

Under Alternative C, the two realigned project site parcels would be developed with multifamily complexes. Exhibit 4-3 shows the conceptual layout of Alternative C. Similar to Alternatives A and B, Alternative C would be engineered to alleviate potential flooding risks by incorporating grading and design considerations such that it not result in the placement of housing and structures within a 100-year flood hazard area. The multifamily residential structures would reduce the amount of development and coverage in the floodplain relative to existing conditions. Therefore, Alternative C would reduce the impedance of flood flows and would not increase the area of the 100-year floodplain.

Both complexes in Alternative C would include a drainage plan and temporary and permanent BMPs, similar to those identified for Alternative A in Chapter 3. Permanent BMPs would be included in the site design and would be designed to convey 100-year flood flows. The implementation of BMPs would improve existing drainage conditions on the site and would reduce the risks to structures within the floodplain. The grading plan for the multifamily complexes would remove structures from the floodplain pursuant to Douglas County floodplain management and FEMA standards. Therefore, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT – JERE WILLIAMS PLAN

Of all the project alternatives, No Project – Jere Williams Plan would have the greatest potential to cause impacts to water quality in the project area. This potential stems from the present lack of on-site stormwater runoff treatment prior to conveyance to Burke Creek and Lake Tahoe. This greatly increases the opportunity for direct and indirect discharge of nutrients, sediment, and pollutants into Lake Tahoe. These discharges affect the primary productivity and clarity thresholds for the lake.

If this alternative were selected, the TRPA required BMP upgrades would be performed by the October 15, 2011 deadline pursuant to Chapter 25 of the TRPA Code. However, no other BMPs would be implemented. While the

basic BMP upgrades would reduce the opportunity for direct and indirect discharge of nutrients, sediment and pollutants into Lake Tahoe, this alternative would not benefit from the proposed permanent BMPs of Alternatives A, B, or C, nor the SEZ restoration associated with Alternative A. As a result, this alternative would continue to result in **significant** impacts to water quality due to the direct and indirect discharge of sediment and nutrients into the lake.

ALTERNATIVE E – NO PROJECT – MANUFACTURED HOUSING

Alternative E is less likely to result in impacts to water quality than Alternative D because all project site improvements including BMP upgrades required by the 2011 TRPA deadline would be completed at one time. However, as with Alternative D, this alternative would not benefit from the proposed permanent BMPs of Alternatives A, B, or C and would not include any SEZ restoration. As a result, this alternative would also continue to convey untreated runoff to Burke Creek and Lake Tahoe, which would result in the direct and indirect discharge of sediment and nutrients into the lake. Such would result in **significant** impacts to water quality that would not occur under Alternatives A, B, or C.

5.6 TRANSPORTATION AND PARKING

This section describes the existing transportation, parking, and circulation system in the vicinity of the Beach Club on Lake Tahoe project site; identifies environmental thresholds and criteria of significance for transportation, parking, and circulation impacts; and evaluates the potential impacts associated with Alternatives A through E. Cumulative transportation and parking impacts are presented in Section 5.14.

5.6.1 REGULATORY BACKGROUND

Numerous transportation-related standards and criteria apply to the study area (Table 5.6-1). Standards and performance targets are identified in the *Transportation Element of the Regional Plan for the Lake Tahoe Basin: Goals and Policies*, the *Threshold Evaluation Report* (TRPA 2002; TRPA 2007), *Regional Transportation Plan–Air Quality Plan (RTP-AQP) for the Lake Tahoe Region* (TRPA 1995), 1992 *Douglas County Consolidated Development Code Title 20* (Douglas County 1998), the *Douglas County Design Criteria and Improvement Standards* (Douglas County 2001), and the *Douglas County Master Plan* (Douglas County 2007). Of these plans, the *RTP-AQP* provides the most detailed direction for transportation program development within the project study area. Its provisions are discussed below.

Table 5.6-1
Transportation and Circulation Standards

Plan/Policy	Standard/Criteria
Tahoe Regional Planning Compact	Transportation planning in the 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	The thresholds which involve transportation issues are intended to reduce air quality problems as follows: *Air Quality: Subregional Visibility & Nitrate Deposition* Reduce Vehicle Miles of Travel (VMT) in the Basin by 10% of the 1981 base year values.
TRPA Goals and Policies	The Transportation Element of the Goals and Policies establish general goals to be further defined by the Regional Transportation Plan ("RTP"). This section sets level of service standards which are Level of Service ("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 standards for unsignalized intersections.
TRPA Regional Transportation Plan (RTP)(1992)	*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 Air Quality Plan (AQP)	The AQP provides more detail than the RTP on strategies required to meet the air quality-related goals.
TRPA Code of Ordinances	Adherence to Chapter 14 requirements for traffic considerations, including vehicle trip reduction targets, and Chapter 93 requirements for traffic analyses; the Code sections require reducing significant impacts to a less-than-significant level.
Douglas County Consolidated Development Code	Zoning regulations are established and enforced by Douglas County.

Table 5.6-1 Transportation and Circulation Standards	
Plan/Policy	Standard/Criteria
Douglas County Design Criteria and Improvement Standards	Applicable roadway LOS standards are provided by Douglas County.
Douglas County Master Plan	Douglas County provides traffic capacity and LOS criteria for various types of highways, and an operational level of service for signalized intersections.
Source: LSC Transportation Consultants, Inc. 2006	

TAHOE REGIONAL PLANNING AGENCY

TRPA 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 Region. The purpose of the *Regional Transportation Plan–Air Quality Plan* (RTP-AQP) 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.

The TRPA transportation thresholds 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. Highway 50 traffic volumes, and reduction of vehicle miles of travel. 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.

Level of Service Standards

The Transportation Element of TRPA's *RTP-AQP* also establishes traffic capacity and level of service (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 C 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 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 in the TRPA Regional Goals and Policies (TRPA 2000), 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; or
- 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 study and in keeping with TRPA staff direction on other traffic analyses conducted in the Tahoe Region, an approach or movement of an unsignalized intersection operating at LOS F will be considered a significant impact.

Vehicle Miles of Travel

Vehicle Miles of Travel (VMT) is a computed value which correlates to the extent of an area's reliance on the private automobile for trip-making. The existing TRPA transportation model (TRANPLAN) 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% from 1981 base year conditions to reduce nitrate deposition; and 2) the reduction in VMT by 10% from 1981 base year conditions to improve visibility. TRPA's most recent assessment of VMT indicates that the 1981 level of 1,648,554 VMT on a peak summer day increased by approximately 9% to 1,790,602 in 1999. To attain the desired 10% reduction, a target of 1,483,000 VMT would have to be attained.

TRPA has not established a specific standard of significance with regards to VMT. However, based on known traffic volumes and distribution in the Tahoe Basin, a traffic increase of less than 2,000 VMT is not measurably different from pre-project conditions. Therefore, consistent with the methodology used on past Basin projects, for the purposes of this analysis, a VMT increase of 2,000 or more per day is considered to be significant.

DOUGLAS COUNTY

Douglas County Level of Service Standards

Applicable roadway standards are provided in the Douglas County Design Criteria and Improvement Standards, 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 [12.11.01.1] and [12.11.01.2] of the Douglas County Master Plan*."

The Douglas County Master Plan also establishes traffic capacity and LOS criteria for various types of highways, and an operational level of service for signalized intersections, as discussed below:

- LOS "C" on all principal arterial roads maintained by the County, Town, and District (Implementation Strategy 12.11.01.1)

- LOS "D" on all principal arterial roads maintained by the Nevada Department of Transportation (NDOT) (Implementation Strategy 12.11.01.2)

Douglas County Parking Standards

The existing applicable parking code for the project is presented in the *Douglas County Consolidated Development Code, Title 20* (Douglas County 1998). However, adjustments have been made to the multifamily parking rate identified in this code for purposes of this analysis (discussed later in this section). In general, the proposed parking supply should accommodate the projected parking demand of the project.

5.6.2 AFFECTED ENVIRONMENT

This section identifies the existing transportation facilities and describes traffic conditions for the roadway network within the vicinity of the proposed project. The private automobile is the primary mode of transportation in the Lake Tahoe Basin. Exhibit 5.6-1 presents the site location the study area lane configurations and traffic controls. Within the vicinity of the project site, the major internal road system includes the following:

EXISTING ROADWAYS

- **US Highway 50 (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. For the purposes of this study, U.S. 50 is assumed to run north-south 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 from Kingsbury Grade (State Route 207) to north of Kahle Drive. The posted speed limit from Kingsbury Grade to just north of Kahle Drive is 35 miles per hour. The speed limit increases to 45 miles per hour to the north of Kahle Drive.

- **Kingsbury Grade (Nevada State Route 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%. The posted speed limit on Kingsbury Grade is 35 miles per hour.

- **Kahle Drive** is a two-lane roadway that runs in an east-west direction. On the east side of U.S. 50, Kahle Drive provides access to the County Administrative Complex and to Kahle Park. The western leg of Kahle Drive provides access to commercial and residential land uses, as well as the project site. The roadway consists of a single through travel lane in each direction and is signalized at the intersection with U.S. 50. The speed limit on the western leg of Kahle Drive is 25 miles per hour.

- **Elks Point Road** is a two-lane roadway that runs in an east-west direction north of the study area. Elks Point Road provides access to commercial, office, park, and residential land uses. The speed limit is posted at 25 miles per hour to the east of U.S. 50, and 35 miles per hour to the west of U.S. 50. The roadway consists of a single, through, travel lane in each direction, with additional turn lanes at the U.S. 50 intersection.

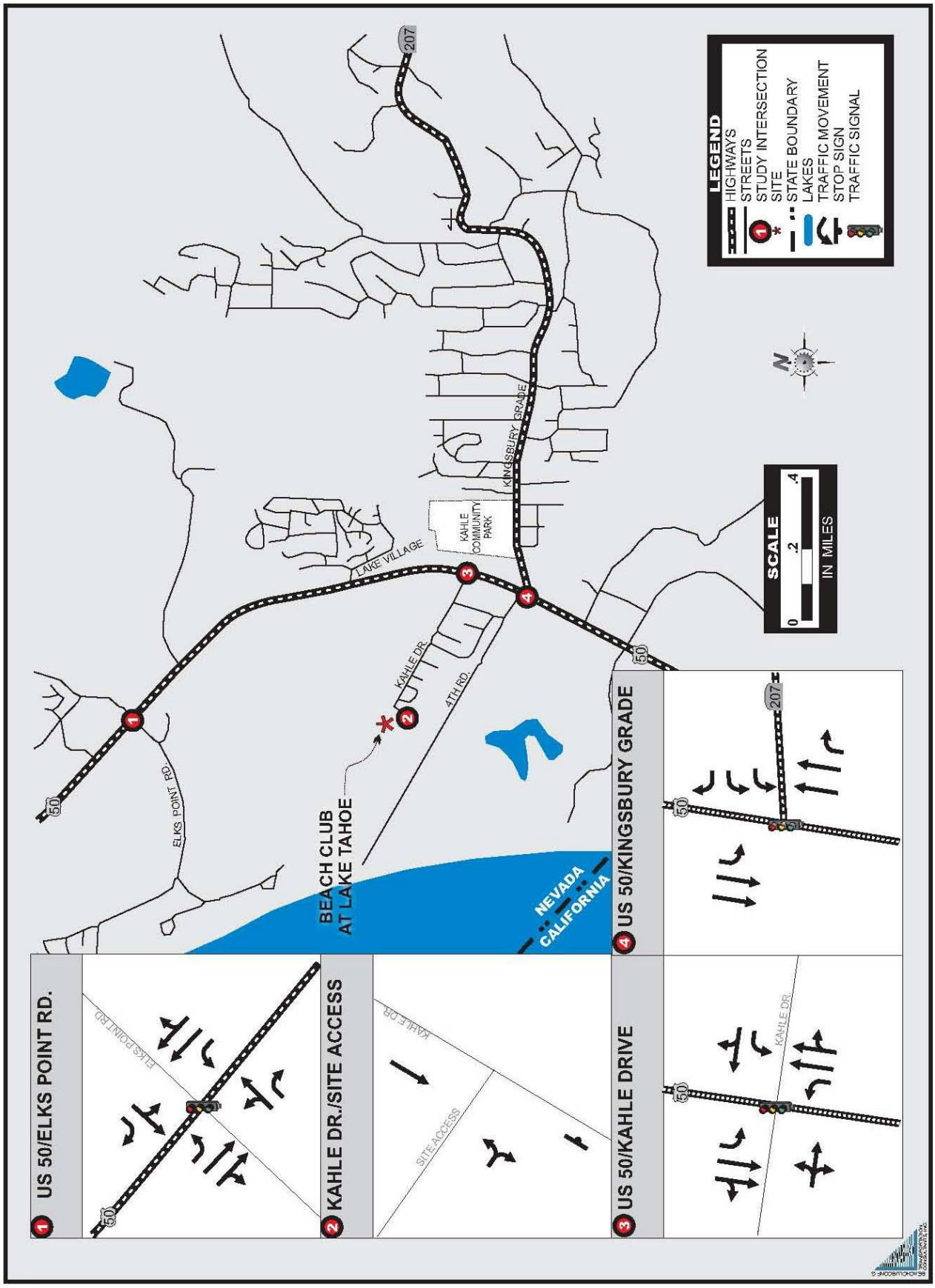
INTERSECTION CONFIGURATION

The following is a description of the intersections included in this analysis:

- The **U.S. 50/Kingsbury Grade** intersection is a three-way signalized intersection. The northbound approach contains two through lanes and one right-turn lane. The southbound approach contains one left-turn lane and two through lanes. The westbound approach contains two left-turn lanes and one right-turn lane.

- The **U.S. 50/Kahle Drive** intersection is a four-way signalized intersection. The U.S. 50 approaches contain an exclusive left-turn lane, one through lane, and a shared through/right-turn lane. The westbound approach and the eastbound approach contain one wide lane from which all through and turning movements are made.

- The **U.S. 50/Elks Point Road** intersection is a four-way signalized intersection. The traffic signal is actuated, with vehicles being detected by the signal hardware and appropriate time given to clear the queue waiting for the green signal. The U.S. 50 approaches contain an exclusive left-turn lane, one through lane, and a shared through/right-turn lane. The east and west approaches each contain a shared left/through lane and an exclusive right-turn lane.



Source: LSC Transportation Consultants, Inc. 2007

Beach Club on Lake Tahoe Lane Configuration and Traffic Control **Exhibit 5.6-1**

- **Site Access** is currently provided by a one-way (clockwise) loop off of the western end of Kahle Drive. This loop forms a three-way unsignalized intersection with the entering traffic on the southbound through movement and the exiting traffic on the eastbound left movement.

TRANSIT SERVICE

Transit services in the South Shore area are provided through the comprehensive "BlueGo" system operated by Area Transit Management, Inc. (ATM). This service was recently established to incorporate the previous public services in the area (provided by the City of South Lake Tahoe, Douglas County, and El Dorado County), as well as the casino and ski area private shuttle systems.

A key element of BlueGo is the Douglas County Flex Route service. This service runs from the Stateline Transit Center to Zephyr Cove on a timed schedule, with the ability to deviate within a half-mile of the route for an additional fee. These vehicles are not wheelchair accessible.

The "Nifty 50" rubber-tired trolley service also provides service to the study area, and as far away as Camp Richardson to the west and Zephyr Cove to the east. This service consists of three trolley routes, operating from 11:30 AM to 8:30 PM, from June 14 through Labor Day. The closest stop to the project site is located at the Lakeside Inn and Casino.

PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian facilities are found primarily in the more urbanized areas of the Lake Tahoe Basin. These facilities include sidewalks, which are generally paved and walkways, which may or may not be paved. In many areas, pedestrians share the use of available bike trails.

Within the area of the proposed project, sidewalks are found along U.S. 50. Protected pedestrian crossing of U.S. 50 is also provided at the traffic signals in the study area. Along other streets, sidewalks are limited. Sidewalks have several gaps and exhibit considerable wear. During the winter months, snow and ice is removed infrequently outside of the developed commercial areas. Even in the area of the proposed project, the use of sidewalks in winter can be problematic. All other pedestrian facilities are unpaved or are limited to the frontage of individual, noncontiguous parcels.

There are numerous, discontinuous bicycle facilities throughout the Tahoe Basin. Few bicycle facilities exist in the study area. A Class II bike lane exists along Elks Point Road. Perhaps due to high motor-vehicle traffic levels and limited bicycle facilities, informal observations of bicycle activity by LSC staff indicate that existing bicycle activity in the study area is moderate.

ACCIDENT DATA

Traffic accident data along the study corridor from October 1998 through October 2003 was obtained from the NDOT. This data is summarized in Table 5.6-2. A total of 153 accidents occurred along U.S. 50 from Kingsbury Grade to Elks Point Road over the 5-year period. Rear ends, hit object, and angle collision were the most common types of collisions. There were two fatal accidents over the period evaluated. One occurred at the U.S. 50/Kingsbury Grade intersection and the other one occurred at the U.S. 50/Elks Points Road intersection. Seventy (70) percent of accidents resulted in property damage only. The primary collision factor was speed related.

Table 5.6-2
Beach Club at Lake Tahoe – Accident Data Analysis (1998–2003)

	Intersection					Segment				Total	Percent
	U.S. 50/ Kingsbury Grade	U.S. 50/ Kahle	U.S. 50/ Lake Village	U.S. 50/ Sewer Plant	U.S. 50/ Elks Point	Kingsbury - Kahle	Kahle Drive - Lake Village	Lake Village - Sewer Plant	Sewer Plant - Elks Point		
# Fatal Accidents	1	0	0	0	1	0	0	0	0	2	1
# Injury Accidents	18	4	6	2	6	0	4	1	3	40	27
# Property Damage Only Accidents	49	15	2	3	14	5	9	4	6	107	72
# Total Accidents	68	19	8	5	21	5	13	5	9	149	100
Subtotal by Type: Rear End	38	10	4	3	12	1	6	0	1	75	50
Subtotal by Type: Sideswipe	3	2	0	1	0	1	1	0	0	8	5
Subtotal by Type: Hit Object	10	3	1	0	0	0	2	2	4	22	15
Subtotal by Type: Left/Right -Turn Collision	5	0	1	0	2	1	1	0	1	11	7
Subtotal by Type: Chain Reaction	2	0	0	0	0	0	0	0	0	2	1
Subtotal by Type: Out of Control	4	1	0	0	0	0	0	0	0	5	3
Subtotal by Type Angle Collision	4	1	1	1	5	2	0	1	1	16	11
Subtotal by Type: Overturned	0	0	1	0	1	0	1	2	1	6	4
Subtotal by Type: Hit Pedestrian	2	0	0	0	1	0	0	0	0	3	2
Subtotal by Type: Hit Pedalcycle [1]	0	0	0	0	0	0	2	0	0	2	1
Subtotal by Type: Other	0	2	0	0	0	0	0	0	1	3	2
Period: Length (yrs)	5	5	5	5	5	5	5	5	5	-	-
MEV/MVM [2] in period	64.7	41.4	36.1	35.8	36.9	44.0	38.4	38.4	38.4	-	-
Fatal Accident Rate/MEV or MVM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Injury Accident Rate/MEV or MVM	0.3	0.0	0.2	0.1	0.2	0.0	0.1	0.0	0.1	-	-
PDO Accident Rate/MEV or MVM	0.8	0.4	0.1	0.1	0.4	0.1	0.2	0.1	0.2	-	-
Total Accident Rate/MEV or MVM	1.1	0.4	0.2	0.1	0.6	0.1	0.3	0.1	0.2	-	-
Average Rate on Nevada Highways [3]											
Douglas County											
Fatal Accident Rate/MEV or MVM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Injury Accident Rate/MEV or MVM	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-	-
PDO Accident Rate/MEV or MVM	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-	-
Total Accident Rate/MEV or MVM	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-	-
Nevada Statewide											
Fatal Accident Rate/MEV or MVM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Injury Accident Rate/MEV or MVM	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-	-
PDO Accident Rate/MEV or MVM	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	-	-
Total Accident Rate/MEV or MVM	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	-	-
Ratio of Observed Rate to Average Rate											
Douglas County											
Fatal Accident Rate/MEV or MVM	1.7	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	-	-
Injury Accident Rate/MEV or MVM	0.6	0.0	0.4	0.1	0.4	0.0	0.2	0.1	0.2	-	-
PDO Accident Rate/MEV or MVM	0.7	0.3	0.1	0.1	0.4	0.1	0.2	0.1	0.1	-	-
Total Accident Rate/MEV or MVM	0.7	0.2	0.1	0.1	0.4	0.1	0.2	0.1	0.2	-	-
Nevada Statewide											
Fatal Accident Rate/MEV or MVM	0.9	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	-	-
Injury Accident Rate/MEV or MVM	0.3	0.0	0.2	0.1	0.2	0.0	0.1	0.0	0.1	-	-
PDO Accident Rate/MEV or MVM	0.4	0.2	0.0	0.0	0.2	0.1	0.1	0.0	0.1	-	-
Total Accident Rate/MEV or MVM	0.3	0.1	0.1	0.0	0.2	0.0	0.1	0.0	0.1	-	-

Note 1: Bicycle = Pedalcycle

Note 2: MEV = Million entering vehicles (used for intersections), MVM = Million vehicle miles (used for highway segments). Based on 2002 Nevada Department of Transportation (NDOT) count data (Annual Traffic Report, NDOT 2002).

Note 3: MEV = Million entering vehicles (used for intersections), MVM = Million vehicle miles (used for highway segments). Based on 2002 NDOT count data (Nevada Traffic Crashes, NDOT 2002).

As the table indicates, the total accident rates at the intersections and the roadway segments are lower than the countywide and statewide averages. The fatal accident rates at the U.S. 50/Kingsbury Grade and the U.S. 50/Elks Point Road intersections are higher than the countywide fatal accident rate. Additionally, the fatal accident rate at the U.S. 50/Elks Point Road intersection is higher than the Nevada statewide fatal accident rate. Nonetheless, as the total accident rates at the intersections and roadway segments are lower than the countywide and Nevada statewide average accident rates, and only a single fatal accident was recorded during the analysis period at each location, these intersections and roadway segments are not considered to have a significant safety problem.

EXISTING TRAFFIC VOLUMES

Nevada Department of Transportation Traffic Count Data

NDOT maintains a permanent count station on U.S. 50, 0.57 mile north of the state line (between Lake Parkway and Kingsbury Grade), that yields additional useful information regarding traffic patterns over the course of the year:

- Monthly variation in average daily traffic volumes is presented in Table 5.6-3. As shown, traffic levels are highest in July (115% of annual average) and August (114% of the annual average). In comparison, the average daily traffic volume in December is 85% of annual average.

- According to *U.S. 50/Stateline Project Transportation Study* (LSC Transportation Consultants, Inc, Feb 2004), peak-hour data indicates that, while closer than the daily traffic volumes, summer traffic levels still exceed winter traffic levels. Peak-hour, peak-direction traffic volumes on busy winter weekends rarely reach 1,550 vehicles per hour, while volumes in summer weekends frequently exceed 1,650 vehicles per hour.

Table 5.6-3
Monthly Traffic Volumes on U.S. 50 (0.57 Mile North of State Line)

Month	Monthly Average Daily Traffic Volume (Total of Both Directions)	Percent of Annual Average Daily Traffic
January	NA	NA
February	NA	NA
March	NA	NA
April	NA	NA
May	NA	NA
June	NA	NA
July	38,736	115%
August	38,280	114%
September	33,520	100%
October	30,019	89%
November	26,706	80%
December	28,652	85%

Source: NDOT 2007 NA = Not Available, due to highway construction

Average Annual Daily Traffic (AADT) two-way traffic volumes over the past 10 years at this count location are shown in Table 5.6-4. The most recent (2007) NDOT count reflects a reduction in volume of roughly 8 percent from the 2005 AADT.

Table 5.6-4 Average Annual Daily Traffic Volumes on U.S. 50 (0.57 Mile North of State Line)	
Year	Annual Average Daily Traffic (AADT) Volume (Total of Both Directions)
1996	32,170
1997	32,065
1998	30,905
1999	31,100
2000	32,330
2001	31,580
2002	32,010
2003	32,840
2004	33,205
2005	33,570
2006	31,000
Source: NDOT 2007	

As summer traffic conditions on U.S. 50 represent the peak season, winter traffic volumes are not analyzed in this report. Also, as the area experiences the highest traffic volume during the PM peak hour, this study focuses on PM peak hour traffic only.

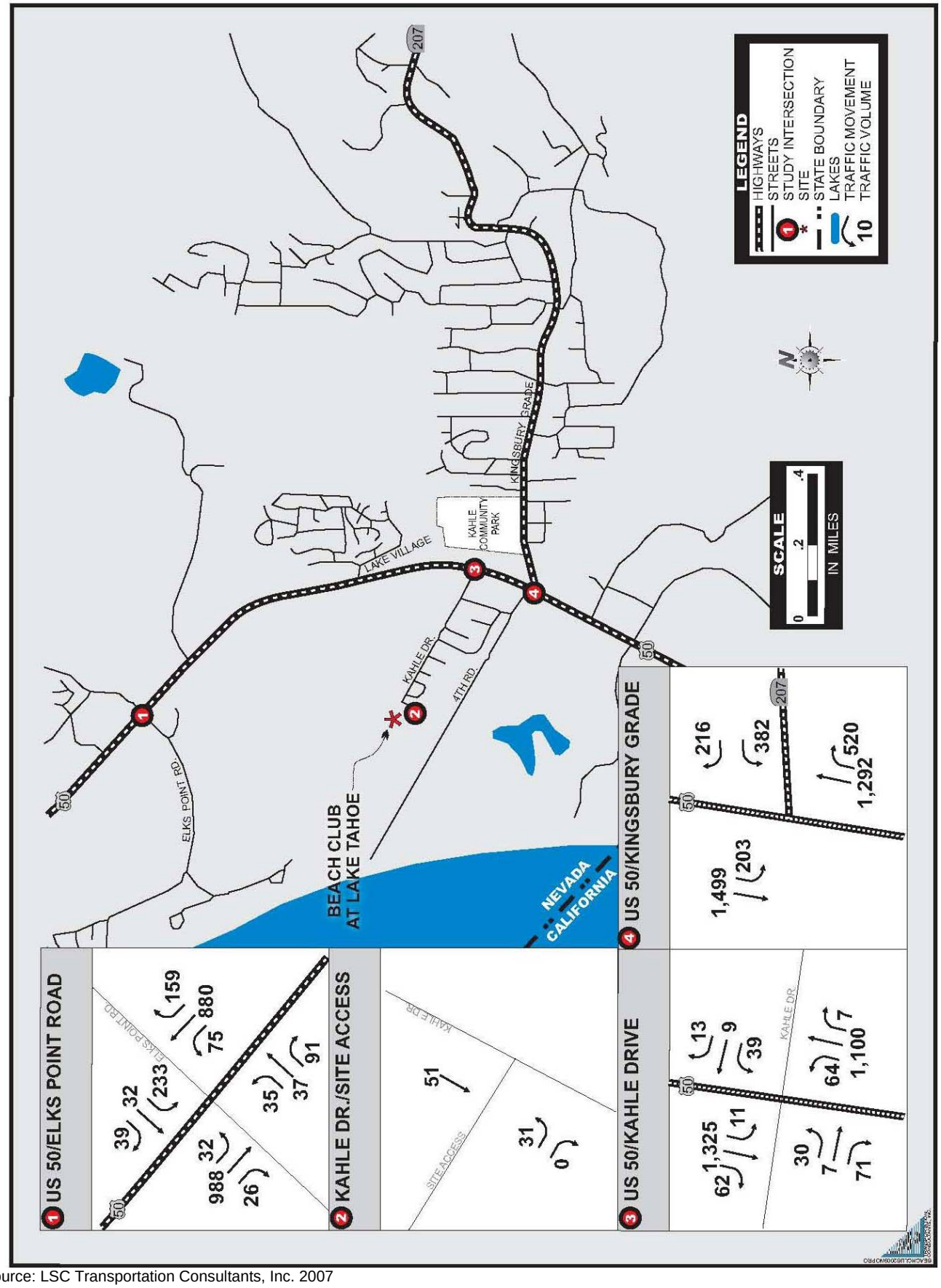
Ground Counts

Current traffic operations at the study intersections were evaluated for peak-hour afternoon weekday conditions during the peak summer season. Peak-hour turning movement counts were conducted by LSC Transportation Consultants, Inc. on Friday, August 20, 2004, at the U.S. 50/Kahle Drive and U.S. 50/Elks Point Road intersections. The counts were conducted for two-hour periods to establish the peak hour. The count data is included in the Appendix C.

Year 2011 Peak-Hour Traffic Volumes

Year 2003 PM peak-hour volumes at the U.S. 50/Kingsbury Grade intersection were identified from the *U.S. Highway 50/Stateline Project Transportation Study*. For the purposes of this study, Year 2011 conditions are considered to be "existing" conditions, in view of the fact that the proposed project is expected to be completed in 2011. By comparing the 2003 and 2010 volumes provided in the U.S. Highway 50/Stateline Project Transportation Study for the U.S. 50/Kingsbury Grade intersection, a average annual growth rate was calculated, which ranged by approach from 1.1% to 1.4 %. This growth rate was then applied to the appropriate turning movement traffic volumes for 2003 to estimate the 2011 volumes at this intersection.

The 2011 design volumes at the remaining study intersections were estimated by applying the same (directional) growth rates for U.S. 50 through volumes that were applied to the U.S. 50/Kingsbury Grade intersection. The resulting "2011 no project" PM peak-hour traffic volumes are illustrated in Exhibit 5.6-2.



Source: LSC Transportation Consultants, Inc. 2007

2011 PM Peak-Hour Traffic Volumes without Project **Exhibit 5.6-2**

Year 2011 Average Daily Traffic Volumes

Average Daily Traffic (ADT) volumes on study area roadways in 2011 without the project were calculated based on the 2011 U.S. 50/Kahle Drive intersection no project turning movement volumes and the ratio of daily to peak-hour volumes. The traffic generated by the existing mobile home park was first subtracted from the total traffic during peak hour to identify peak-hour traffic associated with other residential land uses on Kahle Drive. A factor equal for daily trips versus peak hour trips for the multifamily dwelling units and single-family dwelling units, as identified in the ITE *Trip Generation Manual* (Institute of Transportation Engineers, 7th Edition 2003). This factor was then applied to the peak hour traffic generated by the existing residential land uses to estimate the average daily traffic generated by the existing land uses on Kahle Drive excluding the mobile home park. By adding the traffic generated by the mobile home park, the average daily traffic at Kahle Drive just west of U.S. 50 is estimated to be 2,367.

Similarly, the ADT on U.S. 50 just north and south of Kahle Drive is estimated from the 2011 no project turning movement volumes at the U.S. 50/Kahle Drive intersection. The total peak-hour traffic volume on U.S. 50 north and south of Kahle drive was calculated and multiplied by a factor, which was estimated from NDOT daily traffic data versus peak hour traffic data. The resulting ADT volumes are estimated to be 37,100 on U.S. 50 north of Kahle Drive and 38,000 to the south.

Existing Level of Service: Year 2011 LOS without Project

The level of service at each study intersection in 2011 without the proposed project was evaluated using the *Highway Capacity Manual* (HCM 2000) methodologies. The results are shown in Table 5.6-5. As indicated all study intersections are expected to operate at a relatively good level of service (LOS B or better). (Note: Alternative A would eliminate the existing intersection at the entrance to the site parcel.)

Table 5.6-5
Beach Club on Lake Tahoe - 2011 Intersection Level of Service (LOS) Summary

		2011 No Project		2011 Plus Alternative A	
Intersection	Signalized/Unsignalized	LOS [1]	Delay (sec)	LOS [1]	Delay (sec)
U.S. 50/Kingsbury Grade	Signalized	B	18.4	B	19.3
U.S. 50/Kahle Drive	Signalized	B	10.4	B	12.0
U.S. 50/Elks Point Road	Signalized	B	16.5	B	16.7
Kahle Drive/Site Access	Unsignalized	A	8.9	*Intersection Eliminated*	

[1] For unsignalized intersection, the LOS of the worst approach or worst movement is reported.
Source: LSC Transportation Consultants, Inc. 2007

5.6.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

CRITERIA OF SIGNIFICANCE

Based on TRPA goals and policies, project evaluation criteria and thresholds of significance pertinent to the proposed project are presented in Table 5.6-6.

Table 5.6-6 Criteria of Significance and Thresholds			
Evaluation Criteria	As Measured By	Threshold	Justification
Will the project reduce the level of service at project relevant roads and intersections?	Level of service at nearby intersections	Signalized intersection operating at LOS E or F, or unsignalized intersection with an approach or movement operating at LOS F	TRPA has no adopted standard for unsignalized intersection movement LOS. Staff direction.
Will the project increase vehicle miles of travel?	Number of miles of travel.	Greater than 2,000 VMT	TRPA has no adopted standard of significance with regards to VMT. Methodology used on past Basin projects.
Will the project result in inadequate parking?	Adequacy of on-site parking	Projected demand for parking greater than supply	Douglas County Consolidated Development Code TRPA Goals and Policies
Will the project increase the potential for traffic accidents?	Driver sight distance, potential for vehicular conflicts	Conformity with Douglas County standards	Douglas County Design Criteria & Improvement Standards

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.6.A-1 Existing (Year 2011) plus Alternative A Level of Service. *Alternative A would result in a net increase of 306 daily vehicle trip ends and 90 peak-hour vehicle trip ends (89 inbound and 1 outbound). All intersections would maintain an acceptable LOS (LOS A or B) for 2011 conditions. This impact is considered* ***less than significant****.*

Trip Generation

The first step in the analysis of future traffic impacts is to prepare an estimate of the number of trips generated by the existing and proposed land uses. Trip generation is the evaluation of the number of vehicle trips that will either have an origin or destination at the project site. The numbers of daily vehicle- trips and peak hour vehicle trips need to be determined to analyze the potential impacts from the proposed project development. The trip generation analysis is presented in Table 5.6-7. The *TRPA Trip Table* (TRPA, January 14, 2004) was used for the calculation of daily traffic, and the PM peak-hour trip ends are based on the Institute of Transportation Engineers trip generation rates *(ITE Trip Generation Manual*, 7th Edition, 2003), with the exception of the Assembly and Party room trips for which published trip rates are not available.

Existing Land Uses to be Removed

Some trips associated with the existing mobile home park are made by non-auto modes (transit, pedestrian, or bicycle). While specific data is not available, the project site is within a reasonable walking distance of Stateline employers and informal observation of travel by LSC staff indicates that, for the existing housing developments along Kahle Drive, non-auto travel represents at least 10% of total travel. Therefore, 10% of mobile home park trips are assumed to be made by non-auto modes. No internal trips are associated with the existing mobile homes. As indicated in Table 5.6-7, the existing mobile homes are estimated to generate 696 daily vehicle trip ends and 82 peak-hour vehicle trip ends (51 entering and 31 exiting). All of these existing daily vehicle trip ends would be eliminated by the closure of the Tahoe Shores Mobile Home Park.

Trip Generation of Proposed Land Uses

The trip generation of the proposed land uses is based on the following information/assumptions:

Market Rate Residences -- Trip generation of the proposed market-rate condominiums is based on the "Residential Condominium /Townhouse" land use. *ITE's Trip Generation* manual provides an average PM peak-hour trip rate and a logarithmic regression equation for this land use. In this case, the PM peak-hour trip generation of the proposed whole ownership residences is based on the regression equation, in accordance with the "Recommended Procedure for Selecting between Trip Generation Average Rates and Equations" (Trip Generation Handbook, ITE 2003). The project description for Alternative A indicates that at least 30% of the market-rate condominiums would be vacation/second homes. Typically, second-home condominiums are not fully occupied except during relatively short peak periods. However, for the purpose of this analysis, a conservative approach is taken and full-time occupancy of these residences is assumed for the peak-summer period.

In keeping with observed travel modes for Tahoe residents, and in view of the fact that the residents have the option to use the BlueGo Flex Route service, it is estimated that 2% of trips made to and from the proposed market-rate condominiums would be made via public transit, pedestrian, or bicycle travelers. In addition, Alternative A would include a shuttle service that would operate on demand, providing service within the project site (for residents of the outlying residential units traveling to the Beach Club) as well as along the U.S. 50 corridors between Heavenly Village on the south and Round Hill Square on the north. The hours of operation would be from 8:00 AM to 10:00 PM, at a minimum, during peak seasons. The response time for trips made within the project site would be 10 minutes or less, and the response time from the casino core and gondola areas would be a maximum of 15 minutes. With this shuttle, the estimated reduction in project-generated external residential vehicle trips is 20%. This estimate is based upon the proportion of total site trips that are expected to remain within the shuttle service area, and the observed shuttle utilization in similar projects. For example, the similar dial-a-ride system within the Northstar area carries roughly 30% of skiers generated within the development to the ski lifts (Northstar at Tahoe, LSC, 2001). Finally, approximately 30% of trips generated by the proposed residences are estimated to be made internally within the project to/from the beach club/restaurant, based on the distribution of trips in similar resort developments.

Moderate Income Housing – Trip generation of the proposed moderate income condominiums is based on the "Residential Condominium /Townhouse" as they are assumed to be wholly-owned units, with preference given to the Tahoe Shore residents and Beach Club employees. However, for the purpose of this analysis, a conservative approach is taken and 2% of the trips made to and from the proposed moderate income condominiums are assumed to be made via public transit, pedestrian, or bicycle travelers, consistent with the market-rate unit assumptions. As discussed above, a shuttle service would be provided by the project applicant. The estimated reduction in project-generated external residential vehicle trips would be 10%. In addition, 10% of trips generated by the moderate income condominiums are estimated to be made internally to/from the beach club/restaurant.

Club/Spa/Athletics – Trips associated with the club/spa/athletics area are based on the "Athletic Club" land use. As the *TRPA Trip Table* does not provide trip rates for an athletic club, the daily trip rate is based on the standard rate provided in the *ITE Trip Generation Manual*. Experience at existing mixed residential / club developments indicates that a substantial proportion of club visits are made by residents of the project. The McMahon Group, a consulting firm specializing in club developments, has estimated that 50 to 80% of the club members would consist of residents of the project (McMahon 2007). To be conservative, it is assumed that 50% of the club traffic would consist of trips internal to the project site. It is estimated that 2% of the external trips made to and from the athletic club would be made by non-auto modes. A conservative assumption is made that no external reduction would be associated with the community shuttle, due to the possibility that it might be busy handling resident trips.

Dining Room/Bar – The proposed restaurant would be a high-quality, full-service eating establishment. Therefore, trip generation of the proposed dining room/bar area is based on the "Quality Restaurant" land use. However, as indicated in Chapter 3, Project Description, customers of the dining room/bar would be limited

Table 5.6-7
Beach Club at Lake Tahoe – Trip Generation for Alternative A

Description	Land Use	Quantity	Unit	Trip Generation Rates				Percent External Reduction for Non-Auto (Public Transit, Pedestrian, Bicycle)	Percent Additional External Reduction for Community Shuttle	Percent Internal [3]	External Project Generated Vehicle Trips			
				Average Daily [1]	PM Peak Hour [2]						Daily Vehicle Trip Ends	PM Peak Hour		
					In	Out	Total					In	Out	Total
Alternative A														
Residential Uses														
Remove Existing Mobile Homes	Mobile Home Park	-155	dwelling units	4.99	0.37	0.22	0.59	10	0	0	-696	-51	-31	-82
Market Rate Units	Residential Condo/Townhouse	124	dwelling units	5.86		REGRESSION EQN [4]		2	20	30	399	27	12	39
Moderate Income Units	Residential Condo/Townhouse	19	dwelling units	5.86		REGRESSION EQN [4]		2	20	10	78	7	4	11
Subtotal Residential Uses		*-12*	*dwelling units*								*-219*	*-17*	*-15*	*-32*
Beach Club/Restaurant														
Kitchen/Dining Room/Bar	Quality Restaurant	3.80	KSF [5]	89.95	5.02	2.47	7.49	2	0	76	80	5	2	7
Club/Spa/Athletics	Athletic Club	13.78	KSF [5]	43.00	3.63	2.13	5.76	2	0	50	290	25	14	39
Assembly and Party Room [6]	–	200	persons	0.80	0.40	0.00	0.40	5	0	0	152	76	0	76
Swimming Pool [7]	–	–	–	–	–	–	–	–	–	–	0	0	0	0
Beach [8]	–	–	–	–	–	–	–	–	–	–	0	0	0	0
Pier [8]	–	–	–	–	–	–	–	–	–	–	0	0	0	0
Exiting Buoys [8]	–	3	buoys	–	–	–	–	–	–	–	0	0	0	0
Subtotal Beach Club/Restaurant											*522*	106	*16*	*122*
Net Impact of Proposed Project											**303**	**89**	**1**	**90**

[1] Daily trip generation rates are based on the TRPA Trip Table (TRPA 2004), unless noted otherwise.
[2] Peak-hour trip generation rates are estimated using the Institute of Transportation Engineers Trip Generation, 7th Edition (2003) manual, unless noted otherwise.
[3] Internal trips between fitness and dining room/bar uses are reflected in the dining room / bar internal percentage.
[4] The peak-hour trip generation of the proposed residences is based on the following fitted curve equation provided by the ITE: Ln(T) = 0.82Ln(X) + 0.32.
[5] KSF = 1,000 square feet gross floor area.
[6] Trip generation is based on a person-trip analysis assuming that only one event would occur over the course of a peak day, with vehicle occupancy of 2.5. Moreover, it is assumed that the event would start during the peak hour.
[7] No new vehicle trips are associated with the swimming pool area, due to the fact that the swimming pool would be accessible to homeowners and guests only.
[8] No new vehicle trips are associated with the beach and pier areas, due to the fact that they would not be accessible to the public.
Source: LSC Transportation Consultants, Inc. 2007

to residents, club members and their guests only, and there would be no external advertising of this use. As a result, many of the trips generated by this land use can be expected to consist of residents or club members already on-site for club activities. The McMahon Group letter further indicates that a majority of club members using a fitness facility typically will also eat at the grill. In the case of the Beach Club, however, the trip generation of the club use is relatively large in comparison with the trip generation of the dining room/bar space Furthermore, it is realistic to assume that some non-resident club members would also travel to and from the site to visit the dining room/bar without using the fitness facility. On balance, it is reasonable to conservatively assume that 30% of club members using fitness facilities also use the dining room/bar. This also reflects that 48% of dining room/bar trips would be generated by persons not using the fitness facilities. Again, 50% of the club members are also residents of the Beach Club and the other half travel from external locations. In total therefore, 24% (48% times 50%) of dining room/bar trip generation would consist of external trips not already accounted for as part of the Club trip generation, and 76% would consist of internal trips. A reduction in through traffic volumes on the adjacent street to reflect "pass-by" traffic (vehicles already passing by the site that would divert to the new land use as part of a longer trip; pass-by trips generate traffic on the access drives, but do not generate net traffic on regional roadways) was considered; however, because the project site is not immediately adjacent to U.S. 50, pass-by trips are expected to be negligible. It is estimated that 2% of trips made to and from the proposed restaurant would be non-auto trips (public transit, pedestrian, or bicycle). Finally, a conservative assumption is made that no external reduction would be associated with the community shuttle, due to the possibility that it might be busy handling resident trips.

Assembly and Party Room – Neither the *TRPA Trip Table* nor the *ITE Trip Generation Manual* provides applicable information regarding the trip generation characteristics of the proposed Assembly and Party Room. To provide an accurate estimation of trip generation associated with these rooms, a "person-trip analysis" was conducted, in which the travel patterns of individuals accessing the room were factored by the proportion of auto travel mode and by the vehicle occupancy to estimate vehicle trip generation. This trip generation analysis is based on the following information/assumptions:

- only one maximum-capacity meeting or assembly type event occurs over the course of a peak-summer weekday;
- the capacity of the Assembly and Party Room would be 200 persons;
- the Assembly and Party Room event is assumed to start during the PM peak hour;
- no additional staff trips would be associated with the Assembly and Party Room;
- 95% of trips generated by the Assembly and Party Room would be made by automobile;
- the Assembly and Party Room would be available to residents, club members, or their guests. However, under this restriction one resident or member could book the facility for a group in which a large majority of attendees could still consist of persons that are not residents or club members. Therefore, in order to remain conservative in this analysis, no internal trips are associated with the Assembly and Party Room; and
- average vehicle-occupancy for Assembly and Party Room attendees is estimated to equal 2.5, based on the average value for "Visitor" trips identified in the TRPA TRANPLAN model.

Swimming Pool – The swimming pool is proposed to be accessible to homeowners, Beach Club members and their guests only; the general public would not be allowed to use the pool.

Beach, Pier, Buoys – No new vehicle trips to the site would be associated with the beach, pier, or existing buoys, because only residents, Beach Club members and their guests would have access to these from the project site. No public access to the beach would be provided through the project site.

The number of external daily vehicle trip ends and peak-hour vehicle trip ends were calculated for the proposed land uses and are shown in Table 5.6-7. The results indicate that 522 daily vehicle trip ends and 122 peak-hour vehicle trip ends (106 inbound and 16 outbound) would be generated by the beach and swim club/restaurant and 477 daily vehicle trip ends and 50 peak-hour vehicle trip ends (34 inbound and 16 outbound) would be generated by the proposed condominiums.

Project Net Impact on Trip Generation

The net impact of the project on external trip generation is calculated by subtracting the existing (year 2011) trips from the proposed Alternative A trips. As shown in Table 5.6-7, Alternative A would result in a net increase of 303 daily vehicle trip ends and 90 peak-hour vehicle trip ends (89 inbound and 1 outbound).

Trip Distribution and Assignment

Vehicular access to the project site would be provided via one access point on Kahle Drive. Table 5.6-8 presents the distribution of existing (year 2011) traffic. The distribution of project-generated traffic was estimated based upon existing turning movement patterns, as well as the location of the proposed project relative to nearby commercial and employment centers (for the residential components) and relative to nearby residential areas (for the commercial/recreational component). As indicated in Table 5.6-8, more than half of the project-generated traffic (55%) is projected to be distributed to/from the south on U.S. 50 (to/from the Stateline area, South Lake Tahoe, and beyond). Using the identified distribution pattern, the project-generated traffic was assigned to the area street system. The resulting project net impact on PM peak hour intersection turning movement volumes is shown in Exhibit 5.6-3.

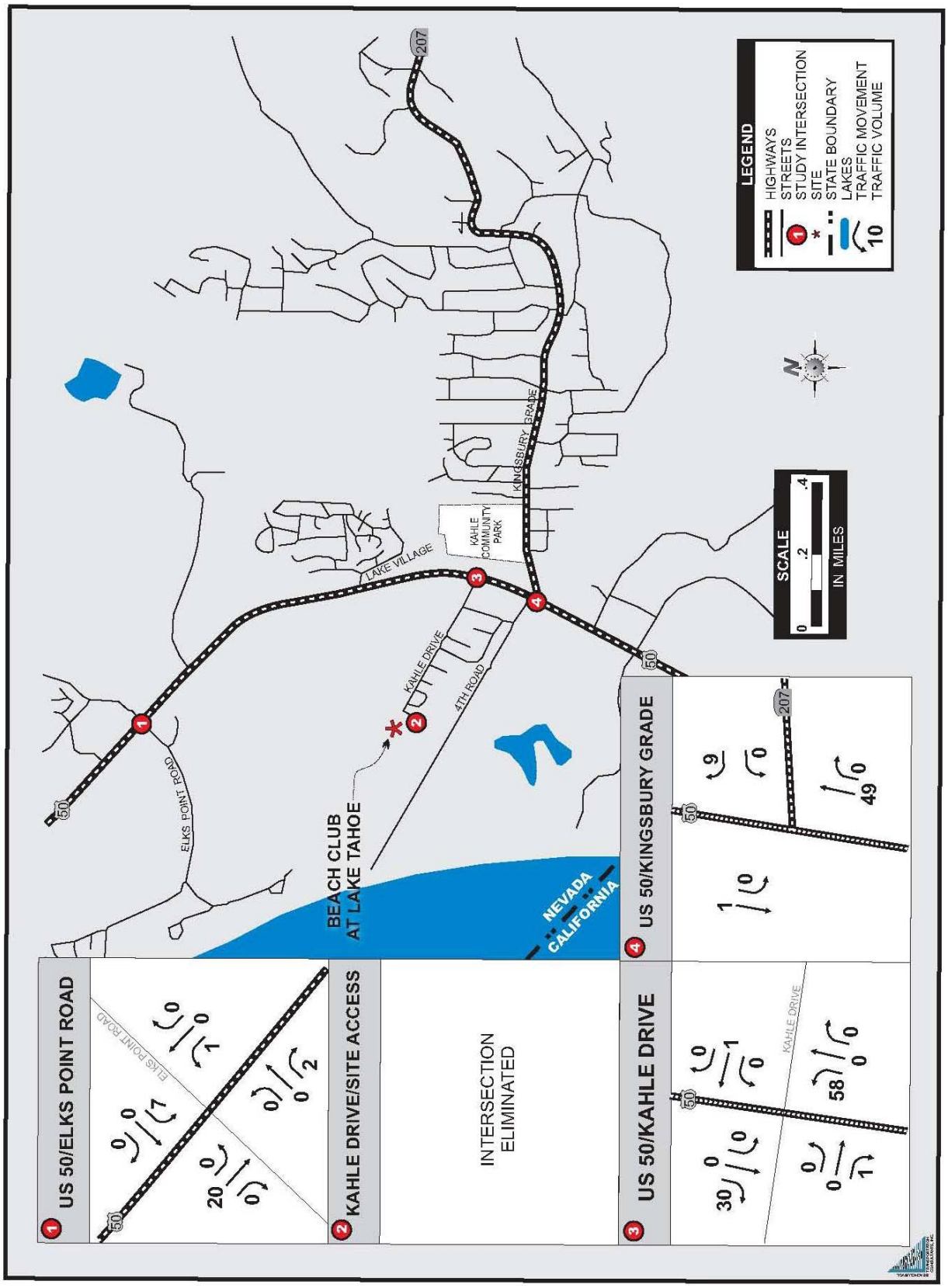
Table 5.6-8
Beach Club at Lake Tahoe – Trip Distribution for Alternative A

Origin/Destination	Percent Distribution of Project Traffic
U.S. 50 to the North	22
Elks Point Road to the West	2
Elks Point Road to the East	8
Between Kahle Drive and Elks Point Road	2
Kahle Drive East of U.S. 50	1
U.S. 50 to the South	55
Kingsbury Grade	10
TOTAL	100

Source: LSC Transportation Consultants, Inc. 2006

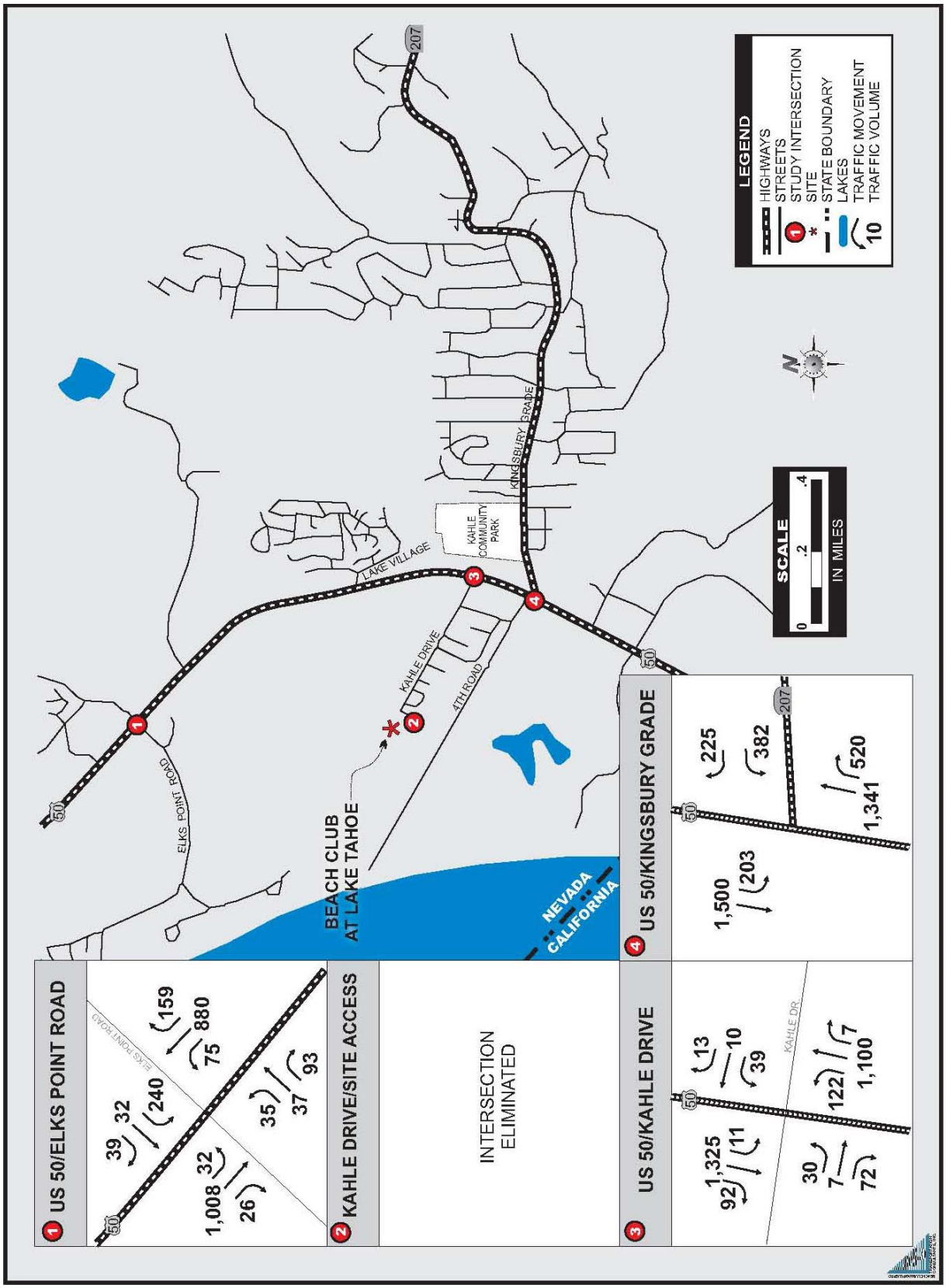
Project Impact on Traffic Volumes

Adding the traffic volumes generated by Alternative A to the traffic at the study intersections yields the “project net impact” traffic volumes presented in Exhibit 5.6-3. The Year 2011 Plus Alternative A PM peak-hour traffic volumes are shown in Exhibit 5.6-4. Comparison with the existing volumes indicates that Alternative A would increase average summer weekday PM peak-hour traffic volumes at the study intersections along U.S. 50 by roughly 1% to 3%.



Source: LSC Transportation Consultants, Inc. 2007

Alternative A Net Impact PM Peak-Hour Traffic Volumes **Exhibit 5.6-3**



Source: LSC Transportation Consultants, Inc. 2007

2011 Plus Alternative A PM Peak-Hour Traffic Volumes **Exhibit 5.6-4**

Furthermore, Alternative A would increase total two-way peak-hour traffic volumes on nearby roadway segments as follows:

- U.S. 50 south of Kingsbury Grade – 1.1% increase;
- U.S. 50 between Kingsbury Grade and Kahle Drive – 1.9% increase;
- U.S. 50 north of Kahle Drive – 1.5% increase;
- U.S. 50 south of Elks Point Road – 1.5% increase;
- U.S. 50 north of Elks Point Road – 1.1% increase;
- Kingsbury Grade east of U.S. 50 – 0.7% increase;
- Kahle Drive west of U.S. 50 – 44.0% increase;
- Kahle Drive east of U.S. 50 – 2.2% increase;
- Elks Point Road west of U.S. 50 – 0.7% increase; and
- Elks Point Road east of U.S. 50 – 2.2% increase.

LEVEL OF SERVICE IMPACT

The LOS at each study intersection was evaluated using the *Traffix 7.7* software, based upon the *Highway Capacity Manual, 2000* methodologies. Table 5.6-5 (above) presents Year 2011 intersection LOS with Alternative A. The addition of traffic generated by the project does not decrease the LOS at the study intersections. The average delay at the intersections along U.S. 50 is expected to increase by approximately 1 to 2 seconds, with all intersections operating within acceptable LOS levels (LOS A or B). In sum, although the proposed project would result in an increase in vehicular delays at some of the nearby intersections, all intersections would maintain an acceptable LOS for 2011 conditions. Therefore, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.A-2 Vehicle Miles of Travel (VMT). *Alternative A would result in an increase of approximately 1,001 VMT in the Tahoe Basin. This impact is considered less than significant.*

The effect of the proposed action on weekday vehicle-miles traveled (VMT) in the Tahoe Basin is dependent on the origin and destination of people traveling to and from the project site. The increase in VMT resulting from the project was estimated based upon the trip types and average trip lengths identified in the TRPA TRANPLAN traffic model, and the number of new trips generated by the proposed project. As discussed previously, the number of new daily trips generated by Alternative A is 303 (net increase after deducting the daily trips generated by the existing land uses). As shown in Table 5.6-9, the change in residential land uses would result in a decrease of 774 VMT. However, the proposed beach and swim club/restaurant would generate about 1,775 new VMT. Therefore, the overall project effect on VMT would be an increase of 1,001. As discussed above, an increase of 2,000 VMT or more is considered to be a significant impact. Because Alternative A's increase in VMT would not exceed the threshold standard, this impact is considered **less than significant**.

Air Quality Fee

Pursuant to Chapter 93.3.C of the TRPA *Code of Ordinance*, 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. Per TRPA Code of Ordinance Section 93.3.C, 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 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.

As Alternative A would result in a decrease in trips associated with residential land uses, no fee is associated with the residential land uses. However, trips associated with nonresidential land uses would increase by 522. As shown in Table 5.6-10, air quality mitigation fees associated with this increase is calculated to be $18,896.40.

Mitigation Measures

No mitigation is required.

Table 5.6-9
Beach Club on Lake Tahoe – Calculation of VMT for Alternative A

Description	TRPA Trip Type	Average Trip		
		Daily Vehicle Trip Ends [1]	Length (mi) [2]	VMT
Alternative A				
Residential Uses				
Remove Existing Mobile Homes	Average of All Resident Trips	(696)	3.53	(2,457)
Add Residences	Average of All Resident Trips	399	3.53	1,408
Add Moderate Income Housing	Average of All Resident Trips	78	3.53	275
Subtotal Residential Uses		*(219)*	–	*(774)*
Beach Club/Restaurant				
Kitchen/Dining Room/Bar	Average of Home-Based Other and Non-Home Based Trips	80	3.40	272
Club/Spa/Athletics	Average of Home-Based Other and Non-Home Based Trips	290	3.40	986
Assembly and Party Room	Average of Home-Based Other and Non-Home Based Trips	152	3.40	517
Subtotal Beach Club/Restaurant		*522*	-	*1,775*
Alternative A Net Impact		**303**	-	**1,001**
Regionwide VMT [3]				**1,790,602**
Alternative A Percent Increase				**0.06**

[1] Reference Table 5.6-7.

[2] Based on TRPA's 1995 TRANPLAN Trip Length data. Average of all resident trip types used for residential uses, and average of home-based other trips and non-home based trips is used for Beach Club/Restaurant uses.

[3] Based on TRPA 2001 Threshold Evaluation Draft (TRPA 2002); the 2006 Threshold Evaluation Draft (TRPA 2007) reports 1,580,000 as the regionwide VMT in 2004.

Source: LSC Transportation Consultants, Inc. 2007

Table 5.6-10
Beach Club at Lake Tahoe – Air Quality Impact Fee for Alternative A

Description	Daily Vehicle Trip Ends		
	Residential	Nonresidential	Total [1]
Alternative A			
Residential Uses			
Remove Existing Mobile Homes	(696)	-	(696)
Add Market Rate Residences	399	-	399
Add Moderate Income Housing	78	-	78
Subtotal Residential Uses	*(219)*		*(219)*
Beach Club/Restaurant			
Kitchen/Dining Room/Bar	–	80	80
Club/Spa/Athletics	–	290	290
Assembly and Party Room	–	152	152
Subtotal Beach Club/Restaurant		*522*	*522*
Total Alternative A	**(219)**	**522**	**303**
Air Quality Fee per DVTE	*$325.84*	*$36.20*	-
Alternative A Total Fee	**($71,358.96)**	**$18,896.40**	-

[1] Reference Table 5.6-7.
Source: LSC Transportation Consultants, Inc. 2006

IMPACT 5.6.A-3 Parking Conditions. *Under Alternative A, the parking demand would be balanced by the parking supply provided within the condominiums and provided by shared unassigned parking spaces. Therefore, Alternative A would result in a* ***less-than-significant*** *parking impact.*

All parking for the project would be provided on-site. Residential parking rates were identified as follows:

- Parking rates are based on the *Round Hill Timeshare Traffic, Air Quality and Parking Analysis* (LSC Transportation Consultants, Inc. 1999). According to this study, 25% of two-bedroom units are estimated to generate a requirement for two parking spaces and 75% are estimated to generate a requirement for one parking space. Based on this, a total of 1.25 parking spaces would be required per two-bedroom unit. Moreover, an increase in parking space of 0.5 spaces per bedroom is assumed for a unit with more than two bedrooms. Therefore, a three-bedroom unit is assumed to require 1.75 parking spaces and a four-bedroom unit is assumed to require 2.25 parking spaces.

  Per the ITE Parking Generation Manual (3rd Edition 2004) the average number of parking spaces required per Residential Condominium unit is 1.46. However, the average parking demand rate applied in this analysis is 1.77. Therefore, the parking demand assumed in this analysis is comparatively conservative.

- Parking rates used for moderate income housing are 1.5 spaces per dwelling unit. These rates are based on *Lake Vista Apartments Traffic, Air Quality and Parking Analysis* (LSC Transportation Consultants, Inc. 1998). Table 5.6-11 summarizes the proposed project parking demand based on these rates.

Parking Demand

Reductions for non-auto modes were applied where appropriate. No reductions were applied to the parking demand of the market-rate condominiums. As indicated in Table 5.6-11, the total residential parking demand for Alternative A would be approximately 220 spaces. In addition, one space per unit is assumed to be assigned. As a result, of a total of 220 spaces, 143 vehicles would use assigned parking spaces and remaining 77 vehicles would use unassigned parking spaces.

Parking rates for the beach and swim club/restaurant uses are based on the *Douglas County Consolidated Development Code* rates, adjusted for the internal trips and non-auto mode factors identified in the trip generation analysis. (Note: trips internal to the project are assumed to occur by non-auto modes.) The parking demand associated with the restaurant, bar, and athletic club would be 18 spaces, 6 spaces, and 22 spaces, respectively.

The Douglas County Code does not provide parking requirements for an Assembly and Party Room. Consequently, the number of parking spaces associated with the proposed Assembly and Party Room was estimated based on the assumptions in the trip generation analysis. The number of attendees traveling to/from the Assembly and Party Room external to the site (200 persons) was multiplied by the percent traveling via automobile (95%) and divided by the average vehicle occupancy (2.5 persons per vehicle, per the TRPA TRANPLAN data), for a total parking demand of 76 spaces.

No parking spaces are assumed to be required for the beach and pier because public access is restricted. In addition, residents and guests using these amenities are not assumed to make internal vehicle trips, in view of the fact that the residences are within a reasonable walking distance of these "accessory" uses and shuttle service is proposed to be provided on-site. As shown in Table 5.3-11, the overall parking demand of the proposed project is approximately 342 spaces.

Parking Supply

The condominiums would be provided with 270 parking spaces, and the beach and swim club/restaurant would be provided with 88 spaces. Therefore, the total parking supply for Alternative A would be 358 spaces. Up to 34 vehicles generated by the beach and swim club/restaurant (if the Assembly/Party Room were fully occupied) would need to park in unassigned spaces near the residential units.

As shown in Table 5.6-11, the overall parking demand for the project would be less than the parking supply (assuming that unassigned residential spaces would be available for nonresidential uses), resulting in 16 surplus parking spaces. Therefore, the threshold standard is not exceeded and Alternative A would result in a **less-than-significant** parking impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.A-4 Potential for Traffic Accidents. *Alternative A would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard. Therefore, Alternative A would have a* ***less-than-significant*** *impact on the potential for traffic accidents.*

Site Access/Internal Circulation

Access to the project site would be provided via Kahle Drive. A two-way internal roadway would serve the project. A Gatehouse would be constructed at the entry to the site and would provide adequate clearance for emergency vehicles. The final site plan would be reviewed by the Fire Department.

Table 5.6-11
Beach Club on Lake Tahoe – Alternative A Parking Analysis

Description	Land Use	Quantity	Unit	Reductions for Non-Auto Access			Effective Size	Unit	Parking Spaces	
				Percent Reduction for Non-Auto Modes (Pedestrian & Bicycle)	Percent Reduction for Public Transit	Percent Additional Reduction for Trips Internal to the Site			Spaces Required Per Unit	Total
RESIDENTIAL USES										
Residential Parking Demand										
Market Rate Residences (2-Bedroom) [1]	Multifamily Dwelling	52	DU 3	0	0	0	52	DU	1.25	65
Market Rate Residences (3-Bedroom) [1]	Multifamily Dwelling	72	DU	0	0	0	72	DU	1.75	126
Moderate Income Housing [2]										
Residences (1-Bedroom)	Multifamily Dwelling	10	DU	0	0	0	10	DU	1.50	15
Residences (2-Bedroom)	Multifamily Dwelling	7	DU	0	0	0	7	DU	1.50	11
Residences (3-Bedroom)	Multifamily Dwelling	2	DU	0	0	0	2	DU	1.50	3
Subtotal Moderate Income Housing		19								29
Total Residential Parking Demand		*143*	*DU*				*143*	*DU*		*220*
- Vehicles Parked in Assigned Spaces										*143*
- Vehicles Parked in Unassigned Spaces										*77*
Residential Parking Supply										
Assigned Spaces										143
Unassigned Spaces										127
Total Residential Parking Supply										*270*
Residential Parking Balance										
Assigned Spaces										0
Unassigned Spaces										50
Total Residential Parking Surplus/Deficit										*50*
BEACH CLUB/RESTAURANT										
Beach Club/Restaurant Parking Demand										
Kitchen/Dining Room	Restaurant	3,800	SF[4]	3	2	50	3,468	SF	1 space per 100 sf	18
Bar (Accessory)	Restaurant	1,350	SF	3	2	50	1,232	SF	1 space per 100 sf	6
Athletic Club	Health Club	13,780	SF	3	2	50	12,685	SF	1 space per 300 sf	22
Assembly and Party Room	–	200	persons	0	5	0	190	persons	0.4 7	76
Total Beach Club/Restaurant Parking Demand										*122*
Beach Club/Restaurant Parking Supply										88
Beach Club/Restaurant Parking Surplus/Deficit										-34
Total Project Parking Demand										**342**
USE OF UNASSIGNED RESIDENTIAL SPACES BY BEACH CLUB/RESTAURANT										
Number of Unassigned Residential Spaces Available for Beach Club/Restaurant Use										**50**
Number of Unassigned Residential Spaces Needed for Beach Club/Restaurant Use										**34**
Total Project Parking Surplus/Deficit										***16***

[1] Parking rates for market rate condominiums are based on the Round Hill Timeshares Traffic, Air Quality, and Parking Study (LSC Transportation Consultants, Inc. 1999).
[2] Parking rates for moderate income housing are based on the Lake Vista Apartments Traffic, Air Quality, and Parking Study (LSC Transportation Consultants, Inc. 1999).
[3] DU = Dwelling Units
[4] SF = Square Feet
[5] Assumes an average vehicle occupancy of 2.5 persons/vehicle and all assembly room attendees are nonresidents of the project.

Queuing at Gatehouse

The site plan indicates a Gatehouse at the proposed access point on Kahle Drive. A key question is whether adequate space would be provided for entering traffic to queue outside this gate without blocking other vehicle movements. An analysis of potential traffic queues waiting to enter this gate was conducted using the methodology presented in the *Traffic Engineering Handbook* (Institute of Transportation Engineers 1999). The results are presented in Table 5.6-12. As described in Chapter 3, Project Description, an electronic tag system would be provided at the gate which identifies the vehicle (driver would not need to swipe a card or use a keypad to open the gate). This provides an average delay of 10 seconds per entering car. Additionally, project traffic would include guests, attendees of events in the Assembly and Party Room, and utility trips, and it is assumed that 20% of vehicles would not have electronic tags and would be required to enter an access code into a keypad or some other assistance to open the gate. This is estimated to take approximately 20 seconds. Averaging the time taken to service one vehicle, it is estimated that about 12 seconds of delay would occur per vehicle. The 95th percentile queue length with a 12-second delay would be up to 2 vehicles, which would require approximately 50 feet of queue length. The distance from the Gatehouse to Kahle Drive would be 140 feet, which would be sufficient to accommodate this expected queue. Therefore, the proposed site plan is anticipated to provide adequate space to accommodate the queue at the Gatehouse without any significant traffic or safety impacts, assuming a gate-control technology that allows access to residents and employees without use of a keypad or swipe card reader.

Driver Sight Distance

According to the *Douglas County Design Criteria and Improvement Standards* (Douglas County 1998), there are two prevalent types of driver sight distance standards that should be met.

The first is stopping sight distance, or the sight distance required to allow a vehicle to stop and avoid hitting an object in the road. The second type of sight distance is intersection sight distance (also known as corner sight distance), which is the distance a driver waiting at a crossroad 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 minor street and any approaching vehicle on the major street. The intersection sight distance is measured along the center of the approaching travel lanes, as observed from a point 15 feet back from the edge of traveled way, and measured from an eye height of 3.5 feet to an approaching object height of 4.25 feet, while the stopping sight distance is observed from a point 12 feet back from the edge of traveled way.

The minimum intersection and stopping sight distance requirements based on a speed of 25 miles per hour at the Kahle Drive/Site Access intersection are 250 feet and 150 feet, respectively. The proposed project would eliminate the existing Kahle Drive/Arthur Drive intersection, and instead provide a gate at the site driveway (a continuation of Kahle Drive). As a result, intersection sight would not be an issue. The entrance gate would be visible the entire length of Kahle Drive west of U.S. 50 (approximately 2,300 feet). Therefore, this alternative would not result in a driver sight distance deficiency.

Table 5.6-12
Beach Club at Lake Tahoe – Queuing Analysis for Single Queue Lane for Alternative A during PM Peak Hour

Input

Vehicles per Hour	89 vph
Average Time Required to Service Each Vehicle	12 seconds
Number of Service Lanes	1
Average Vehicle Length	25 feet

Output

Arrival Rate	1.5 vehicles per minute per lane
Service Rate per Lane	5 vehicles per minute per lane
Total Service Rate	5 vehicles per minute
Utilization Factor = A/S	0.30 see note 1
Average Number of Vehicles in Queue (not being served)	0.125 vehicles
Average Number of Vehicles in System (queue + being served)	0.421 vehicles
Variance in the Number of Vehicles in System	0.600
Average Waiting Time	0.084 minutes (or 5 seconds)
Average Time in System	0.284 minutes (or 17 seconds)

Analysis of Probability of Queue Length

Number of Vehicles	Queue Length	P(n)	Probability that Number of Vehicles is Less Than N
0	0	0.70333	0.70333
1	25	0.20866	0.91199
2	50	0.06190	0.97389
3	75	0.01836	0.99225
4	100	0.00545	0.99770
5	125	0.00162	0.99932
6	150	0.00048	0.99980
7	175	0.00014	0.99994
8	200	0.00004	0.99998
9	225	0.00001	0.99999
10	250	0.00000	1.00000

Note 1: If U > 1, queue length expands indefinitely.

Source: *Transportation and Traffic Engineering Handbook*. For gates with independent queue lanes.

Emergency Access

The project proposes to provide emergency access to the site as follows:

- The project would maintain the existing emergency access to the north of the site via the Douglas County Improvement District Pump Station access. This access would be key activated and the fire and police departments would have keys, as would the sewer district.

- The project also proposes an additional emergency access to the south of the site (to the 4-H Camp parcel) adjacent to the Beach Club. This access would be provided with a gate with strobe-light activators so that fire department and police department can gain access to the site in case of emergencies.

- Finally, the project also proposes a new emergency access to the south of the site to also serve the 4-H Camp parcel adjacent to Building 13 (Carriage House). A gate with strobe-light activators would also be provided at this access.

The Tahoe Douglas Fire Protection District has verified that the one point of access from Kahle Drive is sufficient (Nicholson 2004). Moreover, these emergency access points would meet all state, county, and local codes. Therefore, as the project proposes to add two additional emergency access points (two more than required by the Tahoe Douglas Fire Protection District), the project would have a beneficial impact to the proposed Beach Club site in terms of emergency access. In addition, the provision of these two additional emergency access points between the Beach Club and the 4-H Camp improves the emergency access to the 4-H Camp parcel.

Conclusion

As discussed under existing conditions, the total accident rates at the intersections and the roadway segments within the vicinity of the project are lower than the countywide and statewide average. Furthermore, the project would not result in any intersections with inadequate driver sight distance or other characteristics that would create an undue potential safety hazard. Therefore, Alternative A would have a **less-than-significant** impact on the potential for traffic accidents.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.A-5 Pedestrian and Bicycle Access and Circulation. *Kahle Drive is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. Alternative A would not conflict with any existing or planned pedestrian or bicycle facilities. The proposed project would generate a moderate level of pedestrian and bicycle activity, similar to existing conditions, but would not conflict with pedestrian and bicycle circulation and would result in a* ***less-than-significant*** *impact.*

Pedestrian facilities are found primarily in the more urbanized areas of the Lake Tahoe Basin. These facilities include sidewalks, which are generally paved and walkways, which may or may not be paved. In many areas, pedestrians share the use of available bike trails. In the South Lake Tahoe area, the lack of pedestrian facilities discourages pedestrian activity and encourages vehicle use, even for short trips. There are numerous, discontinuous bicycle facilities throughout the Tahoe Basin. Few bicycle facilities exist in the study area. A Class II bike lane exists along Elks Point Road and a Class I bike path exists from the Kahle Community Park to the Round Hill area running north and south.

According to the *Lake Tahoe Regional Bicycle and Pedestrian Master Plan* (Fehr & Peers 2003) there are no planned facilities with which the proposed project would conflict. It is expected that the project would generate a moderate level of pedestrian and bicycle activity. Kahle Drive is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. Although the pedestrian and bicycle facilities in the project area are limited, the project would not alter existing or planned facilities and would have a **less-than-significant** impact on pedestrian and bicycle access and circulation.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.A-6 Construction Traffic. *The project would result in temporary construction traffic generated by the removal of the trailers, grading, SEZ restoration, construction employee traffic, deliveries, and movement of construction equipment. The project would be constructed over a total of up to four construction seasons, which would tend to reduce the traffic impacts in any one period. Construction traffic would access the project site via Kahle Drive and U.S. 50, and onsite construction staging areas would be established to minimize heavy equipment trips on surrounding roadways. This impact would be* ***less than significant****.*

Site grading and SEZ restoration is expected to result in a maximum of 3,000 cubic yards of net imported soil to the site. At a capacity of 20 cubic yards per truck, this would result in the need for roughly 150 truck round-trips (300 truck one-way trips) over the course of the 4-year construction period. Up to 25 construction employees are expected to report to the site in any one day, generating roughly 50 one-way vehicle-trips per day. Including hauling, demolition, and relocation of the mobile homes, approximately 20 truck vehicle-trips plus 50 auto vehicle-trips per day would be generated. For purposes of traffic impact assessment, large trucks have been found to generate an impact equivalent to three passenger cars. Adjusting for this factor, construction traffic would generate up to 110 "passenger car equivalents" over a day. Of this, roughly 30 would occur during a peak hour.

As these volumes are substantially lower than the traffic impacts of the project at buildout, and as no significant impacts have been identified for the project buildout conditions, it can be concluded that construction traffic would have a **less-than-significant** impact on study intersections. On-site circulation would not be affected by construction traffic because the project would not be occupied until construction is complete.

Although this impact is less than significant, the project applicant would be required to prepare a Traffic Control Plan (TCP) for review and approval by TRPA and NDOT 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.

Mitigation Measures

No mitigation is required.

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.6.B-1 Existing (Year 2011) plus Alternative B Level of Service. *Under Alternative B, two new single-family homes and two guest houses would result in substantial net reductions in all measures of traffic and all intersections would maintain an acceptable LOS for 2011conditions. This impact is considered* ***less than significant****.*

As discussed under Alternative A, the number of daily vehicle trip ends and peak-hour vehicle trip ends need to be determined in order to analyze the potential impacts from Alternative B. The existing (year 2011) trip generation analysis is presented in Table 5.6-5. The *TRPA Trip Table* (TRPA 2004) was used for the calculation of daily traffic, and the PM peak-hour trip ends are based on the ITE trip generation rates. With the removal of the Tahoe Shores Mobile Home Park, 696 daily vehicle trip ends and 82 peak-hour vehicle trip ends would be eliminated (Table 5.6-7).

Under Alternative B, two new single-family homes would and two guest houses would be constructed. It is assumed for this analysis that single-family dwelling unit rate applies to both the primary homes and the guest houses. These uses would generate approximately 39 daily vehicle trip ends, 4 peak-hour vehicle trip ends, and 138 VMT, which would therefore result in substantial net reductions in all measures of traffic. All study intersections would remain at LOS A or B under 2011 plus Alternative B conditions. Therefore, Alternative B would result in a **less-than-significant** LOS impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.B-2 **Vehicle Miles of Travel (VMT).** *Alternative B would result in a decrease of approximately 2,319 VMT in the Tahoe Basin. This impact is considered* ***beneficial****.*

The effect of Alternative B on weekday vehicle-miles traveled (VMT) in the Tahoe Basin is dependent upon the origin and destination of people traveling to and from the project site. The VMT resulting from Alternative B was estimated based upon the trip types and average trip lengths identified in the TRPA TRANPLAN traffic model, and the number of new trips generated by this alternative. The change in residential land uses from the existing mobile home park to two single-family estates would result in a decrease of approximately 2,319 VMT. As discussed above, an increase of 2,000 VMT or more is considered to be a significant impact. Because Alternative B would result in a significant decrease in VMT and would not exceed the threshold standard, this impact is considered **beneficial**.

Because Alternative B would result in a decrease of 657 daily vehicle trip ends due to the elimination of the mobile home park and the construction of two single-family estates, the applicant would not be required to pay any mitigation fee to the Air Quality Mitigation Fund.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.B-3 **Parking Conditions.** *Under Alternative B, each of the two single-family estates is assumed to include a five-car detached parking garage and minimal surface parking, which would be sufficient to meet the parking demand associated with each estate. This impact is considered to be* ***less than significant****.*

All parking for the two residential estates would be provided on-site within a detached five-car garage and minimal surface parking on each lot. The parking supply would be sufficient to meet the parking demand and there would be adequate parking for this project. This impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.B-4 **Potential for Traffic Accidents.** *This impact is the same as Alternative A described above in Impact 5.6.A-4. Alternative B would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard, and would have a* ***less-than-significant*** *impact on the potential for traffic accidents.*

Mitigation Measures

No mitigation is required.

IMPACT 5.6.B-5 Pedestrian and Bicycle Access and Circulation. *This impact is similar to Impact 5.6.A-5 described above for Alternative A. Kahle Drive is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. Alternative B would substantially reduce the population on the project site and would reduce the use of existing and/or planned pedestrian or bicycle facilities. In addition, Alternative B would not conflict with existing or planned pedestrian or bicycle facilities. This impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.6.B-6 Construction Traffic. *This impact is similar to Impact 5.6.A-6 described above for Alternative A. Alternative B would result in temporary construction traffic generated by the removal of the trailers, grading, construction employee traffic, deliveries, and movement of construction equipment. However, Alternative B would result in a shorter construction period and less construction-related traffic than Alternative A. Because the number of construction personnel and equipment necessary to construct the single-family estates would be smaller than Alternative A, the temporary presence of construction traffic in the study area would not result in unacceptable level of service at study intersections. In addition, the applicant would prepare a Traffic Control Plan to address project construction and parking. This impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

Alternative C assumes development of two multi-dwelling unit complexes on the two realigned parcels of land after the removal of existing mobile homes. Together these complexes are assumed to have a maximum of 155 dwelling units.

IMPACT 5.6.C-1 Existing (Year 2011) plus Alternative C Level of Service. *Alternative C would result in a net increase of 194 daily vehicle trip ends. All intersections would maintain an acceptable LOS for 2011 conditions, LOS A or B. This impact is considered* ***less than significant****.*

Trip Generation

Trip generation rates are estimated to calculate the impact of Alternative C on the surrounding traffic network. The *TRPA Trip Table* was used for the calculation of daily traffic, and the PM peak-hour trip ends are based on the ITE trip generation rates. The trip generation rate for Alternative C is presented in Table 5.6-13 and discussed below.

Existing Land Uses to be Removed

Some trips associated with the existing mobile home park are made by non-auto modes (transit, pedestrian, or bicycle). While specific data is not available, the project site is within a reasonable walking distance of Stateline employers and informal observation of travel by LSC staff indicates that, for the existing housing developments along Kahle Drive, non-auto travel represents at least 10% of total travel. Therefore, 10% of mobile home park trips are assumed to be made by non-auto modes. No internal trips are associated with the existing mobile homes. As indicated in Table 5.6-7, the existing mobile homes are estimated to generate 696 daily vehicle trip ends and 82 peak-hour vehicle trip ends (51 entering and 31 exiting).

Table 5.6-13
Beach Club at Lake Tahoe – Trip Generation for Alternative C

Description	ITE Land Use	Quantity	Unit	Trip Generation Rates [1]				Percent External Reduction for Non-Auto (Public Transit, Ped, Bicycle)	External Project Generated Vehicle Trips			
				Average Daily	PM Peak Hour				Daily Vehicle Trip Ends	PM Peak Hour		
					In	Out	Total			In	Out	Total
Alternative C [2]												
Remove Existing Mobile Homes				4.99	0.37	0.22	0.59	10	-696	-51	-31	-82
Multifamily Dwelling Units	Residential Condo/ Townhouse	155	DU	5.86	Regression Equation [3]			2	890	56	28	84
External Trips Generated by the Project									890	56	28	84
Net Impact of Alternative C									**194**	**5**	**-3**	**2**

Note:
[1] Trip generation rates are estimated using the Institute of Transportation Engineers Trip Generation (7th Edition 2003).
[2] Alternative C assumes that a maximum of 155 dwelling units would be built.
[3] The peak-hour trip generation of the proposed residences is based on the following fitted curve equation provided by the ITE: Ln(T) = 0.82Ln(X) + 0.32.
Source: LSC Transportation Consultants, Inc. 2006

Market Rate Residences -- Trip generation of the proposed condominiums in Alternative C is based on the "Residential Condominium /Townhouse" land use. *ITE's Trip Generation Manual* provides an average PM peak-hour trip rate and a logarithmic regression equation for this land use. In this case, the PM peak-hour trip generation of the proposed market rate condominiums is based on the regression equation, in accordance with the "Recommended Procedure for Selecting between Trip Generation Average Rates and Equations" (ITE 2003). Although some of the units may be second-home condominiums, which are not fully occupied except during relatively short peak periods, to remain conservative in this analysis, full-time occupancy of the residences is assumed for the peak summer period.

In keeping with observed travel modes for Tahoe residents, and in view of the fact that the residents have the option to use the BlueGo Flex Route service, it is estimated that 2% of trips made to and from the proposed market rate condominiums are made via public transit, pedestrian, or bicycle travelers.

Based on the trip generation analysis, it is estimated that an increase of 194 daily vehicle trip ends and two PM and two peak-hour vehicle trip ends would be generated by Alternative C after deducting the trips that are generated by the existing mobile homes.

Trip Distribution and Assignment

Vehicular access to the project site would be provided via one access point on Kahle Drive. Table 5.6-14 presents the estimated distribution of project generated traffic. The distribution of project-generated traffic was estimated based upon existing turning movement patterns, as well as the location of the proposed project relative to nearby commercial and employment centers. As indicated in Table 5.6-14, almost half of the project-generated traffic (45%) is projected to be distributed to/from the south on U.S. 50 (to/from the Stateline area, South Lake Tahoe, and beyond). Considering the identified distribution pattern, the project-generated traffic was assigned to the area street system.

Table 5.6-14 Beach Club at Lake Tahoe – Trip Distribution for Alternative C	
Origin/Destination	Distribution of Project Traffic (%)
U.S. 50 to the North	25
Elks Point Road to the West	2
Elks Point Road to the East	13
Between Kahle Drive and Elks Point Road	3
Kahle Drive East of U.S. 50	2
U.S. 50 to the South	45
Kingsbury Grade	10
Total	100
Source: LSC Transportation Consultants, Inc. 2006	

Impact on Traffic Volumes

Adding the traffic volumes generated by Alternative C to the traffic in the study intersections and subtracting the traffic generated by the existing uses to be removed yields the "project net impact" traffic volumes presented in Exhibit 5.6-5. The Year 2011 Plus Alternative C PM peak-hour traffic volumes are shown in Exhibit 5.6-6. Comparison with the existing volumes indicates that Alternative C would increase average summer weekday PM peak-hour traffic volumes at the study intersections along U.S. 50 by less than 1%.

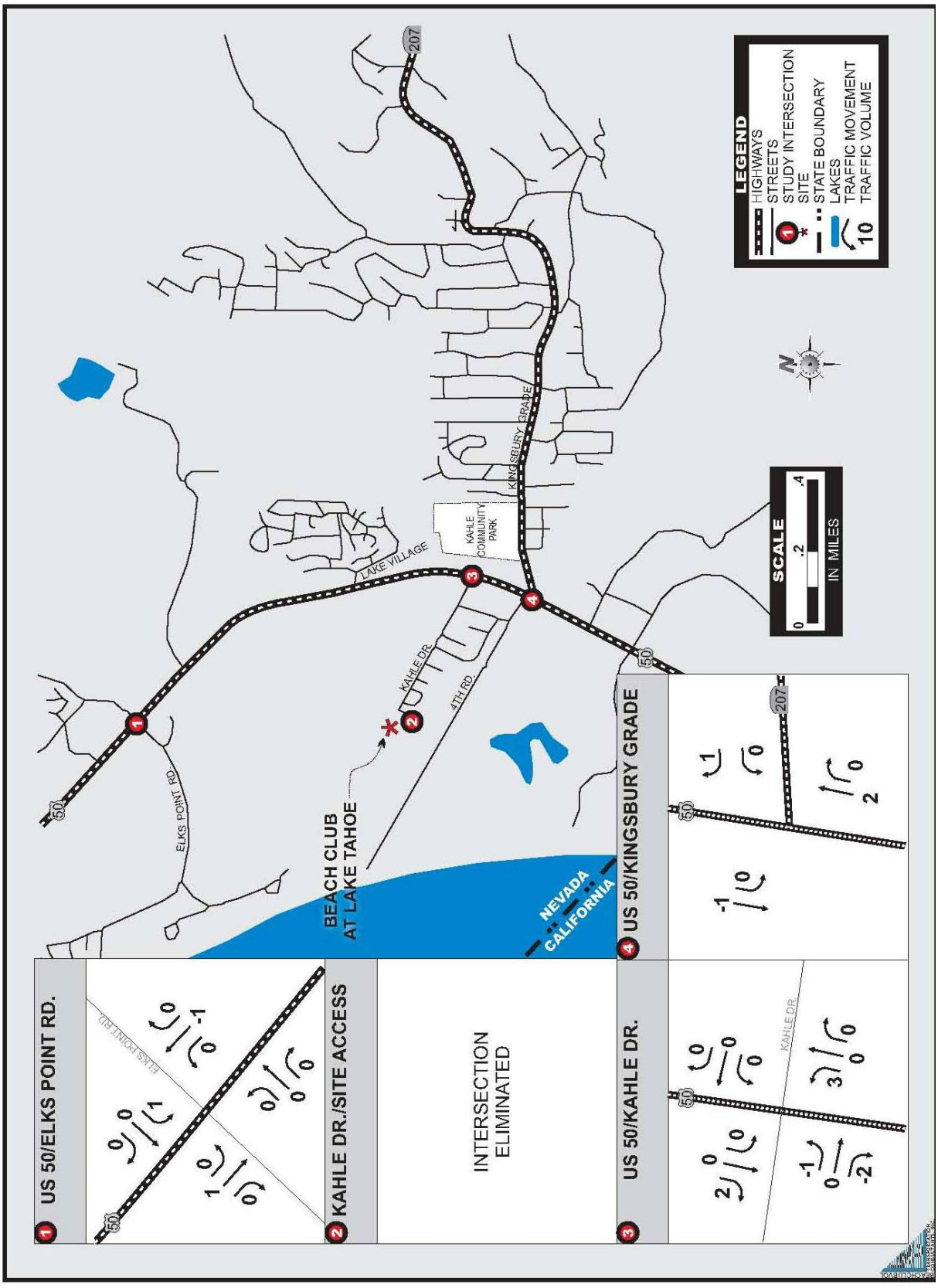
Level of Service Impact

The LOS at each study intersection was evaluated using the *Traffix 7.7* software, based upon the procedures previously discussed. Table 5.6-15 (below) presents Year 2011 intersection LOS with Alternative C. The addition of traffic generated by Alternative C does not impact the LOS (LOS A and B) at the study intersections. The average delay at the intersections along U.S. 50 is expected to increase by less than one second. In sum, Alternative C would result in negligible vehicular delays at some of the nearby intersections and all intersections would maintain an acceptable LOS for 2011 conditions. This impact is considered **less than significant**.

Table 5.6-15 Beach Club on Lake Tahoe – 2011 Intersection Level of Service (LOS) Summary					
Intersection	Signalized/ Unsignalized	2011 No Project		2011 Plus Alternative C	
		LOS [1]	Delay (sec)	LOS [1]	Delay (sec)
U.S. 50/Kingsbury Grade	Signalized	B	18.4	B	18.5
U.S. 50/Kahle Drive	Signalized	B	10.4	B	10.4
U.S. 50/Elks Point Road	Signalized	B	16.5	B	16.5
Kahle Drive/Site Access	Unsignalized	A	8.9	*Intersection Eliminated*	
Note 1: For unsignalized intersection, the LOS of the worst approach or worst movement is reported. Source: LSC Transportation Consultants, Inc. 2007					

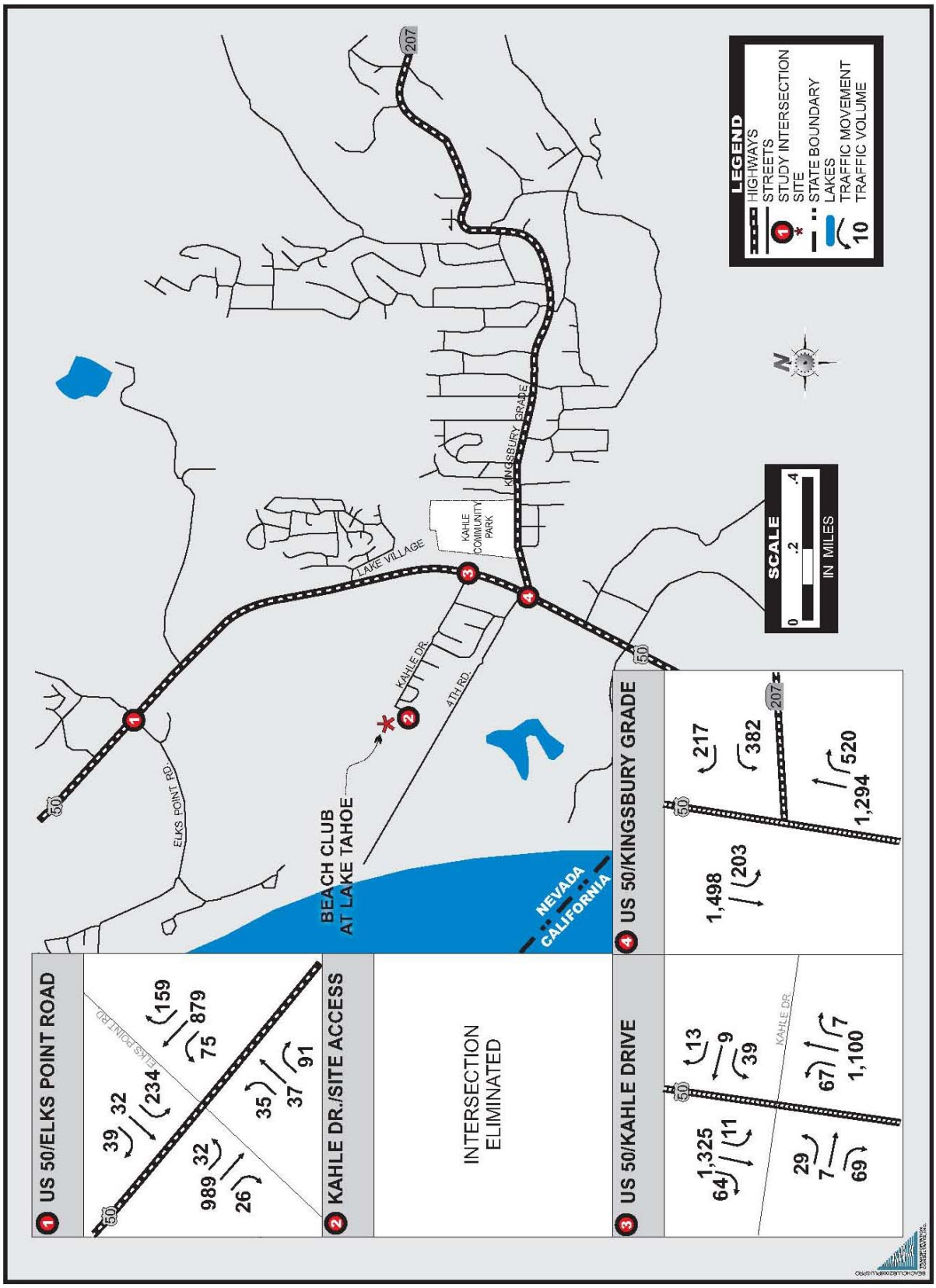
Mitigation Measures

No mitigation is required.



Source: LSC Transportation Consultants, Inc. 2006

Alternative C Project Net Impact PM Peak-Hour Traffic Volumes **Exhibit 5.6-5**



Source: LSC Transportation Consultants, Inc. 2006

2011 Plus Alternative C PM Peak-Hour Traffic Volumes **Exhibit 5.6-6**

IMPACT 5.6.C-2 Vehicle Miles of Travel (VMT). *Alternative C would result in an increase of approximately 685 VMT in the Tahoe Basin. This impact is considered* ***less than significant.***

The effect of Alternative C on weekday vehicle-miles traveled (VMT) in the Tahoe Basin is dependent on the origin and destination of people traveling to and from the project site. The increase in VMT resulting from Alternative C was estimated based upon the trip types and average trip lengths identified in the TRPA TRANPLAN traffic model, and the number of new trips generated by this alternative. As discussed previously, the number of new daily vehicle trip ends generated by Alternative C is 194 (net increase after deducting the daily trips generated by the existing land uses). As shown in Table 5.6-16, new residential land uses would result in addition of 3,142 VMT. However, removing the existing mobile home park would result in a reduction of 2,457 VMT. Therefore, Alternative C would result in a net increase of 685 VMT. As discussed above, an increase of 2,000 VMT or more is considered to be a significant impact. Therefore, the impact of Alternative C on regional VMT does not exceed the threshold standard and this impact is considered **less than significant**.

Air Quality Fee

Pursuant to Chapter 93.3.C of the TRPA *Code of Ordinances*, an air quality mitigation fee of $325.84 is required per net new residential daily vehicle trip end generated by the project. As shown in Table 5.6-17, under Alternative C residential trips increase by 194. Based on this increase, air quality fees of $63,212.96 would be required to be paid to TRPA by the project applicant.

Table 5.6-16
Beach Club on Lake Tahoe – Calculation of VMT for Alternative C

Description	TRPA Trip Type	Average Trip		VMT
		DVTE [1]	Length (mi)	
Alternative C				
Remove Existing Mobile Homes	Average of All Resident Trips	(696)	3.53	(2,457)
Add Residences	Average of All Resident Trips	890	3.53	3,142
Alternative C Net Impact		**194**	-	**685**
Regionwide VMT [2]				**1,790,602**
Alternative C Percent Increase				**0.04**

[1] Reference Table 5.6-7.
[2] Based on TRPA 2001 Threshold Evaluation Draft (TRPA 2002); the 2006 Threshold Evaluation Draft (TRPA 2007) reports 1,580,000 as the regionwide VMT in 2004.
Source: LSC Transportation Consultants, Inc. 2006

Table 5.6-17
Beach Club on Lake Tahoe – Air Quality Impact Fee for Alternative C

Description	Daily Vehicle Trip Ends
	Residential [1]
Alternative C	
Remove Existing Mobile Homes	(696)
Add Residences	890
Total Alternative C	**194**
Air Quality Fee per DVTE	*$325.84*
Alternative C Total Fee	**$63,212.96**

[1] Reference Table 5.6-7.
Source: LSC Transportation Consultants, Inc. 2006

Mitigation Measures

No mitigation is required.

IMPACT 5.6.C-3 Parking Impact. *Alternative C would result in a parking surplus of 2 spaces at the multifamily complexes. This impact is considered* ***less than significant****.*

All parking for Alternative C would be provided on-site. Residential parking rates were identified as follows:

- Parking rates for vacation homes are based on the *Round Hill Timeshare Traffic, Air Quality and Parking Analysis*. As per this study, 25% of two-bedroom units would generate a requirement for two parking spaces and 75% would generate a requirement for one parking space. Based on this, total of 1.25 parking spaces would be required per two bedroom unit. Moreover, an increase in parking space of 0.5 spaces per each additional bedroom is assumed for a vacation home unit with more than two bedrooms. Therefore a three-bedroom unit is assumed to require 1.75 parking spaces and a four-bedroom unit is assumed to require 2.25 parking spaces.

  It may be noted that as per the ITE Parking Generation Manual (3rd Edition 2004) the average number of parking spaces required per residential condominium unit is 1.46. Therefore, as the average parking demand rate applied in this analysis is 1.77, the parking demand assumed in this analysis is comparatively conservative.

Parking Demand – Alternative C would require a total of 265 parking spaces.

Parking Supply – The overall parking supply for Alternative C would be 267 spaces.

Parking Deficit – As shown in Table 5.6-18, the total parking demand would exceed the parking supply, resulting in a surplus of 2 parking spaces in Alternative C. This impact is considered **less than significant**.

Table 5.6-18
Beach Club on Lake Tahoe – Parking Analysis for Alternative C

Description	Land Use	Dwelling Unit		Parking Spaces	
		Quantity	Effective Size	Spaces Required Per Unit [1]	Total
Alternative C					
Residential Uses					
Residential Parking Demand					
Residences (2-Bedroom) [2]	Multifamily Dwelling	45	45	1.25	56
Residences (3-Bedroom) [2]	Multifamily Dwelling	78	78	1.75	137
Residences (4-Bedroom) [2]	Multifamily Dwelling	32	32	2.25	72
Total Parking Demand					*265*
Residential Parking Supply					267
Residential Parking Surplus/Deficit					2

[1] Source: Douglas County Consolidated Development Code, Title 20 (Douglas County 1998)

[2] Parking rates of the whole ownership residences are based on the Round Hill Timeshares Traffic, Air Quality, and Parking Study (LSC Transportation Consultants, Inc. 1999).

Mitigation Measures

No mitigation is required.

IMPACT 5.6.C-4 Potential for Traffic Accidents. *This impact is the same as Alternative A described above in Impact 5.6.A-4 Alternative C would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard, and would have a* ***less-than-significant*** *impact on the potential for traffic accidents.*

As with Alternative A, access to the project site is proposed to be provided via one point on Kahle Drive and a two-way internal roadway would serve development under Alternative C. Alternative C also includes a Gatehouse at the proposed access point on Kahle Drive. To assess whether adequate space is provided for entering traffic to queue outside this gate without blocking other vehicle movements, an analysis was conducted using the methodology presented in the *Traffic Engineering Handbook* (Institute of Transportation Engineers 1999). The results are presented in Table 5.6-19. Assuming an electronic tag system would be installed at the gate which would open the gate (without the need for the driver to swipe a card or enter an access code to open the gate) an average delay of 10 seconds per entering car is estimated. It is assumed that about 10% of the cars entering during the PM peak hour would be visitors without an electronic tag. As they would require assistance to open the gate, it is estimated that delay per visitor vehicle would be approximately 20 seconds. Averaging the time, service time per vehicle is estimated to be 11 seconds. The 95th percentile queue length with an 11 second delay would be about one vehicle. Even though the gatehouse entry is located very close to Kahle Drive, one vehicle is not expected to cause any significant queuing impact.

As explained for Alternative A, the minimum intersection and stopping sight distance requirements based on a speed of 25 miles per hour at the Kahle Drive/Site Access intersection are 250 feet and 150 feet, respectively. The driver sight distance was evaluated at the proposed project driveway along Kahle Drive. The existing intersection and stopping sight distances at this location are more than adequate. No obstructions were identified in the field. The final landscaping plan for Alternative C would allow for at least 250 feet of intersection sight distance and 150 feet of stopping sight distance.

Conclusion

As discussed above, the total accident rates at the intersections and the roadway segments within the vicinity of the project are lower than the countywide and statewide average. Furthermore, Alternative C would not result in any intersections with inadequate driver sight distance or other characteristics that would create a potential safety hazard, and would have a **less-than-significant** impact on the potential for traffic accidents.

Mitigation Measures

No mitigation is required.

IMPACT 5.6.C-5 Pedestrian and Bicycle Access and Circulation. *This impact is similar to Impact 5.6.A-5 described above for Alternative A. Kahle Drive is currently not served by a sidewalk although adequate crossing of U.S. 50 is provided by the U.S. 50/Kahle Drive traffic signal. Alternative C would not conflict with any existing or planned pedestrian or bicycle facilities. Alternative C would generate a moderate level of pedestrian and bicycle activity, similar to existing conditions, but would not conflict with pedestrian and bicycle circulation and would result in a* ***less-than-significant*** *impact.*

Mitigation Measures

No mitigation is required.

IMPACT 5.6.C-6 Construction Traffic. *This impact is similar to Impact 5.6.A-6 described above for Alternative A. Alternative C would result in temporary construction traffic generated by the removal of the trailers, grading, construction employee traffic, deliveries, and movement of construction equipment. Alternative C would be constructed over a total of up to four construction seasons, which would tend to reduce the traffic impacts in any one period. Construction traffic would access the project site via Kahle Drive and U.S. 50, and onsite construction staging areas would be established to minimize heavy equipment trips on surrounding roadways. This impact would be* ***less than significant****.*

Table 5.6-19
Beach Club at Lake Tahoe – Queuing Analysis for Single Queue Lane for Alternative C during PM Peak Hour

Input

Vehicles per Hour	56 vph
Average Time Required to Service Each Vehicle	11 seconds
Number of Service Lanes	1
Average Vehicle Length	25 feet

Output

Arrival Rate	0.9333 vehicles per minute per lane
Service Rate per Lane	5.4545 vehicles per minute per lane
Total Service Rate	5.4545 vehicles per minute
Utilization Factor = A/S	0.1711 (see note 1)
Average Number of Vehicles in Queue (not being served)	0.0353 vehicles
Average Number of Vehicles in System (queue + being served)	0.2064 vehicles
Variance in the Number of Vehicles in System	0.249
Average Waiting Time	0.0378 minutes (or 2 seconds)
Average Time in System	0.2212 minutes (or 13 seconds)

Analysis of Probability of Queue Length

Number of Vehicles	Queue Length	P(n)	Probability that Number of Vehicles is Less Than N
0	0	0.82889	0.82889
1	25	0.14183	0.97072
2	50	0.02427	0.99499
3	75	0.00415	0.99914
4	100	0.00071	0.99985
5	125	0.00012	0.99997
6	150	0.00002	1.00000

Note 1: If U > 1, queue length expands indefinitely.
Source: *Transportation and Traffic Engineering Handbook*. For gates with independent queue lanes.

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT ALTERNATIVE, JERE WILLIAMS PLAN

Alternative D, the No Project–Jere Williams Plan (JWP) Alternative, would result in the existing mobile home park remaining with 155 mobile home pads and minor improvements/repair of the aging facilities and infrastructure, as required. Because the total number of mobile home units, site access, pedestrian and transit

facilities, and parking would remain the same, this alternative would result in no transportation or circulation impacts.

ALTERNATIVE E – NO PROJECT ALTERNATIVE – MANUFACTURED HOUSING

Alternative E, the No Project–Manufactured Housing Alternative, would maintain the Tahoe Shores Mobile Home Park but with upgraded facilities. The park would be cleared, improvements would be made and 155 manufactured homes would be reestablished on the project site. Because the total number of housing units, site access, pedestrian and transit facilities, and parking would remain the same, this alternative would result in no transportation or circulation impacts.

5.7 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 Beach Club Alternatives A through E. Mitigation measures are recommended, as necessary, to reduce potentially significant adverse air quality impacts.

5.7.1 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), the Tahoe Regional Planning Agency (TRPA), and the State of 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, the EPA has been charged with implementing national air quality programs. The 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 the EPA to establish national ambient air quality standards (NAAQS). As shown in Table 5.7-1, the 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 nonattainment 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. The EPA has responsibility to review all state SIPs to determine conformation to the mandates of the CAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the 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 being applied to transportation funding and stationary air pollution sources pollution sources in the air basin.

The EPA has programs for identifying and regulating hazardous air pollutants (HAPs). Title III of the CAAA directed the 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), the EPA developed technology-based emission standards designed to produce the maximum emission 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), the EPA is 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 the 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 nonattainment 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 5.7-1, the Nevada Administrative Code (NAC) 445B.22097 establishes the Nevada State ambient air quality standards (NSAAQS).

TAHOE REGIONAL PLANNING AGENCY

At the regional level, the TRPA has adopted the following standards.

Environmental Threshold Carrying Capacities

TRPA has adopted Environmental Threshold Carrying Capacities (ETCC) in compliance with the requirements of the TRPA Compact to maintain the natural value of the LTAB and public safety in the region. The current ETCC thresholds are as follows:

Carbon Monoxide

- Numerical Standard: Maintain carbon monoxide concentrations at or below 6.0 parts per million (ppm) averaged over 8 hours.
- Management Standard: Reduce traffic volume on the U.S. Highway 50 (U.S. 50) corridor by 7% during the winter from the 1981 base year, between 4:00 p.m. and 12:00 midnight.

Table 5.7-1
Ambient Air Quality Standards

Pollutant	Averaging Time	TRPA	Nevada[2, 5]	National[1]	
				Primary [2,3]	Secondary [2,4]
Ozone	1-hour	0.08 ppm	0.10 ppm[6] (195 µg/m^3)	-[7]	Same as Primary Standard
	8-hour	–	–	0.08 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[8] (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
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	0.030 ppm (80 µg/m^3)	0.030 ppm (80 µg/m^3)	–
	24-hour	–	0.14 ppm (365 µg/m^3)	0.14 ppm (365 µg/m^3)	–
	3-hour	–	0.5 ppm (1300 µg/m^3)	–	0.5 ppm (1300 µg/m^3)
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	–	50 µg/m^3	-[10]	Same as Primary Standard
	24-hour		150 µg/m^3	150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	–	–	15 µg/m^3	Same as Primary Standard
	24-hour	–	–	65 µg/m^3	
Lead	Calendar Quarter	–	1.5 µg/m^3	1.5 µg/m^3	Same as Primary Standard

Table 5.7-1
Ambient Air Quality Standards

Pollutant	Averaging Time	TRPA	Nevada[2, 5]	National[1]	
				Primary [2,3]	Secondary [2,4]
Hydrogen Sulfide	1-hour	–	0.08 ppm[9] (112 µg/m^3)	No National Standards	
Visibility-Reducing Particle Matter	8-hour	Regional: 25 Mm-1 (157 km, 97 miles) 50% of the year, 34 Mm-1 (115 km, 71 miles) 90% of the year. Subregional: 50 Mm-1 (31 km, 19 miles) 90% of the year, 125 Mm-1 (31 km, 19 miles) 50% of the year.	–		

[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% 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% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

[2] Concentration expressed first in units in which it was issued. 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] The Director shall use the Nevada standards in considering whether to issue a permit for a stationary source and shall ensure that the stationary source will not cause the Nevada standards to be exceeded in areas where the general public has access.

[6] For the LTAB.

[7] The 1-hour ozone NAAQS was revoked on June 15, 2005.

[8] At or greater than 5,000' above mean sea level.

[9] The ambient air quality standard for hydrogen sulfide does not include naturally occurring background concentrations.

[10] Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the EPA revoked the annual PM_{10} standard on September 21, 2006.

Sources : TRPA 2002; EPA 2006c ; NAC 2006

Ozone

- Numerical Standard: Maintain ozone concentration below 0.08 ppm averaged over 1 hour.

Regional Visibility

- Numerical Standard: Achieve 156 kilometers (97 miles) at least 50% of the year as measured by aerosol concentrations measured at Bliss State Park monitoring site.
- Numerical Standard: Achieve 115 kilometers (71 miles) at least 90% of the year as measured by aerosol concentrations measured at Bliss State Park monitoring site.
- Management Standard: Reduce wood smoke emissions by 15% of the 1981 base values through technology, management practices, and educational programs.

Subregional Visibility

- Numerical Standard: Achieve 78 kilometers (48 miles) at least 50% of the year as measured by particulate concentrations measured at the South Lake Tahoe monitoring site.
- Numerical Standard: Achieve 31 kilometers (19 miles) at least 90% of the year as measured by particulate concentrations measured at the South Lake Tahoe monitoring site.
- Management Standard: Reduce suspended soil particles by 30% of the 1981 base values through technology, management practices, and educational programs.
- Management Standard: Reduce wood smoke emissions by 15% of the 1981 base values through technology, management practices, and educational programs.
- Management Standard: Reduce vehicle miles of travel by 10% of the 1981 base values.

Atmospheric Deposition

- Water Quality (WQ) Numerical Standard: Reduce dissolved inorganic nitrogen loading to Lake Tahoe from all sources by 25% of the 1973–1981 annual average.
- Management Standard: Reduce dissolved inorganic nitrogen loads from surface runoff by approximately 50%, from groundwater approximately 30%, and from atmospheric sources approximately 20% 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.
- Management Standard: Reduce the transport of nitrates into the LTAB and reduce oxides of nitrogen produced in the LTAB consistent with water quality thresholds.
- Management Standard: Reduce vehicles miles of travel in the Lake Tahoe Basin by 10% of the 1981 base year values.

TRPA has also adopted the Regional Transportation Plan-Air Quality Plan for the Lake Tahoe Region to attain and maintain the Environmental Threshold Carrying Capacities. A review of the Environmental Threshold Carrying Capacities thresholds was performed in 2001, and the 2001 Threshold Evaluation Report was published in 2002 (TRPA 2002). A subsequent Draft 2006 Threshold Evaluation Report was released for public comment in April 2006. At the time of publication of this document, this Draft 2006 Threshold Evaluation Report has not been adopted by TRPA.

Code of Ordinances

TRPA adopted Chapter 91 (Air Quality Control) and Chapter 93 (Traffic and Air Quality Mitigation Program) of the TRPA Code of Ordinances. The applicable provisions of these chapters are described below.

Chapter 91 Air Quality Control

The provisions of Chapter 91 apply to direct sources of air pollutions in the Tahoe Region, including certain motor vehicles registered in the region, combustion heaters installed in the region, open burning, stationary sources of air pollution, and idling combustion engines.

Section 91.2, 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 the application of state inspection/maintenance programs to the Tahoe Region.

Section 91.3, Combustion Appliances, establishes emission standards for wood heaters, as well as natural gas or propane-fired water heaters and central furnaces.

Section 91.5.B 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 5.7-2 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 5.7-2
TRPA Peak 24-hour Period Significance Thresholds

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

Source: TRPA Code of Ordinances as amended August 26, 1999

Chapter 93 Traffic and Air Quality Mitigation Program

The purpose of Chapter 93 is to establish fees and other procedures to offset impacts from indirect sources of air pollution. As part of the project application for 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 shall be prepared (Section 93.3.B). To offset regional and cumulative impacts, additional development shall contribute to the Air Quality Mitigation Fund. Instead of a contribution, additional development may provide mitigation measures, the cost of which shall be equal to, or greater than, the required contribution to the Air Quality Mitigation Fund (Section 93.3.C). For new residential units, the required contribution would be at least $325.84 per daily vehicle trip (Section 93.3.D).

LOCAL

At the local level, Douglas County has identified the following applicable policies to maintain or improve existing air quality (Douglas County 2007):

- Pursue cost effective air quality management strategies that contribute to improved local and regional air quality.
- Work with NDEP for the establishment of a cost-effective program to measure and monitor air quality in the Carson Valley and other "airsheds," in order to establish base data for future projections.
- Establish standards for roadway surfacing and maintenance which reduce dust generation.
- 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.

Promote reduced wood burning by encouraging use of solar and geothermal resources and the use of other energy-efficient strategies.

CRITERIA AIR POLLUTANTS

As discussed above, air quality regulations focus on the following criteria air pollutants: ozone, CO, NO_2, SO_2, $PM_{10,}$ $PM_{2.5}$, and lead. In addition, concentrations of these criteria air pollutants are used as indicators of ambient air quality conditions. A brief description of each criteria air pollutant including source types, formation processes, and health effects is provided below.

Ozone

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and NO_X in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels.

Ozone in the upper atmosphere (stratosphere) is beneficial as it shield the earth from harmful ultraviolet radiation that is emitted by the sun. However, ozone in the lower atmosphere (troposphere) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for ozone formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often affects large areas. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 1991).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 parts per million (ppm) for 1 to 2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence also exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an

increase in responsiveness of the respiratory system to challenges, and the interference or inhibition of the immune system's ability to defend against infection (Godish 1991).

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. Approximately 77% of the nationwide CO emissions are from mobile sources, and 23% consists of CO emissions from wood-burning stoves, incinerators, and industrial sources.

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2006a).

The highest concentrations are generally associated with cold, stagnant weather conditions that occur during the winter. In contrast to ozone, which tends to be a regional pollutant, CO problems tend to be localized. Stateline, Nevada is a known historical CO hotspot (TRPA 2004).

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2 (EPA 2006a). The combined emissions of NO and NO_2 are referred to as NO_X, which are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local NO_X emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO_2 intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung functions.

Sulfur Dioxide

Sulfur dioxide (SO_2) is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO_2 exposure pertain to the upper respiratory tract. SO_2 is a respiratory irritant with constriction of the bronchioles occurring with inhalation of SO_2 at 5 ppm or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO_2 concentrations may result in edema of the lungs or glottis and respiratory paralysis.

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the

atmosphere by condensation and/or transformation of SO_2 and ROG (EPA 2006a). $PM_{2.5}$ includes a subgroup of finer particles with an aerodynamic diameter of 2.5 micrometers or less (EPA 2006a).

The adverse health effects associated with PM_{10} depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons (PAH), and other toxic substances adsorbed onto fine particulate matter, which is referred to as the piggybacking effect, or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with PM_{10} may result from both short-term and long-term exposure to elevated concentrations and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2006a). $PM_{2.5}$ poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, as discussed in detail below, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995 (EPA 2006a).

As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector have declined dramatically (95% between 1980 and 1999), and levels of lead in the air decreased by 94% between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13% of lead emissions. A recent National Health and Nutrition Examination Survey reported a 78% decrease in the levels of lead in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (as well as the removal of lead from soldered cans) (EPA 2006a). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hotspot" problems in some areas.

5.7.2 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 pollutant emissions are determined by the amount 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 6,260 feet above sea level. 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 39ºF (4ºC). 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. Recent studies have even shown spring and fall contributions to local pollution levels from Asia (Cahill and VanCuren 2004). 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 are recorded at the Stateline-Harrah's, Nevada Station for the Tahoe Beach Club project site. The annual normal precipitation is approximately 13 inches, which primarily occurs from November through March in the form of snowfall. January temperatures range from a normal minimum of 23ºF to a normal maximum of 42ºF. August temperatures range from a normal minimum of 48ºF to a normal maximum of 78ºF (WRCC 2006a). The annual predominant wind direction and mean speed is from the south at 7 mph (WRCC 2006b, 2006c).

MONITORING STATION DATA AND ATTAINMENT AREA DESIGNATIONS

Criteria air pollutant concentrations are measured at several monitoring stations in the LTAB. The South Lake Tahoe–Sandy Way and South Lake Tahoe–Airport Road stations are the closest monitoring stations to the project site with recent data for ozone, CO, NO_2, $PM_{10,}$ and $PM_{2.5}$. In general, the ambient air quality measurements from these monitoring stations are representative of the air quality in the vicinity of the project site. Table 5.7-3 summarizes the air quality data from these stations for the years 2003 through 2005. The national standards for ozone, CO, and NO_2 were not exceeded from 2003 to 2005. Although the national CO standards were not exceeded during this time at this monitoring station, Stateline, Nevada is a historical CO hotspot (TRPA 2004).

EPA 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 initiate planning efforts for improvement. The three basic designation categories are nonattainment, 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 and TRPA attainment designations for the Douglas County portion of the LTAB are shown in Table 5.7-4 for each criteria air pollutant.

Table 5.7-4 also contains the draft TRPA attainment designations from the recently released Draft 2006 Threshold Evaluation (TRPA 2007).

Table 5.7-3
Summary of Annual Air Quality Data (2003-2005)[1]

South Lake Tahoe-Sandy Way and Airport Road Air Quality Monitoring Stations

	2003	2004	2005
OZONE			
Maximum concentration (1-hr/8-hr, ppm)	0.075 / 0.066	0.066 / 0.058	0.073 / 0.067[2]
Number of days national standard exceeded (1-hr/8-hr)	0 / 0	0 / 0	0 / 0[2]
CARBON MONOXIDE (CO)			
Maximum concentration (1-hr/8-hr, ppm)	2.4 / 1.51	2.2 / 1.18	-
Number of days national standard exceeded (1-hr/8-hr)	0 / 0	0 / 0	-
NITROGEN DIOXIDE ($N0_2$)			
Maximum concentration (1-hr, ppm)	0.052	0.055	-
Annual Average (ppm)	0.010	-	-
RESPIRABLE PARTICULATE MATTER (PM_{10})			
Maximum Concentration ($\mu g/m^3$)	61.0	47.0	38.0
Number of days national standard exceeded (measured/ calculated)[3]	0 / 0.0	0 / -	0 / -
FINE PARTICULATE ($PM_{2.5}$)			
Maximum Concentration ($\mu g/m^3$)	21.0	20.0	-
Number of days national standard exceeded (measured[3])	0	0	-

[1] Where, μg/m3 = micrograms per cubic meter and ppm = parts per million.

[2] Data from South Lake Tahoe - 1901 Airport Road Station reported for 2005 1- and 8-hour ozone concentrations only.

[3] Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. 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.

Sources: EPA 2006a

ATMOSPHERIC DEPOSITION

Lake Tahoe's clarity has been decreasing by approximately 1 foot per year for over 30 years (see Section 5.5, Hydrology and Water Quality, for more information). Clarity loss has historically been attributed to increased inputs of the nutrients nitrogen and phosphorous. These nutrients cause an increase in the growth of algae, which results in reduced clarity. Recent data indicate that particles in the water also substantially impair lake clarity, and possibly even more than algal growth (NLT Research Symposium 2004). Data from the late 1970s and early 1980s indicate 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 and TRPA adopted a threshold indicator for nitrogen deposition to the lake. 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 phosphorous deposition, it is expected that as the indicator update process progresses, an indicator will be included for this nutrient. As discussed above, particle deposition to the lake is also important to clarity. However, it is not yet known if the current federal and state standards for PM are stringent enough to also address the role of PM in lake clarity loss. This is also being evaluated in the indicator update process.

Table 5.7-4
Attainment Status Designations[1]

Pollutant	National Designation[4]	TRPA Designation	
		Adopted (2001)	Draft (2006)
Ozone - 1-hour	No applicable standard[2]	Nonattainment	Nonattainment
Ozone - 8-hour	Attainment/Unclassified	-	
PM_{10}	Attainment/Unclassified	Attainment	Nonattainment
$PM_{2.5}$	Attainment/Unclassified	-	-
Carbon Monoxide	Attainment/Unclassified	Attainment	Nonattainment
Nitrogen Dioxide	Attainment/Unclassified	-	
Sulfur Dioxide	Attainment/Unclassified	-	-
Lead (Particulate)	Attainment/Unclassified	-	-
Hydrogen Sulfide	-	-	-
Sulfates	-	-	
Visibility Reducing Particulates	-	Region: Nonattainment Subregion: Attainment	Region: Attainment Subregion: Attainment
Traffic Volume	-	Unknown/Attainment[3]	Attainment
Wood Smoke	-	Unknown (Likely Nonattainment)[3]	Unknown
Vehicle Miles of Travel	-	Nonattainment	Nonattainment
Atmospheric Deposition - TRPA Interim Target	-	Attainment	-
Atmospheric Deposition - TRPA Standard	-	Unknown[3]	Unknown

[1] For the Douglas County portion of the LTAB.

[2] The 1-hour ozone NAAQS was revoked on June 15, 2005.

[3] The status of these standards is unknown because the technology necessary to determine base year values does not exist, and the original standards and indicators were not well defined.

[4] Nonattainment: any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Attainment: any area that meets the national primary or secondary ambient air quality standard for the pollutant.

Unclassifiable: any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

Maintenance: any area that has been redesignated from nonattainment to attainment due to successful completion of each of the conditions numbered below.

a. Section 107(d)(3)(E) of the 1990 CAAA states that the following criteria must be met in order for an area to be redesignated from nonattainment to attainment:
b. The EPA has determined that the national ambient air quality standard (NAAQS) has been attained. This standard is 0.12 ppm for ozone.
c. The applicable State Implementation Plan (SIP) has been fully approved by the EPA under section 110(k).
d. The EPA has determined that the improvement in air quality is due to permanent and enforceable reductions in emissions.
e. The State has met all applicable requirements for the area under section 110 and part D.
f. The EPA has fully approved a maintenance plan, including a contingency plan, for the area under section 175A.2.

Sources: EPA 2006a, TRPA 2002, TRPA 2007

5.7.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

CRITERIA OF SIGNIFICANCE

For the purpose of this analysis, the following thresholds of significance, 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 5.7-1),
- result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is nonattainment under any applicable national or state ambient air quality standards (including releasing emissions that exceed quantitative thresholds for ozone precursors),
- expose sensitive receptors to substantial pollutant concentrations (including HAPs),
- create objectionable odors affecting a substantial number or people,
- cause construction-generated or long-term operational (regional) emissions of ROG, NO_X, or PM_{10} to exceed mass emissions of 82 lb/day [Note: Although mass emissions thresholds have not been adopted by the state of Nevada, Nevada BAPC and BAQP, or Douglas County, a threshold of 82 lb/day (used by other Tahoe Basin jurisdictions) is appropriate to determine whether project implementation would exceed TRPA's numerical thresholds and/or affect related- attainment designations (e.g., atmospheric deposition)].
- 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 construction-generated emissions to exceed NAC 445B.7665 (Heavy-duty Equipment Opacity), NAC 445B.22017 (Visible Emissions), or NAC 445B.22037 (PM Emissions-Fugitive Dust) standards, or
- cause project-generated stationary-source emissions to exceed TRPA's peak 24-hour period significance thresholds established by Chapter 91 of the Code of Ordinances (Table 5.7-2).

In addition, the required contribution to the Air Quality Mitigation Fund for new residential units, pursuant to TRPA Code of Ordinances (Section 93.3.D), is discussed in the traffic analysis of this report (Section 5.6, "Transportation and Parking") 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.

Although the existing Tahoe Shores Mobile Home Park generates approximately 696 daily vehicle trip, the long-term operational (both local and regional) air quality impacts are determined based on the total daily vehicle trips generated by the proposed project alternatives rather than the net increase (new vehicle trips less existing vehicle trips). This approach has been taken because the existing mobile homes would be relocated, and their new location is unknown at this time; therefore, it is unknown where the associated vehicle trips would occur (within or outside of the Basin). This is a conservative approach to ensure disclosure and mitigation of all potential air quality impacts.

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.7.A-1 **Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.** *Unmitigated, NO_X emissions would exceed the significance threshold of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions under Alternative A 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 nonattainment status of the LTAB with respect to the TRPA standards. This would be a* ***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 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, or PM_{10} for Alternative A were modeled using the TRPA-approved URBEMIS 2002 Version 8.7 computer program and EMFAC 2002 emission factors as recommended by the TRPA. 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 5.7-5, described in more detail below, and provided in Appendix D. (Note: the construction emissions estimates shown in Table 5.7-5 show construction starting in 2007. While project delays have made construction during 2007 infeasible, the emissions estimates are unchanged. Because equipment and fuel used in construction equipment continue to get cleaner as time passes, use of 2007 emission factors yields a conservative estimate of construction emissions.)

Based on the modeling conducted, project construction would result in worst-case maximum unmitigated daily emissions of approximately 14.2 lb)/day of ROG, 101.6 lb/day of NO_X, and 49.0 lb/day of PM_{10} (Table 5.7-5). Daily unmitigated construction-generated emissions would exceed the significance threshold of 82 lb/day for NO_X. 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 nonattainment status of the LTAB with respect to the TRPA standards (e.g., 1-hour ozone and visibility-reducing particulate standards). This would be a **significant impact**.

Mitigation Measure 5.7.A-1. Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.

In accordance with the TRPA Code of Ordinances, the applicant shall implement the following mitigation measures during construction of the proposed project. 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 of Ordinances Chapter 25 (Best Management Practices), Chapter 64 (Grading Standards), and Chapter 91 (Air Quality Control).

- Activities disturbing the soil 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.

Table 5.7-5
Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative A [1]

Source	lb/day		
	ROG	NO_X	PM_{10}
Initial Site Preparation (Demolition & Grading) Phase[1]			
Demolition (Summer 2007)			
Fugitive Dust	-	-	1.7
Off-Road Diesel	12.7	85.7	3.5
On-Road Diesel	1.3	15.7	0.4
Worker Commute	0.2	0.2	-
Maximum Daily Total, Unmitigated	**14.2**	**101.6**	5.6
Site Grading (Fall 2007-Spring 2008)			
Fugitive Dust	-	-	47.0
Off-Road Diesel	7.8	51.1	2.0
On-Road Diesel	-	-	-
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	7.8	51.1	**49.0**
Building Construction Phase (Summer 2008-Fall 2011)[2]			
Building Subphase[2]			
Off-Road Diesel	9.6	62.8	2.4
Worker Commute	0.3	0.2	-
Maximum Daily Total, Unmitigated	9.9	63.0	2.4
Asphalt Paving Subphase[2]			
Off-Gassing	0.2	-	-
Off-Road Diesel	2.0	11.6	0.3
On-Road Diesel	-	0.2	-
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	2.2	11.8	0.3
Architectural Coating Subphase[2]			
Off-Gassing	4.9	-	-
Worker Commute	0.3	0.1	-
Maximum Daily Total, Unmitigated	5.2	0.1	-

[1] Modeled emissions from demolition were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings, EMFAC 2002 emission factors, and information in the Project Description,: duration of 2.6 months starting summer 2007, total demolition volume of 150,000 cubic feet (4,000 cubic feet/day), on-road truck travel of 222 miles to remove material, and use of 2 off-highway trucks, 2 tractors/loaders/backhoes, and 2 other pieces 8 hours per day. Modeled emissions from site grading were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings or information in the Project Description: duration of 5.2 months, use of 0.5 excavator, 0.5 grader, 1 off-highway truck, 0.5 tractor/loader/backhoe, and 1 other piece, total area of 19.63 acres, and a maximum daily disturbed area of 4.9 acres. Fractional equipment input is allowed by the model and more accurately reflects resultant emissions. The on-site construction equipment was determined based on the project description, and the maximum daily area actively disturbed on the project site. Hours of equipment operation per day assumes compliance with TRPA Code Section 62.4.A and TRPA's exemption for construction noise between 8:00 AM and 6:30 PM, as discussed in Section 5.8, Noise. Construction activities that involve soil disturbance must occur between May 1 and October 15 to comply with TRPA Code Section 62.4.A unless special approval has been granted by TRPA.

[2] Modeled emissions from building construction were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings and information in the Project Description: duration of 44.2 months starting summer 2008, use of 0.5 crane, 1 off-highway truck, 0.5 rough terrain forklift, 0.5 rubber tired dozer, 0.5 rubber tired loader, and 1 other piece (0.5 grader, 0.5 paver, and 0.5 roller for asphalt subphase) 8 hours per day. An emission factor of 0.0013 pounds per square foot was used for architectural coatings emissions to reflect the expected use of low VOC content architectural coatings in anticipation of the project's objective to achieve Leadership in Energy and Environmental Design (LEED®) Silver Certification. Asphalt emissions are based on default emission factors and time duration of URBEMIS2002 to pave a total of 3.0 acres of area.

See Appendix D for detailed input parameters and modeling results.

Sources: Modeling performed by EDAW 2006.

- 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. Recommended dust control measures 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% 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.

- The applicant shall minimize idling time to 5 minutes for all heavy-duty equipment when not engaged in work activities.

- 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.

Per URBEMIS, implementation of Mitigation Measure 5.7.A-1 would reduce fugitive PM_{10} dust emissions a minimum of 50% and prevent dispersion, thereof, beyond the property boundary. Also based on the URBEMIS modeling, implementation of Mitigation Measure 5.7.A-1 would also reduce diesel equipment exhaust emissions of ROG, NO_X, or PM_{10} a minimum of 5%, 20%, and 45%, respectively. Therefore, project construction would result in worst-case mitigated daily emissions of approximately 13.5 lb/day of ROG, 81.3 lb/day of NO_X, and 24.5

lb/day of PM_{10}. With implementation of Mitigation Measure 5.7.A-1, Impact 5.7.A-1 would be **less than significant.**

IMPACT 5.7.A-2 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 for NO_X, implementation of Alternative A 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 stationary-, area- and mobile-source emissions of ROG, NO_X, or PM_{10}, CO, and SO_X associated with implementation of the proposed project were estimated using URBEMIS 2002 Version 8.7.0 computer program, 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 projects stationary- and area-source emissions from estimated use of natural gas, wood stoves, 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 5.6, "Transportation and Parking" (e.g., 303 daily vehicle trip ends and 1,001 VMT for the proposed uses only), and default model setting for 2010 conditions. The residential units would be equipped with natural gas fireplaces and the beach club would have a single large wood-burning fireplace. Project-related stationary sources (e.g., natural gas fired water heaters and central furnaces) would comply with Section 91.3 of the TRPA Code of Ordinances. Project implementation would not include the construction or operation of any major stationary sources of emissions.

The modeled maximum daily operational emissions under Alternative A are summarized in Table 5.7-6, described in more detail below, and provided in Appendix D.

Based on the modeling conducted, project operations would result in worst-case maximum unmitigated daily emissions of approximately 24.8 lb/day of ROG, 16.2 lb/day of NO_X, 11.4 lb/day of PM_{10}, 128.1 lb/day of CO, and 0.1 lb/day of SO_X, which would not exceed any of the applicable thresholds as shown in Table 5.7-6. In addition, because the significance thresholds approximately correlate with reductions from heavy-duty vehicles and land use project emission reduction requirements in the SIP, 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 threshold, Alternative A would not affect TRPA's attainment designation for atmospheric deposition. Thus, long-term operational emissions under Alternative A 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 5.6, "Transportation and Parking," discusses the contribution to the Air Quality Mitigation Fund, as required by Chapter 93.3.D of the TRPA Code of Ordinances. 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.

Mitigation Measures

No mitigation is required.

Table 5.7-6
Summary of Modeled Long-Term Operational (Regional) Emissions under Alternative A

Source-Type	lb/day				
	ROG	NO_X	PM_{10}	CO	SO_X
SUMMER					
Stationary Source[1]	0.1	1.3	-	0.6	-
Area Source[2]	7.5	-	-	2.5	-
Mobile Source[3]	4.9	6.1	5.3	50.0	-
Total	12.5	7.4	5.3	53.1	-
WINTER					
Stationary Source[1]	7.4	2.1	1.2	9.0	-
Area Source[2]	7.2	-	-	-	-
Mobile Source[3]	5.3	7.2	5.3	61.8	-
Total	19.9	9.3	6.5	70.8	-
THRESHOLDS					
Mass Emissions[4]	82.0	82.0	82.0	—	—
TRPA (stationary sources only)[5]	125.7	24.2	22.0	220.5	13.2

[1] Includes natural gas usage (e.g., from water heaters and central furnaces) and fireplaces.

[2] Area-source emissions include emissions from landscaping, application of architectural coatings, and consumer products, and are estimated based on default model settings, except an emission factor of 0.0013 pounds per square foot was used to reflect the project's use of low VOC content architectural coatings.

[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 2010.

[4] Mass Emission Threshold applies to the sum of stationary, area, and mobile sources for NO_X only.

[5] TRPA Thresholds apply to the stationary-source emissions only.

Source: Modeling conducted by EDAW 2007

IMPACT 5.7.A-3 **Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions.** *Long-term operational (local) mobile-source CO emissions under Alternative A 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 (Section 5.6 of this EIS), no signalized intersections that would be affected by the project site currently operate at LOS E or F, and no signalized intersections would operate at LOS E or F as a result of project-generated traffic (Table 5.6-4). Long-term operational (local) mobile-source CO emissions under Alternative A 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 Measures

No mitigation is required.

IMPACT 5.7.A-4 **Odor Emissions.** *Neither construction nor operation of the proposed project would create objectionable odors affecting a substantial number of people. This impact would be considered* ***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 the project type is not one of the common types of facilities that are known to produce odors (e.g., landfill, wastewater treatment plant). The nearest potential source of odor would be the Douglas County Sewer Improvement District's 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 does 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. This would also be the case for any residents who may occupy on-site units before construction of other buildings is complete. Also, because all of the initial site preparation would occur before any structures are built and occupied; no residents would be present during most of the heavy-duty equipment operation. Thus, neither project construction nor operation of Alternative A would create objectionable odors affecting a substantial number of people. This impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

IMPACT 5.7.A-5 **Hazardous Air Pollutant Emissions.** *Neither construction nor operation of Alternative A 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 on-site heavy duty equipment. Construction of Alternative A 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. According to the ARB (2003), the potential cancer risk from the inhalation of diesel PM, as discussed below, outweighs the potential non-cancer health impacts.

It is important to note that construction equipment emissions will be reduced over the period of project development. In January 2001, the EPA promulgated a Final Rule to reduce emission standards for 2007 and subsequent model year heavy-duty diesel engines. These emission standards represent a 90% reduction in NO_X, 72% reduction of non-methane hydrocarbon (NMHC) emissions, and 90% reduction of PM emissions in comparison to the 2004 model year emission standards.

More specifically, the dose 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. Dose

is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), 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 (Salinas, pers. comm., 2004). Because the use of off-road construction equipment would be temporary in combination with the highly dispersive properties of diesel PM (Zhu and Hinds 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). 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 Chapter 91 (Air Quality Control) Sections 91.5.C (Offsets Permitted) and 91.5.D (Best Available Control Technology). 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 A would result in the exposure of sensitive receptors to substantial TAC emissions. This impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

ALTERNATIVE B – TWO-LOT ALTERNATIVE SINGLE-FAMILY ESTATES

IMPACT 5.7.B-1 Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. *Unmitigated, daily NO_X emissions would exceed the significance threshold of 82 lb/day, construction-generated criteria air pollutant and precursor emissions under Alternative B 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 nonattainment status of the LTAB with respect to the TRPA standards. This would be a significant impact.*

Because Alternative B includes two single-family estates with amenities rather than higher density multifamily residential uses, short-term construction-generated emissions of ROG, NO_X, and PM_{10} would be substantially less than those of Alternative A for the building phase. Unmitigated maximum daily emissions from demolition and/or removal of existing structures with the Tahoe Shores Mobile Home Park, and site grading and underground utility work would be almost identical to those under Alternative A. The modeled maximum daily construction emissions are summarized in Table 5.7-7 and described in more detail below and in Appendix D.

Based on the modeling conducted, construction of Alternative B would result in worst-case unmitigated daily emissions of approximately 14.2 lb/day of ROG, 101.6 lb/day of NO_X, and 49.0 lb/day of PM_{10}. Daily unmitigated construction-generated emissions would exceed the significance threshold of 82 lb/day for NO_X. Construction-generated emissions under Alternative B, 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 nonattainment status of the LTAB with respect to the TRPA standards (e.g., 1-hour ozone and visibility-reducing particulate standards). This would be a **significant impact.**

Table 5.7-7
Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative B [1]

Source	lb/day		
	ROG	NO_X	PM_{10}
Initial Site Preparation (Demolition & Grading) Phase[1]			
Demolition (Summer 2007)			
Fugitive Dust	-	-	1.7
Off-Road Diesel	12.7	85.7	3.5
On-Road Diesel	1.3	15.7	0.4
Worker Commute	0.2	0.2	-
Maximum Daily Total, Unmitigated	**14.2**	**101.6**	5.6
Site Grading (Fall 2007-Spring 2008)			
Fugitive Dust	-	-	47.0
Off-Road Diesel	7.8	51.1	2.0
On-Road Diesel	-	-	-
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	7.8	51.1	**49.0**
Building Construction Phase (Summer 2008-Fall 2011)[2]			
Building Subphase[2]			
Off-Road Diesel	5.7	37.9	1.4
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	5.7	37.9	1.4
Asphalt Paving Subphase[2]			
Off-Gassing	-	-	-
Off-Road Diesel	2.0	11.6	0.3
On-Road Diesel	-	-	-
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	2.0	11.6	0.3
Architectural Coating Subphase[2]			
Off-Gassing	0.1	-	-
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	0.1	-	-

[1] Modeled emissions from demolition were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings, EMFAC 2002 emission factors, and information in the Project Description,: duration of 2.6 months starting summer 2007, total demolition volume of 150,000 cubic feet (4,000 cubic feet/day), on-road truck travel of 222 miles to remove material, and use of 2 off-highway trucks, 2 tractors/loaders/backhoes, and 2 other pieces 8 hours per day. Modeled emissions from site grading were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings or information in the Project Description: duration of 5.2 months, use of 0.5 excavator, 0.5 grader, 1 off-highway truck, 0.5 tractor/loader/backhoe, and 1 other piece, total area of 19.63, and a maximum daily disturbed area of 4.9 acres. Fractional equipment input is allowed by the model and more accurately reflects resultant emissions. The on-site construction equipment was determined based on the project description, and the maximum daily area actively disturbed on the project site. Hours of equipment operation per day assumes compliance with TRPA Code Section 62.4.A and TRPA's exemption for construction noise between 8:00 AM and 6:30 PM, as discussed in Section 5.8, Noise. Construction activities that involve soil disturbance must occur between May 1 and October 15 to comply with TRPA Code Section 62.4.A unless special approval has been granted by TRPA.

[2] Modeled emissions from building construction were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings and information in the Project Description: duration of 44.2 months starting summer 2008, use of 0.5 crane, 1 off-highway truck, 0.5 rough terrain forklift, 0.5 rubber tired dozer, 0.5 rubber tired loader, and 1 other piece (0.5 grader, 0.5 paver, and 0.5 roller for asphalt subphase) 8 hours per day. An emission factor of 0.0013 pounds per square foot was used for architectural coatings emissions to reflect the expected use of low VOC content architectural coatings. Asphalt emissions are based on default emission factors and time duration of URBEMIS2002 to pave a total of 3.0 acres of area.

See Appendix D for detailed input parameters and modeling results.

Sources: Modeling performed by EDAW 2006.

Mitigation Measure 5.7.B-1. Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.

See Mitigation Measure 5.7.A-1 described above for Alternative A. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.7.B-1 would reduce Impact 5.7.B-1, to a **less-than-significant** level.

IMPACT 5.7.B-2 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 for NO_X , implementation of Alternative B 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 stationary-, area-, and mobile-source emissions under Alternative B were estimated based on proposed land use type (two single-family estates), the change in trip generation from the traffic analysis prepared for this project in Section 5.6, "Transportation and Parking" (e.g., 20 daily vehicle trip ends for the proposed uses only), and default model setting for 2010 conditions. The modeled maximum daily operational emissions under Alternative B are summarized in Table 5.7-8, described in more detail below, and provided in Appendix D.

Based on the modeling conducted, Alternative B operations would result in worst-case maximum unmitigated daily emissions of approximately 0.2 lb/day of ROG, 0.3 lb/day of NO_X, 0.1 lb/day of PM_{10}, 1.5 lb/day of CO, and negligible amounts (less than 0.1 lb/day) of SO_X, which would not exceed any of the applicable thresholds as shown in Table 5.7-8. In addition, because the significance thresholds approximately correlate with reductions from heavy-duty vehicles and land use project emission reduction requirements in the SIP, 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 threshold, Alternative B would not affect TRPA's attainment designation for atmospheric deposition. Long-term operational emissions under Alternative B 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.**

Mitigation Measures

No mitigation is required.

IMPACT 5.7.B-3 Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. *Long-term operational (local) mobile-source CO emissions under Alternative B 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 A, no signalized intersections would operate at LOS E or F under existing plus Alternative B project conditions. Thus, long-term operational (local) mobile-source CO emissions under Alternative B 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 Measures

No mitigation is required.

Table 5.7-8
Summary of Modeled Long-Term Operational (Regional) Emissions under Alternative B

Source-Type	lb/day				
	ROG	NO_X	PM_{10}	CO	SO_X
SUMMER					
Stationary Source[1]	-	-	-	-	-
Area Source[2]	0.1	-	-	0.1	-
Mobile Source[3]	0.1	0.1	0.1	1.2	-
Total	0.2	0.1	0.1	1.3	-
WINTER					
Stationary Source[1]	-	0.1	-	-	-
Area Source[2]	0.1	-	-	-	-
Mobile Source[3]	0.1	0.2	0.1	1.5	-
Total	0.2	0.3	0.1	1.5	-
THRESHOLDS					
Mass Emissions[4]	82.0	82.0	82.0	—	—
TRPA (stationary sources only)[5]	125.7	24.2	22.0	220.5	13.2

[1] Includes natural gas usage (e.g., from water heaters and central furnaces) and fireplaces.
[2] Area-source emissions include emissions from landscaping, application of architectural coatings, and consumer products, and are estimated based on default model settings, except an emission factor of 0.0013 pounds per square foot was used to reflect the project's use of low VOC content architectural coatings.
[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 2010.
[4] Mass Emission Threshold applies to the sum of stationary, area, and mobile sources for NO_X only.
[5] TRPA Thresholds apply to the stationary-source emissions only.
Source: Modeling conducted by EDAW 2006

IMPACT 5.7.B-4 Odor Emissions. *Because implementation of Alternative B would result in similar types of proposed uses on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-4. Neither construction nor operation of Alternative B would create objectionable odors affecting a substantial number of people. This impact would be considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.7.B-5 Hazardous Air Pollutant Emissions. *Because implementation of Alternative B would result in similar types of proposed uses and on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-5. Neither construction nor operation of Alternative B would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO MULTIFAMILY COMPLEXES

IMPACT 5.7.C-1 Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions. *Unmitigated, daily NO_X emissions would exceed the significance threshold of 82 lb/day, construction-generated criteria air pollutant and precursor emissions under Alternative C 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 nonattainment status of the LTAB with respect to the TRPA standards. This would be a* ***significant impact****.*

Short-term construction emissions of ROG, NO_X, and PM_{10} under Alternative C would be substantially similar to those of Alternative A and were also modeled using the URBEMIS 2002 Version 8.7 computer program. The modeled maximum daily construction emissions are summarized in Table 5.7-9 and described in more detail below and in Appendix D.

Table 5.7-9
Summary of Modeled Worst-Case Daily Short-Term Construction-Generated Emissions under Alternative C [1]

Source	lb/day		
	ROG	NO_X	PM_{10}
Initial Site Preparation (Demolition & Grading) Phase[1]			
Demolition (Summer 2007)			
Fugitive Dust	-	-	1.7
Off-Road Diesel	12.7	85.7	3.5
On-Road Diesel	1.3	15.7	0.4
Worker Commute	0.2	0.2	-
Maximum Daily Total, Unmitigated	**14.2**	**101.6**	5.6
Site Grading (Fall 2007-Spring 2008)			
Fugitive Dust	-	-	47.0
Off-Road Diesel	7.8	51.1	2.0
On-Road Diesel	-	-	-
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	7.8	51.1	**49.0**
Building Construction Phase (Summer 2008-Fall 2011)[2]			
Building Subphase[2]			
Off-Road Diesel	9.3	60.5	2.3
Worker Commute	0.3	0.2	-
Maximum Daily Total, Unmitigated	9.6	60.7	2.3
Asphalt Paving Subphase[2]			
Off-Gassing	0.2	-	-
Off-Road Diesel	2.0	11.6	0.3
On-Road Diesel	-	0.2	-
Worker Commute	-	-	-
Maximum Daily Total, Unmitigated	2.2	11.8	0.3
Architectural Coating Subphase[2]			
Off-Gassing	4.8	-	-
Worker Commute	0.2	0.1	-
Maximum Daily Total, Unmitigated	5.0	0.1	-

[1] Modeled emissions from demolition were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings, EMFAC 2002 emission factors, and information in the Project Description,: duration of 2.6 months starting summer 2007, total demolition volume of 150,000 cubic feet (4,000 cubic feet/day), on-road truck travel of 222 miles to remove material, and use of 2 off-highway trucks, 2 tractors/loaders/backhoes, and 2 other pieces 8 hours per day. Modeled emissions from site grading were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings or information in the Project Description: duration of 5.2 months, use of 0.5 excavator, 0.5 grader, 1 off-highway truck, 0.5 tractor/loader/backhoe, and 1 other piece, total area of 19.63, and a maximum daily disturbed area of 4.9 acres. Fractional equipment input is allowed by the model and more accurately reflects resultant emissions. The on-site construction equipment was determined based on the project description, and the maximum daily area actively disturbed on the project site. Hours of equipment operation per day assumes compliance with TRPA Code Section 62.4.A and TRPA's exemption for construction noise between 8:00 AM and 6:30 PM, as discussed in Chapter 5.8, Noise. Construction activities that involve soil disturbance must occur between May 1 and October 15 to comply with TRPA Code Section 62.4.A unless special approval has been granted by TRPA.

[2] Modeled emissions from building construction were based on the following assumptions from URBEMIS2002 Version 8.7.0 default model settings and information in the Project Description: duration of 44.2 months starting summer 2008, use of 0.5 crane, 1 off-highway truck, 0.5 rough terrain forklift, 0.5 rubber tired dozer, 0.5 rubber tired loader, and 1 other piece (0.5 grader, 0.5 paver, and 0.5 roller for asphalt subphase) 8 hours per day. An emission factor of 0.0013 pounds per square foot was used for architectural coatings emissions to reflect the expected use of low VOC content architectural coatings. Asphalt emissions are based on default emission factors and time duration of URBEMIS2002 to pave a total of 3.0 acres of area.

See Appendix D for detailed input parameters and modeling results.

Sources: Modeling performed by EDAW 2006.

Based on the modeling conducted, Alternative C construction would result in worst-case maximum daily emissions of approximately 14.2 lb/day of ROG, 101.6 lb/day of NO_X, and 49.0 lb/day of $PM_{10.}$ Daily unmitigated construction-generated emissions would exceed the significance threshold of 82 lb/day for NO_X. Construction-generated emissions under Alternative C, 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 nonattainment status of the LTAB with respect to the TRPA standards (e.g., 1-hour ozone and visibility-reducing particulate standards). This would be a **significant impact.**

Mitigation Measure 5.7.C-1. Reduce Construction-Generated Emissions of ROG, NO_X, and PM_{10}.

See Mitigation Measure 5.7.A-1 described above for Alternative A. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.7.C-1 would reduce Impact 5.7.C-1, to a less-than-significant level.

IMPACT 5.7.C-2 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 for NO_X, implementation of Alternative C 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 modeled maximum daily operational emissions under Alternative C would be substantially similar to those under Alternative A, and are summarized in Table 5.7-10, described in more detail below, and provided in Appendix D.

Table 5.7-10
Summary of Modeled Long-Term Operational (Regional) Emissions under Alternative C

Source-Type	lb/day				
	ROG	NO_X	PM_{10}	CO	SO_X
SUMMER					
Stationary Source[1]	0.1	1.2	-	0.5	-
Area Source[2]	7.9	-	-	0.6	-
Mobile Source[3]	4.5	5.7	4.9	48.5	-
Total	12.5	6.9	4.9	49.6	-
WINTER					
Stationary Source[1]	0.1	2.0	0.1	0.9	-
Area Source[2]	7.8	-	-	-	-
Mobile Source[3]	5.0	6.8	4.9	59.1	-
Total	12.9	8.8	5.0	60.0	-
THRESHOLDS					
Mass Emissions[4]	82.0	82.0	82.0	—	—
TRPA (stationary sources only)[5]	125.7	24.2	22.0	220.5	13.2

[1] Includes natural gas usage (e.g., from water heaters and central furnaces) and fireplaces.

[2] Area-source emissions include emissions from landscaping, application of architectural coatings, and consumer products, and are estimated based on default model settings, except an emission factor of 0.0013 pounds per square foot was used to reflect the project's use of low VOC content architectural coatings.

[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 2010.

[4] Mass Emission Threshold applies to the sum of stationary, area, and mobile sources for NO_X only.

[5] TRPA Thresholds apply to the stationary-source emissions only.

Source: Modeling conducted by EDAW 2006

Regional stationary-, area-, and mobile-source emissions under Alternative C were estimated based on proposed land use (two multifamily complexes), the change in trip generation from the traffic analysis prepared for this project in Section 5.6, "Transportation and Parking" (e.g., 890 daily vehicle trip ends for the proposed uses only), and default model setting for 2010 conditions. The modeled maximum daily operational emissions under Alternative C are summarized in Table 5.7-10 and described in more detail below and in Appendix D.

Based on the modeling conducted, project operations would result in worst-case maximum daily emissions of approximately 12.9 lb/day of ROG, 8.8 lb/day of NO_X, 5.0 lb/day of PM_{10}, 60.0 lb/day of CO, and a negligible amount (less than 0.1 lb/day) of SO_X, which would not exceed any of the applicable thresholds as shown in Table 5.7-8. Because the significance thresholds approximately correlate with reductions from heavy-duty vehicles and land use project emission reduction requirements in the SIP, project implementation would not conflict with any air quality planning efforts. Also, because the project's operational emissions of NO_X would not exceed the NO_X threshold, Alternative C would not affect TRPA's attainment designation for atmospheric deposition. Therefore, long-term operational emissions under Alternative A 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.**

Mitigation Measures

No mitigation is required.

IMPACT 5.7.C-3 Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions. *Long-term operational (local) mobile-source CO emissions under Alternative C 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 A, no signalized intersections would operate at LOS E or F under existing plus Alternative C project conditions. Thus, long-term operational (local) mobile-source CO emissions under Alternative C 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 Measures

No mitigation is required.

IMPACT 5.7.C-4 Odor Emissions. *Because implementation of Alternative C would result in the same type of proposed uses on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-4. Neither construction nor operation of Alternative C would create objectionable odors affecting a substantial number of people. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.7.C-5 Hazardous Air Pollutant Emissions. *Because implementation of Alternative C would result in the same type of proposed uses and on the same project site as Alternative A, this impact would be the same as Impact 5.7.A-5. Neither construction nor operation of Alternative C would result in the exposure of sensitive receptors to substantial HAP emissions. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT – JERE WILLIAMS PLAN

Under Alternative D, the Tahoe Shores Mobile Home Park would remain in operation and existing site conditions would remain the same, with minor maintenance and improvements implemented as needed. The minor improvements would not require substantial construction or excavation. All air quality impacts associated with implementation of Alternative D would be **less than significant.**

ALTERNATIVE E – NO PROJECT ALTERNATIVE – MANUFACTURED HOMES

Under Alternative E, the Tahoe Shores Mobile Home Park would remain in operation and existing site conditions would remain the same; and the site would be temporarily closed, the existing mobile homes would be cleared, and basic site improvements would be completed. Implementation of temporary and permanent BMPs and utility improvements would include no more than 3 cubic yards of grading. Therefore, all air quality impacts associated with implementation of Alternative E would be **less than significant**.

5.8 NOISE

This section includes a description of existing ambient noise conditions and an analysis of potential noise impacts associated with Alternatives A through E. 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 the Tahoe Regional Planning Agency (TRPA) and Douglas County. Cumulative noise impacts are addressed in Section 5.14.

5.8.1 ACOUSTIC FUNDAMENTALS

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound, as described in more detail below, is mechanical energy transmitted in the form of a wave because of a disturbance or vibration, and as any pressure variation in air that the human ear can detect.

SOUND PROPERTIES

A sound wave is introduced into a medium (air) by a vibrating object. The vibrating object (e.g., vocal cords, the string and sound board of a guitar, or the diaphragm of a radio speaker) is the source of the disturbance that moves through the medium. Regardless of the type of source creating the sound wave, the particles of the medium through which the sound moves are vibrating in a back-and-forth motion at a given frequency (pitch).
The frequency of a wave refers to how often the particles vibrate when a wave passes through the medium. The frequency of a wave is measured as the number of complete back-and-forth vibrations of a particle per unit of time. If a particle of air undergoes 1,000 longitudinal vibrations in 2 seconds, then the frequency of the wave would be 500 vibrations per second. A commonly used unit for frequency is cycles per second, called hertz (Hz).

Each particle vibrates as a result of the motion of its nearest neighbor. For example, the first particle of the medium begins vibrating at 500 Hz and sets the second particle of the medium into motion at the same frequency (500 Hz). The second particle begins vibrating at 500 Hz and thus sets the third particle into motion at 500 Hz. The process continues throughout the medium; hence each particle vibrates at the same frequency, which is the frequency of the original source. Subsequently, a guitar string vibrating at 500 Hz will set the air particles in the room vibrating at the same frequency (500 Hz), which carries a sound signal to the ear of a listener that is detected as a 500-Hz sound wave.

The back-and-forth vibration motion of the particles of the medium would not be the only observable phenomenon occurring at a given frequency. Because a sound wave is a pressure wave, a detector could be used to detect oscillations in pressure from high to low and back to high pressure. As the compression (high-pressure) and rarefaction (low-pressure) disturbances move through the medium, they would reach the detector at a given frequency. For example, a compression would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Similarly, a rarefaction would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Thus, the frequency of a sound wave refers not only to the number of back-and-forth vibrations of the particles per unit of time but also to the number of compression or rarefaction disturbances that pass a given point per unit of time. A detector could be used to detect the frequency of these pressure oscillations over a given period of time. The period of the sound wave can be found by measuring the time between successive high-pressure points (corresponding to the compressions) or the time between successive low-pressure points (corresponding to the rarefactions). The frequency is simply the reciprocal of the period; thus an inverse relationship exists so that as frequency increases, the period decreases, and vice versa.

A wave is an energy transport phenomenon that transports energy along a medium. The amount of energy carried by a wave is related to the amplitude (loudness) of the wave. A high-energy wave is characterized by high amplitude; a low-energy wave is characterized by low amplitude. The amplitude of a wave refers to the maximum amount of displacement of a particle from its rest position. The energy transported by a wave is directly

proportional to the square of the amplitude of the wave. This means that a doubling of the amplitude of a wave is indicative of a quadrupling of the energy transported by the wave.

SOUND AND THE HUMAN EAR

Because of the ability of the human ear to detect a wide range of sound-pressure fluctuations, sound-pressure levels are expressed in logarithmic units called decibels (dB) to avoid a very large and awkward range in numbers. The sound-pressure level in decibels is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is considered the absolute hearing threshold (Caltrans 2006). Use of this logarithmic scale reveals that the total sound from two individual 65-dBA sources is 68 dBA, not 130 dBA (i.e., doubling the source strength increases the sound pressure by 3 dBA).

Because the human ear is not equally sensitive to all sound frequencies, a specific frequency-dependent rating scale was devised to relate noise to human sensitivity. A dBA scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The basis for compensation is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dBA scale has been chosen by most authorities for the purpose of regulating environmental noise. Typical indoor and outdoor noise levels are presented in Exhibit 5.8-1.

With respect to how humans perceive and react to changes in noise levels, a 1-dBA increase is imperceptible, a 3-dBA increase is barely perceptible, a 6-dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988), as presented in Table 5.8-1. Table 5.8-1 was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broadband noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50–70 dBA, as this is the usual range of voice and interior noise levels. For the purpose of this analysis, a change of 3 dBA is considered substantial as it is the smallest increase perceptible to the human ear. (Note: this definition of substantial is the same as the change considered substantial in the TRPA 2001 Threshold Evaluation [TRPA 2002].)

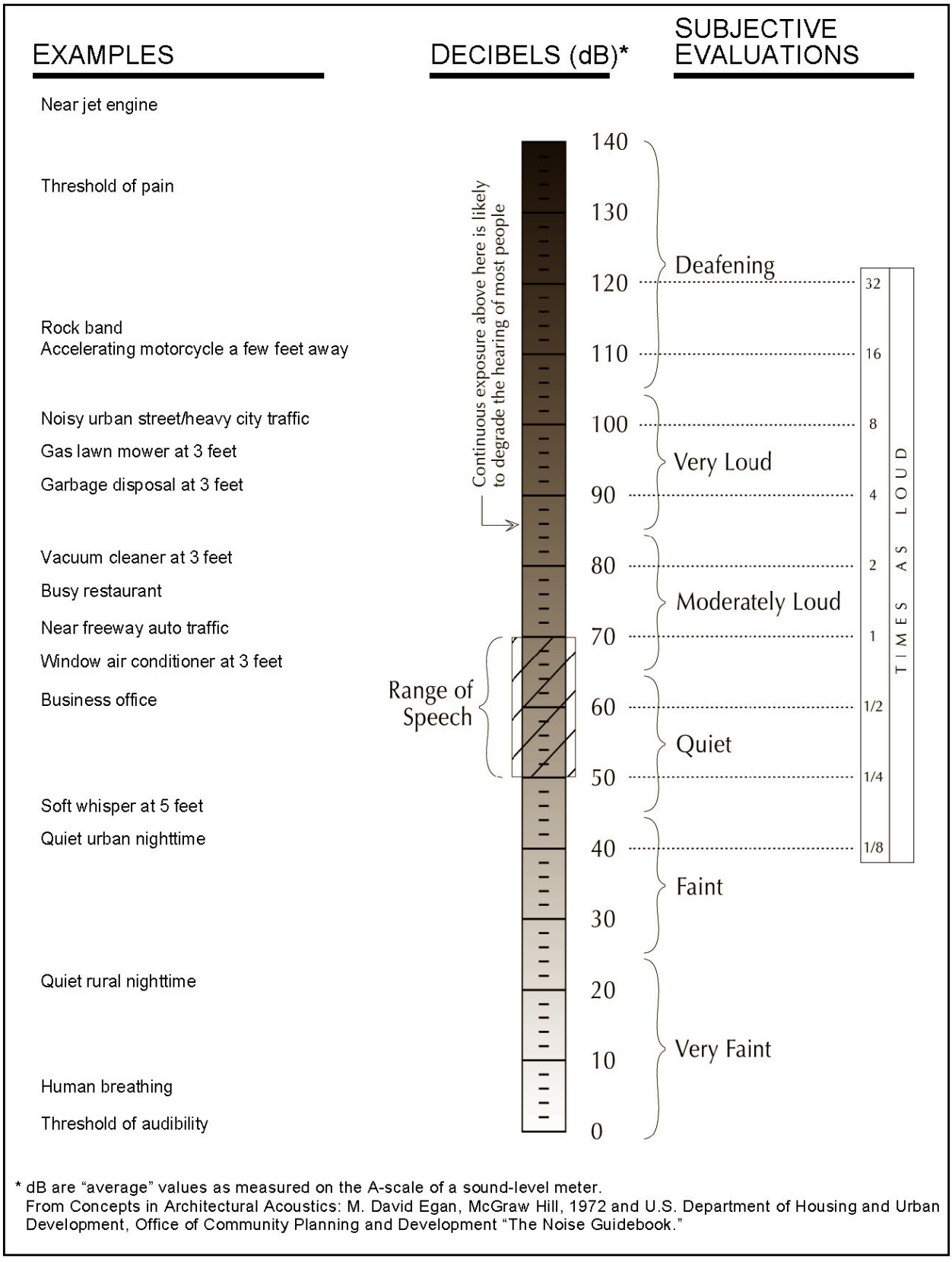
Table 5.8-1
Subjective Reaction to Changes in Noise Levels of Similar Sources

Change in Level, dBA	Subjective Reaction	Factor Change in Acoustical Energy
1	Imperceptible (Except for Tones)	1.3
3	Just Barely Perceptible	2.0
6	Clearly Noticeable	4.0
10	About Twice (or Half) as Loud	10.0

Note: dBA = A-weighted decibels
Source: Egan 1988

SOUND PROPAGATION AND ATTENUATION

As sound (noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, is dependent on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse-square law describes the attenuation caused by the pattern in which sound travels from the source to receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance (dBA/DD). However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBA/DD. The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels. Furthermore, the presence of a



Source: Data compiled by EDAW in 2006

Typical Noise Levels **Exhibit 5.8-1**

barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation is dependent upon the size of the barrier and the frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans 2006).

NOISE DESCRIPTORS

The selection of a proper noise descriptor for a specific source is dependent upon the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below (Caltrans 2006; Lipscomb and Taylor 1978).

- **L_{max} (Maximum Noise Level):** The maximum instantaneous noise level during a specific period of time. The L_{max} may also be referred to as the "peak (noise) level."

- **L_{min} (Minimum Noise Level):** The minimum instantaneous noise level during a specific period of time.

- **L_X (Statistical Descriptor):** The noise level exceeded X% of a specific period of time.

- **L_{eq} (Equivalent Noise Level):** The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the L_{eq}. In noise environments determined by major noise events, such as aircraft overflights, the L_{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.

- **L_{dn} (Day-Night Noise Level):** The 24-hour L_{eq} with a 10-dBA "penalty" for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

- **CNEL (Community Noise Equivalent Level):** The CNEL is similar to the L_{dn} described above with respect to the addition of a 10-dBA "penalty" for noise events that occur between 10:00 p.m. and 7:00 a.m., but with an additional 5-dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7 p.m. and 10 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, the reported CNEL is typically approximately 0.5 dBA higher than the L_{dn}.

- **SENL (Single-Event [Impulsive] Noise Level):** The SENL describes a receiver's cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration and involves a change in sound pressure above some reference value. SENLs typically represent the noise events used to calculate the L_{eq}, L_{dn}, and CNEL.

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 average, or equivalent, sound level L_{eq}, 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 1 hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, as defined above, and correlates well with community response to noise.

NEGATIVE EFFECTS OF NOISE ON HUMANS

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 2006).

VIBRATION

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structureborne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean square (RMS), as in RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Federal Transit Administration [FTA] 2006; Caltrans 2006).

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 1 μin/sec.

The background vibration-velocity level in residential areas is usually 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, horizontal directional drilling, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 5.8-2 describes the general human response to different levels of groundborne vibration-velocity levels.

Table 5.8-2 Human Response to Groundborne Vibration Levels	
Vibration Velocity (VdB)	Human Response
65	Approximate threshold of perception for many humans.
75	Approximate dividing line between barely perceptible and distinctly perceptible.
85	Vibration acceptable only if there are an infrequent number of events per day.
VdB = vibration decibels Source: FTA 2006	

5.8.2 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 Beach Club project are discussed below.

FEDERAL

U.S. Department of Transportation

To address the human response to groundborne vibration, the U.S. Department of Transportation (DOT), FTA has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These include 65 VdB referenced to 1 microinch per second (μin/sec) and based on the RMS velocity amplitude for land uses where low ambient vibration is essential for interior operations (e.g., 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 (e.g., 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 the U.S. Environmental Protection Agency (EPA) (FTA 2006). For fragile structures, CHABA recommends a maximum limit of 0.25 inch per second (in/sec) PPV (FTA 2006).

TAHOE REGIONAL PLANNING AGENCY

The Regional Plan is progressive and includes the following related to noise: environmental threshold carrying capacities (ETCCs) (i.e., thresholds) – adopted in 1982 and evaluated every five years since 1991 (TRPA 2002 and 2007a); Goals and Policies (i.e., noise sub-element) (TRPA 1986, amended May 1997 and July 2003); Code of Ordinances (i.e., Chapter 23, Noise Limitations) (TRPA 1987, amended July 2003, and updated December 2004); and Plan Area Statements (PASs) (i.e., 070A, Edgewood and 077, Oliver Park) (TRPA 1987, amended December 1988 and April 1996). These documents are described separately below.

The 1987 Regional Plan had a 20-year scope and is currently being reviewed and updated as part of the Pathway process through a collaborative effort between TRPA, the U.S. Forest Service (USFS), the Lahontan Regional Quality Control Board, and the Nevada Division of Environmental Protection (TRPA 2007b).

Environmental Threshold Carrying Capacities

In August 1982, TRPA adopted Resolution No. 82-11, which included ETCCs (i.e., thresholds) related to noise, and other resource topics, for the Lake Tahoe Region (TRPA 1982). TRPA conducts a comprehensive evaluation every five years, for which the most recent was completed in 2001 (TRPA 2002). The 2006 evaluation is currently in draft form (TRPA 2007a).

Table 5.8-3 summarizes the numerical single event noise ETCCs (i.e., thresholds) for aircraft and other vehicle types and Table 5.8-4 summarizes the CNEL thresholds for land use categories. In addition to these thresholds, it shall be the policy of the TRPA Governing Body to define, locate, and establish CNEL levels for transportation corridors, as shown below under Goals and Policies.

Goals and Policies – Noise Sub-Element

The Tahoe Regional Planning Compact requires that ETCCs be established for noise and that the Regional Plan and its elements achieve and maintain such thresholds (refer to Tables 5.8-3 and 5.8-4). The noise sub-element also establishes the following average noise level thresholds for transportation corridors:

- U.S. 50 (65 dBA CNEL)
- State Routes (SR) 89, 207, 28, 267, and 431 (55 dBA CNEL)
- South Lake Tahoe Airport (60 dBA 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.

Table 5.8-3
Summary of Single Event (L_{max}) Noise Thresholds

Single Event	Threshold
Aircraft	Departures (all aircraft): 80 dBA at 6,500 meters (m) from start to takeoff roll. 77.1 dBA at 6,500 m from start to takeoff roll between 8:00 p.m. and 8:00 a.m. Arrivals: 84 dBA at 2,000 m from the runway threshold approach (general aviation and commuter aircraft). 86 dBA at 2,000 m from the runway threshold approach (transport category aircraft). 77.1 dBA (all aircraft) 2,000 m from the runway threshold approach between 8:00 p.m. and 8:00 a.m.
Watercraft	82.0 dBA at 50 feet with the engine operating at 3,000 rotations per minute.
Motor Vehicles	< 6,000 gross vehicle weight (GVW): 76.0 dBA at 50 feet [<35 miles per hour (mph)], 82.0 dBA at 50 feet (>35 mph). > 6,000 GVW: 82.0 dBA at 50 feet (<35 mph), 86.0 dBA at 50 feet (>35 mph).
Motorcycles	77.0 dBA at 50 feet (<35 mph). 86.0 dBA at 50 feet (>35 mph).
Off-Road Vehicles	72.0 dBA at 50 feet (<35 mph). 86.0 dBA at 50 feet (>35 mph).
Over-Snow Vehicles (snowmobiles)	82.0 dBA at 50 feet.

Source: TRPA 2002 and 2007a

Table 5.8-4 Summary of Community Noise Equivalent Level (CNEL) Thresholds	
Land Use Category	Background Noise Levels Shall Not Exceed the Following Average Noise Level or CNEL Range (dBA)
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
Source: TRPA 2002 and 2007a	

The Goals and Policies noise sub-element contains the following:

- **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. An ordinance and enforcement program shall be developed to permit only aircraft that meet the single event noise thresholds to use the airport.

2. Boats will only be allowed to use Lake Tahoe if they comply with the single-event threshold.

3. Motor vehicles and motorcycles shall comply with the appropriate noise thresholds.

4. 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.

5. The use of snowmobiles will be restricted to designated areas.

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.

- **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 set backs, earth berms, and barriers.

2. Reduce noise-related impacts associated with the airport to acceptable levels.

3. TRPA will further define CNELs for wilderness and roadless areas, and for critical wildlife habitat areas.

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 of the Code of Ordinances establishes noise limitations for single noise events from aircraft, marine crafts, 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 contains exemptions to the noise limitations which states that the standards established in Chapter 23 of the Code 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 a.m. and 6:30 p.m.

Plan Area Statement 070A - Edgewood

The maximum community noise equivalent level for PAS 070A, including the shorezone, is 55 dBA CNEL. The maximum community noise equivalent level for the U.S. 50 corridor is 65 dBA CNEL.

Plan Area Statement 077 - Oliver Park

The maximum community noise equivalent level for PAS 077 is 55 dBA CNEL.

STATE

There are no relevant Nevada state noise regulations applicable to the proposed project.

LOCAL

Douglas County Master Plan

Noise pollution originates from a variety of sources in Douglas County (e.g., major highways, Douglas County Airport, industrial areas, and mining operations). The following policies from the *Draft 2006 Douglas County Master Plan* (Douglas County 2007) are applicable to the Beach Club 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.

Residential uses are the most sensitive to sound because of interference with sleep and relaxation. Fifty-five (55) dBA 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 5.8-5 and are used by the County until a comprehensive set of standards is adopted.

Table 5.8-5
Douglas County Master Plan Noise Capability Guidelines

Zoning District	Exterior Sound Level (dBA)	Indicator
Industrial	70	$L_{eq}(24)$[1]
Commercial	64	L_{dn}
Residential	55	L_{dn}

[1] Represents an all day, 24-hour average noise level

Source: Douglas County Master Plan 2007

Douglas County Noise Ordinance

The following from the Douglas County Code (1996) apply to the Beach Club project:

- 20.702.180 Noise standards.

  Exterior noise levels must comply with the provisions in the PASs, Community Plans, or Subsection N of Section 20.690.030, whichever is most restrictive.

Interior noise levels must comply with the provisions in subsection 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 a.m. to 7:00 p.m. Monday through Friday; 8:00 a.m. to 7:00 p.m. Saturday and Sunday.

- 20.690.030 Section N, Noise.

The following provisions shall apply:

1. No exterior noise level shall exceed 65 dBA CNEL exterior and 45 dBA 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.

5.8.3 AFFECTED ENVIRONMENT

EXISTING NOISE LEVELS AND SOURCES

The project site consists of two parcels: Assessor's Parcel Number (APN) 1318-22-002-001, within PAS 077, is 17.26 acres and APN 1318-22-002-002, within PAS 070A, is 2.37 acres with 217 feet of lake frontage (refer to Exhibit 5.8-2). The project site is occupied by the Tahoe Shores Mobile Home Park, the Kingsbury General Improvement District (KGID) pump station, beach, and a private recreational pier.

Surrounding land uses include: the University of Nevada 4-H Campground to the south of the site, U.S. Forest Service land (Burk Creek [Rabe] Meadow) and the Nevada Beach Campground to the north, the Meadowbrook Apartments and Oliver Park General Improvement District (GID) to the east, and Lake Tahoe to the west. Refer to Exhibits 3-2, 3-3, and 5.8-2 for the locations of existing and surrounding land uses.

The existing noise environment within the project area is influenced by such natural sources as birds, rustling leaves, wind, and waves and manmade noise sources, which are the predominant noise source at the project site. Manmade noise sources include transportation noise emanating from vehicular traffic on nearby roadways (Kahle Drive and U.S. 50), watercraft on Lake Tahoe, and aircraft overflights. Intermittent noise from outdoor activities

at the surrounding uses (e.g., people talking, operation of landscaping equipment, periodic vocal and instrumental ensembles associated with events and activities at the 4-H Campground, and car doors slamming) though minor, also influence the existing noise environment.

Short- and long-term ambient-noise measurements were conducted by EDAW in April 2006 and September 2007, respectively, at the locations shown in Exhibit 5.8-2. The short-term measurements as summarized in Table 5.8-6 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 three locations using a Larson Davis Model 820 sound-level meter. The short-term L_{eq}, L_{max}, and L_{min} values for each ambient-noise-measurement location are presented in Table 5.8-6. Long-term noise-level measurements were also taken in accordance ANSI acoustic standards at one location. The CNEL, and maximum and minimum 1-hour L_{eq} values are also presented in Table 5.8-6. Based on the measurements conducted, average daytime noise levels on the project site are within the mid-40s and in the project area near Kahle Drive in the 50s.

Table 5.8-6
Summary of Ambient Noise Measurements

Measurement	Location[1]	Date/Time	A-Weighted Sound Level (dBA)		
Short-Term			L_{eq}	L_{max}	L_{min}
1	Tahoe Shores Manager's Office Parking Lot	April 19, 2007 10:53 a.m. – 11:08 a.m.	45	62	32
2	Tahoe Shores Mobile Home Park	April 19,2007 11:12 a.m. – 11:27 a.m.	56	60	39
3	Meadowbrook Apartments – Kahle Drive	April 19,2007 11:31 a.m. – 11:46 a.m.	59	74	36
Long-Term			CNEL	L_{eq} (Max. 1-Hour)	L_{eq} (Min. 1-Hour)
A	Kahle Drive – Near Project Site Entrance	September 6, 2007	52	51	44
		September 7, 2007	52	51	43
		September 8, 2007	51	51	43
		September 9, 2007	52	56	43

[1] Refer to Exhibit 5.8-2 for ambient noise level measurement locations.
Source: Data monitored by EDAW April 19, 2006 and September 6-9, 2007.

As stated above, one of the noise sources within the project area is vehicle traffic on area roadways. Existing traffic noise levels were modeled for U.S. 50 and Kahle Drive using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108 1988), based on data obtained from the traffic analysis prepared for this project (LSC Transportation Consultants 2006, Shaw, pers. comm., 2007). Additional modeling parameters included day/night percentages of autos, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths (refer to Table 5.8-7). Actual noise levels vary from day to day, depending on various factors, including local traffic volumes, shielding from existing structures, variations in attenuation rates attributable to changes in surface parameters, and meteorological conditions. As discussed in further detail in the regulatory setting, TRPA's transportation corridor CNEL standard for U.S. 50 is 65 dBA CNEL at 300 feet from the roadway edge.

Table 5.8-7
Summary of Modeled Existing Traffic Noise Levels

Roadway Segment	Modeling Assumptions					CNEL (dBA) 300 feet from Roadway Edge[1]	Distance (feet) from Roadway Edge to CNEL Contour	
	Annual Average Daily Traffic Volume (AADT)	Speed (mph)	Grade (%)	Traffic Distribution Percentages (%)			65 dBA[1]	55 dBA[2]
				Auto/Medium Truck/ Heavy Truck	Day/Evening/ Night			
U.S. 50 north of Kahle Dr.	37,100	45	0.5	96.9/2.6/0.5	77.7/12.7/9.6	60.9	155.8	[redacted]
U.S. 50 south of Kahle Dr.	38,000	35	0.5	96.9/2.6/0.5	77.7/12.7/9.6	58.3	96.5	[redacted]
Kahle Dr. immediately west of U.S. 50	2,160	25	0.0	98.5/0.5/1.0	77.7/12.7/9.6	[redacted]	[redacted]	0.0
Kahle Dr. through the project site	696	25	0.0	98.5/0.5/1.0	77.7/12.7/9.6	[redacted]	[redacted]	0.0

[1] TRPA's transportation corridor CNEL threshold for U.S. 50 is 65 dBA at 300 feet from the roadway edge.

[2] TRPA's PAS threshold for 070A and 077 is 55 dBA. The value 0.0 feet denotes that the noise level at the roadway edge is less than the noise contour level (i.e., noise levels do not reach 55 dBA CNEL along the affected roadway segment).

Note: Traffic noise modeling assumes no natural or human-made shielding (e.g., vegetation, berms, wall, or buildings). See Appendix E for complete modeling results and input parameters.

Source: Modeling performed by EDAW in 2007.

Existing Noise-Sensitive Land Uses

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as 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, and other uses where low interior noise levels are essential. Noise-sensitive receptors in the project vicinity consist of the single-family residences and multifamily apartments (Meadowbrook Apartments and Oliver Park Grid) along Kahle Drive east of the project site. The Nevada Beach and 4-H Campgrounds are also considered noise-sensitive land uses, even though they also have the potential to be noise-generating land uses. Refer to Exhibit 5.8-2 for locations of nearby sensitive receptors.

5.8.4 Environmental Consequences and Recommended Mitigation Measures

Criteria of Significance

For the purpose of this analysis, the following thresholds of significance, as identified by TRPA and Douglas County, have been used to determine whether implementation of the proposed project would result in significant noise impacts. Thus, the proposed project would result in significant noise impacts if:

- Short-term project related construction noise levels would be significant if noise generated by construction activities and/or off-site construction-related traffic were to exceed applicable TRPA thresholds (i.e., PAS threshold of 55 dBA CNEL and 65 dBA CNEL 300 feet from U.S. 50) outside the hours between 8:00 a.m. and 6:30 p.m.

Locations of Noise Level Measurements, Sensitive Receptors, and PAS Boundaries **Exhibit 5.8-2**

- Long-term project-generated traffic noise levels associated with the operation of the project would result in a perceptible (e.g., 3 dBA or greater) increase in noise levels along affected roadways and expose existing sensitive receptors to noise levels that exceed applicable TRPA thresholds (i.e., PAS threshold of 55 dBA CNEL and 65 dBA CNEL 300 feet from U.S. 50).

- Long-term on-site non-traffic source noise levels would be significant if operation of the project would expose existing nearby sensitive receptors to noise levels that exceed applicable TRPA thresholds (i.e., PAS threshold of 55 dBA CNEL).

- Development of the project would have a significant impact if it would expose proposed sensitive receptors (e.g., residents) of the project to noise levels that exceed applicable TRPA land use compatibility thresholds (i.e., PAS threshold of 55 dBA CNEL and 65 dBA CNEL 300 feet from U.S. 50).

- Vibration levels exceed the recommended standard of 0.2 in/sec ppv with respect to the prevention of structural damage for normal buildings or FTA's maximum acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., annoyance) at nearby vibration-sensitive land uses.

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.8.A-1 Short-Term Construction Noise Levels. *Because construction activities under Alternative A would be limited to the hours during which noise levels are exempt from applicable standards, this would be a* ***less-than-significant*** *impact.*

Construction activities related to Alternative A would include site preparation (e.g., excavation, grading, clearing, removal of the existing mobile home park, and demolition), trenching, pouring of concrete foundations, paving, frame erection, equipment installation, finishing, cleanup, and other miscellaneous activities. No pile driving or rock blasting would occur as part of project construction.

The construction equipment required for the above-mentioned activities would likely include a loader, dozer/tractor, crane, scraper, excavator, compactor, backhoe, grader, generator, and trucks. According to the EPA, individual equipment noise levels for these types of equipment can range from 79 to 91 dBA at 50 feet without feasible noise control, as shown in Table 5.8-8. The simultaneous operation of heavy-duty construction equipment could result in combined intermittent noise levels of approximately 94 dBA at 50 feet. Based on these noise levels and a typical noise-attenuation rate of 6.0 dBA per doubling of distance, exterior noise levels at noise-sensitive receptors located within 4,500 feet from the construction activity could exceed 55 dBA without noise control. Specifically, project-generated construction source noise levels could exceed 94 dBA at existing noise-sensitive receptors located immediately adjacent to the project boundary (e.g., 4-H and Nevada Beach Campgrounds).

In addition, construction of Alternative A would result in 150 truck round-trips (300 truck one-way trips) over the course of the construction period and require a maximum of 25 construction employees (50 one-way vehicle-trips per day) (see Section 5.6, "Transportation and Parking"). Including hauling, demolition, and relocation of the mobile homes, approximately 20 truck vehicle-trips plus 50 auto vehicle-trips per day would be generated. Of this, roughly 30 trips would occur during a peak hour. Typically, traffic volumes must double before the associated increase in noise levels is perceptible [3 dBA (CNEL)] along affected roadways. The existing average daily traffic is estimated to be 2,160 on Kahle Drive, 37,100 on U.S. 50 north of Kahle Drive, and 38,000 on U.S. 50 south of Kahle Drive (see Section 5.6, "Transportation and Parking"). Therefore, the addition of construction-related daily trips on the local roadway system to existing volumes would be minor and would not result in a perceptible change in the traffic noise levels along area roadways. Intermittent haul truck noise levels, including brake squeal and trailer impact noise, typically range from 85 to 95 dBA L_{max} at approximately 15 feet for brief periods of time (EDAW 2002).

Table 5.8-8
Typical Equipment Noise Levels

Type of Equipment	Noise Level in dBA at 50 feet	
	Without Feasible Noise Control[1]	With Feasible Noise Control[2]
Loader	79	75
Dozer or Tractor	80	75
Crane (mobile)	83	75
Scraper	88	80
Excavator	88	80
Compactor	82	75
Backhoe	85	75
Grader	85	75
Generator	78	75
Truck	91	75

[1] Estimates correspond to a distance of 50 feet from the noisiest piece of equipment and 200 feet from the other equipment.
[2] Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds in accordance with manufacturers' specifications.
Sources: EPA 1971

Nonetheless, noise from construction activities that occur between 8:00 a.m. to 6:30 p.m. is considered exempt from applicable standards. In addition, construction activities would not occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) and would be temporary in nature. Thus, project-generated construction source noise levels would not exceed the applicable standards or result in annoyance and/or sleep disruption to occupants of existing nearby noise-sensitive land uses. As a result, this would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.A-2 Long-Term Project-Generated Non-Traffic Source Noise Levels. *Because long-term project-generated non-traffic source noise levels (i.e., heating ventilation and air conditioning [HVAC] equipment) under Alternative A could exceed applicable noise standards at off-site existing nearby noise-sensitive land uses, this would be a* ***potentially significant*** *impact.*

Alternative A would include the development and operation of residential and recreational land uses. Residential land uses in the form of mobile home units already exist on site. The long-term operation of proposed uses would result in non-traffic source noise levels from landscape and maintenance activities (e.g., lawn and garden equipment, and snow removal equipment), voices, amplified music, heating and cooling systems, and garbage collection, as discussed below. Note: all of these noise sources already exist at the site.

Current ambient noise levels on the project site and in the project vicinity are generally low (Table 5.8-5). While the number of residential units at the site would be reduced from 155 mobile home units to 143 condominium units, the total population of full-time and part-time residents on site would increase by approximately 27 residents (refer to Table 5.2-9 and supporting discussion in Section 5.2, "Housing and Population"). This increase is essentially the same as existing conditions and is not considered substantial. Noise generated in outdoor activity areas would include the beach and swim club, pier, and other common areas. Use of these areas is not typically associated with noise impacts.

Noise levels generated by stationary noise sources, primarily residential HVAC equipment, range from 55 to 90 dBA at 3 feet from the source (EPA 1971). Though this type of equipment currently exists on the project site, the development associated with Alternative A would likely require a smaller number of larger and potentially louder units. HVAC equipment noise would mostly be generated by fans as opposed to large condensers for air conditioning, given that the project area does not experience extremely hot summers. Depending on whether the HVAC units are roof-mounted or at ground level and the distance between the HVAC units and nearby off-site receptors, particularly people camping outdoors at the campgrounds, combined noise levels generated by HVAC equipment could potentially result in noise levels that exceed the 55 dBA CNEL threshold.

Trash from the site would be collected weekly from two bear-resistant 20-cubic-yard dumpsters by South Tahoe Refuse. Noise generated by trash collection would not increase hourly L_{eq} or CNEL levels near the site. Trash collection is currently conducted on the site and in the surrounding community and would continue following project implementation. Thus, the project would not result in increased disruption to off-site receptors.

Finally, operation of the beach and swim club and the reconstructed and extended pier would result in an increase in noise levels near the beach. This increase would be seasonal, as outdoor activities would generally be concentrated in the summer months, as is the case for the neighboring campgrounds. The type of noise generated by the swim and beach club would be consistent with the outdoor activities that occur at the adjacent Nevada Beach and 4-H Camp. Noise from these activities would not be expected to result in CNELs in excess of applicable standards or to cause disruption to users of the surrounding campgrounds.

In sum, HVAC equipment noise could increase as a result of the project, potentially resulting in disturbance of surrounding noise-sensitive receptors. Thus, this impact would be **potentially significant**.

Mitigation Measure 5.8.A-2. Design and Locate HVAC Equipment to Minimize Noise.

The applicant shall incorporate the following element into the design and operation of the Beach Club project to reduce long-term project-generated HVAC equipment noise at off-site existing nearby noise-sensitive land uses.

- HVAC equipment shall be located at the farthest distance from and/or be shielded from nearby existing noise-sensitive land uses such that the 55 dBA CNEL standard is not exceeded.

Implementation of Mitigation Measure 5.8.A-2 would reduce project-generated non-traffic source noise levels to a **less-than-significant** level.

IMPACT 5.8.A-3 Long-Term Project-Generated Traffic Noise Levels. *Project-related traffic would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways. This would be a* ***less-than-significant*** *impact.*

The FHWA Traffic Noise Prediction Model was used to model traffic source noise levels along affected roadway segments for the 2011 (existing) condition under no project and plus project conditions, based on annual average daily traffic volumes and their distribution over the roadway network (see Section 5.6, "Transportation and Parking") (Shaw, pers. comm., 2007). Modeling parameters include annual average daily traffic levels for nearby area roadways, fleet mixes (percentages of automobiles, medium-duty trucks, and heavy-duty trucks during daytime, evening, and nighttime hours), vehicle speeds, ground attenuation factors, roadway grades, and roadway widths. Refer to Table 5.8-7 for the speed, grade, and traffic distribution parameters for each roadway segment shown in Table 5.8-9. 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 A) traffic.

Table 5.8-9 summarizes the net change in average daily traffic volumes and in modeled traffic noise levels from existing no project to plus project conditions. According to the traffic analysis prepared for this project, implementation of Alternative A would result in an increase of approximately 104 to 199 trips in the annual

average daily traffic volumes on the affected segments of U.S. 50, and 360 trips on Kahle Drive. Such traffic increases would not result in noise level increases along U.S. 50 (refer to Table 5.8-9). In addition, such traffic increases would result in noise level increases of less than 1.6 dBA along Kahle Drive, which would be imperceptible to the human ear. Thus, traffic associated with the long-term operation of Alternative A would not result in a perceptible (e.g., 3 dBA or greater) increase in noise levels along affected local roadways or highways. Therefore, this would be a **less-than-significant** impact.

Table 5.8-9
Summary of Net Change in Annual Average Daily Traffic Volumes and Modeled Traffic Noise Levels for Alternative A under Existing Conditions

Roadway Segment	Alternative A			
	Annual Average Daily Traffic Volume			Net Change in Traffic Noise Levels (CNEL [dBA])
	Existing	Existing + Alternative A	Net Change (Alternative A)	
U.S. 50 north of Kahle Dr.	37,100	37,204	+104	0.0
U.S. 50 south of Kahle Dr.	38,000	38,199	+199	0.0
Kahle Dr. immediately west of U.S. 50	2,160	2,466	+306	+0.6
Kahle Dr. through the project site	696	1,002	+306	+1.6

Notes: Traffic noise levels were modeled using the FHWA Traffic Noise Prediction Model based on traffic information (e.g., average daily traffic, vehicle speeds, roadway width) obtained from the data generated by LSC Transportation Consultants used to prepare the traffic chapter for this Draft EIS and assuming no natural or human-made shielding (e.g., vegetation, berms, walls, buildings). Refer to Appendix E for modeling input assumptions and output results.
Source: Modeling performed by EDAW in 2007.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.A-4 Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. *Because on-site noise levels under Alternative A would not exceed applicable land use compatibility standards at proposed noise-sensitive receptors, this impact would be* ***less than significant****.*

Alternative A would locate noise-sensitive receptors in an area that is currently occupied by residential uses and surrounded by open space and recreational uses. Noise levels in the project area are influenced by recreational activities in the Nevada Beach and 4-H Campgrounds, on Lake Tahoe, and traffic noise on nearby roadways. Noise levels typically associated with these sources and their compatibility with the proposed land use are discussed separately below. Use of off-highway vehicles (OHV) and snowmobiles is prohibited on U.S. Forest Service lands to the north.

Noise from Recreational Activities on Surrounding Land Uses

Recreational activities on the surrounding lands include 4-H Camp activities to the south and motorized watercraft on Lake Tahoe to the west. Motorized watercraft are required by law (TRPA 2002) to meet TRPA standards (i.e., 75 dBA to 90 dBA L_{max}). In addition, as described in Chapter 3, "Project Description," all of the residential buildings would be constructed with materials that abate noise transmission (such as double paned windows) to reduce the potential for noise disturbance generated by periodic 4-H Camp activities. All buyers and residents at the project site would be provided a disclosure statement in the Declaration of Covenants, Conditions, and Restrictions documents that includes a description of 4-H Camp events, activities, and their potential for periodic

noise (e.g., noise from vocal and instrumental ensembles). Noise from recreation activities on surrounding land uses are periodic in nature and would result in a less-than-significant impact on proposed on-site receptors.

Noise from Maintenance Equipment and Recreational Activities at Surrounding Land Uses

Equipment used to maintain campgrounds and grounds of multifamily developments include lawnmowers and other similar motorized equipment. Representative manufacturers' specifications for decibel levels measured at the operator's seat of these types of equipment are listed in Table 5.8-10, along with estimated noise levels at a distance of 50 feet. Mowing operations at these land uses would typically occur once per week and produce irregular sound levels because of fairly rapid movement and limited "pass-by" time of exposure to nearby land uses. Noise levels from maintenance equipment are also influenced by factors such as direction of movement, location, speed, and local wind conditions. Noise levels of stationary equipment shown in Table 5.8-10 are the highest levels expected, based on direct exposure measurements.

Table 5.8-10
Typical Generation of Lawn Maintenance Equipment Noise

Equipment and Function	Sound Level at Operator's Position	Estimated Sound Level at 50 Feet
Mower (Reelmaster 5000)	86 dBA L_{eq}	62 dBA L_{eq}
Mower (Groundmaster 325D)	90 dBA L_{eq}	66 dBA L_{eq}

Notes: Sound levels at operator's position are based on manufacturers' specifications. Predicted sound levels at 50 feet assume a near-noise field of 3 feet and a 6 dBA reduction in noise levels per doubling of distance from the source.
Source: EDAW 1997

Assuming a maximum noise level of 90 dBA L_{eq} associated with mowing along the outer perimeter of the nearest adjacent land use, which is approximately 100 feet away, this noise level would attenuate to approximately 60 dBA L_{eq} at the project site. Due to the temporary nature of maintenance activities, this level would not cause an exceedance of the 55 dBA CNEL standard. In addition, these activities would also be part of the noise environment of the proposed project. Noise from maintenance activities would result in a less-than-significant impact on proposed on-site receptors.

Noise from Vehicular Traffic

Traffic on roads near the project site is not expected to increase substantially from surrounding growth in the region, including on U.S. 50 and Kahle Drive, which would provide access to the site. Local roads near the project site are expected to serve the same or similar level of development into the future. For instance, Kahle Drive is surrounded by open space that is not anticipated to be developed, and existing residential land uses along this roadway would not change. The traffic noise level along U.S. 50 is expected to increase slightly by the year 2030 (cumulative conditions) (see Table 5.14-5).

For determination of land use compatibility of the proposed sensitive receptors with on-site noise levels the TRPA land-based threshold for PAS 070A and 077 (i.e., 55 dBA CNEL) would apply. It is important to note that the TRPA threshold for U.S. 50 (e.g., 65 dBA CNEL) would not apply as the proposed project site is located approximately 2,000 feet from the roadway edge, well beyond the 300 feet limit which defines the transportation corridor.

Based on the modeling conducted, the distance of the 55 dBA CNEL contour from the roadway edge of U.S. 50 north of Kahle Drive would be 807.6 feet and 841.5 feet (south of Kahle Drive 531.2 feet and 553.2 feet) under existing and cumulative plus project conditions, respectively, which would not exceed the nearest distance of the project site from the roadway edge (i.e., approximately 2,000 feet) (refer to Table 5.8-11). In addition, on-site

traffic noise levels associated with vehicles on the segment of Kahle Drive that extends through the project site would not exceed 55 dBA CNEL (refer to Table 5.8-11) under existing or cumulative plus project conditions. Thus, the TRPA PAS threshold of 55 dBA CNEL for 070A and 077 would not be exceeded within the project area. As a result, noise from vehicular traffic would be considered a less-than-significant impact on proposed sensitive receptors.

Table 5.8-11
Summary of Modeled Traffic Noise Levels for Alternative A under Existing and Cumulative (Future) Plus Project Conditions

Roadway Segment	Existing + Alternative A		Cumulative + Alternative A	
	Annual Average Daily Traffic Volume	Distance (feet) from Roadway Edge to 55 dBA CNEL Contour[1]	Annual Average Daily Traffic Volume	Distance (feet) from Roadway Edge to 55 dBA CNEL Contour[1]
U.S. 50 north of Kahle Dr.	37,204	807.6	39,504	841.5
U.S. 50 south of Kahle Dr.	38,199	531.2	40,499	553.2
Kahle Dr. through the project site	1,002	0.0	1,002	0.0

[1] Shown to compare with the TRPA PAS threshold of 55 dBA CNEL for 070A and 077 which apply to the proposed project site. The value 0.0 feet denotes that the noise level at the roadway edge is less than the noise contour level (i.e., noise levels do not reach 55 dBA CNEL along the affected roadway segment).

Notes: Traffic noise levels were modeled using the FHWA Traffic Noise Prediction Model based on traffic information (e.g., average daily traffic, vehicle speeds, roadway width) obtained from the data generated by LSC Traffic Consultants used to prepare the traffic section for this Draft EIS and assuming no natural or human-made shielding (e.g., vegetation, berms, walls, buildings). Refer to Appendix E for modeling input assumptions and output results.

Source: Modeling performed by EDAW in 2007.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.A-5 Vibration Levels. *Short-term project-generated construction source vibration levels under Alternative A would not exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a* ***less-than-significant*** *impact.*

The long-term operation of Alternative A would not include any major sources of vibration. However, construction activities have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Table 5.8-12 shows vibration levels for typical construction equipment. No pile driving or rock blasting would occur during project construction.

As discussed above, on-site construction equipment could include dozers and trucks. According to the FTA, vibration levels associated with the use of such equipment would be approximately 0.089 inch per second (in/sec) PPV and 87 vibration decibels (VdB referenced to 1 μin/sec and based on the RMS velocity amplitude) 25 feet, as shown in Table 5.8-12. Using FTA's recommended procedure for applying a propagation adjustment to these reference levels, predicted worst-case vibration levels would exceed 0.2 in/sec PPV (which is a recommended standard with respect to the prevention of structural damage for normal buildings) within 15 feet and 80 VdB (FTA maximum-acceptable vibration standard with respect to human annoyance for residential uses) within 60 feet of vibration-sensitive receptors. Short-term project-generated construction source vibration levels would

not exceed the recommended standard of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings. In addition, because there are no existing vibration-sensitive receptors within 60 feet of the project site, and no construction equipment would operate within 60 feet of an existing sensitive receptor, the project would not exceed the FTA maximum acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., annoyance) at vibration-sensitive land uses. Therefore, this would be a **less-than-significant** impact.

Table 5.8-12
Typical Construction Equipment Vibration Levels

Equipment	PPV at 25 feet (in/sec)[1]	Approximate L_v at 25 feet[2]
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

[1] Where PPV is the peak particle velocity

[2] Where L_v is the velocity level in decibels (VdB) and based on the root mean square (RMS) velocity amplitude.

Source: FTA 1995

Mitigation Measures

No mitigation is required.

Alternative B – Two-Lot Alternative, Single-Family Estates

IMPACT 5.8.B-1 Short-Term Construction Noise Levels. *Because construction activities under Alternative B would be limited to the hours during which noise levels are exempt from the provisions of the applicable standards, this would be a* ***less-than-significant*** *impact.*

Though the extent of construction activities would be less under Alternative B, which includes two single-family estates with amenities rather than multifamily residential uses, the same types of construction equipment would be required. Similar to Alternative A, activities would not occur during more noise-sensitive hours (e.g., evening, nighttime, and early morning). Thus, project-generated construction source noise levels would not exceed the applicable standards or result in annoyance and/or sleep disruption to occupants of existing nearby noise-sensitive land uses. As a result, this would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.B-2 Long-Term Project-Generated Non-Traffic Source Noise Levels. *Because long-term project-generated non-traffic source noise levels under Alternative B would be similar to or less than noise levels under existing conditions, Alternative B would not be expected to cause any exceedances of ambient noise levels at off-site existing nearby noise-sensitive land uses. Thus, this would be a* ***less-than-significant*** *impact.*

Because Alternative B operation only entails two single-family estates with amenities rather than multifamily residential uses, long-term project-generated non-traffic source noise levels under Alternative B would be less than those of Alternative A. Given that Alternative B would generate noise levels similar to or less than noise

levels under existing conditions, Alternative B would not expected to cause any exceedances of ambient noise levels at off-site neighboring sensitive land uses. Thus, this would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.B-3 Long-Term Project-Generated Traffic Noise Levels. *Because project-related traffic under Alternative B would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways, this would be a less-than-significant impact.*

Unlike Alternative A, the long-term operation of Alternative B would not result in an increase in daily traffic volumes on the local roadway network and, consequently, an increase in traffic source noise levels along affected segments. Thus, long-term project-generated traffic noise levels under Alternative B would not result in a perceptible increase in ambient noise levels at off-site existing noise-sensitive receptors. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.B-4 Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. *Because on-site noise levels under Alternative B would not exceed applicable land use compatibility standards at proposed noise-sensitive receptors, this impact would be less than significant.*

As discussed under the previous impact, 5.8.B-3, Alternative B would not result in on-site traffic noise levels as compared with the existing land use. However, because Alternative B would be constructed on the same site as Alternative A, this impact is the same as Impact 5.8.A-4 with respect to noise from surrounding recreational activities. Thus, Alternative B would not develop noise-sensitive receptors in a location where existing and predicted future noise levels exceed the applicable TRPA land use compatibility noise standards. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.B-5 Vibration Levels. *Short-term project-generated construction source vibration levels under Alternative B would not exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a less-than-significant impact.*

Because Alternative B would be constructed on the same site and would require similar types of heavy-duty construction equipment as Alternative A, the short-term project-generated construction source vibration levels under Alternative B would also not exceed the FTA maximum acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

Alternative C – Two-Lot Alternative, Multifamily Residential

IMPACT 5.8.C-1 Short-Term Construction Noise Levels. *Because construction activities under Alternative C would be limited to the hours during which noise levels are exempt from the provisions of the applicable standards, this would be a* ***less-than-significant*** *impact.*

Because construction of Alternative C would include the same types of activities [e.g., site preparation, trenching, laying of concrete foundations, and other miscellaneous activities] and equipment type and number requirements as Alternative A, short-term construction noise levels would be substantially similar to those of Alternative A. Activities would not occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning). Thus, project-generated construction source noise levels would not exceed the applicable standards or result in annoyance and/or sleep disruption to occupants of existing nearby noise-sensitive land uses. As a result, this would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.C-2 Long-Term Project-Generated Non-Traffic Source Noise Levels. *Because long-term project-generated non-traffic source noise levels (i.e., HVAC equipment) under Alternative C could exceed applicable noise standards at off-site existing nearby noise-sensitive land uses, this would be a* ***potentially significant*** *impact.*

Because the type of development under Alternative C would be similar to Alternative A, this impact would be the same as described in Impact 5.8.A-2 for Alternative A. Therefore, this would be a **potentially significant** impact.

Mitigation Measure 5.8.C-2. Design and Locate HVAC Equipment to Minimize Noise.

See Mitigation Measure 5.8.A-2 described above for Alternative A. The same mitigation measure would apply.

Implementation of Mitigation Measure 5.8.C-2 would reduce non-traffic source noise levels to a **less-than-significant** level.

IMPACT 5.8.C-3 Long-Term Project-Generated Traffic Noise Levels. *Because project-related traffic under Alternative C would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways, this would be a* ***less-than-significant*** *impact.*

Relative to Alternative A, the long-term operation of Alternative C would result in a smaller increase in daily traffic volumes on the local roadway network and, consequently, a smaller increase in traffic source noise levels along affected segments. Thus, implementation of Alternative C would not result in a perceptible increase in ambient noise levels at off-site existing noise-sensitive receptors. As a result, this would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.C-4 Land Use Compatibility of Proposed Sensitive Receptors with On-site Noise Levels. *Because on-site noise levels under Alternative C would not exceed applicable land use compatibility standards at proposed noise-sensitive receptors, this impact would be less than significant.*

Unlike Alternative A, Alternative C would result in very few trips added to local roadways (134 daily trips) and on-site traffic noise levels associated with vehicles on the segment of Kahle Drive that extends through the project site would not exceed 55 dBA CNEL from the edge of the roadway. However, because Alternative C would be constructed on the same site as Alternative A, this impact is the same as Impact 5.8.A-4 with respect to exposure of sensitive receptors to excessive noise levels associated with recreational vehicles. As discussed under the previous impact, 5.8.C-3, Alternative C would not result in a substantial increase in on-site traffic noise levels as compared with the existing land use. However, because Alternative C would be constructed on the same site as Alternative A, this impact is the same as Impact 5.8.A-4 with respect to noise from surrounding recreational activities. Thus, Alternative C would not develop noise-sensitive receptors in a location where existing and predicted future noise levels exceed the land use compatibility noise standards established by TRPA. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.8.C-5 Vibration Levels. *Short-term project-generated construction source vibration levels under Alternative C would not exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a less-than-significant impact.*

Because Alternative C would be constructed on the same site and would require similar types of heavy-duty construction equipment as Alternative A, short-term project-generated construction source vibration levels under Alternative C also would not exceed the FTA maximum acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., annoyance) at existing nearby vibration-sensitive land uses. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT ALTERNATIVE, JERE WILLIAMS PLAN

Under Alternative D, the Tahoe Shores Mobile Home Park would remain in operation and existing site conditions would remain the same, with minor maintenance and improvements implemented as needed. The minor improvements would not require any substantial construction or excavation. All noise impacts associated with implementation of Alternative D would be **less than significant**.

ALTERNATIVE E – NO PROJECT ALTERNATIVE, MANUFACTURED HOUSING

Under Alternative E, the Tahoe Shores Mobile Home Park would remain in operation and existing site conditions with respect to noise would remain the same. The site would be temporarily closed, the existing mobile homes would be cleared, and basic site improvements would be completed. These basic BMPs and utility improvements would not require extensive grading or ground disturbance. All noise impacts associated with implementation of Alternative E would be **less than significant**.

5.9 BIOLOGICAL RESOURCES

This section describes the biological resources (e.g., common vegetation, wildlife, and fisheries resources and special-status species) that occur in, or have the potential to occur in, the Beach Club on Lake Tahoe Project study area, which includes the project site and project vicinity (Exhibit 3-2). Local, state, and federal regulations related to biological resources are described, and the effects of Alternatives A through E on vegetation, wildlife, and fisheries resources are analyzed. Mitigation measures are recommended to reduce potentially significant impacts to less-than-significant levels.

5.9.1 REGULATORY BACKGROUND

FEDERAL

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) has authority over projects that may result in take of a species listed as threatened or endangered under the federal Endangered Species Act (ESA). Under the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If a project is likely to result in take of a federally listed species, either an incidental take permit under Section 10(a) of the ESA, or a federal interagency consultation under Section 7 of the ESA, is required prior to the take occurring. Such a permit typically requires various types of mitigation to compensate for or to minimize a take.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the U.S. Secretary of the Interior. Most native bird species fall under the jurisdiction of the MBTA.

Section 404 of the Clean Water Act

Section 404 of the 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, 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 ½ acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under the USACE's nationwide permit (NWP) program, provided 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.

U.S. Forest Service Lake Tahoe Basin Management Unit

The U.S. Forest Service Lake Tahoe Basin Management (LTBMU) manages nearly 80% of lands within the Lake Tahoe Basin that includes approximately 11 shoreline miles or about 15% of the land area interfacing with the shorezone. The proposed project itself (or any of the proposed alternatives) would not be implemented on LTBMU lands, and USFS has no regulatory authority over the project. However, LTBMU lands are within the project study area adjacent to the project site and biological resources present on these adjacent lands could be

directly or indirectly affected by project implementation. Therefore, LTBMU sensitive species are considered in this analysis.

The management of the Forest Service lands is guided by the LTBMU Forest Plan (USFS 1988), as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) (USFS 2004). According to the Forest Plan, in order of priority, the Forest Service shall:

- protect and enhance water clarity and quality;
- protect threatened and endangered plant and animal species native to the area;
- preserve significant cultural resources;
- achieve air quality standards for health and visibility and prevent the adverse impacts of atmospheric deposition upon water quality;
- maintain viable populations of wildlife;
- achieve diverse vegetation communities; and
- enhance outdoor recreational opportunities.

More specific standards and guidelines for biological and other resources are described in detail in the SNFPA record of decision. Also, the LTBMU maintains a list of plants and animals designated as sensitive by the Regional Forester of Region 6 of the Forest Service that should be addressed when a project may affect LTBMU lands.

TAHOE REGIONAL PLANNING AGENCY

Chapter IV, Conservation Element, of the Tahoe Regional Planning Agency (TRPA) Goals and Policies establishes goals for the preservation, development, utilization, and management of natural resources within the Tahoe Basin (TRPA 2004a). These goals and policies are designed to achieve and maintain adopted environmental threshold carrying capacities and are implemented through the TRPA Code of Ordinances. The applicable Code of Ordinances provisions regarding vegetation and wildlife are listed below.

Vegetation Protection and Management

TRPA requires the protection and maintenance of all native vegetation types. Chapter 74 of the TRPA Code of Ordinances (TRPA 2004b) provides for the protection of stream environment zone (SEZ) vegetation, other common vegetation, uncommon vegetation, and sensitive plants. The Conservation Element specifies attainment thresholds for common and uncommon plant communities, vegetation management practices, and goals for preserving and restoring SEZ vegetation. SEZ includes perennial, intermittent, or ephemeral streams; meadows and marshes; and other areas with near-surface water influence within the Lake Tahoe Basin. TRPA defines a SEZ as an area that owes its biological and physical characteristics to the presence of surface or groundwater. 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, Chapter 77 of the Code of Ordinances specifies policies for revegetation programs.

Sensitive and Uncommon Plant Protection

Chapter 75 of the Code of Ordinances sets forth standards for the preservation and management of sensitive plants and uncommon plant communities. Projects and activities that are likely to harm, destroy, or otherwise jeopardize

sensitive plants or their habitat, shall fully mitigate their significant adverse effects. Measures to protect sensitive plants and their habitat include:

- fencing to enclose individual populations or habitat,
- restrictions on access or intensity of use,
- modifications to project design as necessary to avoid adverse impacts,
- dedication of open space to include entire areas of suitable habitat or
- restoration of disturbed habitat.

Conservation Element vegetation goal number 3 requires that the habitat of all sensitive plant species in the Tahoe Basin be identified and preserved. In addition the Conservation Element specifically identifies attainment goals for five threshold sensitive plant species: mariposa sedge (*Carex paucifructus* [*Carex mariposana*]), long-petaled lewisia (*Lewisia longipetala*), Tahoe draba (*Draba asterophora* var. *asterophora*), Cup Lake draba (*Draba asterophora* var. *macrocarpa*), and Tahoe yellow cress (*Rorippa subumbellata*).

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. Provisions for tree removal are provided in the TRPA Code of Ordinances (Chapter 71, and Chapters 30, 65, 75, and 77), and tree removal requires the review and approval of TRPA. Per TRPA Code of Ordinances, Sections 71 and 71.2.B, within the non-SEZ urban area, individual trees larger than 30 inches diameter at breast height (dbh) that are healthy and sound shall be retained as desirable specimen trees having aesthetic and wildlife value, unless: (1) all reasonable alternatives are not feasible to retain the tree, including reduction of parking areas or modification of the original design or; (2) if TRPA determines that they would contribute to a fire hazard, pose an unacceptable risk to occupied or substantial structures or areas of high human use, or if removal of severely insect-infested or diseased trees is warranted to help control an outbreak. In addition, trees and vegetation not scheduled to be removed must be protected during construction in accordance with TRPA Code of Ordinances, Chapter 65.

Wildlife

TRPA sets standards for the preservation and management of wildlife habitats, with special emphasis on protecting or increasing habitats of special significance, such as deciduous trees, wetlands, meadows, and riparian areas (TRPA Code of Ordinances Chapter 78). Specific habitats that are protected include SEZs, movement and migration corridors, critical habitat for any species of concern, and snags and coarse woody debris. In addition, special-interest species, which are locally important because of rarity or other public interest, and threatened, endangered, or rare species designated under state or federal endangered species acts, are protected from habitat disturbance from conflicting land uses. The Conservation Element identifies attainment goals for five wildlife species: northern goshawk (*Accipiter gentiles*), osprey (*Pandion haliaetus*), bald eagle (*Haliaeetus leucoceohalus*), golden eagle (*Aquila chrysaetos*), and peregrine falcon (*Falco peregrinus anatum*), as well as all water fowl, and deer.

Fisheries Resources

Chapter 79, Fish Resources, of the TRPA Code of Ordinances, includes provisions for the protection of fish habitat and the enhancement of degraded habitat. All projects and activities conducted in the shorezone may be prohibited, limited, or otherwise regulated in prime habitat areas, or in areas or at times found by TRPA to be vulnerable or critical to the needs of fish (TRPA 2004b).

Special conditions of project approval, such as restoration of physically altered substrate, limitation of construction to designated periods, or implementation of shoreline protective measures may be required for development in the shorezone to mitigate or avoid significant adverse impacts to habitat or normal fish activities.

Certain activities, such as construction, swimming, or boating may be restricted temporarily in areas where spawning activity occurs. To support the nondegradation standard that applies to fish habitat, TRPA's Code of Ordinances prohibits the alteration of substrate in areas of prime fish habitat unless approved by TRPA. Chapter 54, Development Standards Lakeward of High Water, limits the placement of new structures in prime fish habitat and prohibits structures within 200 feet of stream inlets (TRPA 2004b).

The maintenance of essential habitat serves as the fisheries management emphasis for the Conservation Element of TRPA Goals and Policies. For lakes in the Tahoe Basin, the management focus is on the quality of the nearshore substrate as feeding, cover, and spawning habitat. The Conservation Element identifies four attainment goals related to nearshore fish habitat (TRPA 2004a):

- **Goal 1 –** Development proposals affecting streams, lakes, and adjacent lands shall evaluate impacts to the fishery;
- **Goal 2 –** Unnatural blockages and other impediments to fish movement will be prohibited and removed wherever appropriate;
- **Goal 4 –** Standards for boating activity shall be established for the shallow zone of Lake Tahoe; and
- **Goal 9 –** The water level of Lake Tahoe should be controlled to reflect seasonal weather and runoff.

The TRPA environmental threshold carrying capacities for vegetation, wildlife, and fisheries are discussed under the "Significance Criteria" Section. Goals and Policies of the Regional Plan that are applicable to the Beach Club project are discussed in Section 5.3, "Land Use," of this EIS.

STATE

Nevada Department of Natural Resources, Natural Heritage Program

The mission of the Nevada Department of Natural Resources, Natural Heritage Program (NNHP) is to help coordinate the resource needs of Nevada's diverse biological heritage with human activities. They maintain an inventory and databases on the locations, biology, and conservation status of all threatened, endangered, sensitive, and at-risk species and biological communities in the state.

Nevada Division of Wildlife

The Nevada Division of Wildlife (NDOW) exercises responsibilities including the management of fish and wildlife resources and their habitats on the Nevada side of the Basin. Under Title 45, "Wildlife", of the Nevada Revised Statutes, NRS 503.584-503.589 provide a program for the conservation, protection, restoration, and propagation of selected species of native fish and other vertebrate life, including migratory birds. Wildlife must be classified as wild mammals, wild birds, fish, reptiles, mollusks, crustaceans, or amphibians, with each classification having sub-classifications as to whether it is game, non-game, protected, or unprotected. Each species of wildlife must be placed in a classification by regulation and may be further classified as sensitive, threatened or endangered. A wildlife species may be declared to be threatened with extinction by the Nevada Wildlife Commission and placed on the list of fully protected species. Bald eagles, golden eagles, and migratory birds are specifically protected under NRS 503.610 and NRS 503.620.

In addition, NDOW is also responsible for boating and safety on navigable waters. NDOW's navigational safety and recreational access program (e.g., angler access along shoreline) protects boaters from navigational obstacles and ensures recreational access along the shoreline. The NDOW is a reviewing and commenting agency that supplies Nevada Division of State Lands with comments recommending approval or denial of shorezone projects within their jurisdiction. However, NDOW does not issue permits for shorezone construction and they issue citations for boating violations and can remove hazards to navigation within the waters of Lake Tahoe.

Nevada Division of Forestry

The Nevada Division of Forestry (NDF) manages all forestry, nursery, endangered plant species, and watershed resource activities on certain public and private lands. The Division also provides fire protection of structural and natural resources through fire suppression and prevention programs and other emergency services. Under Title 47, "Forestry", of the Nevada Revised Statutes, NRS 527.050 specifies that it is unlawful to cut, destroy, mutilate, pick, or remove any flora declared endangered by the State Forester Firewarden from any lands owned by or under the control of the State of Nevada or the United States without a written permit from the State Forester Firewarden or his designate. NRS 527.270 designates the State Forester Firewarden as the state authority to designate a species as threatened with extinction. Any species declared to be threatened with extinction is placed on the list of fully protected species, and no member of its kind may be removed or destroyed at any time by any means except under special permit issued by the State Forester Firewarden. NRS 527.060 to 527.120 regulate the commercial harvest of any "Christmas tree," which is defined as an evergreen tree cut and removed from the place where grown without the foliage being removed. The cutting and removal for commercial purposes of six Christmas trees for seven or more consecutive calendar days requires a permit.

Nevada Division of State Lands

The Nevada Division of State Lands (NDSL) leads the State's programs to protect Lake Tahoe. The Nevada Tahoe Resource Team (NTRT) is an interagency team coordinated by NDSL and dedicated to preserving and enhancing the natural environment in the Lake Tahoe basin. The team currently consists of eight members: five from NDSL; one from the NDF; one from the NDOW; and one from the Division of State Parks. The NDSL maintains the public trust on the Nevada side of Lake Tahoe for submerged land below 6223 feet Lake Tahoe Datum (LTD). The NDSL is a leasing agency that requires applications for structures lakeward of permanent high water, lake elevation 6229.1 feet. The NDSL is not required to make environmental quality findings for projects or lease agreements; the agency does, however, request comments from the Nevada Division of Wildlife regarding any impacts to recreational access and fish habitat.

Nevada Division of Environmental Protection

The Nevada Division of Environmental Protection (NDEP) has been working for more than three decades to improve water quality and develop water protection programs in the Tahoe Basin. In 2001, the State of Nevada, through the NDEP, joined forces with the State of California, through the Lahontan Regional Water Quality Control Board to address Lake Tahoe's declining water clarity. The division issues permits that limit the amount of pollutants which can be discharged to the air and water of the State. The division has a variety of permitting programs that deal with such discharges. Permit compliance is ensured through design reviews, inspections, review of monitoring reports and enforcement actions.

LOCAL

Douglas County Master Plan

The *Draft 2006 Douglas County Master Plan Conservation Element* (Douglas County 2007) describes goals and policies to protect the natural resources of Douglas County. Policies 5.09.01 through 5.09.04 were enacted to protect wetland resources and specify compliance with the CWA, the possibility of wetland mitigation banking, and the protection of wetlands for groundwater discharge, flood protection, sediment and pollution control, wildlife habitat, and open space. Policies 5.16.01 through 5.16.02 address the need in the county for a system of open space areas that are connected by trails and the means to implement such a system. Policies 5.19.01 through 5.19.04 address the protection of sensitive wildlife, vegetation, and habitats through limitations on development or mitigation. Policy 5.19.02 directs the County to develop regulations and design guidelines to minimize impacts of new development on sensitive habitats and migration routes.

5.9.2 AFFECTED ENVIRONMENT

The 19.63-acre project site is located at the western end of Kahle Drive on the south shore of Lake Tahoe in Douglas County, Nevada, approximately 0.8 miles north of the California-Nevada state line. Kahle Beach, with 217 linear feet of lake frontage, and Lake Tahoe, are on the westernmost edge of the project site. On the north, the site is bordered by USFS lands, including Burke Creek (Rabe) Meadow and Nevada Beach Campground. The project site is bordered on the south by the University of Nevada 4-H Camp and Edgewood Golf Course and on the east by developed land that is the site of the Meadowbrook Apartments and the Oliver Park General Improvement District (GID). Elevations within the project site range from approximately 6,229 to 6,251 feet above mean sea level (msl), and the terrain is generally flat.

The project site is located within the Burke Creek watershed. Burke Creek emerges in the mountains to the east at an elevation of 7,800 feet and has its outlet at Nevada Beach on USFS land approximately 500 feet north of the project site. In the 1950s Burke Creek was diverted into a large roadside ditch (the Kahle Ditch) located along Kahle Drive, which collected storm water runoff from U.S. Highway 50 (U.S. 50) and the Oliver Park area and discharged to Lake Tahoe at Kahle Beach. In the mid 1970s, the USFS purchased the Burke Creek property and redirected the storm water drainage and the path of Burke Creek, so that it remains on USFS land to the north of the project site. Runoff from developed lands to the east of the project site now collects in three water treatment ponds immediately east of the project site which drain to Rabe Meadow.

As detailed in Chapter 3 of this document, the proposed project (Alternative A) would include restoration of approximately 2 acres of SEZ habitat along the northern portion of the project site adjacent to the USFS parcel and Burke Creek as shown in Exhibits 3-4 and 3-13. The fill in this northern portion of the project site, originally placed over the SEZ when an airfield was constructed prior to use of the site as a mobile home park, would be removed to re-establish wetlands and SEZ habitat adjacent to Burke Creek. The eastern portion of Kahle Ditch on the northern border of the project site would be filled to assist with rehydrating the restored meadow; the portion of the ditch between the access road to the Douglas County Sewer Improvement District Pump Station north of the site and the beach, and the culvert underlying the access road, would be left in place such that the regional hydrologic regime (including flows and conveyance facilities) to the western portion of the ditch would be unchanged. After removal of the fill and restoration of the ditch, the restoration area would be planted with native plugs and riparian vegetation and all disturbed areas would be seeded with a native wetland seed mixture and mulched. The conceptual plant list for landscaping and SEZ restoration area is provided in Table 3-3. A small split rail fence would be installed along the northern side of the project roadway to identify and protect the restored SEZ area.

VEGETATION AND HABITAT TYPES

EDAW biologists performed a reconnaissance survey of the project site on June 21, 2006. The majority of the land on the project site is developed and landscaped; the TRPA-verified coverage on-site is 457,959 sf (Exhibit 3-11). The site includes roadways, concrete pads for 155 mobile home units, and landscaping associated with the Tahoe Shores Mobile Home Park. At the western end of the project site, the Kingsbury General Improvement District (KGID) pump station, three ozone chambers, a mobile home that serves as the Tahoe Shores manager's office, storage and maintenance buildings, transformers, and a recreational pier are present. The Mobile Home Park is fenced and gated and does not provide public access to the beach.

Habitats present on the westernmost portion of the project site include the beach zone, a drainage ditch, willow scrub, big sagebrush scrub, and dry meadow (Exhibit 5.9-1). The lands that make up the USFS and University of Nevada properties to the north and south are characterized by well developed Jeffrey pine (*Pinus jeffreyi*) forest, big sagebrush (*Artemisia tridentata* var. *tridentata*) scrub, montane meadow, and riparian scrub/woodland habitats.

Source: Adapted by EDAW 2005

Project Site Habitat Types **Exhibit 5.9-1**

Beach Zone

The approximately 0.36 acre beach zone is characterized by a sand corridor that varies in width depending on lake level. During years with low lake level (<6,225 ft LTD), the beach zone is at its widest, while during years of high lake level (>6,226 ft LTD) the beach zone is at its narrowest. Closest to the lake, the beach is characterized by unvegetated, decomposed-granitic sand. The upper beach includes some moist swales that are dominated by common spikerush (*Eleocharis macrostachya*), cheat grass (*Bromus tectorum*), shining willow (*Salix lucida* ssp. *lasiandra*), and Geyer's willow (*Salix geyeriana*). Where the Kahle Ditch is adjacent to the beach, moist areas of sand are dominated by Baltic rush (*Juncus balticus*), wicker buckwheat (*Eriogonum vimineum*), and shy gilia (*Gilia inconspicua*). In addition, as described below, the special-status species Tahoe yellow cress (*Rorippa subumbellata*) is present in beach areas adjacent to the Kahle Ditch. The only developed portion of the beach zone is the existing pier.

Willow Scrub/Riparian Woodland and Drainage Ditch

A remnant of the Kahle Ditch is present along the northern border of the project site and still collects runoff from the project site. The approximately 0.10-acre drainage ditch begins at the eastern end of the project site at Kahle Drive and extends west to Kahle Beach. At the time of the reconnaissance survey for this project on June 21, 2006, the drainage ditch was separated from Lake Tahoe by a narrow band of beach. At Kahle Drive, the drainage ditch is approximately 3 feet wide at its average ordinary high water mark (OHWM) and is not fed by a culvert. As the ditch runs to the west, the width varies from 1 to 30 feet wide at its OHWM, with the widest portion at its westernmost end. The ditch water level at the time of the reconnaissance survey ranged from nearly dry to 2 feet deep. The ditch is fed by seepage from the meadows to the north as well as by Burke Creek itself. Where Burke Creek runs closest to the project site, the creek is located approximately 6 feet from the ditch and water runs from the creek into the ditch.

The drainage ditch is lined with willow scrub and riparian woodland vegetation. As described above, willow scrub vegetation is also present on the highest part of the beach zone. There is a total of approximately 1.44 acres of willow scrub and riparian habitat on the project site. Willow scrub vegetation on the project site is dominated by shining willow, Geyer's willow, and Lemmon's willow (*Salix lemmonii*). In riparian woodland areas, willows occur with aspen (*Populus tremuloides*). Herbs present in the understory of this habitat include spicate checker mallow (*Sidalcea oregano* ssp. *spicata*), panicled willow-herb (*Epilobium brachycarpum*), horsetail (*Equisetum* sp.), and panicled bulrush (*Scirpus microcarpus*). Willow scrub and riparian woodland are characteristic of land with high water levels such as riparian corridors and moist meadows. These vegetation types are also present along Burke Creek and in moist meadows to the north and south of the project site.

Big Sagebrush Scrub

To the east of the beach zone, approximately 0.67 acres of big sagebrush scrub habitat is present on the project site. Big sagebrush scrub on the project site is dominated by big sagebrush, intermediate wheatgrass (*Elytrigia intermedia*), yarrow (*Achillea millefolium*), cheatgrass, mountain bunch-fescue (*Festuca viridula*), Pacific lupine, (*Lupinus lepidus*), and creeping wildrye (*Leymus triticoides*). The big sagebrush plant community is also present in upland areas to the north and south of the project site.

Jeffrey Pine forest

Drier, upland lands to the north and south of the project site are dominated by Jeffrey pine with scattered individuals of lodgepole pine (*Pinus contorta* ssp. *murrayana*) also present. Jeffrey pine forest is a type of upper montane coniferous forest (Holland 1986). Jeffrey pine is present on some areas of the project site, both in the undeveloped western portion and near residences. However, no well-developed conifer forest is present on the project site.

Dry Meadow

To the south and east of the big sagebrush scrub areas on the project site, approximately 0.21 acre of dry meadow habitat is present. This habitat is characterized by more soil moisture than adjacent upland areas and is dominated by slenderbeak sedge (*Carex athrostachya*), analogue sedge (*Carex simulata*), awned cyperus (*Cyperus squarrosus*), harsh popcorn flower (*Plagiobothrys hispidulus*), panicled willowherb, and slender cinquefoil (*Potentilla gracilis* var. *fastigata*).

WILDLIFE RESOURCES

The project site is highly disturbed and contains very little habitat with the potential to support special-status wildlife (see *Sensitive Biological Resources* below). However, given the adjacency of USFS land, numerous common wildlife species may occur on or in the vicinity of the project site. Common bird species that may occur on or in the vicinity of the project site include mountain chickadee (*Poecile gambeli*), pine siskin (*Carduelis pinus*), European starling (*Sturnus vulgaris*), northern flicker (*Colaptes auratus*), band-tailed pigeon (*Columba fasciata*), common raven (*Corvus corax*), and pygmy nuthatch (*Sitta pygmaea*). Common mammal species may include golden-mantled ground squirrel (*Spermophilus lateralis*), porcupine (*Erethizon dorsatum*), coyote (*Canis latrans*), black bear (*Ursus americanus*), mule deer (*Odocoileus hemionus*) and raccoon (*Procyon lotor*). In addition, waterfowl that may occur in open water adjacent to the project site include common loon (*Gavia immer*), western grebe (*Aechmophorus occidentalis*), ring-necked duck (*Aythya collaris*), bufflehead (*Bucephala albeola*), and common merganser (*Mergus merganser*).

FISHERIES RESOURCES

Lake Tahoe is considered ultra-oligotrophic, meaning that it is low in nutrient levels and primary productivity. This condition naturally limits fishery production because it limits primary production. Fish productivity is further limited by the availability of suitable spawning, cover, and feeding habitats. The shorezone habitat at the project site is characterized by shallow, nearshore, sandy substrate lacking vegetation (TRPA 2004c). Past land management practices have significantly altered the fishery resource through habitat modification (e.g., rock cribs) and/or destruction (e.g., sedimentation).

Fish Habitat

The TRPA Code of Ordinances recognizes spawning habitat as an area that attracts, or is capable of attracting, fish for reasons of producing and fertilizing eggs. Prime Fish Habitat maps identified spawning areas along 25 miles (35%) of the Lake Tahoe shorezone (TRPA 2004c). These areas distributed along the shorezone are all located along the California shoreline. Shorezone substrate was classified as spawning habitat if the majority of the gravel within an area measured between 2 to 64 millimeters in diameter. In addition, spawning areas have also been found to occur in both sheltered and open portions of the shoreline in Lake Tahoe. The proposed project site is not designated as prime spawning habitat.

Young fish use calm water to find food and hide from predators. Suitable nursery habitat in Lake Tahoe is located in marshes and wetlands, in areas with sand substrate that supports vegetation, and in deepwater vegetation. Vegetation in these areas also provides excellent cover and provides favorable habitat for invertebrates which are needed for food by young fish. In addition, some species of larval and post-larval fish often use shallow, sandy portions of the shorezone because high water temperatures provide for optimal growth. Due to the lack of nearshore or aquatic vegetation in the project area, this area is not considered suitable feed and/or cover habitat.

Marginal habitats are characterized by a predominance of sand and silt substrates that are often times interspersed with vegetation. Beauchamp found that these substrates provided important nursery habitat for the under-yearling littoral fish (Beauchamp et al. 1991). The habitat in the proposed project area is composed entirely of sand substrates but lacking vegetation thus providing low level marginal habitat for fish.

Habitat Alteration

Various conditions and actions taking place within the shorezone can potentially affect fish and fish habitat including development, recreational boating activity, and petroleum products related to this boating activity.

Construction of rock crib structures (e.g., piers, jetties, or breakwaters) can adversely affect fish habitat if it covers existing spawning beds. Rocks used in the construction of these structures typically originate from the foreshore, nearshore or backshore adjacent to a particular project. The use of these structures has affected acres of existing habitat within the shorezone, although it has provided vertical habitat for fish in the cribbing when and where the cribbing is submerged (Beauchamp et al. 1991).

On June 25, 1997, TRPA adopted an amendment to Subsection 81.2.D of the TRPA Code prohibiting the discharge of unburned fuel and oil from the operation of watercraft powered by carbureted two-stroke engines (commenced on June 1, 1999) (TRPA 2004b). EPA studies have indicated that carbureted two-stroke outboard engines burn one-quarter of the fuel they consume. On a per-gallon basis, personal watercraft can emit a minimum of 23% more ambient hydrocarbon emissions than other two-stroke engine watercraft. Increased discharge impacts created by incomplete combustion can occur due to the effects of high altitude.

Additionally, two and four-stroke engines do not perform as designed when incorrectly tuned for Lake Tahoe's elevation, which contains 28% less air at Standard Temperature and Pressure than found at sea level. This lower air pressure causes fuel to burn incompletely in boats whose carburetors are tuned for a lower altitude. The un-tuned, two-cycle outboard engine consumes about three times as much fuel as a tuned two-stroke engine (TRPA 1999).

Boating on regional lakes may impact water quality and the health of aquatic organisms in the Lake Tahoe Basin. Operating motorized watercraft can potentially contaminate the Lake from engine exhaust, fuel spills, discharges of oil and grease, and other sources. The contamination from engines is due to the fact that outboard motors discharge their exhaust directly into the water, and inboard/stern drive motors typically discharge their exhaust below or at the water line. Marine engines emit hydrocarbons and oxides, typically nitrogen oxide and nitrogen dioxide. Some portion of these nitrogen oxides, which are directly emitted into the Lake, can potentially be converted to nitrate. To date, no marine engines (outboards or inboards, gasoline or diesel powered) have had to comply with the emissions regulations for automobiles.

Common Fish Species

A number of native and nonnative fish species are commonly found in the Lake Tahoe shorezone. This fish assemblage is reflective of several decades of active management of the Lake Tahoe fishery that has included both legal and illegal fish introductions, regular stocking of non-native gamefish, and fishing regulations designed to conserve gamefish populations. Common native fish species include Lahontan redside *(Richardsonius egregious)*, tui chub *(Siphateles bicolor)*, speckled dace *(Rhinichthys osculus)*, Tahoe sucker *(Catostomus tahoensis)*, mountain whitefish *(Prosopium williamsoni)*, and Paiute sculpin (*Cottus beldingi)*. Common nonnative fish species include lake trout *(Salvelinus namaycush)*, kokanee salmon *(Oncorynchus nerka)*, brown trout *(Salmon trutta)*, and rainbow trout *(Oncorynchus mykiss)*.

SENSITIVE BIOLOGICAL RESOURCES

In this analysis, sensitive biological resources include those that receive special protection through the TRPA Code of Ordinances, ESA, CWA, USDA Forest Service Manual, 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;
- designated as at-risk by the Nevada Natural Heritage Program;
- designated as sensitive by the USFS Regional Forester in Region 5;
- animals designated as sensitive, threatened, or endangered in Nevada under NRS 503;
- plants designated as critically endangered in Nevada under NRS 527; and/or
- considered by the Nevada Native Plant Society as "watch list" or threatened plant species.

Federal "species of concern" are no longer designated or recognized by USFWS; therefore species previously designated as such are not addressed in this section.

Special-status Plants

A preliminary list of special-status plant species with potential to occur on the project site was initially developed based on the following:

- a list of special-status species known to occur within a 5 kilometer radius of the project site obtained from the Nevada Natural Heritage Program (NNHP 2006);
- a list of special-status species tracked by the Nevada Natural Heritage Program (NNHP 2005);
- a list of special-status species known to occur in Douglas County, Nevada, obtained from the Nevada Natural Heritage Program website (NNHP 2004);
- the Nevada Natural Heritage Program Rare Plant Atlas Maps and Information Sheets (NNHP 2001);
- a list of federally-listed endangered, threatened, or candidate species that may occur in adjacent California in the South Lake Tahoe USGS 7.5 minute quadrangle (requested on-line from the Sacramento office of USFWS) (USFWS 2006);
- a list of special-status species known to occur in adjacent California within the South Lake Tahoe and Emerald Bay USGS 7.5 minute quadrangles obtained from the DFG California Natural Diversity Database (CNDDB 2006);
- a list of sensitive species recognized by the Lake Tahoe Basin Management Unit of the Forest Service (LTBMU 2006);
- a list of threshold species recognized by TRPA (TRPA 2007);
- a site visit by a consultant biologist and TRPA staff on August 3, 2004; and
- a Tahoe yellow cress survey by an EDAW botanist on June 21, 2006.

The initial data review preliminarily identified 21 special-status plant species that could occur in the project region. Only three of these species are known either from Douglas County or in adjacent California in the South Lake Tahoe quadrangle: Tahoe yellow cress (*Rorippa subumbellata*), Washoe tall rockcress (*Arabis rectissima*

var. *simulans*), and Tahoe draba (*Draba asterophora* var. *asterophora*). Tahoe yellow cress is known to occur on the project site. It was determined that the project site is not likely to support other special-status plant species. This determination was based primarily on: (1) the known elevation distribution of each species compared to the elevation range of the project site; (2) the types, extent, and quality of habitats on the project site documented during the field survey; and (3) the proximity of the project area to known extant occurrences of the species and the regional distribution and abundance of the species.

Table 5.9-1 summarizes the potential for occurrence of each special-status plant species evaluated during this analysis. Because it occurs on the project site, Tahoe yellow cress is described in more detail below.

Table 5.9-1
Special-Status Plant Species with Potential to Occur on the Beach Club Project Site

Scientific and Common Name	Regulatory Status*			Habitat and Flowering Period	Potential for Occurrence
	Federal	State	Other		
Arabis rectissima var. *simulans* Washoe tall rockcress	FSSI	NNHP-AR	NNPS-T	Jeffrey pine-fir forest on gentle slopes, in gently disturbed areas, on sandy granitic or andesitic soil; 1,839–2,240 m. Blooms June–July.	Unlikely. Usually absent from highly disturbed areas. Closest occurrences are along the eastern shore of Lake Tahoe in Douglas County.
Arabis rigidissima var. *demota* Galena Creek rockcress	FSS	NNHP-AR	TRPA NNPS-W	Fir-pine-quaking aspen associations, meadow edges, usually on north-facing slopes and rocky outcrops; 2,140–3,054 m. Blooms August.	Not expected to occur. No suitable forest habitat present on the project site. Closest occurrences are along the north shore of Lake Tahoe, outside of Douglas County.
Botrychium ascendens Upswept moonwort	FSS	NNHP-AR	NNPS-W	Coniferous forest in mesic substrates such as springs; 1,500–2,285 m. Fertile in August.	Not expected to occur. No suitable mesic forest habitat present on the project site.
Botrychium crenulatum Scalloped moonwort	FSS	NNHP-AR	NNPS-W	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps; 1,500–3,280 m. Fertile July–August.	Not expected to occur. No suitable mesic forest habitat present on the project site.
Botrychium lineare Slender moonwort	FSS		NNPS-W	Upper montane coniferous forest, often in disturbed areas; 2,600 m. Fertile period not known.	Not expected to occur. No suitable forest habitat present on the project site and elevations of known occurrences exceed those on the project site.
Botrychium lunaria Common moonwort	FSS			Subalpine and upper montane coniferous forest, meadows and seeps; 2,280–3,400 m. Fertile in August.	Not expected to occur. No suitable mesic forest habitat present on the project site and elevations of known occurrences exceed those on the project site.
Botrychium minganense Mingan moonwort	FSS			Lower montane and upper montane coniferous forest in mesic soils; 1,500–2,055 m. Fertile July–September.	Not expected to occur. No suitable mesic forest habitat present on the project site.

Table 5.9-1
Special-Status Plant Species with Potential to Occur on the Beach Club Project Site

Scientific and Common Name	Regulatory Status*			Habitat and Flowering Period	Potential for Occurrence
	Federal	State	Other		
Botrychium montanum Western goblin	FSS			Lower montane and upper montane coniferous forest in mesic soils; 1,500–2,130 m. Fertile July–September.	Not expected to occur. No suitable mesic forest habitat present on the project site.
Bruchia bolanderi Bolander's candle moss	FSS	NNHP-AR		Lower montane coniferous forest in mesic soils; 1,706–2,743 m. Fertile period not specified.	Not expected to occur. No suitable mesic forest habitat present on the project site.
Carex mariposana Mariposa sedge (name changed from *Carex paucifructus*)			TRPA	Red fir and subalpine coniferous forest, montane meadows; 1,200–3,200 m. Blooming period unknown.	Not expected to occur. No suitable subalpine forest and meadow habitat present on the project site.
Draba asterophora var. *asterophora* Tahoe draba	FSS	NNHP-AR	TRPA NNPS-W	Alpine boulder and rock fell field, subalpine coniferous forest; 2,500–3,505 m. Blooms July–September	Not expected to occur. No suitable subalpine habitat present on the project site and elevations of known occurrences exceed those on the project site.
Draba asterophora var. *macrocarpa* Cup Lake draba	FSS		TRPA	Subalpine coniferous forest; 2,500-2,815 m. Blooms July–August.	Not expected to occur. No suitable subalpine habitat present on the project site and elevations of known occurrences exceed those on the project site.
Epilobium howellii Subalpine fireweed	FSS			Subalpine coniferous forest, meadows and seeps; 2,000–2,700 m. Blooms July–August.	Not expected to occur. No suitable subalpine or meadow habitat present on the project site and no occurrences known from the southern side of the Tahoe Basin.
Erigeron miser Starved daisy	FSS			Upper montane coniferous forest in rocky soils; 1,840–2,620 m. Blooms June to October.	Not expected to occur. No suitable coniferous forest habitat present on the project site and no occurrences known from the southern side of the Tahoe Basin.
Eriogonum umbellatum var. *torreyanum* Donner Pass buckwheat	FSS			Rocky, volcanic substrate in meadows and upper montane coniferous forest. 1,855–2,620 m. Blooms July–September.	Not expected to occur. No volcanic substrate and suitable forest habitat present on the project site.
Hulsea brevifolia Short-leaved hulsea	FSS			Lower and upper montane coniferous forest often on slate; 1,500-3,200 m. Blooms May – August.	Not expected to occur. No suitable coniferous forest and substrate habitat present on the project site.

Table 5.9-1
Special-Status Plant Species with Potential to Occur on the Beach Club Project Site

Scientific and Common Name	Regulatory Status*			Habitat and Flowering Period	Potential for Occurrence
	Federal	State	Other		
Lewisia longipetala Long-petaled lewisia	FSS		TRPA	Alpine boulder and rock field, subalpine coniferous forest; 2,500–2,925 m. Blooms July–August.	Not expected to occur. No suitable subalpine habitat present on the project site and elevations of known occurrences exceed those on the project site.
Meesia triquetra Three-ranked hump moss	FSS	NNHP-AR	NNPS-W	Bogs and fens, meadows and seeps, upper montane coniferous forest on mesic soil; 1,300–2,500 m. Fertile period not specified.	Not expected to occur. No suitable forest or meadow habitat present on the project site.
Meesia uliginosa Broad-nerved hump moss	FSS			Bogs and fens, meadows and seeps, upper montane coniferous forest on mesic soil; 1,300–2,500 m. Fertile period not specified.	Not expected to occur. No suitable forest or meadow habitat present on the project site.
Peltigera hydrothyria Veined water lichen	FSS			Cold unpolluted streams and springs in coniferous forest.	Not expected to occur. No suitable forest or aquatic habitat present on the project site.
Rorippa subumbellata Tahoe yellow cress	FC FSS	CE, NNHP-AR	TRPA NNPS-T	Decomposed granitic beaches 1,895–1,900 m. Blooms May–September.	High. Known to occur on project site in beach zone.

*Regulatory Status Codes:

Federal:
FC = Federal candidate for listing
FSS = Forest Service Sensitive
FSSI = Forest Service Species of Interest

State:
CE = Critically Endangered under NRS 527
NNHP-AR = Nevada Natural Heritage Program At-Risk

Local:
TRPA = TRPA threshold/special status species
NNPS –W = Nevada Native Plant Society watch list
NNPS –T = Nevada Native Plant Society threatened

Sources: NNHP 2004, 2001; LTBMU 2006; TRPA 2002; USFWS 2006, CNPS 2006 ; CNDDB 2006

Tahoe Yellow Cress

Tahoe yellow cress is a perennial herb with yellow flowers in the mustard family that is endemic to the sandy beaches of Lake Tahoe. Tahoe yellow cress is a candidate for listing by the USFWS, listed as endangered by the state of California, critically endangered by the state of Nevada, and is a TRPA threshold special status species. It emerges above ground from perennial underground roots between March and June and flowers between June and October. Estimating the number of Tahoe yellow cress plants in a population can be difficult, because the plants are colonial and spread by root growth. Modern monitoring protocols for the species generally count above-ground stems (equivalent to plant rosettes), although older monitoring efforts may have attempted to count plants. For the purposes of this report, stems are referred to as "plants."

During the EDAW special-status plant survey on June 21, 2006, 11 plants of Tahoe yellow cress were encountered in four locations on the project site (Appendix F). All 11 Tahoe yellow cress plants were located in

the beach zone on the north side of the project site on the north and south sides of the drainage ditch in moist sand 1 to 4 feet from the water's edge (Exhibit 5.9-1). During an August 2004 site visit conducted by ENTRIX, four Tahoe yellow cress plants in two locations were observed in the beach zone area of the project site. One of the 2004 locations is adjacent to the drainage ditch. The other 2004 location is immediately west of the pump house in the beach zone. The pump house location was searched, but no Tahoe yellow cress plants were encountered at that location in 2006.

Tahoe yellow cress has been monitored at a number of sites around Lake Tahoe since 1978. For the purposes of monitoring, the populations at Nevada and Kahle beaches have been combined into one site. Tahoe yellow cress was abundant (519 stems) at Kahle and Nevada beaches in the late 1980s following a series of high lake level years (6,228 ft LTD). The species became very scarce on those beaches in the early 1990s when lake level decreased substantially during a regional drought, indicating that species survivorship may have been affected by a lowering of the water table. The Kahle Beach population was also disturbed during construction of the KGID pump station in 1990. Although plants were salvaged before the commencement of construction, and a replanting project was carried out, the population at that site has never again reached its preconstruction size of 167 plants (Etra 1992; California State Lands Commission 1998).

Tahoe yellow cress is thought to be very sensitive to disturbance by human activity (walking, running, dog-walking) Tahoe yellow cress is also very sensitive to lake level, with more occurrences present at times of low lake level when more beach zone habitat is available for colonization (Pavlik et al. 2002, Stanton and Pavlik 2006). In response to low numbers of Tahoe yellow cress occurrences in the mid-1990s, a multi-agency Technical Advisory Group (TAG) was formed by TRPA to develop and implement a conservation strategy for the species. The conservation strategy was written in 2002 (Pavlik et al. 2002) and a memorandum of understanding/ conservation agreement was signed by 13 state and local agencies and organizations to implement the strategy. Since 2001, a number of studies have been initiated including Tahoe yellow cress seed collection and trial outplantings. In the 2002 Conservation Strategy, Kahle and Nevada beaches were classified as a high priority restoration site. In 2004, outplantings of Tahoe yellow cress were installed on Nevada Beach near the mouth of Burke Creek, and that population is now surrounded by fencing and is being monitored for successful survival and reproduction. No restoration activities have been implemented at Kahle Beach.

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. Part of implementation of the Conservation Strategy is making sure that all properties with Tahoe yellow cress occurrences have a management plan or information sheet submitted to the AMWG (Stanton and Pavlik 2006).

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 special-status species known to occur within a 5 mile radius of the project site obtained from the Nevada Natural Heritage Program (NNHP 2006);
- a list of special-status species tracked by the Nevada Natural Heritage Program (NNHP 2005);
- a list of special-status species known to occur in Douglas County, Nevada, obtained from the Nevada Natural Heritage Program website;
- a personal communication with Ralph Phenix, Nevada Division of Wildlife;
- a list of federally-listed endangered, threatened, or candidate species that may occur in adjacent California in the South Lake Tahoe USGS 7.5 minute quadrangle (requested on-line from the Sacramento office of USFWS) (USFWS 2006);

- a list of special-status species known to occur in adjacent California within the South Lake Tahoe and Emerald Bay USGS 7.5 minute quadrangles obtained from the DFG California Natural Diversity Database (CNDDB 2006);

- a list of sensitive species recognized by the Lake Tahoe Basin Management Unit of the Forest Service (LTBMU 2006); and

- a list of threshold special status species recognized by TRPA (TRPA 2007).

The initial data review preliminarily identified 23 special-status wildlife species that could occur in the project region. Of these species, eighteen are known to occur either in Douglas County or in adjacent California in the South Lake Tahoe quadrangle. Only seven of these species are known to have historical occurrences within 5 miles of the project site: Lake Tahoe benthic stonefly (*Capnia lacustra*), northern Sierra endemic ant (*Formica microphthalma*), Carson Valley silverspot (*Speyeria nokomis carsonensis*), fringed myotis (*Myotis thsanodes*), northern goshawk (*Accipiter gentilis*), bald eagle (*Haliaeetus leucocephalus*), and osprey (*Pandion haliaetus*). Bald eagle, osprey, waterfowl, and mule deer have moderate to high potential to occur in the immediate project vicinity and are discussed below.

Table 5.9-2
Special-Status Wildlife Species With Potential to Occur in the Project Vicinity

Scientific and Common Names	Regulatory Status*			Habitat Associations	Potential for Occurrence
	Federal	State	Other		
Invertebrates					
Capnia lacustra Lake Tahoe benthic stonefly		NNHP-AR		Endemic to Lake Tahoe occurs at depths between 95 and 400 feet with algae, mosses, and liverworts.	Unknown. Species is known to occur within 5 km of the project site. However, the presence of deep-water plant beds within the immediate vicinity of the project is unknown.
Formica microphthalma Northern Sierra endemic ant		NNHP-AR		Montane ant of conifer forests in the northern Sierra.	Known from within 5 km of the project site, but not expected to occur on project site. No conifer forest habitat present on project site.
Speyeria nokomis carsonensis Carson Valley silverspot		NNHP-AR		Known from Carson Valley, host plant is *Viola nephrophylla*, nectar sources include thistles.	Known from within 5 km of the project site, but not expected to occur on project site. No suitable habitat present.
Amphibians					
Bufo canarus Yosemite toad	FC			Endemic California toad found in wet meadows between 4–12,000 feet in the Sierra from Alpine Co. south to Fresno Co.	Not expected to occur in project vicinity. Outside of the known range for the species.

Table 5.9-2
Special-Status Wildlife Species With Potential to Occur in the Project Vicinity

Scientific and Common Names	Regulatory Status*			Habitat Associations	Potential for Occurrence
	Federal	State	Other		
Rana muscosa Mountain yellow-legged frog	FC FSS	NNHP-AR		Occurs in streams, lakes, and ponds in upper montane and riparian forests of Sierra Nevada. Found within a few feet of water.	Low potential to occur in project vicinity; very low potential to occur on project site. Highly degraded riparian habitat along the northern boundary of the project site, no known populations within the project vicinity.
Rana pipiens Northern leopard frog	FSS			Prefers permanent water with abundant aquatic vegetation. Occurs also in wet meadows, bogs, potholes, reservoirs, etc.	Low potential to occur in project vicinity; very low potential to occur on project site. Highly degraded riparian habitat along the northern boundary of the project site, no known populations within the project vicinity.
Birds					
Haliaeetus leucocephalus Bald eagle	FT	E, NNHP-AR	TRPA	Found along 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, especially Ponderosa pine. Roosts communally in winter.	Moderate potential to occur in project vicinity, not expected to occur on the project site. No suitable perching or nesting habitat in the project site, may perch or nest north or south of the site in adjacent forests, and may forage within the project vicinity
Pandion haliaetus Osprey			TRPA	Associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats. Nest usually within 1,312 ft of fish-producing water, but may nest up to 1 mi from water.	Moderate potential to occur in project vicinity, not expected to occur on the project site. No suitable perching or nesting habitat on the project site, may perch or nest north or south of the site in adjacent forests, and may forage within the project vicinity. Known nesting location within 5 miles of the project site.
Accipiter gentilis Northern goshawk	FSS	S, NNHP-AR	TRPA	Nests in summer in coniferous forest; uses old nests and maintains alternate sites. Usually nests on north slopes, near water and in large red fir, lodgepole pine, Jeffrey pine, and aspen trees.	Low potential to occur in project vicinity; not expected to occur on project site. No suitable habitat present in project site. Known nesting locations north of project site, within 5 miles

Table 5.9-2
Special-Status Wildlife Species With Potential to Occur in the Project Vicinity

Scientific and Common Names	Regulatory Status*			Habitat Associations	Potential for Occurrence
	Federal	State	Other		
Strix occidentalis occidentalis California spotted owl	FSS	NNHP-AR		Requires large, contiguous areas of old growth montane forest for nest sites. Occurs in Sierra Nevada, Cascade, Klamath, Coast, Transverse, and Peninsular mountain ranges.	Low potential to occur in project vicinity; not expected to occur on project site. No suitable habitat present within project site.
Strix nebulosa Great gray owl	FSS			Found in Central Sierra mature mixed conifer forests near meadows. Scattered along the west slope of the Sierra between 4,500–7,500 ft from Plumas County to Yosemite.	Not expected to occur in the project vicinity. Suitable habitat present on USFS land north of the project site, but Great Grey Owl have not been observed in the Tahoe basin.
Waterfowl species (collectively)			TRPA	Wetlands and waters such as lakes, creeks, drainages, marshes, and wet meadows.	High potential to occur. Beach and shoreline habitats provide suitable habitat for waterfowl.
Empidonax traillii Willow flycatcher	FSS	NNHP-AR		Nests and breeds in low, dense stands of willow (*Salix* spp.) near wet meadows from California to Washington. Breeds east of the Sierra. Occurs between 2,000–8,000 ft.	Low potential to occur in project vicinity, not expected to occur on project site. Suitable wet meadow habitat with willow (*Salix*) stands present north of the project site on USFS land, no suitable habitat within the project site.
Aquila chrysaetos Golden eagle			TRPA	Uncommon resident or migrant throughout California and Nevada from sea level to 11,000 ft. Hunts in open terrain, mountains, canyons, etc.	Low potential to occur in project vicinity, not expected to occur on project site. No suitable breeding habitat in either project vicinity or site, may occasionally pass through or forage in project vicinity.
Falco peregrinus Peregrine falcon		E, NNHP-AR	TRPA	Prefers open areas near water with cliffs or canyons for nesting. Breeds near water on cliffs, banks, etc.	Not expected to occur in project vicinity or on project site. No suitable nesting habitat present within project vicinity.
Mammals					
Euderma maculatum Spotted bat		T, NNHP-AR		Dependent on rock-faced cliffs for roosting habitat. Forages in forest openings, pinyon juniper woodlands, and a variety of meadow and river habitats.	Not expected to occur. No occurrences reported within Tahoe Basin (Schlesinger and Romsos 2000).

Table 5.9-2
Special-Status Wildlife Species With Potential to Occur in the Project Vicinity

Scientific and Common Names	Regulatory Status*			Habitat Associations	Potential for Occurrence
	Federal	State	Other		
Corynorhinus townsendii pallescens Pale Townsend's big-eared bat	FSS	S, NNHP-AR		Ranges throughout California mostly in mesic habitats. Limited by available roost sites, such as caves, tunnels, mines, and buildings.	Not expected to occur. No occurrences reported within Tahoe Basin (Schlesinger and Romsos 2000).
Myotis thysanodes Fringed myotis		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.	Historic occurrences known from within 5 km of the project site, but lack of undisturbed roosting locations likely prevents this species from currently roosting in the immediate project vicinity. May forage within project vicinity.
Gulo gulo luteus California wolverine	FSS			Inhabits upper montane and alpine habitats of Sierra Nevada, Cascades, Klamath, and north Coast Ranges. Needs water source and denning sites. Rarely seen. Sensitive to human disturbance.	Not expected to occur on project vicinity or project site. No verifiable sightings of California wolverine have been made in over 50 years.
Martes americana American marten	FSS	NNHP-AR		Inhabits dense, mixed conifer forests in Sierra Nevada, north Coast Ranges, Cascades, and Klamath Mountains. Prefers old growth stands with multiple age classes in vicinity.	Not expected to occur in project vicinity or on project site. No suitable habitat present.
Martes pennanti pacifica Pacific fisher	FC			Inhabits stands of pine, Douglas fir, and true fir, in northwestern California and Cascade-Sierra ranges. Fishers do not occur through much of the Central and Northern Sierra Nevada (Zielinski et al. 1995).	Not expected to occur in project vicinity or on project site. No suitable habitat present. Species is considered extirpated from the Lake Tahoe Basin.
Aplodontia rufa californica Sierra Nevada mountain beaver		S, NNHP-AR		Inhabits dense growth of small deciduous trees and shrubs near permanent water throughout the Sierra Nevada, Cascades, and Klamath Mountains. Burrows in soft soil.	Not expected to occur in project vicinity or on project site. No suitable habitat present.

Table 5.9-2
Special-Status Wildlife Species With Potential to Occur in the Project Vicinity

Scientific and Common Names	Regulatory Status*			Habitat Associations	Potential for Occurrence
	Federal	State	Other		
Odocoileus hemionus Mule deer			TRPA	Yearlong resident or elevation migrant, prefers a wide distribution of various-aged vegetation for cover, meadow and forest openings, and free water.	Moderate potential to occur in project vicinity, not expected to occur on project site. No suitable habitat on project site.

*Regulatory Status Codes:

Federal:
FT = Federal Threatened
FC = Federal Candidate for Listing
FSS = Forest Service Sensitive

State:
NNHP-AR = Nevada Natural Heritage Program At-Risk
S = Sensitive under NRS 503
T = Threatened under NRS 503
E = Endangered under NRS 503

Other:
TRPA = TRPA special status/threshold species

Sources: NNHP 2004, 2001; LTBMU 2006; TRPA 2002; USFWS 2002, 2006, CNDDB 2006

Bald Eagle

Bald eagle is a federally threatened species that nests and winters at Lake Tahoe. Bald eagles generally avoid nesting near areas of intense human activity and build nests in undisturbed forest habitat, usually within 1 mile of suitable lake foraging habitat. The wintering population at Lake Tahoe uses perches near the lakeshore and likely consists of resident birds, their offspring, and migratory individuals (TRPA 2002). Under TRPA regulation, perch sites are not to be physically disturbed. There is moderate potential for bald eagles to forage and perch in the project vicinity. However due to the lack of suitable perching or nesting habitat, the current level of human disturbance, and the presence of more suitable habitat on adjacent lands, bald eagles are not expected to occur on the project site.

Osprey

Osprey, like bald eagles, nest in tall trees near lakes that support fish populations. Under TRPA regulation, perch sites are not to be physically disturbed. Osprey are not expected to use the project site for nesting or perching because of the current level of human disturbance within the project site, lack of suitable perching or nesting habitat within the project site, and because more suitable habitat exists nearby. There is a moderate potential for osprey to forage and perch within the project vicinity, and there are two known osprey nests within 5 miles of the project site.

Waterfowl Species

"Waterfowl" is designated as a special interest group of 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). Waterfowl are expected to occur within the project site along the beach/Tahoe shoreline. The only riparian or aquatic habitat within the project site is a drainage ditch running along the northern boundary of the project site. This habitat is highly degraded, has high levels of human disturbance, and would not provide suitable breeding habitat for waterfowl species. However, this area could provide a limited amount of foraging habitat for waterfowl.

Mule Deer

Mule deer use early to mid-successional stages of several vegetation types, including riparian, meadow, and forest. Important habitat requirements for mule deer fawning include undisturbed meadow and riparian areas that provide cover and forage. Early to mid-successional forests are used primarily as summer range. Mule deer are a special-interest species within the Tahoe Basin because deer populations in the Tahoe vicinity have been decreasing (TRPA 2002). The project site is at the edge of the range for the Loyalton-Truckee and Carson River herds, and deer would not be expected to occur within the project site due to lack of habitat. USFS land adjacent to the project site may provide some habitat, and occasionally deer may migrate through or forage in this area, but are not expected to fawn within the project vicinity due to high levels of human disturbance and isolation of the habitat due to development.

Special-status Fish

Special-status fish species are legally protected or are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. A list of special-status fish species with potential to occur in the project vicinity was developed based on a review of the same resources identified above for wildlife species.

Two special-status fish species considered sensitive by the USFWS, state of Nevada, LTBMU, and/or TRPA were investigated for habitat requirements and proximity of occurrences to the project site in order to evaluate their potential for occurrence at the project site. Neither of the two species, Lahontan Lake tui chub (*Gila bicolor pectinifer*) and Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) is expected to occur in the project vicinity. Brief descriptions are provided in Table 5.9-3 below.

Table 5.9-3
Special-Status Fish Species With Potential to Occur in the Project Vicinity

Scientific and Common Names	Legal Status*			Habitat Associations	Potential Occurrence in Project Vicinity
	Federal	State	Local		
Gila bicolor pectinifer Lahontan Lake tui chub	FSS			Found in Lake Tahoe, spawns in shallow near-shore environments with aquatic vegetation.	Low potential to occur in project vicinity. No aquatic vegetation present along shorezone within the project vicinity.
Oncorhynchus clarki henshawi Lahontan cutthroat trout	FT	NNHP-T		Historically occurred in Lake Tahoe and all accessible coldwater streams in the Lahontan Basin. Requires gravels and riffles for spawning and generally does not occur with other salmonids. Currently limited to a few tributaries of the Truckee, Carson, and Walker Rivers.	Not expected to occur in project vicinity. No suitable habitat present.

*Legal Status Codes:

Federal:
FBCC = USFWS Bird of Conservation Concern
FT = Federal Threatened
FSS = Forest Service Sensitive
NNHP-T = Nevada Natural Heritage Program Tracked

Local:
TRPA =TRPA threshold special status species

Sources: NNHP 2004, 2001; LTBMU 2006; TRPA 2002; USFWS 2002, 2006, CNDDB 2006

Other Ecologically Significant or Special Interest Resources

A resource is considered ecologically significant or of special interest if it is:

- important to the essential character of the unit, and contributes, in part, to its statewide significance; or
- regionally significant, is an important component of a systemwide plan, or contributes to the persistence of regional or statewide biodiversity; or
- documented as significant on recognized preservation or protection lists or otherwise designated with special status by a recognized authority.

Three other resources on or near the project site are considered ecologically significant or of special interest: common migratory birds, raptors, and wildlife movement corridors. These resources are discussed below.

Common Migratory Birds and Raptor Species

A large number of common bird species are migratory and fall under the jurisdiction of the MBTA. Only common migratory bird species such as European starling (*Sturnus vulgaris*) that are well-adapted to human disturbance would be expected to nest on the project site. Riparian habitat north of the project site and forest habitat south of the project site may provide nesting habitat for other migratory bird species. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. Various raptor species, in addition to those described in detail above, have the potential to inhabit the project vicinity. Examples include Cooper's hawk (*Accipiter cooperi*) and Sharp-shinned hawk (*Accipiter striatus*). Some raptor species, such as red-tailed hawk (*Buteo jamaicensis*) and great-horned owl (*Bubo virginianus*), are not considered special-status species because they are not rare or protected under the ESA. However, the nests of all raptor species are protected under the MBTA. The Sierra mixed conifer forest found in the project vicinity provides potential habitat for raptors that occur in the region; however no suitable raptor nesting or foraging habitat is located on the project site.

Wildlife Movement Corridors

Wildlife movement corridors are considered an important ecological resource by various agencies (e.g., USFWS, USFS, and TRPA). Movement corridors may provide favorable locations for wildlife to travel between different habitat areas, such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range. Stream corridors are often used by wildlife as movement corridors, but because the project site does not contain any water bodies it would not provide this type of movement corridor. It is unlikely the project site is a significant migration corridor within the Tahoe Basin. Species using USFS lands north of the project site may disperse east and north into undeveloped Forest Service lands, but would need to cross through development and over U.S. 50. South and east of the project site are highly developed portions of South Lake Tahoe.

5.9.3 Environmental Consequences and Recommended Mitigation Measures

Criteria of Significance

Federal Vegetation, Wildlife, and Fisheries Resources Criteria

The proposed project would have a significant impact based on federal vegetation, wildlife, and fisheries resources criteria if it would:

- have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, threatened, endangered, or special-status under the FESA or the MBTA; or

- 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 Environmental Threshold Criteria

TRPA has established environmental thresholds for vegetation, wildlife, and fisheries resources in seven areas: common vegetation, uncommon plant communities, sensitive plants, late seral/old-growth ecosystems, special-interest wildlife, non-degradation of wildlife habitat, and non-degradation of lake habitat. These environmental thresholds, listed below, are used to establish the significance of an environmental effect on vegetation resources in the Lake Tahoe Basin.

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 indicators:

- provide for the perpetuation of yellow pine forest, red fir forest, subalpine forest, sagebrush scrub, cushion plant association, and riparian, marsh, and meadow associations;

- maintain at least four percent meadow and wetland vegetation, four percent deciduous riparian vegetation;

- maintain no more than 25% dominant shrub vegetation;

- maintain 15–25% of the yellow pine forest in seral stages other than mature;

- maintain 15–25% 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 than adjacent forest openings are not of the same relative age class or successional stage.

In addition, as discussed in Section 5.9.1, TRPA has a tree removal ordinance.

Uncommon Plant Communities

Provide for the nondegradation of the natural qualities of any plant community that is uncommon to the Basin or of exceptional scientific, ecological, or scenic value. This threshold shall apply but not be limited to: the deep-water plants of Lake Tahoe; Grass Lake (*sphagnum bog*); Osgood Swamp; Freel Peak Cushion Plant Community; Hell Hole; Upper Truckee Marsh; Taylor Creek Marsh; and Pope Marsh.

Sensitive Plants

Maintain the following minimum number of population sites for TRPA special-interest plant species: Mariposa sedge (one site); long-petaled lewisia (two sites); Cup Lake draba (two sites); Tahoe draba (five sites); and Tahoe yellow cress (26 sites).

Late Seral/Old Growth Ecosystems

Attain and maintain a minimum percentage of 55% 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.

Population Sites for TRPA Listed Wildlife Species

Provide a minimum number of population sites for TRPA special-interest wildlife species: northern goshawk (12 sites); osprey (four sites); bald eagle (one winter sites and one nesting site); golden eagle (four sites); peregrine falcon (two sites); waterfowl (18 sites); and deer (no site number specified). Perching trees and nesting sites shall not be physically disturbed, nor shall the habitat within the disturbance zone be manipulated in any manner, unless needed to enhance habitat quality. For each special-interest species disturbance zones and influence zones are also specified.

Wildlife Habitats of Special Significance

Apply a non-degradation standard to habitats of wildlife habitat consisting of deciduous trees, wetlands, and meadows while providing for opportunities to increase the acreage of such riparian associations. This includes preserving existing natural functioning SEZ lands in their natural hydrologic condition, restore all disturbed SEZ lands in undeveloped, unsubdivided lands, and restore 25% of the SEZ lands that have been identified as disturbed, developed, or subdivided, to attain a 5% total increase in the naturally functioning SEZ land.

Lake Habitat

A non-degradation standard shall apply to fish habitat in Lake Tahoe. The standard is to achieve the equivalent of 5,948 total acres of excellent habitat.

In this analysis, an alternative would be considered to have a significant impact on fisheries resources if it would result in any of the following:

- disturbance during spawning/rearing from modifications to existing structures in prime fish habitat,
- habitat (lakebed substrate) removal or sedimentation from construction or manipulation (including dredging),
- removal or sedimentation of spawning gravels from construction, or
- increase of petroleum products into the lake due to boating use.

ALTERNATIVE A—PROPOSED PROJECT

IMPACT 5.9.A-1 *Impact to Jurisdictional Waters of the United States and Removal of Riparian Vegetation.* *Implementation of Alternative A would result in the reconstruction of the eastern portion of Kahle Ditch, a man-made intermittent drainage ditch approximately 0.10 acre in area (the portion of the ditch between the access road to the Douglas County Sewer Improvement District north of the site and the beach, and the culvert underlying the access road, would be left in place). Kahle Ditch likely qualifies as a water of the United States subject to USACE jurisdiction under the Clean Water Act. Work affecting a jurisdictional water of the United States and associated removal or disturbance of approximately 1.07acres of willow scrub and riparian vegetation considered sensitive by the USACE and TRPA is considered a* ***significant*** *impact.*

Kahle Ditch, a man-made intermittent drainage ditch approximately 0.10 acre in area, runs along the northern border of the project site and drains to Lake Tahoe, which is considered a water of the United States, subject to jurisdiction of the USACE. Tributaries of waters of the United States are also jurisdictional, therefore USACE would likely exert jurisdiction over the Kahle Ditch.

Alternative A includes implementation of BMPs for site drainage and water quality treatment, as well as restoration of approximately 2 acres of SEZ area on the northern edge of the project site. Construction of Alternative A would result in reconstruction of the eastern portion of Kahle Ditch and removal of willow scrub and riparian vegetation currently lining this portion of the ditch. Willow scrub and riparian vegetation on the western portion of the project site (west of the access road to the Douglas County Sewer Improvement District Pump Station) and along the shallow drainage ditch on the southern boundary of the project site would be unaffected by project implementation. A total of approximately 1.07 acres of willow scrub and riparian vegetation in the eastern portion of Kahle Ditch would be disturbed through project construction.

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, portions of the 1.07 acres of willow scrub and other deciduous riparian vegetation lining the eastern portion of Kahle Ditch would likely be considered jurisdictional habitats by the USACE and would also require a permit. Mitigation on a "no net loss" basis is typically one of the requirements for obtaining a Section 404 permit. Deciduous riparian vegetation is also one of TRPA's threshold common vegetation types with an attainment threshold of 4%. Removal of this vegetation type would be a **significant impact**.

Mitigation Measure 5.9.A-1. Delineation of Waters of the United States and Authorization of Fill.

Prior to the start of construction activities at the project site, a delineation of waters of the United States, including wetlands that would be affected by implementation of the proposed project, shall be made 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 impacts to waters of the United States would result from implementation of the proposed project, authorization for such fill or reconstruction 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 on a "no net loss" basis in accordance with USACE and TRPA regulations. Restoration of the SEZ adjacent to the Kahle Ditch would likely be required by both USACE and TRPA for loss of deciduous riparian vegetation. Reconstruction of the eastern portion of Kahle Ditch is likely to have a beneficial effect on the water table of the meadow and SEZ ecosystems to the north of the project site. 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 by TRPA during the permitting process for SEZ.

Implementation of Mitigation Measure 5.9.A-1 would reduce project related impacts to waters of the United States and removal or disturbance of deciduous riparian vegetation to a **less-than-significant** level.

IMPACT 5.9.A-2 *Loss of Common Vegetation (other than deciduous riparian vegetation), Uncommon Vegetation, and Late Seral/Old Growth Ecosystems. Implementation of Alternative A could result in the loss or disturbance of approximately 0.88 acre of low quality habitat, including disturbed grassland (approximately 0.21 acre) and big sagebrush scrub (approximately 0.67 acre). No other vegetation types (other than those already discussed in Impact 5.9.A-1) would be affected. This impact is considered* ***less than significant****.*

The project site does not support any high-quality TRPA common threshold vegetation types other than deciduous riparian vegetation discussed in Impact 5.9.A-1. The project site does not support any uncommon vegetation or late seral/old growth ecosystems as defined by TRPA. Approximately 0.88 acre of low quality disturbed grassland (approximately 0.21 acre) and big sagebrush scrub (approximately 0.67 acre) habitat is present in a retention basin area on the western portion of the project site. This disturbed vegetation is not of high value to wildlife or ecosystem function in the project area and its removal or disturbance is not considered a significant impact. Therefore, impacts related to loss of common vegetation (other than deciduous riparian vegetation), uncommon vegetation, and late seral/old growth ecosystems are considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-3 *Tree Removal. Implementation of Alternative A would result in the loss of 51 native and nonnative trees on the project site during project construction. No trees larger than 24 inches in diameter at breast height (dbh) would be removed. The removal and/or relocation of 51 trees on the project site is not considered "substantial" as defined in the TRPA Code of Ordinances and would not require a tree removal plan. This would be a* ***less-than-significant*** *impact.*

Implementation of Alternative A would result in the removal of all current residences, grading of the property, construction of new residential buildings, a beach and swim club, and a road, and SEZ restoration and installation of associated landscaping. The project site contains 140 trees (78 conifers and 62 deciduous trees) that are 6 inches in diameter at breast height (dbh) or greater. Most trees on the project site are associated with the drainage ditches defining the north and south boundaries of the project site and current mobile homes. Ten of these trees are 24 inches dbh or greater. Exhibit 3-14 shows the location, type and size for trees 24 inches dbh or greater. Exhibit 3-14 also shows that while the proposed project would preserve trees along the northern and southern boundaries of the project site and all trees greater than 24 inches dbh, the proposed project would remove and/or relocate 51 trees (28 conifers and 23 deciduous trees). The trees marked for removal and/or relocation include those that would by directly affected by a proposed structure, roadway, pond or path footprint.

Provisions for tree removal are provided in the TRPA Code of Ordinances (Chapter 71, and Chapters 30, 65, 75, and 77), and tree removal requires the review and approval of TRPA. All cutting of trees 6 inches dbh and larger requires a permit from TRPA. Per TRPA Code of Ordinances, Sections 71 and 71.2.B, within the non-SEZ urban area, individual trees larger than 30 inches dbh that are healthy and sound shall be retained as desirable specimen trees having aesthetic and wildlife value, unless: (1) all reasonable alternatives are not feasible to retain the tree, including reduction of parking areas or modification of the original design or; (2) if TRPA determines that they would contribute to a fire hazard, pose an unacceptable risk to occupied or substantial structures or areas of high human use, or if removal of severely insect-infested or diseased trees is warranted to help control an outbreak. In addition, trees and vegetation not scheduled to be removed must be protected during construction in accordance with TRPA Code of Ordinances, Chapter 65.

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 the TRPA Code of Ordinances, Chapter 71, as: 1) removal of more than 100 live trees 10 inches dbh or larger on project areas of 20 acres or more; or 2) removal of more than 100 live trees 10 inches dbh or larger within land capability districts 1a, 1b, 1c, 2, or 3, regardless of the project area; or 3) 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 71.4.B.

As proposed, implementation of Alternative A would remove and/or relocate 51 trees; none of these trees are larger than 24 inches dbh. The removal and/or relocation of 51 trees on the project site is not considered "substantial" as defined in the TRPA Code and would not require a tree removal plan. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-4 *Loss of Tahoe Yellow Cress, a TRPA Threshold Sensitive Plant Species and USFWS Candidate Species. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of Alternative A could disturb Tahoe yellow cress habitat resulting in habitat loss. This would be a* ***significant*** *impact.*

Tahoe yellow cress is known to occur on Kahle Beach at the western end of the project site. During a 2006 special-status plants survey, 11 Tahoe yellow cress plants were encountered on the north and south sides of the drainage ditch (Appendix F). During a 2004 site visit by a consultant botanist, four plants of Tahoe yellow cress were encountered in northern and southern areas of the beach zone of the project site. The northern 2004 location corresponds to one of the 2006 locations. However, the southern 2004 location (west of the KGID pump station) was not reestablished in 2006. Because Tahoe yellow cress is only found on the shores of Lake Tahoe, it is one of TRPA's threshold sensitive plant species, listed as endangered by the state of California, critically endangered by the state of Nevada, and it is a candidate for listing by the USFWS.

Installation of electrical conduit to power the mechanical/hydraulic lifts for the vertically moving fixed section of the proposed pier and construction of the 10-foot approach walk constructed on the shoreline to provide stable access from the beach shore to the pier would require construction in the beach zone of the project site. No other construction activities or construction staging would occur in the beach zone. The proposed pier reconstruction and expansion would occur from a barge on the lake and all construction staging for the project would occur on previously disturbed portions of the project site outside of the beach zone.

The applicant proposes to install underground electrical conduit by open-trench construction that would extend from the beach and swim club building through the beach zone and to the pier. The trench required to install the conduit would be about 1.5 feet wide and 2.5 feet deep and would traverse approximately 150 feet of beach area that provides suitable habitat for Tahoe yellow cress. The exact alignment of the trench through the beach zone would be determined as part of the final design, but would likely extend along the existing foot path that runs parallel to and just north of the KGID water supply pump station and ozone treatment plant building. While no Tahoe yellow cress plants were documented in the vicinity of the proposed trench in the most recent surveys, the beach zone area that would be crossed by the proposed trench provides suitable habitat for Tahoe yellow cress. The distribution of the plant is dynamic over time such that it could colonize in areas not previously occupied. Therefore, the proposed trenching could result in disturbance of Tahoe yellow cress, if present and not mitigated, as well as in its temporary habitat loss during project construction.

The SEZ restoration would result in the reconstruction of a portion of the northern drainage ditch; however, the portion of the drainage between the access road to the Douglas County Sewer Improvement District Pump Station and the beach, and the culvert underlying the access road, would be left in place such that the regional hydrologic regime (including flows and conveyance facilities) to the western portion of the ditch would be unchanged. The implementation of BMPs on the project site for drainage and water quality would direct flows to the restored meadow and flows from the meadow would continue to be directed to the culvert underlying the access road. While the project is not expected to result in any changes in hydrology or soil moisture levels of the beach where Tahoe yellow cress is located, any reductions in soil moisture could ultimately affect the ability of Tahoe yellow cress to survive in this location, and these plants could ultimately be lost under such circumstances.

After construction is completed and the Beach Club Project development is fully functional, it is likely that recreational use of Kahle Beach and adjacent beaches would increase given the enhanced recreational opportunities provided by the project (i.e., development of a beach and swim club with a restaurant and bar [limited to residents, members of the club and their guests]) that would attract more people to the beach area than is currently the case. Beach walkers may also be more likely to travel from Kahle Beach to adjacent beaches to the north and south of the project site. The total full-time population at the project site would be reduced by approximately 27 residents and the part-time population would increase by approximately 54 residents.

Foot traffic and recreational beach use is known to have a detrimental effect on Tahoe yellow cress. Increased foot traffic would have a detrimental effect on the Tahoe yellow cress plants present on Kahle Beach and would likely have a detrimental affect on Tahoe yellow cress plants present to the north on adjacent Nevada Beach and to the south on the beach of the University of Reno 4-H Club. Subsection 75.2 of the TRPA Code of Ordinances 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." Therefore, disturbance of Tahoe yellow cress habitat during project implementation or due to project implementation would be considered a **significant impact**.

Mitigation Measure 5.9.A-4. Avoid Disturbance or Removal of Tahoe Yellow Cress and Implement Measures to Avoid Potential Adverse Effects Related to Site Hydrology and Changed Use Patterns.

Guidance for mitigation of potential impacts to Tahoe yellow cress during project implementation is provided in Appendix I, Tahoe yellow cress project review guidelines, of the TRPA's 2002 Conservation Strategy (Pavlik et al. 2002). The guidelines state:

When Tahoe yellow cress plants are found on a site or are known to occur on a site, a site-specific management plan shall be developed. This plan must be accepted by TRPA and all other responsible agencies. The plan shall include, but not be limited to:

- a pre-construction Tahoe yellow cress site survey;
- project modifications to prevent any impact to Tahoe yellow cress during construction such as enclosure fencing, avoidance measures through redesign, etc.;
- monitoring for Tahoe yellow cress during construction;
- a long-term Tahoe yellow cress site management plan including, but not limited to, placement of educational signage, fencing, access agreement for annual site surveys, and possible development of landscape practices guidelines; and
- participation in the Tahoe yellow cress stewardship program.

The guidelines state that for landowners participating in the Tahoe yellow cress stewardship program who submit an application with an acceptable Tahoe yellow cress management plan, the issue is considered resolved.

The following mitigation measures for Tahoe yellow cress have been developed based on and consistent with the guidelines provided in the Conservation Strategy Guidelines. Once adopted as part of the proposed project, and implemented as stated, these measures shall constitute the onsite site-specific management plan for Tahoe yellow cress in compliance with the Conservation Strategy's requirement for such a plan.

The following construction-related measures shall be implemented at all times during project construction:

- Prior to construction activities, a qualified botanist shall conduct a survey of the beach where Tahoe yellow cress occurs and shall clearly identify any plants found at that time by flagging or otherwise clearly demarcating the location and extent of the population.
- A qualified biologist shall develop and conduct a biological resource education program for the construction crews before construction activities begin. All workers and other visitors to the construction site shall be alerted to the presence of Tahoe yellow cress on the beach, the implications for project compliance, and the need for avoidance of impacts to the population.

- Prior to the beginning of construction, exclusion zones shall be established around identified Tahoe yellow cress plants. Exclusion zones shall be marked on the construction drawings and shall be temporarily fenced to prevent the encroachment of construction equipment or crews. A 50-foot buffer area around Tahoe yellow cress plants shall be established where possible with brightly colored fencing. Fencing may include permanent, durable, and effective barriers that do not obstruct geomorphic processes or plant and wildlife movement and have a minimal effect on scenic quality. The fence shall not be moved at any time during construction in order to prevent equipment from affecting the population. The fencing shall be maintained until construction is complete.

- A TRPA approved biological monitor shall monitor construction activities to verify that avoidance measures for Tahoe yellow cress are implemented properly.

The following additional construction-related measures shall be implemented during open-trench construction through the beach zone for installation of the underground electrical conduit for the proposed pier:

- Prior to construction activities, a qualified botanist shall conduct a survey of the beach where Tahoe yellow cress occurs and shall clearly identify any plants found at that time by flagging or otherwise clearly demarcating the location and extent of the population and creating a 100-foot buffer area for any identified plants.

- If no Tahoe yellow cress plants are found within the trench alignment or buffer area during the pre-construction surveys, then construction/trenching may proceed.

- If Tahoe yellow cress plants are found within the trenching alignment or buffer area during the pre-construction surveys, then the trench alignment shall be relocated in a manner that avoids all Tahoe yellow cress plants and allows for a 100-foot buffer area around any identified plants.

- Hand trenching techniques shall be employed in all areas of the beach zone.

- Following completion of trenching, the original beach contour shall be restored and protective fencing around plants and buffer areas shall be removed.

- A qualified biologist shall be on site to monitor all trenching activities in the beach zone and to educate all construction workers regarding the presence of Tahoe yellow cress on the beach, the implications for project compliance, and the need for avoidance of impacts to the population.

In addition to the construction-related measures outlined above, the following operational measures related to potential indirect impacts to Tahoe yellow cress due to unanticipated but potential changes in hydrology of Kahle Beach resulting from the implementation of site BMPs and reconstruction of the eastern portion of Kahle Ditch shall be implemented:

- Continued monitoring of the Kahle Beach population by a qualified biologist to determine if changes in hydrology resulting from the reconfiguration of Kahle Ditch indeed result in adverse effects on Tahoe yellow cress; monitoring shall be conducted on an annual basis during project construction and for 3 years following completion of project construction. Results shall be interpreted in light of overall hydrological conditions for any given year, such as rainfall patterns, snowmelt timing, lake levels, etc.; results of the annual monitoring shall be submitted to TRPA.

- If annual monitoring indicates that the Tahoe yellow cress population at Kahle Beach may indeed be experiencing adverse effects as a result of changed site hydrology resulting from construction of the Beach Club project, and specifically the alteration of hydrology in Kahle Ditch resulting from reconstruction of the eastern portion of the ditch and implementation of project site BMPs, additional mitigation shall be implemented in the form of outplanting. Outplanting shall be implemented in new suitable locations at a 3:1

replacement ratio for affected plants. The new locations shall be fenced and signed to protect the plant and educate beachgoers. Suitable habitat exists just north of the project site on Nevada Beach near the mouth of Burke Creek where outplantings were installed in 2004, fenced with signs, and monitored annually. Outplanting shall be implemented in close collaboration with the TYC Adaptive Management Working Group (AMWG) to ensure that the replacement plantings contribute to ongoing Tahoe yellow cress projects on Nevada Beach and to ensure that the outplanting will not adversely affect ongoing restoration and research efforts.

In addition to the measures outlined above for construction and provision of adequate hydrology required for long term survival of Tahoe yellow cress, the following operational mitigation measures related to increased use of the site by beach goers shall be implemented:

- clear demarcation of walking paths leading from the Beach Club residential and club areas to Kahle Beach to prevent walkers from entering the Tahoe yellow cress habitat;
- fencing around the Tahoe yellow cress habitat on the Beach Club site and interpretive signage installed on the fence that explains the presence of Tahoe yellow cress and sensitive habitat;
- provision of educational materials to residents, members of the Beach Club and their guests explaining the presence of sensitive biological resources on site, the need for resource stewardship and conservation, and appropriate behavior with regards to the resources; and
- participation in the Tahoe yellow cress stewardship program; a representative from the Beach Club project shall be designated the primary contact to stay informed about current issues and programs pertaining to the long term management of Tahoe yellow cress and shall be the contact for future Tahoe yellow cress studies and conservation activities; any new management strategies developed that may have positive effects on the long term survival of Tahoe yellow cress at the Beach Club site shall be implemented.

Implementation of Mitigation Measure 5.9.A-4 would reduce project-related direct and indirect impacts to Tahoe yellow cress resulting from construction, and the potential alteration of site hydrology and changes in use patterns of the site to **less than significant**.

IMPACT 5.9.A-5 *Introduction and Spread of Weeds. Project construction and operation have the potential to introduce and spread exotic, invasive weeds. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe. This would be a* ***potentially significant*** *impact.*

Exotic, invasive, weeds, such as Eurasian watermilfoil (*Myriophyllum spicatum*) compete with native plant species and can significantly alter the dynamic nature of native aquatic and terrestrial plant communities. For example, Eurasian watermilfoil can alter native wetland plant communities by converting a native species rich community to a species poor community dominated by aquatic weeds. This conversion also creates an indirect impact on associated wildlife and fish species by changing and often reducing food and forage sources and shelter opportunities. The TRPA Goals and Policies (Wildlife Conservation Goal #1, Policy #3) specifically prohibit the release of exotic species in the basin because exotics can invade important wildlife habitats and compete for resources. However, many exotic species are introduced into Lake Tahoe and in the Tahoe Basin inadvertently during boat launching, grading, and construction activities.

Ground disturbance from construction activities could result in the increased distribution of noxious weeds (i.e., those exotic plant species that have been defined as invasive or noxious weed species by the agencies concerned). Weedy species fall into three categories: 1) those that are already extremely widespread and whose distribution is unlikely to be significantly increased by ground disturbance, 2) those that occur in low frequency or in limited parts of the project area that could potentially spread into new areas with increased ground disturbance, and 3)

those that are not documented in the project area but that could potentially move into areas with increased ground disturbance.

Construction equipment coming into the project area from weed-infested areas could result in the transport and spread of weeds into terrestrial and aquatic environments. In areas where the ground has been disturbed, weed species are better competitors than native species. The potential increase of noxious weeds within the project site and adjoining natural areas due to project implementation would be considered a **potentially significant** impact.

Mitigation Measure 5.9.A-5: Implementation of Weed Management Practices During the Construction Phase of the Project.

The following weed management practices shall by implemented during project construction:

- Pre-construction surveys shall be conducted in accordance with Section 2083 of the Forest Service Manual, "Information and Reporting Guidelines for Noxious Weeds" (USDA-FS 1991) by qualified biologists to determine the location of any invasive/noxious weed populations within the project area.

- If invasive/noxious weed populations are identified within the project area, these species shall be removed prior to start of construction. This would help eliminate the threat of spreading the species farther throughout the project area.

- A qualified biologist shall conduct a biological resource education program for the construction crews before construction activity begins. This program shall include weed identification and the importance of controlling and preventing the spread of invasive/noxious weed infestations.

- Equipment shall be cleaned at designated wash stations after leaving invasive/noxious weed infestation areas. If deemed necessary, wash stations shall be identified by the resource specialists before construction activities begin in a particular segment and shall be approved by the agencies. All equipment coming onto the project area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts.

- To ensure that fill, seeds, and mulch are free of invasive/noxious weeds, on-site sources of fill, mulching, and seeds shall be used when available. Fill, mulch, and seed shall be certified weed-free. Only certified weed-free imported materials (or rice straw in upland areas) shall be used for erosion control.

Implementation of Mitigation Measure 5.9.A-5 would reduce the project related noxious weed impacts to a **less-than-significant** level.

IMPACT 5.9.A-6 *Degradation or Loss of Wildlife Movement Corridors. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. This would be a* ***less-than-significant*** *impact.*

Wildlife movement corridors are considered an important ecological resource by the USFWS, USFS, and TRPA. It is unlikely the project site is a significant migration corridor within the Tahoe Basin. Species using USFS lands north of the project site may disperse east and north into undeveloped Forest Service lands, but would need to cross through development and over U.S. 50. South and east of the project site are highly developed portions of South Lake Tahoe that would not be a source of migratory wildlife. Therefore, it is unlikely that significant wildlife corridors exist on the project site and this impact is **less than significant.**

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-7 *Removal of Migratory Bird Nests. Implementation of Alternative A could adversely affect migratory birds through disturbance during the breeding season and removal of active nests. Migratory bird nests are protected under the MBTA. This impact is considered* ***potentially significant****.*

The project site includes potential nesting and foraging habitat for several common migratory bird species. Construction within occupied habitat of nesting bird species could cause direct impacts on breeding and nesting activities, including removal of active nests, nest abandonment, and mortality to eggs and chicks. Construction could also result in noise, dust, and other disturbances to nesting bird species in the vicinity, resulting in potential nest abandonment and mortality to eggs and chicks. This would be a **potentially significant** impact.

Mitigation Measure 5.9.A-7 Avoid Removal of Active Nest Sites; Conduct Preconstruction Surveys for Nesting Migratory Birds.

Removal of vegetation or other nesting substrates during the nesting season (approximately March 1 through September 1, depending on species and weather) shall be avoided to the maximum extent feasible. If vegetation or other substrates that could support nesting birds would be removed during the nesting season, a qualified biologist approved by TRPA shall be retained to conduct focused preconstruction surveys for active nest sites of migratory birds. The biologist shall be able to identify Sierra Nevada bird species audibly and visually. The survey area shall be limited to the areas where project activities could lead to direct destruction of active nests. Nest-searching techniques shall be developed and implemented as appropriate for target species and habitat types.

The results of nesting bird surveys conducted between March 1 and June 15 shall be considered valid for no more than 14 days (i.e., the onset of each construction phase should begin no later than 14 days after these surveys are completed). Results of surveys conducted after June 15 can be considered valid for up to 30 days. Because most neotropical migrant birds that nest in the region typically arrive and begin establishing territories between March and June, and new individuals and species continually arrive in the area during this period, negative survey results (e.g., absence, no nesting activity) for a given location may be valid only for a short period.

If an active nest is located, removal of the nest site shall be avoided until it is no longer active.

Implementation of Mitigation Measure 5.9.A-7 would reduce the potential impact to nesting migratory birds to a **less-than-significant** level.

IMPACT 5.9.A-8 *Disturbance to and Loss of Habitat for Nesting Raptors and Special-Status Bird Species. Implementation of Alternative A is not likely to adversely affect nesting raptors or special-status bird species on the project site, because of lack of suitable nesting habitat. Implementation of Alternative A could affect raptors or special-status birds if they nest adjacent to the site; however, the viability of local and regional populations would not be adversely affected because these species are relatively common in the region. Impacts to nesting special-status birds and raptors would be* ***less than significant****.*

No suitable nesting habitat for raptors or special-status species is present on the project site. Potential nesting habitat for common raptor species and one special-status wildlife species – white-headed woodpecker (a USFWS bird of conservation concern) – is present in the project vicinity. Construction activities related to implementation of Alternative A could cause noise, dust, and other disturbances to nesting raptors or white-headed woodpeckers if they occur immediately adjacent to the project site. However, white-headed woodpecker and the raptor species that would occur adjacent to the project site are relatively common in the Lake Tahoe Basin. Also, existing disturbance levels in the project vicinity are relatively high due to residential, commercial, and recreational land uses; and the incremental increase in project-related disturbance is not likely to reduce the population viability of these species if they occur in the vicinity. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-9 *Disturbance to Foraging Osprey and Bald Eagle. Implementation of Alternative A could affect ospreys and bald eagles that potentially forage on Lake Tahoe in the vicinity of the project site. However, because project activities would not disrupt breeding attempts, and existing disturbance levels in the project vicinity are relatively high, the potential impact to bald eagle or osprey at this location would be less than significant.*

No bald eagle or osprey nests are known to occur in the immediate project vicinity; however it is likely that ospreys nest in lands to the north and south of the project site. It is possible that both osprey and bald eagle forage over Lake Tahoe near the project site. If osprey or bald eagles use the immediate vicinity of the project site for foraging, construction activities related to pier reconstruction and expansion could disturb their foraging activities. However, due to the presence of Nevada Beach and existing recreation and residential use, the existing disturbance level is relatively high; additional disturbance related to pier reconstruction and expansion are not likely to significantly affect bald eagle or osprey foraging patterns. In addition to construction-related disturbance, some long-term increases in recreation use could occur due to pier reconstruction, expansion, and redevelopment. These potential increases are not likely to significantly increase recreation-related disturbance above current levels of recreation activity in the project vicinity, and would not result in a substantial increase in disturbance levels to foraging bald eagle or osprey. Also, abundant and more suitable foraging habitat is available in other areas nearby. Because of the limited spatial and temporal effects of pier construction and expansion at this location and current recreation use, these activities and potential long-term increases in recreation are not expected to cause injury or mortality to individuals, disrupt breeding attempts, or affect the population size or viability of these species, and would be **less than significant.**

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-10 *Loss of Waterfowl Habitat. Implementation of Alternative A could result in the temporary loss of potential foraging habitat for waterfowl. Project implementation is not expected to have any effects on nesting waterfowl because of the lack of suitable nesting habitat on the project site. This impact would be less than significant.*

"Waterfowl" are designated by TRPA as a special interest group of species. 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*). Waterfowl are expected to occur within the project site along the beach/Tahoe shoreline, and possibly in low numbers along the Kahle Ditch. Potential foraging habitat exists in these locations and would be temporarily disturbed during construction and re-vegetation. Despite the temporary loss and disturbance to potential foraging habitat, the total amount of potential foraging habitat would increase over the long term as a result of project implementation due to meadow restoration and the potential construction of several artificial ponds. No suitable waterfowl nesting habitat is present on the project site or to the immediate north and south of the project site. Therefore no impacts to nesting waterfowl would occur from implementation of Alternative A and this impact is **less than significant.**

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-11 *Disturbance to Fish Habitat. Alternative A includes the reconstruction and expansion of the existing pier and the relocation of the three existing buoys. The areas surrounding both the existing pier and the proposed pier expansion are not located in prime fish habitat or recreationally important fish habitat (i.e., Hobart's Hole). BMPs would be in place to prevent construction-related materials from the pier work area into the lake water. Therefore, this activity would not result in impacts to fish habitat. This impact would be less than significant.*

The area surrounding both the existing pier and the proposed pier expansion, are not located in prime fish habitat. As a result, the proposed pier expansion and the relocation of the three existing buoys would not be in conflict with the fishery threshold non-degradation standard for essential fish habitat.

The proposed pier plan is shown on Exhibit 3-10. The existing 109-foot private pier would be reconstructed and extended approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). The reconstructed pier would include an 80-foot vertically moving fixed section, a 20-foot transition section that connects the fixed section to a 59-foot floating section. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north. At its widest point, the floating pier would be 30 feet wide. The floating section of the pier would be anchored by two piles spaced at 28-foot intervals in the center of the pier and a pile under each of the platforms extending to the north, while the vertically moving fixed pier section would be anchored by eight sets of parallel piles spaced at about 10-foot intervals. Each pile would extend through a hole, encircled by rollers, in the floor of the pier which would allow vertical movement of the pier from wave action, but not horizontal movement. The pier would extend to the TRPA-designated pier headline (elevation 6219.0).

The nearest fishing hole is Hobart's Hole, which is located approximately 800 feet from the high water datum. Because the expanded pier would be extended to 159 feet from the high water datum, it would not affect the aquatic habitat that supports the localized recreational fishery or 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 (see also Section 5.12, "Water Recreation and Shorezone Impacts").

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 curtain be used at all times during construction of the floating pier and relocation of the buoys. 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 driving of the pier piles.

The three relocated buoys would be attached to a 4 x 4 x 2-foot concrete block, slowly placed on the lake bottom so as not to generate excess sedimentation. No dredging or other lake bottom removal would be utilized in buoy placement. No work would be done at or below water level and construction staging for the pier and buoy relocation would be provided by a barge on the lake; no construction staging or activities would occur from the beach.

Because the area surrounding both the existing pier and the proposed pier expansion is not located in prime fish habitat or recreationally important fish habitat, the proposed pier expansion and relocated buoys would not be in conflict with the fishery threshold non-degradation standard for essential fish habitat or adversely effect recreationally important fish habitat. Additionally, BMPs would be in place to prevent construction-related materials from the pier work area into the lake water, no work would be done at or below water level, and no construction staging or activities would occur from the beach. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-12 *Disturbance to Fish Habitat – Water Quality (Stormwater). Implementation of Alternative A would result in water quality improvements of onsite runoff before entering Lake Tahoe. Project-related improvements to water quality and associated fish habitat would be considered* ***beneficial****.*

The development and construction of the proposed drainage system, BMPs, and water treatment (Exhibits 3-13 and 5.5-4) would bring the project site into water quality and BMP compliance pursuant to Chapter 25 of the TRPA Code (see Section 5.5, "Hydrology and Water Quality," for a discussion on water quality treatment). These water quality improvements would prevent untreated storm runoff from entering Lake Tahoe, as currently occurs with the existing system. Improvement in water quality and associated fish habitat would be considered beneficial.

Mitigation Measures

No mitigation is required.

IMPACT 5.9.A-13 *Degradation of Fish Habitat Due to Degradation of Water Quality from Increased Boating Activity. Alternative A would include the reconstruction and expansion of the existing pier and relocation of the three existing buoys. The project would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, the project would not contribute to an increase in the number of boats on the lake. In addition, because the project would not provide any additional permanent mooring, the project would not result in a change in boating activity on the lake. Therefore, Alternative A would result in a* ***less-than-significant*** *impact related to boating activity and water quality.*

Refer to Impact 5.5.A-7 in Section 5.5, "Hydrology and Water Quality."

Mitigation Measures

No mitigation is required.

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.9.B-1 *Loss of Common Vegetation (other than deciduous riparian vegetation), Uncommon Vegetation, and Late Seral/Old Growth Ecosystems. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-2 described above. Implementation of Alternative B could result in the loss or disturbance of approximately 0.88 acre of low quality habitat, including disturbed grassland (approximately 0.21 acre) and big sagebrush scrub (approximately 0.67 acre). No other vegetation types (other than those already discussed in Impact 5.9.A-1) would be affected. This impact is considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-2 *Tree Removal. Because Alternative B would be located on the same site as Alternative A, this impact is similar to Impact 5.9.A-3 described above. However, implementation of Alternative B would be expected to result in the loss of fewer trees on the project site during project construction than Alternative A. This would be a* ***less-than-significant*** *impact.*

See the discussion of Impact 5.9.A-3 above for Alternative A. A tree removal inventory for Alternative B has not been completed. However, based on the land coverage proposed in Alternative B (320,000 square feet) compared to Alternative A (358,907 square feet), the total project footprint would be less under Alternative B than under Alternative A. Based on the smaller impact footprint, it is assumed that implementation of Alternative B would result in fewer trees removed than under Alternative A (i.e., fewer than 51 trees would be removed). This amount of tree removal and/or relocation on the project site is not considered "substantial" as defined in the TRPA Code and would not require a tree removal plan. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-3 *Loss of Tahoe Yellow Cress, a TRPA Threshold Sensitive Plant Species and USFWS Candidate Species. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-4 described above, except as related to the installation of underground electrical conduit through the beach zone, which would not be required as part of the Alternative B pier. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of Alternative B could disturb Tahoe yellow cress habitat resulting in habitat loss. Although Alternative B would result in reduced activity on the beach due to the construction of two private single-family estates rather than the condominiums and beach and swim club proposed under Alternative A and would not result in any disturbance or reconstruction of Kahle Ditch, this impact is still considered to be* ***significant****.*

Mitigation Measure 5.9.B-3. Avoid Disturbance or Removal of Tahoe Yellow Cress and Implement Measures to Avoid Potential Adverse Effects Related to Site Hydrology and Changed Use Patterns. See Mitigation Measure 5.9.A-4 described above for Alternative A. The same mitigation, except those measures required during open-trench construction through the beach zone, would apply.

Implementation of Mitigation Measure 5.9.B-3 would reduce the project related Tahoe yellow cress impacts to a **less-than-significant** level.

IMPACT 5.9.B-4 *Introduction and Spread of Weeds. This impact is the same as Impact 5.9.A-5 described above for Alternative A. There is the potential for the introduction and spread of weeds due to Alternative B implementation both during the construction phase and after construction. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe. This would be a* ***potentially significant*** *impact.*

Mitigation Measure 5.9.B-4: Implementation of Weed Management Practices During the Construction Phase of the Project. See Mitigation Measure 5.9.A-5 described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measure 5.9.B-4 would reduce the project related noxious weed impacts to a **less-than-significant** level.

IMPACT 5.9.B-5 *Degradation or Loss of Wildlife Movement Corridors. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-6 described above. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-6 *Removal of Migratory Bird Nests. Because Alternative B would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-7 described above. Implementation of Alternative B could adversely affect migratory birds through disturbance during the breeding season and removal of active nests. Migratory bird nests are protected under the MBTA. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.9.B-6. Avoid Removal of Active Nest Sites; Conduct Preconstruction Surveys for Nesting Migratory Birds. See Mitigation Measure 5.9.A-7 described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measure 5.9.B-6 would reduce the potential impact to nesting migratory birds to a **less-than-significant** level.

IMPACT 5.9.B-7 *Disturbance to and Loss of Habitat for Nesting Raptors and Special-Status Bird Species. Because Alternative B would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-8 described above. Implementation of Alternative B is not likely to adversely affect nesting raptors or special-status bird species on the project site, because of lack of suitable nesting habitat. Implementation of Alternative B could affect raptors or special-status birds if they nest adjacent to the site; however, the viability of local and regional populations would not be adversely affected because these species are relatively common in the region. Impacts to nesting special-status birds and raptors would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-8 *Disturbance to Foraging Osprey and Bald Eagle. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-9 described above. Implementation of Alternative B could affect ospreys and bald eagles that potentially forage on Lake Tahoe in the vicinity of the project site. Over the long term, recreation use of the beach area in Alternative B could be less than under existing conditions or Alternative A given that development at the site would be limited to two single-family estates. Because project activities would not disrupt osprey or bald eagle breeding attempts, and implementation of Alternative B would likely reduce existing disturbance levels from recreation in the project vicinity, the potential impact to bald eagle or osprey at this location would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-9 *Loss of Waterfowl Habitat. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-10 described above. Implementation of Alternative B could result in the temporary loss of potential foraging habitat for waterfowl. Project implementation is not expected to have any effects on nesting waterfowl because of the lack of suitable nesting habitat on the project site. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-10 *Disturbance to Fish Habitat. Because Alternative B would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-11 described above. Alternative B includes the reconstruction and expansion of the existing pier and the relocation of the three existing buoys. The area surrounding both the existing pier and the proposed pier expansion, are not located in prime fish habitat or recreationally important fish habitat (i.e., Hobart's Hole). BMPs would be in place to prevent construction-related materials from the pier work area into the lake water. Therefore, this activity would not result in impacts to fish habitat. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-11 *Disturbance to Fish Habitat – Water Quality (Stormwater). Similar to Alternative A described above in Impact 5.9.A-12, implementation of Alternative B would result in water quality improvements of onsite runoff before entering Lake Tahoe. Project-related improvements to water quality and associated fish habitat would be considered* ***beneficial****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.B-12 *Degradation of Fish Habitat Due to Degradation of Water Quality From Increased Boating Activity. Like Alternative A, Alternative B would include the reconstruction and expansion of the existing pier and relocation of the three existing buoys. Alternative B would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative B would not contribute to an increase in the number of boats on the lake. In addition, because Alternative B would not provide any additional permanent mooring, Alternative B would not result in a change in boating activity on the lake. Therefore, Alternative B would result in a* ***less-than-significant*** *impact related to boating activity and water quality.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

IMPACT 5.9.C-1 *Loss of Common Vegetation (other than deciduous riparian vegetation), Uncommon Vegetation, and Late Seral/Old Growth Ecosystems. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-2 described above. Implementation of Alternative C could result in the loss or disturbance of approximately 0.88 acre of low quality habitat, including disturbed grassland (approximately 0.21 acre) and big sagebrush scrub (approximately 0.67 acre). No other vegetation types (other than those already discussed in Impact 5.9.A-1) would be affected. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-2 *Tree Removal. Because Alternative C would be located on the same site as Alternative A, this impact is similar to Impact 5.9.A-3 described above. However, implementation of Alternative C could result in the loss of more trees on the project site during project construction than Alternative A. Regardless, tree removal would not be at a level that would be considered "substantial." This would be a* ***less-than-significant*** *impact.*

See the discussion of Impact 5.9.A-3 above for Alternative A. A tree removal inventory for Alternative C has not been completed. However, based on the land coverage value proposed in Alternative C (380,000 square feet) compared to Alternative A (358,907 square feet), the total project footprint would be greater under Alternative C than under Alternative A. Based on the larger impact footprint, it is assumed that implementation of Alternative C would result in an incrementally greater number of trees removed than under Alternative A (i.e., greater than 51 trees would be removed). Like Alternative A, Alternative C would preserve trees along the northern and southern boundaries of the project site and all trees greater than 24 inches dbh. This amount of tree removal and/or relocation on the project site under Alternative C is expected to be below 100 trees, the level considered "substantial" as defined in the TRPA Code. As such, Alternative C would not require a tree removal plan and this would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-3 *Loss of Tahoe Yellow Cress, a TRPA Threshold Sensitive Plant Species and USFWS Candidate Species. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-4 described above. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of Alternative C could disturb Tahoe yellow cress habitat resulting in habitat loss. This would be a* ***significant*** *impact.*

Mitigation Measure 5.9.C-3. Avoid Disturbance or Removal of Tahoe Yellow Cress and Implement Measures to Avoid Potential Adverse Effects Related to Site Hydrology and Changed Use Patterns. See Mitigation Measure 5.9.A-4 described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measure 5.9.C-3 would reduce the project related Tahoe yellow cress impacts to a **less-than-significant** level.

IMPACT 5.9.C-4 *Introduction and Spread of Weeds. This impact is the same as Impact 5.9.A-5 described above for Alternative A. There is the potential for the introduction and spread of weeds due to Alternative C implementation both during the construction phase and after construction. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe. This would be a* ***potentially significant*** *impact.*

Mitigation Measure 5.9.C-4: Implementation of Weed Management Practices During the Construction Phase of the Project. See Mitigation Measure 5.9.A-5 described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measure 5.9.C-4 would reduce the project related noxious weed impacts to a **less-than-significant** level.

IMPACT 5.9.C-5 *Degradation or Loss of Wildlife Movement Corridors. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-6 described above. No wildlife movement corridors have been identified on the project site and no significant corridors are likely to exist. This would be a* ***less-than-significant*** *impact.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-6 *Removal of Migratory Bird Nests. Because Alternative C would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-7 described above. Implementation of Alternative C could adversely affect migratory birds through disturbance during the breeding season and removal of active nests. Migratory bird nests are protected under the MBTA. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.9.C-6. Avoid Removal of Active Nest Sites; Conduct Preconstruction Surveys for Nesting Migratory Birds. See Mitigation Measure 5.9.A-7 described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measure 5.9.C-6 would reduce the potential impact to nesting migratory birds to a **less-than-significant** level.

IMPACT 5.9.C-7 *Disturbance to and Loss of Habitat for Nesting Raptors and Special-Status Bird Species. Because Alternative C would be located on the same site as Alternative A, this potential impact is the same as Impact 5.9.A-8 described above. Implementation of Alternative C is not likely to adversely affect nesting raptors or special-status bird species on the project site, because of lack of suitable nesting habitat. Implementation of Alternative C could affect raptors or special-status birds if they nest adjacent to the site; however, the viability of local and regional populations would not be adversely affected because these species are relatively common in the region. Impacts to nesting special-status birds and raptors would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-8 *Disturbance to Foraging Osprey and Bald Eagle. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-9 described above. Implementation of Alternative C could affect ospreys and bald eagles that potentially forage on Lake Tahoe in the vicinity of the project site. However, because project activities would not disrupt breeding attempts, and existing disturbance levels in the project vicinity are relatively high, the potential impact to bald eagle or osprey at this location would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-9 *Loss of Waterfowl Habitat. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-10 described above. Implementation of Alternative C could result in the temporary loss of potential foraging habitat for waterfowl. Project implementation is not expected to have any effects on nesting waterfowl because of the lack of suitable nesting habitat on the project site. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-10 *Disturbance to Fish Habitat. Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-11 described above. Alternative C includes the reconstruction and expansion of the existing pier and the relocation of the three existing buoys. The area surrounding both the existing pier and the proposed pier expansion, are not located in prime fish habitat or recreationally important fish habitat (i.e., Hobart's Hole). BMPs would be in place to prevent construction-related materials from the pier work area into the lake water. Therefore, this activity would not result in impacts to fish habitat. This impact would be* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-11 *Disturbance to Fish Habitat – Water Quality (Stormwater). Because Alternative C would be located on the same site as Alternative A, this impact is the same as Impact 5.9.A-12 described above. Implementation of Alternative C would result in water quality improvements of onsite runoff before entering Lake Tahoe. Project-related improvements to water quality and associated fish habitat would be considered* ***beneficial****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.9.C-12 *Degradation of Fish Habitat Due to Degradation of Water Quality From Increased Boating Activity. Like Alternative A, Alternative C would include the reconstruction and expansion of the existing pier and relocation of the three existing buoys. Alternative C would not provide new buoys, boat launching facilities, permanent moorings, or other marina facilities; therefore, Alternative C would not contribute to an increase in the number of boats on the lake. In addition, because Alternative C would not provide any additional permanent mooring, Alternative C would not result in a change in boating activity on the lake. Therefore, Alternative C would result in a* ***less-than-significant*** *impact related to boating activity and water quality.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT ALTERNATIVE, JERE WILLIAMS PLAN

Under the No Project Alternative – Jere Williams Plan, the Tahoe Shores Mobile Home Park would remain in operation and existing site conditions would remain the same, with minor maintenance and improvements implemented as needed. Because this alternative would not involve clearing the mobile home park or new construction on the project site, this alternative would not involve impacts to waters of the U.S., and TRPA sensitive communities, common or special-status plants or wildlife, tree removal, impacts related to noxious weeds, or impacts to fish habitat.

ALTERNATIVE E – NO PROJECT ALTERNATIVE – MANUFACTURED HOUSING

Under the No Project Alternative – Manufactured Housing, the Tahoe Shores Mobile Home Park would be closed temporarily to clear the site and make minor improvements before restoring 155 units of manufactured housing. Although this alternative would involve clearing existing mobile homes from the park, it would not include grading, filling drainage ditches, tree removal, pier expansion, or other site disturbance or construction that would result in impacts to waters of the U.S, and TRPA sensitive communities, impacts common or special-status plants or wildlife, tree removal, impacts related to noxious weeds, or impacts to fish habitat.

5.10 SCENIC RESOURCES

This section describes the visual setting and scenic resources of the project area, identifies scenic impacts that would result from Alternatives A through E, and recommends scenic mitigation measures. The project site is visible to varying degrees from U.S. Highway 50 (TRPA Roadway Travel Unit 31, Meadow), from Lake Tahoe (TRPA Shoreline Travel Unit 30, Edgewood), within the context of features mapped in TRPA's Scenic Resource Inventory, and from Nevada Beach, which is a TRPA-identified public recreation area. Therefore, a TRPA Scenic Analysis is required for the Beach Club Project. The following impact analysis is based on an evaluation of consistency with the TRPA Code of Ordinances and Scenic Resource Environmental Thresholds.

5.10.1 REGULATORY ENVIRONMENT

TAHOE REGIONAL PLANNING AGENCY

Scenic Resource Environmental Thresholds

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 improve and protect the scenic resources of the area. TRPA 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 most recent TRPA threshold carrying capacities were evaluated in 2001 (TRPA 2002). A draft version of the 2006 evaluation of scenic thresholds was released in April 2007 for public comment; this document was updated in September 2007, but has not yet been adopted (TRPA 2007).

SR-1 Travel Route Ratings

The TRPA travel route rating threshold tracks long-term, cumulative changes to views 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 travel segments (called "travel units"), each representing a continuous, two-directional viewshed of similar visual character. Lake Tahoe's shoreline is divided into 33 separate travel units. All six of the following criteria are used to determine threshold ratings for each Roadway Travel Unit; only three criteria, numbers 1, 5, and 6, are used in rating Shoreline Travel Units:

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 31, Meadow, extends along U.S. Highway (U.S.) 50 between Elks Point Road and Kahle Drive. The project site is visible from a portion of this stretch of U.S. 50. The 2001 Threshold Evaluation determined that this unit is in scenic threshold attainment. The Draft 2006 Threshold Evaluation Report also makes this determination. The project site falls within Shoreline Travel Unit 30, Edgewood, which encompasses the shoreline between Elk Point and the Nevada-California state line. The 2001 Threshold Evaluation shows this unit in non-attainment, which is also the case in the Draft 2006 Threshold Evaluation Report. The non-attainment status resulted from new, unscreened development near the shore that was noted during the 1996 evaluation, including residential structures near the north end of Nevada Beach and the Kingsbury General Improvement District (KGID) pump station located on the site of the proposed Beach Club project.

SR-2 Scenic Quality Ratings

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

- foreground, middle-ground, and background views of the natural landscape from roadways;
- views to Lake Tahoe from roadways;
- 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;
- views of the shoreline, the water's edge, and the foreground as seen from the lake;
- views of the backdrop landscape, including the skyline, as seen from the lake; and
- visual features seen from the lake that are points of particular visual interest on or near the shore.

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 2001 Threshold Evaluation Report, 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.

These four indicators are each 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. Each resource is defined by the length of the resource and the areas seen from that unit. The site of the Beach Club project is included in views of or from identified, mapped, or described scenic features.

SR-3 Public Recreation Area Scenic Quality Thresholds

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 as seen from the public recreation areas include the following:

- views of the lake and natural landscape from the recreation area;
- views of natural features in 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 using the same visual indicators; unity, vividness, variety, and intactness. The project site adjoins Nevada Beach, a TRPA-identified public recreation area.

SR-4 Community Design Threshold

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), and several Codes 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 TRPA ordinances that would otherwise regulate the same subject. Secondly, the site planning and design principles contained in the ordinances are implemented as part of individual development projects, and are reviewed and approved by TRPA and local governments. The design principles in the TRPA Code would be reviewed by the TRPA as part of the approval process of the Beach Club at Lake Tahoe Project.

TRPA Scenic Quality Improvement Program/Environmental Improvement Program

The SQIP (TRPA 1989a) 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 for the *Lake Tahoe Basin Goals and Policies* (Regional Plan) (TRPA 1987) and serves as an implementation guide for this plan. The program is an overall action plan to specifically improve the scenic quality of 23 roadway and four shoreline travel routes that do not meet the scenic resources thresholds.

The Environmental Improvement Program (EIP) adopted in 1998 incorporates elements of the SQIP. The EIP includes a list of specific projects throughout the basin that are needed to attain and maintain the thresholds (TRPA 1998). The Beach Club project site does not contain any EIP-listed projects. Among the projects listed in the EIP is Project Number 506 which applies to Shoreline Travel Unit 30, Edgewood. This project involves removing overhead utility lines that run along the shoreline by placing them underground, and reducing the visual contrast of lakefront structures. The Beach Club project would partially implement EIP Project 506, but only within the boundaries of the Beach Club site. By placing the overhead lines underground, the Beach Club project would ameliorate some conditions that now contribute to the non-attainment status of Shoreline Travel Unit 30, Edgewood, resulting in progress toward attainment of Scenic Thresholds although not to a degree where attainment throughout the unit would be achieved.

TRPA Goals and Policies

The Lake Tahoe Basin Goals and Policies document (Regional Plan) includes a policy that limits most buildings to two stories. Community Design Goal 1, Policy 1B1 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 1987)."

TRPA Code of Ordinances

The following chapters of the TRPA Code of Ordinances contain aesthetic standards that would apply to the project.

Design Standards

Chapter 30 of the Code of Ordinances contains design standards, including standards for multi-residential projects, 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 30 of the Code of Ordinances also contains standards pertaining to scenic quality. These ordinances 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. Specifically, Section 30.12 describes scenic quality standards for projects in view from Roadway and Shoreline Travel Units, and Public Recreation Areas and Bicycle Trails. The project site is within TRPA Roadway Travel Unit 31, Meadow, TRPA Shoreline Travel Unit 30, Edgewood, and is visible from Nevada Beach, a public recreation areas identified in the 1993 Lake Tahoe Basin Scenic Resource Evaluation. Section 30.15 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 screening mitigation requirements.

Height Standards

Chapter 22 of the Code of Ordinances contains height standards pertaining to the heights of buildings and appurtenant structures to ensure attractive and compatible development. The Code outlines maximum heights for buildings using the percent slope retained across the building site and the designed roof pitch. For buildings with roof pitches of 6:12 (the ratio of vertical rise to horizontal run) as proposed for each alternative, maximum allowable building heights would be 36 feet.

Tree Removal Ordinance

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. Tree removal requires TRPA review and approval per Chapter 71 of the TRPA Code of Ordinances. Section 5.9 of this EIS, "Biological Resources," provides a complete discussion of tree removal regulations and potential tree removal impacts and mitigation measures.

Standards & Guidelines for Parking and Signage

Driveway and parking standards are set forth in the TRPA Code of Ordinances, Chapter 24. Chapter 26 of the Code of Ordinances contains standards pertaining to signs.

5.10.2 AFFECTED ENVIRONMENT

VISUAL CHARACTER OF THE PROJECT SITE

The Beach Club project site consists of a long, nearly flat, narrow piece of land extending from the west end of Kahle Drive and the Meadowbrook Apartments to the lake shore. The site is approximately 360 feet wide by 2,800 feet long. The site is bounded on the northeast by Burke Creek Meadow and Nevada Beach and on the southwest by the University of Nevada 4-H Camp. The site is located west of U.S. 50, about 1,900 feet away (0.37 mile) from the highway at its closest point and about 3,900 (0.75 mile) at its farthest point at the shoreline of Lake Tahoe. The majority of the project site is presently occupied by the Tahoe Shores Mobile Home Park. The western portion that is near the lake shore is occupied by the KGID pump station and related facilities. The mobile home park consists of 155 tightly spaced individual mobile home spaces arranged on a grid pattern. Of the 155 spaces, 150 are occupied; each mobile home is rectangular in form and about 15 feet high. Most have a light colored exterior finish. Although as a group they have a relatively low profile, their rectangular form and light color create a high level of visual contrast with the surrounding setting. In places where they are not screened from view, the high visual contrast of the mobile homes easily attracts attention from U.S. 50, Burke Creek Meadow, Nevada Beach, Lake Tahoe, and Kahle Community Park. The project site also has some overhead

utility lines that are readily visible and attract attention, especially under certain light conditions. They include a 33kV transmission line extending north/south across the site in the vicinity of the pump station, and a local electrical distribution line extending from U.S. 50 along Kahle Drive and westward through the mobile home park. An intermittent row of shrubs and trees borders the northeast side of the site, but has some large and frequent gaps toward the middle portion of the site. Due to the high density of mobile homes, there are relatively few large trees in the interior portion of the site.

VISUAL CHARACTER OF THE SURROUNDING ENVIRONMENT

The 4-H Camp site located directly south of the project site is mostly forested, as is the campground at Nevada Beach and much of the area further to the north. These forested lands and the relatively open Burke Creek Meadow have a mostly natural appearing character. In contrast, the Meadowbrook Apartments, the Oliver Park neighborhood, and the Lakeside Inn and Stateline Center commercial area on Kahle Drive at U.S. 50 are areas of concentrated development. The Edgewood Center located at the northeast corner of State Route (SR) 207 (Kingsbury Grade) and U.S. 50 consists of a number of relatively new, large and small buildings occupied by office and commercial uses that extend along the east side of U.S. 50 from Kingsbury Grade past Kahle Drive. The Casino Core at Stateline with its large, high-rise towers lies to the southwest within a half-mile of the project site. The Edgewood Golf Course occupies the west side of U.S. 50 between the Casino Core and the Stateline Center. Developed uses dominate the area immediately east and south of the project site while natural appearing areas extend from the project site northward. The site is at the interface of these developed and natural-appearing areas. The western side of the project site encompasses approximately 215 feet of Lake Tahoe's shoreline. The project site and surrounding areas are mostly flat, with a gentle downward slope toward the lake. The community of Zephyr Cove, Nevada is approximately three miles north of the project site. The northeast limit of the City of South Lake Tahoe, California is about 1 mile to the south of the site.

VIEWS OF THE PROJECT SITE

U.S. Highway 50

The project site is visible from U.S. 50 within TRPA Roadway Travel Unit 31, Meadow. The site can only be seen when traveling in the westbound direction. Development and stands of trees located south and east of the project site block views of the site for eastbound travelers. The project site is oriented essentially perpendicular to U.S. 50. Its nearest point is approximately 1,900 feet from the highway, while the farthest point, at the lake shore, is approximately 4,300 feet away. Thus, the project site occupies the middle-ground of the overall scene when viewed from U.S. 50. Heading westbound on U.S. 50 from the intersection with Elks Point Road, the highway curves to the right. As one rounds the curve, a view of Burke Creek Meadow opens to the right of the highway. From this point, a small grove of aspen trees at the edge of the highway blocks views of the Stateline Center, however some parts of the Oliver Park neighborhood and the Meadowbrook Apartments are visible beyond the meadow and to the right of the aspen grove. The high-rise casino towers are seen above the trees in the near distance and against the more distant mountains that form the background of the scene. At a point approximately 0.45 miles east of Kahle Drive, the eastern edge of the project site at the end of Kahle Drive first comes into view. East of this point, views of the site are blocked by forest trees at the northern edge of the meadow. As one continues westbound along a straight stretch of the highway toward Kahle Drive, views of the project site and nearby existing development expand. The Lake Village Professional Building is seen on the east side of the highway. Just past the small grove of aspen, the most expansive view of the project site occurs. This view was selected for a detailed analysis of potential visual impacts as discussed in Section 5.10.3 below. The view down the highway includes development on U.S. 50, along Kahle Drive, and the casino towers, while the view across the meadow includes the riparian vegetation along Burke Creek and evidence of the mobile homes and utility lines within the project site. A small but noticeable portion of the of the lake's surface is also in view. The stand of large conifer trees on the 4-H Camp site forms the backdrop directly behind the site. West of this spot, a band of riparian forest along Burke Creek begins to limit the area of the site that can be seen. Exhibits 5.10-1a through c provide photographs of the U.S. 50 view of the project site.

Existing Views from U.S. 50 **Exhibit 5.10-1a**

Existing Views from U.S. 50 **Exhibit 5.10-1b**

Existing Views from U.S. 50 **Exhibit 5.10-1c**

Nevada Beach and Campground

The project site can be partially seen from Nevada Beach and the extreme southern edge of the adjoining campground. Exhibits 5.10-2a and b provide a photo of the view from the Nevada Beach Campground. The western portion of the project site is most visible. Trees within the campground and along Burke Creek tend to screen the site from the interior of the campground. The site cannot be seen from the entrance road to the recreation area or from the parking areas near the entrance road. From the southwest corner of the recreation area at the picnic grounds near the beach, the KGID pump station is openly visible, as is the existing pier that extends from the beach in front of the pump station. A few of the nearby mobile home units, the transmission line, and electrical distribution lines on the site can also be seen. The stand of trees throughout the area tends to confine views from within the campground to mostly short range. Distant views from the recreation area occur from the beach, looking either along the shore or out over the open water of the lake. Toward the north end of the beach, some large private residential structures near the shore are very evident. To the south, a variety of shoreline development can be seen from Stateline to the City of South Lake Tahoe. Views of distant mountains across the large expanse of open lake water are dramatic and highly scenic.

Lake Tahoe

Manmade features that are seen from the lake within TRPA Shoreline Travel Unit 30, Edgewood, include the following: a few residences at Elk Point, parking lots, picnic grounds, restroom facilities at Nevada Beach, an overhead electric power transmission line parallel to the shore at Nevada Beach and extending south to the Edgewood golf course, the KGID pump station and pier, part of the mobile home park, the 4-H Camp pier, the Edgewood golf course (not structural but manmade), the golf course clubhouse and adjacent parking, the high-rise casino towers, a communication tower on SR 207, and scattered residential development on the forested hillside east of U.S. 50. From one area on the lake, a part of the Edgewood Center development at U.S. 50 and SR 207 can be seen. Otherwise, the shoreline unit presents a mostly natural-appearing character.

Existing Views from Nevada Beach **Exhibit 5.10-2a**

Existing Views from Nevada Beach **Exhibit 5.10-2b**

As shown in Exhibits 5.10-3a through d, the west end of the project site extends to the beach and is openly visible from the surface of Lake Tahoe. Willows and a few conifers near the mouth of Burke Creek at the north edge of the property help to screen views of the interior portion of the project site. The existing KGID pump station is

visible at the back of the beach and less than 150 feet from water's edge. A few of the mobile homes near the pump station are at least partially visible, but the pump station blocks most views of the interior portion of the site and the majority of the mobile homes. The transmission line is seen parallel to the shore extending from the Nevada Beach Campground, across the project site, and on to the 4-H Camp property. Some buildings at the 4-H Camp are partially visible through the trees.

Existing Views from Lake Tahoe **Exhibit 5.10-3a**

Existing Views from Lake Tahoe **Exhibit 5.10-3b**

Existing Views from Lake Tahoe **Exhibit 5.10-3c**

Existing Views from Lake Tahoe **Exhibit 5.10-3d**

Burke Creek Meadow

Public access through Burke Creek Meadow between U.S. 50 and Nevada Beach Campground occurs on established trails, including the Lam Watah Trail. The trailhead at the corner of Kahle Drive and U.S. 50 was recently improved. The trail though the meadow is aligned roughly parallel to the project site, about 600 to 800 feet from the northern edge of the site. The expanse of the meadow forms the foreground of the view from the trail. Vegetation along the property line between the project site and the meadow provides some screening of the mobile homes, but in several instances views of mobile homes are unobstructed from the trail. Behind the mobile homes, the tall conifers (70+ feet) on the 4-H Camp site from the backdrop. The view from Burke Creek meadow is shown in Exhibit 5.10-4.

Existing View from Burke Creek Meadow **Exhibit 5.10-4**

Kahle Community Park

Kale Community Park and Community Center are located north of SR 207 and east of U.S. 50, behind and above the Edgewood Center retail and office complex. The park is situated on a topographic bench, higher in elevation than the project site. It affords elevated views toward the lake, including the project site. The park is approximately ¾ to 1¼ miles from the project site. From this vantage point, the light-colored mobile homes within the Tahoe Shores Mobile Home Park are visible along with the Meadowbrook Apartments, Oliver Park neighborhood, the Stateline Center, other development along U.S. 50, Burke Creek Meadow, a portion of Lake Tahoe, and distant mountains at the opposite side of the lake.

5.10.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

CRITERIA OF SIGNIFICANCE

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:

- violation of adopted Travel Route threshold ratings;
- violation of adopted Scenic Quality threshold ratings;
- violation of adopted Public Recreation Area Scenic Quality threshold ratings; or
- violation of adopted Community Design Threshold by violating site planning or design principles contained in TRPA Code of Ordinances.

Visual simulations of the proposed project as seen from key viewing locations selected by the TRPA were prepared by the applicant. The accuracy of the height and mass of buildings as depicted in the simulated images was independently verified in conjunction with this visual impact analysis. The building materials, exterior colors, and vegetative screening shown in the simulations represent the applicant's proposed design. The simulated images were used in determining the project's visual impacts.

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.10.A-1 Effects on SR-1, TRPA Travel Route Threshold Ratings. *Alternative A , including the beach and swim club, condominiums, and related buildings would be visible to varying degrees from important surrounding viewpoints including U.S. 50 within Roadway Travel Unit 31, Meadow, and Lake Tahoe within Shoreline Travel Unit 30, Edgewood. Although the project would replace the existing Tahoe Shores Mobile Home Park and would be partially screened by trees and other vegetation, the visual impact on SR-1 TRPA Travel Route Threshold Ratings would be* ***potentially significant****.*

Roadway Travel Unit 31, Meadow

This roadway unit is located along U.S. 50 between Elks Point Road and Kahle Drive. From 1982 through 1996 the Threshold Composite Score for this roadway unit was 14, which is below the attainment threshold of 15.5. In the 2001 Threshold Evaluation, the composite score had increased to 16, and the unit is now in attainment. Subcomponents of the roadway travel unit threshold composite score are Manmade Features, Roadway Distractions, Roadway Structure, Views of the Lake, General Landscape Views, and Variety of Scenery. In 2001 the score for Manmade Features and General Landscape Views each increased from 1 to 2. According to the 2001 Threshold Report, the improvement (increase) in the Manmade Features score was due to re-model of the Nugget Casino. The increase in the score for General Landscape Views was due to maturing vegetation at site of Jennings Casino and the fact that it now provides better screening of development west of Kahle Drive. The Draft 2006 Threshold Evaluation Report determined that the composite score increased again to 17.5, and the unit remains in attainment.

Alternative A includes development of condominiums, a beach and swim club, and related buildings in place of the existing Tahoe Shores Mobile Home Park. All overhead utility lines within the project site would be placed underground. Also, a 2-acre strip of stream environment zone (SEZ) habitat within the project site adjoining Burke Creek Meadow and Burke Creek would be restored. Section 30.12.B of the TRPA Code of Ordinances states a project shall not cause a decrease in the 1982 roadway travel route rating. Alternative A could potentially

affect the subcomponent score for Manmade Features, Views of the Lake, General Landscape Views, and Variety of Scenery, which is considered a **potentially significant** impact.

In views from U.S. 50, the Alternative A condominiums and related buildings would be partially screened by existing vegetation in the meadow, along Burke Creek, and by vegetation planted in conjunction with the restored SEZ on the project site. Seen from U.S. 50, the new condominiums and restored SEZ would replace the light colored high contrast mobile home units. The project would increase the amount of manmade development that is seen by westbound motorists as they approach Kahle Drive and the Stateline Center. The proposed development would be seen in the context of nearby existing development which includes office and commercial uses, residential neighborhoods, and the high-rise buildings in the casino core. The proposed condominiums would appear as dark buildings set against the backdrop of the dark green, tall conifers on the adjoining 4-H Camp. As shown in the simulated view in Exhibit 5.10-5b, a majority of the building surfaces that would be in view from the U.S. 50 would be roof surfaces. Some building façade surfaces would also be exposed, but most would be blocked by intervening vegetation in the meadow or by on-site vegetation. The project buildings would be a maximum of 36 feet high, about equal to the height of the utility lines now on the site. The proposed development would result in more exposed building mass than the existing mobile homes (Exhibits 3-5 through 3-9, in Chapter 3). However, their dark exterior colors and articulated facades would be low in contrast with the immediate landscape setting. The proposed new development would be more complimentary in appearance to the surrounding setting than the existing mobile home units due to the use of mostly natural materials such as wood and stone and TRPA-approved colors on exterior surfaces. Nonetheless, without appropriate mitigation, Alternative A could cause a decrease in subcomponent score for Manmade Features, General Landscape Views, or Variety of Scenery, which is considered a **potentially significant** impact.

The proposed buildings that would be located closest to the lake would be partially visible from U.S. 50. These buildings would be 36 feet high. The roofline of some of the buildings would appear against the lake, thus blocking a portion of the lake that is currently in view. This effect is shown in the simulated view from U.S. 50 (Exhibits 5.10-5a and b). Using this image, the portion of the lake that would be blocked was calculated to be approximately 8% of the lake surface area currently in view. Some trees on the project site would have to be removed in order for the proposed buildings to be constructed and to implement the SEZ restoration. Some of these trees currently block part of the lake surface from view. Removal of these trees would increase the amount of the lake visible from U.S. 50 by approximately 40%. The net change in the area of visible lake surface would be an increase of approximately 32%. Alternative A would not cause a decrease in subcomponent score for Views of the Lake.

Shoreline Travel Unit 30, Edgewood

This unit extends along the shore of Lake Tahoe from Elk Point to the California-Nevada state line. From 1982 through 1991 the Threshold Composite Score for this shoreline unit was 11 and the unit was in attainment. In the 1996 Threshold Evaluation, the composite score decreased to 10.5, causing the unit to fall to non-attainment status, a condition that exists today. Subcomponents of the shoreline travel unit threshold composite score are Manmade Features, General Landscape Views, and Variety of Scenery. In 1996 the score for Manmade Features decreased from 4 to 3.5. According to the 1996 Threshold Report, the decrease was due to the addition of new, unscreened structures close to the water's edge, including the KGID pump station and a private residence next to the north end of Nevada Beach. The 2001 Threshold Evaluation noted that two more residences were built near the north end of Nevada Beach and that both are visible from the lake, although the threshold ratings did not change. The Draft 2006 Threshold Evaluation Report determines that this unit remains in non-attainment status. Section 30.12.B of the TRPA Code of Ordinances states a project shall not cause a decrease in the 1982 shoreline travel route rating. It further states that for projects in the shoreland, Section 30.15 shall be used to determine if it will contribute to a decrease in the numerical rating for a shoreline travel route rating. Alternative A could result in a **potentially significant** impact on the subcomponent score for Manmade Features, General Landscape Views, and Variety of Scenery.

Existing View from U.S. 50 **Exhibit 5.10-5a**

Simulated View of Alternative A from U.S. 50 **Exhibit 5.10-5b**

Aspects of the proposed project that would be seen from the lake and could thus potentially affect this Shoreline Travel Unit include the beach and swim club building and the reconstructed pier. The proposed beach and swim club building would be located immediately behind the existing KGID pump station. The size of the new building would be substantially larger than the existing pump station (Exhibits 5.10-6a and b).

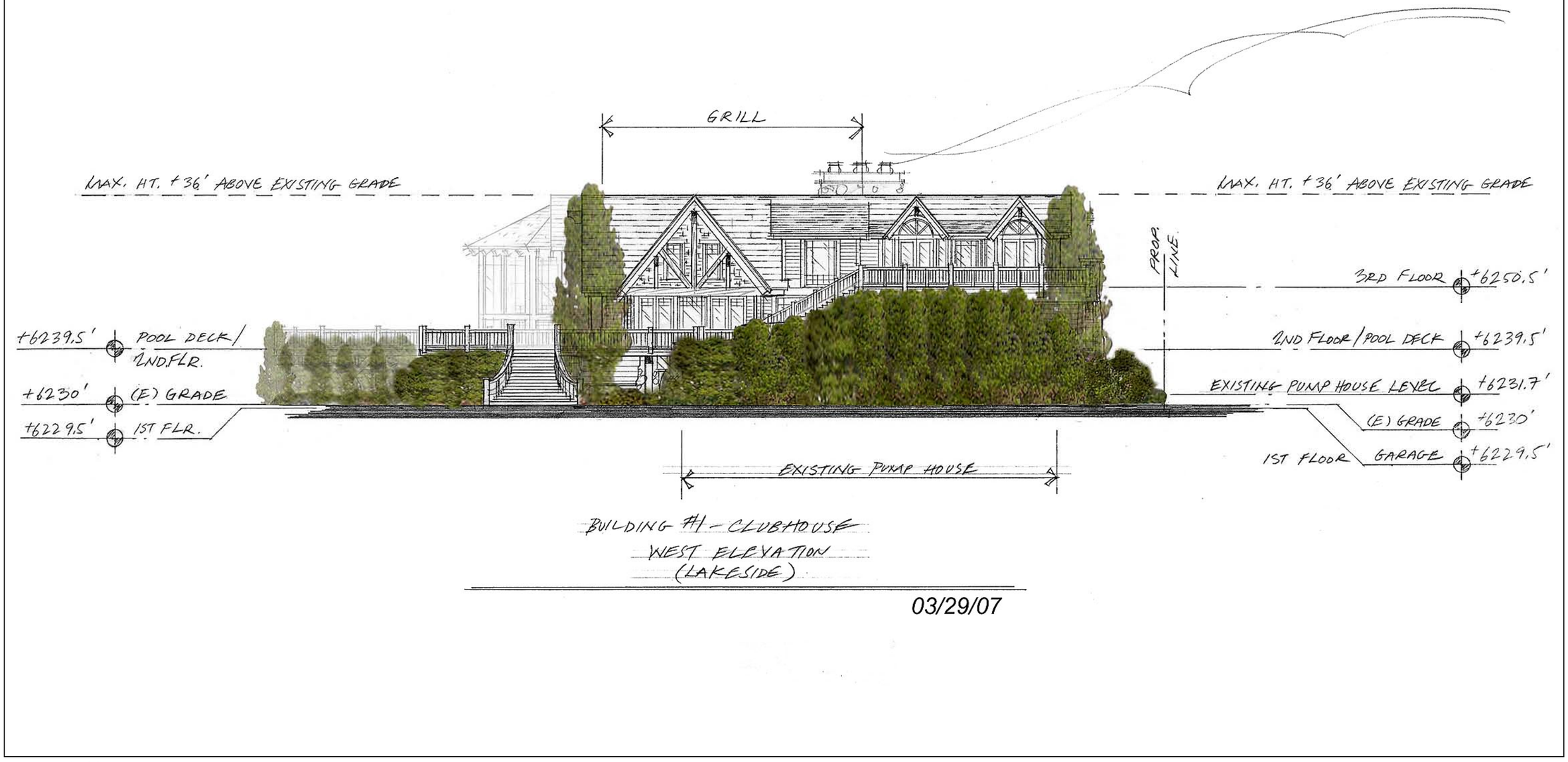
Existing View from Lake Tahoe **Exhibit 5.10-6a**

Simulated View of Alternative A from Lake Tahoe **Exhibit 5.10-6b**

As specified in Section 30.15 of the Code, a level-5 mitigation review was conducted 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. The lakefront facade of the beach and swim club building and the KGID pump station within the shoreland area of the parcel, i.e., within 300 linear feet of the lake's high water line, were analyzed using detailed elevation drawings of the buildings supplied by the applicant. 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. Each surface material was given a color score based on its Munsell color specified by the applicant. Glass surfaces were scored according to percent reflectance. TRPA-approved colors would be used on all façade surfaces of the beach and swim club building except glass, and all colors would have a Munsell value of 4 or less. Window glass would be treated with a coating that reduces reflected visible light to 4.5%. A weighted average color score for each surface was calculated based on the percentage of the total façade that each surface represents. 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. The lakefront façade of the beach and swim club building would have greater than 7 plane surfaces and would be made of stone, wood, low-reflectance glass, and asphalt composite roofing. Weighted averages for each material were calculated. Lastly, to obtain a perimeter score, the percentage of the perimeter of the lakefront façade that would be visible was measured off of graphic illustrations prepared by the applicant that show the intended amount and placement of vegetative and other screening of the lakefront facade. The KGID pump station would be completely screened from view (Exhibit 5.10-6b). Proposed screening is depicted in Exhibit 5.10-7. 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 building. These circumstances produced a contrast rating of 30 for the beach and swim club building, 24 for the KGID pump station, and a composite contrast rating of 29. According to Appendix H of the Design Review Guidelines, structures with a composite contrast rating of 29 are allowed 2,000 square feet (sf) of visible lakefront façade. This would be the maximum allowable under Section 30.15 of the TRPA Code of Ordinances.

The analysis shows that the total area of lakefront façade for both the beach and swim club building and the KGID pump station located within the shoreland would be approximately 4,510 sf. With proposed screening, none of the pump station and approximately 1,800 sf of the lakefront façade of the beach and swim club building and no more than 40% of its façade perimeter (approximately 145 linear feet of 363 linear feet total) would be visible after 5 years of growth. The 1,800 sf of visible lakefront façade would be less than the 2,000 sf allowed, providing an excess of screened area of 200 sf. It should be noted that the results of this analysis rely on the successful establishment and growth of vegetation as shown in the applicant's illustrations. All of the materials that provide screening of the perimeter and lakefront façade of both buildings would be installed as part of the project. These materials are not present today. With less screening of the perimeter of the lakefront façade, a lower perimeter score for the beach and swim club building, and thus a lower contrast rating for the building, would result. Likewise, incomplete screening of the KGID pump station would yield a lower contrast rating. A lower contrast rating would translate into less than 2,000 sf of allowed visible lakefront façade.

The proposed pier improvements would involve reconstructing and extending the existing 109-foot pier approximately 50 feet to the TRPA-designated pier headline (lake bottom elevation 6219.0). The new pier would be comprised of three sections; an adjustable-height fixed section extending from the shore, a ramped transition section, and a floating end section. The total length of all three sections would be 159 feet (80-foot adjustable-height fixed pier, 20-foot connector ramp, and 59-foot floating pier). The height of the fixed section would be adjustable within a maximum range of about 8.5 feet via mechanical/hydraulic lifts. It would be raised or lowered vertically in response to fluctuations in the surface elevation of the lake so that the lake end of the fixed section would be consistently within approximately 6 inches of the lake's surface. The pier would be 10 feet wide, except for the final 20 feet at the lake end of the pier which would be 30 feet wide. Under the TRPA Code of Ordinances, a pier greater than 10 feet wide may be permitted only if it qualifies as a multiple use pier. TRPA would need to make certain findings that the proposed pier meets the multiple use qualification.



Source: Beach Club, Inc. 2007

Vegetative Screening Illustration of Beach and Swim Club Lakefront Façade **Exhibit 5.10-7**

Compared to a 10-foot wide pier, the proposed 30-foot wide pier section would increase the visual mass of the pier as viewed straight on from the lake and from the shore when standing near the north side of the pier. This would affect the scenic threshold subcomponent rating for Manmade Features and consequently could move the Threshold Composite Rating of Shoreline Travel Unit 30, Edgewood, further from attainment. At the same time, however, the height of the 80-foot fixed section of the pier would be maintained at levels just above the surface of the lake at all lake levels. This would reduce the apparent mass of the 80-foot fixed section when compared to it being constructed at a fixed-height that is above the lake's highest level. This would be a benefit in the context of scenic impacts, similar to that of a floating pier. The effect would be most apparent during times when the surface of the lake is low, and least apparent when the lake is at high levels. The increased visual mass associated with the 30-foot wide end section would be offset by the reduced apparent mass of the fixed section, at least at lower lake levels, so long as its height is maintained close to the lake's surface. Under these circumstances the rating for Manmade Features would be essentially the same as with a pier that is consistently 10 feet wide with a fixed section that is not adjustable in height. This conclusion was reached by comparing the simulated images shown in Exhibit 5.10-8 which depict the following: a) a 159-foot pier at a consistent width of 10 feet and the fixed section at a consistent height equal to elevation 6231.5 (2.4 feet higher than 6229.1, the lake's high water level); and b) a 159-foot pier with the end section widened to 30 feet and the fixed section adjusted to a height that is about 6 inches above the surface of the lake. The lake surface elevation in the baseline photograph used to produce the photo simulations was 6226.05. The average surface elevation of the lake is 6225.

There is no operational nexus between the 30-foot wide end portion of the pier and the 80-foot long, adjustable-height fixed section. The adjustable height capability is proposed by the project applicant to allow the total length of the floating section of the pier to be maximized, and as a means of offsetting the increase in visual mass that would result from the proposed wider than standard end section.

Scenic mitigation required for pier projects involves screening of visible on-shore structures. The amount of screening required is equal to the total 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 was calculated at 313.7 sf. Credit for the surface area of the existing pier, calculated using the same methodology, is given. The calculation of the surface area of the existing fixed-height pier was based on an assumed lake surface elevation of 6,227.5 feet. The area of the existing pier was calculated to be 149 sf. Under a lower or higher lake surface elevation, more or less of the fixed pier's supports would be exposed. To determine the area of on-shore structures required to be screened as scenic mitigation for the proposed pier improvements, the surface area of the existing pier (149 sf) was subtracted from the surface area of the proposed pier (313.7 sf) and the result was multiplied by 1.5, yielding a value of 247 sf, which is greater than the 200 sf of excess screening associated with the beach and swim club building. Therefore, an additional 47 sf of screening of the beach and swim club building for scenic mitigation of the pier improvements, beyond the amount proposed by the applicant as shown in Exhibit 5.10-7, would be required.

Further, if the appropriate amount and placement of vegetative screening is not achieved as indicated by the project applicant, the visible lakefront façade of the proposed beach and swim club building would not be within that allowed under Section 30.15. Therefore, the proposed project could cause a decrease in the subcomponent score for Manmade Features, General Landscape Views, or Variety of Scenery and contribute to a decrease in the numerical rating for the shoreline travel route rating. For these reasons, this is considered a **potentially significant** impact.

Mitigation Measure 5.10.A-1a. Design the SEZ Habitat Restoration and Other On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas. Without compromising the habitat goals of the SEZ restoration, the following shall be incorporated in the restoration design:

- Visual exposure of proposed buildings and parking areas from U.S. 50 shall be considered in the design of the SEZ habitat restoration. The selection of plant species, the quantities of plant materials, and their arrangement and placement on the project site shall maximize screening of buildings and parking areas.

109-foot existing pier

159-foot pier at 10 feet wide with non-adjustable fixed section

159-foot pier with 30-foot wide end section and adjustable-height fixed section

Comparison of the Existing Pier with Simulated Views of Two Configurations for the Reconstructed Pier

Exhibit 5.10-8

Mitigation Measure 5.10.A-1b. Design Other On-Site Landscaping To Provide Screening of Existing and Proposed Buildings at Levels Anticipated in the Assessment of Scenic Impacts Reported Herein. The following shall be incorporated in the design of screening of the lakefront façade of the existing KGID pump station and proposed beach and swim club building:

The design of vegetative and other screening shall be based on and reflect the amount and placement of materials as shown in Exhibit 5.10-7. The screening shall be such that none of the lakefront façade of the KGID pump station and no more than 1,750 sf of the lakefront façade and 40% of the façade perimeter (approximately 145 linear feet of 365 linear feet total) of the proposed beach and swim club building is visible after 5 years of growth.

Mitigation Measure 5.10.A-1c. Conduct Screening Mitigation Monitoring. Concurrent with submittal of Improvement Plans, a detailed screening mitigation monitoring plan shall be submitted to the TRPA for review and approval. The plan shall be implemented at the time the phased construction of the project begins. The plan shall include the following:

a. Construction monitoring. The materials used to screen the proposed beach and swim club building shall be installed during Phase I of the project. A qualified landscape architect shall be on-site during installation of materials that will screen the lakefront façade of the building. The monitoring shall ensure and certify that materials are installed according to approved plans and that the installation reflects the types, quantities, and placement of all materials shown on approved plans.

b. Field monitoring. A qualified landscape architect shall conduct a field review of the status and health of screening materials each year for the first 5 years after installation and report their findings to the TRPA. The review shall be conducted prior to the end of each year's growing season. Any materials installed as part of the intended screening that fail to thrive shall be replaced by the owner prior to the end of that same growing season. After 5 years, the amount of screening achieved shall be determined. The total surface area of the visible façade and percentage of façade perimeter that is visible shall be determined.

c. In the event that after 5 years the visible lakefront façade and/or visible perimeter of the beach and swim club building exceed the amounts stated in Mitigation Measure 5.10.A-1b above, the owner shall provide additional screening to achieve the necessary amount. The additional screening, if needed, shall be installed during the same year that a deficiency is identified.

So long as the amount and placement of vegetative screening is achieved as indicated by the project applicant, the visible lakefront façade of the proposed beach and swim club building would be within that allowed under Section 30.15. Also, screening requirements for scenic mitigation of the proposed pier improvements would be met. Under these circumstances, the proposed project would not cause a decrease in the subcomponent score for Manmade Features, General Landscape Views, or Variety of Scenery. Therefore, implementation of Mitigation Measures 5.10.A-1a, 1b and 1c would ensure the impacts on SR-1, TRPA Travel Route Threshold Ratings would be **less than significant**.

IMPACT 5.10.A-2 Effects on SR-2, TRPA Scenic Quality Threshold Ratings. *Alternative A would be seen within the same visual context as a number of identified and mapped TRPA Scenic Resources. These Scenic Resources are visible from Roadway Travel Unit 31, Meadow and Shoreline Travel Unit 30, Edgewood. The visual presence of the project on TRPA regulated scenic resources would be a* ***potentially significant*** *impact.*

Roadway Travel Unit 31, Meadow

Identified and mapped Scenic Resources within this Roadway Travel Unit include SR 31.1, 31.2, and 31.3. Subcomponents of scenic quality ratings for Scenic Resources are unity, vividness, variety, and intactness. Without appropriate mitigation, the proposed project would cause a decrease in the subcomponent scores and

therefore would decrease the Scenic Quality Threshold Ratings for Scenic Resources within Roadway Travel Unit 31, Meadow. This impact is considered **potentially significant**.

SR 31.1, Views of the Lake from the Roadway. This scenic resource represents the vista of the lake seen across Burke Creek meadow from U.S. 50. It includes the view of Folsom Peak (Round Mound) in the middle distance and long distance views of mountains on the west side of the lake. In 1991 and 1996 the threshold rating of SR 31.1 was 8. In 2001, the rating increased to 10. According to the 2001 Threshold Evaluation Report, the increase was due to growth of vegetation at the Jennings Casino site such that it screens adjacent development and creates a more intact meadow setting. As time goes on, it can be expected that the riparian vegetation along Burke Creek will become denser and taller, thus providing better screening of the project site and existing development along Kahle Drive. The SEZ habitat restoration proposed as part of Alternative A would contribute to a more intact meadow setting and provide a stronger visual separation between the meadow and the proposed project. It would also help screen the new development. In the view toward the lake from U.S. 50, the proposed project would occupy a relatively small portion of the overall view due to the distance of the project from the highway. Alternative A would be seen as re-development of the existing mobile home park as opposed to new development on a currently undeveloped site. The removal of some trees on the site to accommodate construction of new buildings would increase the surface area of the lake visible from U.S. 50.

SR 31.2, Views of Natural Areas from Roadway. This scenic resource includes the open view of the meadow in the foreground, pine forest in mid-distance, and casinos, Heavenly Valley ski runs, and mountains in the National Forest in distant views. In 1982 the threshold rating for SR 31.2 was 11. It has not changed since then. Because Alternative A would be seen as re-development of the currently developed site, and would occupy a small portion of the views that make up SR 31.2, it would not affect the scenic quality threshold rating.

SR 31.3, Visual Features. This scenic resource is represented by the view along approximately one-half mile of roadway from Elks Point Road westward. This area predominantly features forest stands with minor open areas and gentle topography. In 1982 the threshold rating was 8 and has not changed since then. The project site is beyond (west of) this section of U.S. 50 and is not visible within it.

Shoreline Travel Unit 30, Edgewood

Identified and mapped Scenic Resources within this Shoreline Travel Unit include SR 30.1, 30.2, 30.3, 30.4, 30.5, and 30.6. Of these, only SR 30.2 and 30.4 could potentially be affected by the proposed project. The others are not directly relevant to the proposed project. Without appropriate mitigation, the proposed project would cause a decrease in the Scenic Quality Threshold Ratings for Scenic Resources within Shoreline Travel Unit 30, Edgewood. This impact is considered **potentially significant**.

SR 30.2, Shoreline View. This scenic resource consists of the sandy beach and immediately adjacent area from just south of Elk Point to the Nevada-California state line. In 1982, the threshold rating for SR 30.2 was 8. During the 1996 threshold review, the rating dropped to 7 due to a reduction in the score for the subcomponent of Intactness which went from 2 to 1 to account for the new KGID pump station and a new residence near north end of Nevada Beach. In 2001, the rating remained at 7 and it was noted that vegetation in front of pump house had matured to partially screen the building, but not sufficient to improve the score. The proposed beach and swim club building would be built immediately behind the pump station. The pump station would be completely screened and the proposed beach and swim club building would be mostly screened by vegetation to be planted as part of the project. The visible area of the lakefront façade would be within allowable limits. The existing fixed-height pier would be extended by 50 feet with a floating section to the TRPA designated pier headline. Floating piers are recognized as being less visually intrusive than fixed-height piers. Scenic mitigation requirements for the proposed pier in the form of screening on-shore structures would be met by screening the proposed beach and swim club building. The project also proposes to move three existing buoys that are currently located off the south end of Nevada Beach in a line parallel to the shore. The buoys would be relocated parallel to the north side of the

proposed floating pier to remove the buoys from the scenic recreational viewshed from Nevada Beach. In views from the lake, this would visually consolidate the pier and the buoys.

SR 30.4, Visual Feature. This scenic resource includes the view of the mobile home park as seen from the Lake. In 1982 the threshold rating for SR 30.4 was 6. It has not changed since then. In the 2001 Threshold Evaluation Report, it states that the exposed nature of the site and lack of improvement in screening the existing development continue to place this resource at risk. The proposed project would replace the existing mobile home park with condominiums, a beach and swim club, and 2 acres of restored SEZ habitat. The overhead transmission line and other utility lines within the project site would be placed underground and thus removed from view. The project would include planting vegetation that would completely screen the existing KGID pump station and thereby hide it from view, when viewed from the lake. The beach and swim club building would be mostly screened by vegetation planted as part of the project. Due to its size and location, the beach and swim club building and associated screening would greatly limit views of the condominium buildings as seen from the lake.

Mitigation Measures

Mitigation measures for this impact are the same as those required under Impact 5.10.A-1. Implementation of Mitigation Measures 5.10.A-1a through c would ensure the impacts on SR-2, TRPA Scenic Quality Threshold Ratings would be **less than significant**.

IMPACT 5.10.A-3 Effects on SR-3, TRPA Recreation Areas and Bike Trails Threshold. *Part of Alternative A would be visible within the context of identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. The visual presence of the project on these TRPA regulated scenic resources would be a* ***potentially significant*** *impact.*

Identified and mapped Scenic Resources associated with TRPA Recreation Areas and Bike Trails include views and natural features that are seen from the recreation areas. Beginning in 1993, the views and natural features have been rated for scenic quality. Subcomponents of the scenic quality ratings are unity, vividness, variety, and intactness. The Scenic Resources associated with Recreation Area No. 1 – Nevada Beach include: Views 1-1, 1-2, 1-3, and 1-4; and Natural Features 1-5, 1-6, 1-7, and 1-8. Of these, only Views 1-1, 1-2, and 1-3 could potentially be affected by the proposed project. Without appropriate mitigation, the proposed project would cause a decrease in the subcomponent scores and therefore would decrease the Scenic Quality Ratings for Scenic Resources within Recreation Area No. 1 – Nevada Beach. This impact is considered **potentially significant**.

The 1993 Lake Tahoe Basin Scenic Resource Evaluation established the baseline scenic quality ratings for specific views and natural features seen from bike trails and recreation areas open to the general public. The 1993 report states that Nevada Beach provides some of the most spectacular views of the lake, of any lakeside area in the basin, with its dramatic mountain backdrop. It also notes that development at either end of the beach greatly detracts from the quality of the viewshed, and that overhead utility lines near the south end of the recreation area interfere with views.

Recreation Area No. 1 – Nevada Beach

View 1-1. This scenic resource consists of the view looking across the lake from approximately the mid point of the linear stretch of sandy shore of Nevada Beach. It has a scenic quality rating of 19, which is very high (with 20 being the maximum score possible). The expanse of open water and the surrounding mountains at the far side of the lake form a scene of striking beauty. The view across the water is profoundly natural in character. Any development on the other side of the lake, several miles away, is difficult or impossible to perceive. This view is shown in Exhibit 5.10-9.

The proposed project, located just beyond the south end of Nevada Beach, would be approximately 1,500 feet from the mid point of the beach. The project would, at most, be on the far left periphery of View 1-1 and at a

distance of more than a quarter mile away. It would not affect the view across the lake or distract the attention of viewers on the beach looking at the distant mountains. Therefore, the project would not cause a decrease in the Scenic Quality Rating of View 1-1.

View 1-1 View Across Lake Tahoe from Nevada Beach Exhibit 5.10-9

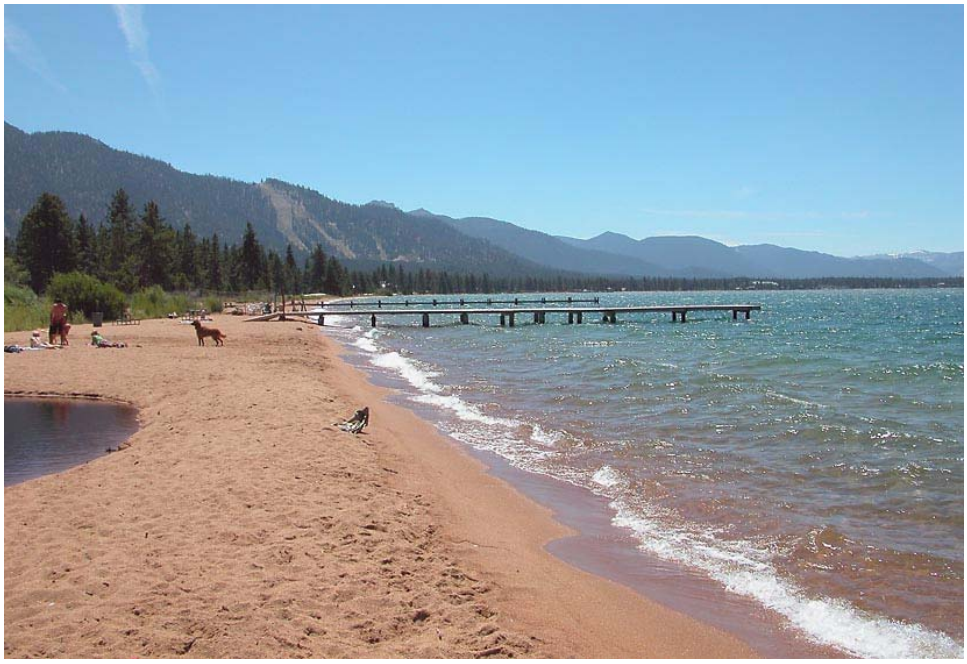
View 1-2. This scenic resource consists of the view from the south end of Nevada Beach looking south along the shore and west across the open water of the lake to the mountains beyond. It has a scenic quality rating of 18. The portion of the view looking directly out over lake is primarily natural in character, similar to View 1-1. This view is shown in Exhibit 5.10-10. Looking along the shore, the view extends to Stateline and the City of South Lake Tahoe. Development in various forms is evident along this stretch of shore. In the foreground of View 1-2, the existing piers at the project site and 4-H camp are seen. This view point is shown in Exhibits 5.10-11 and 5.10-12.

Three existing buoys are located in the area to the right of the pier associated with the project site. When boats are moored to the buoys, they are seen in the foreground of View 1-2.

Alternative A would relocate the three existing buoys to be parallel with the north side of the proposed pier, thus removing them from the most scenic portion of View 1-2 (see Exhibit 3-10, Proposed Pier Plan, in Chapter 3). The project would also reconstruct and extend the existing fixed-height pier by approximately 50 feet by adding a floating section. The floating section of the pier would rest on the surface of the water regardless of lake level. In this way, it would be less obtrusive at any lake level than a comparable fixed-height pier. While the pier would be extended, it would be seen in conjunction with and parallel to the developed shoreline and upland areas (Exhibits 5.10-13a and b). The extended pier would terminate at a point short of where the shoreline, seen behind the pier, turns back and goes out of view. Where the shoreline reappears beyond this point, it is at least 4.5 miles away. At this point, the character of the view becomes much like that seen in View 1-1.

Alternative A would not cause a decrease in the scenic quality rating of View 1-2 because the extended portion of the pier would be viewed in conjunction with the shoreline and existing development. The pier would terminate at a point short of where the scene becomes more natural-appearing. The buoys that are currently within the more natural-appearing portion of the scene would be relocated alongside and parallel to the pier.

View 1-2 – View Directly Out Over Lake Tahoe **Exhibit 5.10-10**



View 1-2 – View South along the Shore **Exhibit 5.10-11**

View 1-2 – View South along the Shore **Exhibit 5.10-12**

View of the Existing Pier from Nevada Beach **Exhibit 5.10-13a**

Simulated View of the Proposed Pier from Nevada Beach **Exhibit 5.10-13b**

View 1-3. This scenic resource is the view looking south, including the view toward the project site, from the southernmost campsite in the Nevada Beach Campground (Exhibit 5.10-2a). This view has a scenic quality rating of 11. The 1993 Scenic Resource Evaluation identified the mobile home park and KGID pump station as disruptive to the natural character of the area. The report noted that new development next to and south of the recreation area should not be permitted where the tree cover is too sparse to visually absorb it. It recommended that any redevelopment of the mobile home park should include mitigation measures to reduce the visual impact on the recreation area, and that vegetative screening should be introduced to reduce the visual exposure of the KGID facility.

The beach and swim club building under Alternative A would be located immediately behind the existing KGID pump station and would replace other structures that are currently visible. At the same time, the new beach and swim club building would occupy a substantial portion of the view from the campground, as shown in Exhibits 5.10-14a and b. While the proposed architecture would make the building more regionally appropriate than the mobile home park, its proximity to the campground could diminish the outdoor experience sought by campers. Similarly, lighting of the new development at night could affect campers at nearby campsites. Currently, the mobile home park has pole-mounted street lights and the KGID pump station has small, building-mounted light fixtures.

Views from Burke Creek Meadow. The proposed project site is visible from the Lam Watah Trail and other trails through Burke Creek Meadow. The existing mobile home park is visible at the south edge of the meadow where breaks in the vegetation occur or where screening vegetation is absent. Mobile homes along the north edge of the park are often clearly visible. The mobile homes have a high level of visual contrast that conflict with the meadow scene. Overhead utility lines within the project site are also visually conflicting elements. Alternative A would replace the existing mobile home park with buildings that would be set back from the edge of the meadow. The buildings would be larger than the mobile homes, but would have low levels of visual contrast. They would be constructed primarily of wood and stone materials. The overhead utility lines would be placed underground. Alternative A would also provide a 2-acre strip of SEZ habitat restoration along the north edge of the site. The restored SEZ and other landscaping would, over time, improve the sense of separation between the project site and the meadow and serve to screen views of the new development from trails through the meadow.

Mitigation Measure 5.10.A-3a. Provide Screening of Proposed Buildings from the Nevada Beach Campground.

Concurrent with submittal of Improvement Plans, a detailed screening plan shall be submitted to the TRPA for review and approval. The plan shall be implemented at the time the phased construction of the project begins. The plan shall include the following:

- Screening of the proposed beach and swim club building, proposed residential buildings, and existing KGID pump station from the Nevada Beach Campground view shall be provided. The amount, density, type, and placement of vegetative screening shall be such that the proposed new development and existing pump station would be less visible from the Nevada Beach Campground than the existing mobile home park and KGID pump station. The visibility shall be measured by photograph-based analysis of the existing mobile home park and KGID pump station in comparison with the proposed project at 5 years after project completion.

Mitigation Measure 5.10.A-3b. Conduct Screening Mitigation Monitoring.

See Mitigation Measure 5.10.A-1c described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.A-3c. Design the SEZ Habitat Restoration and Other On-site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.

See Mitigation Measure 5.10.A-1a described above for Alternative A. The same mitigation would apply.

Existing View from Nevada Beach Campground **Exhibit 5.10-14a**

Simulated View of Alternative A from Nevada Beach Campground **Exhibit 5.10-14b**

Mitigation Measure 5.10.A-3d. Comply with TRPA Design Review Guidelines and Douglas County Guidelines Regarding Lighting.

The project applicant shall incorporate the following measures:

- Construction of the project shall adhere to TRPA Exterior Lighting Standards described in Chapter 7 of the TRPA Design Review Guidelines, Chapter 4 of the Standards and Guidelines, and TRPA Code of Ordinances Section 30.8.

- Construction shall adhere to Douglas County standards regarding exterior lighting, as described in the Douglas County Consolidated Development Code, Chapter 20.690.030 General Standards, Section M, Lighting.

- All exterior lighting shall be shielded, focused downward, and focused away from nearby recreation areas.

- All exterior lighting shall be limited to non-sodium-vapor lighting.

Mitigation Measure 5.10.A-3e. Develop and Implement a TRPA-approved Detailed Lighting Plan.

Concurrent with submittal of Improvement Plans, a detailed lighting and photometric plan shall be submitted to TRPA for review and approval and shall include the following:

a. The site lighting plan shall demonstrate compliance with the Douglas County Consolidated Development Code Standards and Guidelines. The night lighting design shall be designed to minimize impacts to adjoining and nearby land uses. No lighting is permitted on top of structures.

b. Site lighting fixtures in parking lots shall be provided by the use of high pressure sodium (HPS) or metal halide, with lights mounted at a height not to exceed 10 feet. The metal pole color shall be such that the pole will blend into the landscape (i.e., black, bronze, or dark bronze). All site lighting in parking areas shall be full cut-off design so that the light source is fully screened.

c. Building lighting shall be shielded and downward directed such that the bulb or ballast is not visible. Lighting fixture design shall complement the building colors and materials. Roof and wall pack lighting shall not be used. Lighting intensity shall be of a level that only highlights the adjacent building area and ground area and shall not impose glare on any pedestrian or vehicular traffic.

Implementation of the Mitigation Measures 5.10.A-3a through 5.10.A-3e would ensure the impacts from Alternative A on the SR-3, TRPA Recreation Areas and Bike Trails Threshold would be **less than significant.**

IMPACT 5.10.A-4 Effects on SR-4, TRPA Community Design Threshold. *Alternative A would comply with all relevant aspects of the design standards and guidelines contained in the TRPA Code of Ordinances and Scenic Quality Improvement Program. There are no specific design standards and guidelines in Plan Area Statement 070A (Edgewood) or Plan Area Statement 077 (Oliver Park). Alternative A would have a* ***less-than-significant*** *impact on TRPA Community Design Thresholds.*

The community design threshold is a policy statement that applies to the built environment. Design standards and guidelines found in the TRPA Code of Ordinances, the Scenic Quality Improvement Program, and in the adopted Community Plans provide specific implementation direction. 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. The TRPA 2001 Threshold Evaluation states that design elements that produce the most serious concerns are structure height, structure mass, structure materials and colors, inadequate screening, loss/lack of native vegetative screening, setbacks, and shorezone

structures. The report identifies landscaping as a community design element that has contributed to positive changes within Roadway Travel Unit 31, Meadow. At the same time it notes structure height, materials & colors, and landscaping as elements that have not been implemented or that have failed to prevent negative change in Shoreline Unit 30, Edgewood.

All proposed buildings in Alternative A would comply with TRPA building height standards. The architectural design of the residential buildings would be rustic alpine styling. The design elements would include steeply pitched roofs, exposed wood elements, shingle and stone exteriors, and oversized porches (Exhibits 3-5 through 3-9, Building Elevations, in Chapter 3). This style is consistent with other projects recently constructed in the basin that are recognized as improvements to community character. The building materials would include natural materials such as stone and wood. TRPA-approved muted colors would be used on exterior surfaces. The proposed project would include restoration of approximately 2 acres of SEZ habitat planted with native plugs and riparian vegetation and seeded with a native wetland seed mixture. General landscaping of the grounds would be accomplished using native plant species (see Table 3-2, Conceptual Vegetation Plan, in Chapter 3). Therefore, Alternative A would comply with all relevant aspects of the design standards and guidelines and would result in a **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

ALTERNATIVE B – TWO-LOT ALTERNATIVE SINGLE-FAMILY ESTATES

IMPACT 5.10.B-1 Effects on SR-1, TRPA Travel Route Threshold Ratings. *Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. The buildings in Alternative B would be visible to varying degrees from important surrounding viewpoints including U.S.50 within Roadway Travel Unit 31, Meadow, and Lake Tahoe within Shoreline Travel Unit 30, Edgewood. Although the project would replace the existing Tahoe Shores Mobile Home Park and would be partially screened by trees and other vegetation, the visual impact on SR-1 TRPA Travel Route Threshold Ratings would be* ***potentially significant.***

Roadway Travel Unit 31, Meadow

As illustrated in Exhibit 4-1, Alternative B would involve development of two 9.5-acre single-family estates. Each would include development of a paved access road, a large single-family residence with a deck and pool, a separate guest house, a detached five car garage, an entry gate house, two tennis courts, and surface parking. Both estates would share access to the existing private pier that would be reconstructed and extended to the TRPA designated pier headline by adding a 45-foot floating section. The pier would be 10 feet wide. The height of the fixed portion would be above the lake's highest level and would not be adjustable. The total length of the reconstructed pier would be 159 feet (80-foot fixed pier, 34-foot connector ramp, and 45-foot floating pier). The estate buildings would be 36 feet in height. Their architectural design would be rustic alpine styling, with steeply pitched roofs, exposed wood elements, and shingle and stone exteriors. Building materials would be primarily stone and wood, and muted colors would be used. All overhead utility lines within the project site would be placed underground. There would be no SEZ habitat restoration with Alternative B.

In views from U.S. 50, buildings in Alternative B would be partially screened by existing vegetation in the meadow, along Burke Creek, and by landscaping planted as part of the project. Seen from U.S. 50, new development would replace the existing, light colored, high contrast mobile home units. Alternative B features relatively few buildings. Surface features such as paved roads and tennis courts would be essentially unseen from U.S 50. Much of the site would appear open. The two estate homes, the largest of the buildings, would be located farthest from the highway. Alternative B would likely result in a reduction of manmade development that is seen on the site from U.S. 50, as compared to the existing mobile home park. New development that would be seen

would likely appear as dark buildings set against the backdrop of the dark green, tall conifers on the adjoining 4-H Camp. Alternative B would appear more complimentary to the surrounding setting than the existing mobile home units.

Shoreline Travel Unit 30, Edgewood

The two estate homes in Alternative B would be located toward the west end of the project site. At least part of one estate would be within the shoreland. Some portions of the estate homes, pool buildings, and likely the garage buildings would be visible from the lake. Alternative B could potentially affect the subcomponent scores for Manmade Features and General Landscape Views.

Section 30.12.B of the TRPA Code of Ordinances states a project shall not cause a decrease in the 1982 shoreline travel route rating. Unless adequate vegetative screening of new buildings is achieved, particularly of the estate homes, a decrease in the subcomponent score for Manmade Features would occur. This would contribute to a decrease in the Threshold Composite Score for Shoreline Travel Unit 30, Edgewood and is considered a **potentially significant** impact.

Mitigation Measure 5.10.B-1a. Perform a Contrast Rating Analysis of Buildings that Would be Located Within the Shoreland.

As specified in Section 30.15 of the TRPA Code of Ordinances, a mitigation review shall be conducted 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. The review shall be conducted once a final site plan and building plans for Alternative B are developed.

Mitigation Measure 5.10.B-1b. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.

Visual exposure of existing and proposed buildings and parking areas that would occur from the surface of Lake Tahoe shall be considered in landscape design of Alternative B. The selection of plant species, the quantities of plant materials, and their arrangement and placement on the project site shall maximize the screening potential of the materials. Screening shall be sufficient to reduce the visible area of development on the project site, including the KGID pump station, as seen from the surface of Lake Tahoe at a distance of 300 feet from shore to less than that presently in view. Screening shall also meet the amounts required under Section 30.12.B of the TRPA Code of Ordinances and the amount required by the TRPA for pier projects.

Mitigation Measure 5.10.B-1c. Conduct Screening Mitigation Monitoring.

Concurrent with submittal of Improvement Plans, a detailed screening mitigation monitoring plan shall be submitted to the TRPA for review and approval. The plan shall be implemented at the time construction of the project begins. The plan shall include the following:

a. Construction monitoring. The materials used to screen proposed buildings shall be installed during the first phases of project construction. A qualified landscape architect shall be on-site during installation of plant materials. The monitor shall ensure and certify that materials are installed according to approved plans and that the installation reflects the types, quantities, and placement of all materials shown on approved plans.

b. Field monitoring. A qualified landscape architect shall conduct a field review of the status and health of screening materials each year for the first 5 years after installation. The review shall be conducted prior to the end of each year's growing season. Any materials installed as part of the intended screening that fail to thrive shall be replaced by the owner prior to the end of that same growing season. After 5 years, the amount of screening achieved shall be determined. The total surface area of the visible façade and percentage of façade perimeter that is visible shall be determined.

c. In the event that after 5 years, less than the amount of screening specified in measure 5.10.B-1b has been achieved, the owner shall provide additional screening to achieve the necessary amount. The additional screening, if needed, shall be installed during the same year that a deficiency is identified.

Implementation of Mitigation Measures 5.10.B-1a, 1b and 1c would ensure the impacts on SR-1, TRPA Travel Route Threshold Ratings would be **less than significant**.

IMPACT 5.10.B-2 Effects on SR-2, TRPA Scenic Quality Threshold Ratings. *Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. Alternative B would be seen within the same visual context as of a number of identified and mapped TRPA Scenic Resources. These Scenic Resources are visible from Roadway Travel Unit 31, Meadow and Shoreline Travel Unit 30, Edgewood. The visual presence of Alternative B on TRPA regulated scenic resources would be a* ***potentially significant*** *impact.*

Roadway Travel Unit 31, Meadow

In views from U.S. 50, Alternative B would be at least partially screened by existing and new vegetation. The new development, which features relatively few buildings, would replace the existing mobile home units. Much of the site would appear open and would not contain buildings. Under Alternative B, the project site would appear less developed and more complimentary to the surrounding setting than under existing conditions.

SR 31.1, Views of the Lake from the Roadway. In the view toward the lake from U.S. 50, Alternative B would occupy a relatively small portion of the overall view due to the distance of the project from the highway. Alternative B would be seen as re-development of the existing mobile home park as opposed to new development on a currently undeveloped site. The removal of some trees on the site to accommodate construction of the single-family estates would increase the surface area of the lake visible from U.S. 50.

SR 31.2, Views of Natural Areas from Roadway. Because Alternative B would be seen as a re-development of the currently developed site and would occupy a small portion of the views that make up SR 31.2, it would not affect the scenic quality threshold rating.

SR 31.3, Visual Features. The project site is beyond (west of) this section of U.S. 50 and is not visible within it.

Shoreline Travel Unit 30, Edgewood

SR 30.2, Shoreline View and SR 30.4, Visual Feature. Alternative B would remove the existing mobile home park and replace it with two estate homes and related buildings. The overhead transmission line and other utility lines within the mobile home park would be placed underground and thus removed from view. The existing fixed-height pier would be reconstructed and extended to the TRPA designated pier headline by adding a 45-foot floating section. The total length of the reconstructed pier would be 159 feet (80-foot fixed pier, 34-foot connector ramp, and 45-foot floating pier). The three existing buoys would be relocated parallel to the north side of the proposed floating pier to remove the buoys from the scenic recreational viewshed from Nevada Beach. In views from the lake, this would visually consolidate the pier and the buoys. The new development would include more appropriate community design features than the pump station and mobile home park. However, it would impact scenic resources due to its obvious manmade character and visual exposure in views from the lake. Without appropriate mitigation, Alternative B would cause a decrease in the Scenic Quality Threshold Ratings for Scenic Resources within Shoreline Travel Unit 30, Edgewood, which is considered a **potentially significant** impact.

Mitigation Measure 5.10.B-2a. Perform a Contrast Rating Analysis of Buildings that Would be Located Within the Shoreland.

See Mitigation Measure 5.10.B-1a described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.B-2b. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.

See Mitigation Measure 5.10.B-1b described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.B-2c. Conduct Screening Mitigation Monitoring.

See Mitigation Measure 5.10.B-1c described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measures 5.10.B-2a, 2b and 2c would ensure the impacts on SR-2, TRPA Scenic Quality Threshold Ratings would be **less than significant**.

IMPACT 5.10.B-3 Effects on SR-3, TRPA Recreation Areas and Bike Trails Threshold. *Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. Part of Alternative B would be visible within the context of some identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. The visual presence of the project on these TRPA regulated scenic resources would be a* ***potentially significant*** *impact.*

Recreation Area No. 1 – Nevada Beach

Views 1-1 and 1-2. View 1-1, the view looking across the lake from the mid-point of Nevada Beach, and View 1-2, the view from the south end of Nevada Beach looking along the shore and out across the lake, would be unchanged by Alternative B.

View 1-3. View 1-3 (Exhibit 5.10-2) is the view from the southernmost campsite looking in the direction of the project site. Past Scenic Resource Evaluations of View 1-3 have identified the existing mobile home park and KGID facility as disruptive to the natural character of the area. Alternative B would remove the mobile home park and replace it with estate homes. There would be less development on the site than with the mobile home park. The two new estate homes would be substantially taller than any of the existing mobile homes, but would be located farther from the campground. The architecture of the proposed development would include more visually appropriate community design features than the existing mobile home park, but would nonetheless have a manmade character. Lighting of the new development at night could affect campers at nearby campsites. Without adequate mitigation measures, Alternative B would cause a decrease in the Scenic Quality Threshold Rating of View 1-3, which is considered a **potentially significant** impact.

Views from Burke Creek Meadow. The existing mobile home park is seen at the south edge of the meadow from the Lam Watah Trail and other trails through Burke Creek Meadow. Alternative B would replace the dense grid of existing mobile homes with relatively few buildings that, by comparison, would be widely spaced and set back from the edge of the meadow. The existing overhead utility lines would be placed underground. The two new estate homes would be substantially larger than any of the mobile homes, but would have lower levels of visual contrast. The reduced density of development and added landscaping of the site with native and adapted plant materials would be more visually compatible with the setting of the meadow and would improve views from trails in the direction of the project site.

Mitigation Measure 5.10.B-3a. Provide Screening of Proposed Buildings from the Nevada Beach Campground.

See Mitigation Measure 5.10.A-3a described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.B-3b. Conduct Screening Mitigation Monitoring.

See Mitigation Measure 5.10.A-1c described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.B-3c. Design the SEZ Habitat Restoration and Other On-site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.

See Mitigation Measure 5.10.A-1a described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.B-3d. Comply with TRPA Design Review Guidelines and Douglas County Guidelines Regarding Lighting.

See Mitigation Measure 5.10.A-3d described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.B-3e. Submit a Detailed Lighting Plan to TRPA.

See Mitigation Measure 5.10.A-3e described above for Alternative A. The same mitigation would apply.

Implementation of Mitigation Measures 5.10.B-3a through 3e would reduce the impacts of Alternative B on SR-3, TRPA Recreation Area and Bike Trails Threshold to a **less-than-significant** level.

IMPACT 5.10.B-4 Effects on SR-4, TRPA Community Design Threshold. *Alternative B would be located on the same project site as Alternative A; however, Alternative B proposes two single-family estates rather than the condominiums and beach and swim club associated with Alternative A. Alternative B would comply with all relevant aspects of the design standards and guidelines contained in the Code of Ordinances and Scenic Quality Improvement Program. There are no specific design standards and guidelines in Plan Area Statement 070A (Edgewood) or Plan Area Statement 077 (Oliver Park). Alternative B would have a* ***less-than-significant*** *impact on TRPA Community Design Thresholds.*

Alternative B would replace the grid of existing high contrast mobile homes with relatively few widely spaced buildings. The buildings in the single-family estates would comply with TRPA building height standards. Their architectural design would be rustic alpine styling with design elements that include steeply pitched roofs, exposed wood elements, shingle and stone exteriors, and oversized porches. This style is consistent with other projects recently constructed in the basin that are recognized as improvements to community character. TRPA-approved, muted colors would be used on exterior surfaces. General landscaping of the grounds would be accomplished using native plant species.

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE MULTI-FAMILY RESIDENTIAL

IMPACT 5.10.C-1 Effects on SR-1, TRPA Travel Route Threshold Ratings. *Alternative C would be located on the same project site as Alternatives A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. The buildings in Alternative C would be visible to varying degrees from important surrounding viewpoints including U.S. 50 within Roadway Travel Unit 31, Meadow, and Lake Tahoe itself within Shoreline Travel Unit 30, Edgewood. The project would replace the existing Tahoe Shores Mobile Home Park. It would be at least partially screened by vegetation. The visual impact on SR-1 TRPA Travel Route Threshold Ratings would be* ***potentially significant.***

Roadway Travel Unit 31, Meadow

As illustrated in Exhibit 4-3, in Chapter 4, "Alternatives," Alternative C would involve development of two multifamily housing complexes in place of the existing Tahoe Shores Mobile Home Park. A total of 11 new structures would be constructed including eight, three-story residential buildings with 20 housing units in each. The residential buildings would be arranged in two rows along the length of the project site. There would also be two new recreation buildings in the area toward the lake. The existing fixed-height pier would be reconstructed and extended to the TRPA designated pier headline. As with Alternative A, the new pier would be comprised of an adjustable-height fixed section extending from the shore, a transition section, and a floating end section. The total length of all three sections would be 159 feet (80-foot adjustable-height fixed pier, 20-foot connector ramp, and 59-foot floating pier). The pier would be 10 feet wide, except for the final 20 feet at the lake end of the pier which would be 30 feet wide. The residential buildings would be 36 feet in height. Their architectural design would be rustic alpine styling, with steeply pitched roofs, exposed wood elements, and shingle and stone exteriors. Building materials would be primarily stone and wood, and muted colors would be used. All overhead utility lines within the project site would be placed underground. There would be no SEZ habitat restoration with Alternative C. Alternative C could potentially affect the subcomponent score for Manmade Features and General Landscape Views. The impacts would be similar to those described under Alternative A (see Impact 5.10.A-1) except that the residential buildings would be more visually exposed in views from U.S. 50. This is because four of the residential buildings would be near the north edge of the project site, and because no SEZ habitat restoration is proposed that would otherwise screen the buildings. This impact is considered **potentially significant**.

Shoreline Travel Unit 30, Edgewood

The impacts of Alternative C on the threshold ratings of Shoreline Travel Unit 30, Edgewood would be similar to those under Alternative B discussed above (see Impact 5.10.B-1). At least one of the recreation buildings in Alternative C would be within 300 feet of the lake (within the shoreland). The residential buildings would be beyond the shoreland, about 400 or 500 feet back from the recreation buildings. Part or all of the recreation buildings and residential buildings would be visible from the lake. Alternative C could result in a **potentially significant** impact on the subcomponent score for Manmade Features and General Landscape Views.

Mitigation Measure 5.10.C-1a. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.

Visual exposure of proposed buildings and parking areas that would occur from U.S. 50 and from the surface of Lake Tahoe shall be considered in the landscape design of Alternative C. The selection of plant species, the quantities of plant materials, and their arrangement and placement on the project site shall maximize the screening potential of the materials. A continuous and dense row of large, native shrubs adapted to meadow environments shall be planted and established along the entire northern boundary of the project site. In the western portion of the site, screening shall be provided that is sufficient to reduce the visible area of development on the project site, including the KGID pump station, as seen from the surface of Lake Tahoe at a distance of 300 feet from shore to

less than that presently in view. This screening shall also meet the amounts required under Section 30.12.B of the TRPA Code of Ordinances and the amount required by the TRPA for pier projects.

Mitigation Measure 5.10.C-1b. Perform a Contrast Rating Analysis of Buildings that Would be Located Within the Shoreland.

See Mitigation Measure 5.10.B-1a described above for Alternative B. The same mitigation would apply.

Mitigation Measure 5.10.C-1c. Conduct Screening Mitigation Monitoring.

See Mitigation Measure 5.10.B-1c described above for Alternative B. The same mitigation would apply.

Implementation of Mitigation Measures 5.10.C-1a through 1c would reduce the impacts of Alternative C on SR-1, TRPA Travel Route Threshold Ratings to a **less-than-significant** level.

IMPACT 5.10.C-2 Effects on SR-2, TRPA Scenic Quality Threshold Ratings. *Alternative C would be located on the same project site as Alternative A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. Alternative C would be seen within the same visual context as a number of identified and mapped TRPA Scenic Resources. These Scenic Resources are viewed from Roadway Travel Unit 31, Meadow, and Shoreline Travel Unit 30, Edgewood. The visual presence of the project on TRPA regulated scenic resources would be a* ***potentially significant*** *impact.*

Roadway Travel Unit 31, Meadow

SR 31.1, Views of the Lake from the Roadway. In the view toward the lake from U.S. 50, Alternative C would be partially screened by existing vegetation in the adjacent meadow. The new development, which features two multifamily residential complexes, would replace the existing mobile home units. Four of the residential buildings would be located along the north edge of the project site. Since there would be no SEZ habitat restoration that would otherwise screen the buildings, they would be visible from U.S. 50. Under Alternative C, the project site would appear fully developed. This could result in a **potentially significant** impact on the subcomponent scores for intactness and unity and cause a decrease in the Scenic Quality Threshold Ratings for Scenic Resources within Roadway Travel Unit 31, Meadow.

SR 31.2, Views of Natural Areas from Roadway. Because Alternative C would be seen as a re-development of the currently developed site, and would occupy a small portion of the views that make up SR 31.2, it would not affect the scenic quality threshold rating.

SR 31.3, Visual Features. The project site is beyond (west of) this section of U.S. 50 and is not visible within it.

Shoreline Travel Unit 30, Edgewood

SR 30.2, Shoreline View and SR 30.4, Visual Feature. The impacts of Alternative C on TRPA Scenic Quality Threshold Ratings for Scenic Resources viewed from Shoreline Travel Unit 30, Edgewood would be similar to those discussed under Impact 5.10.B-2. Without appropriate mitigation, Alternative C would cause a decrease in the Scenic Quality Threshold Ratings for Scenic Resources within Shoreline Travel Unit 30, Edgewood, which is considered a **potentially significant** impact.

Mitigation Measure 5.10.C-2a. Design On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.

See Mitigation Measure 5.10.C-1a described above for Alternative C. The same mitigation would apply.

Mitigation Measure 5.10.C-2b. Perform a Contrast Rating Analysis of buildings that Would be Located Within the Shoreland.

See Mitigation Measure 5.10.B-1a described above for Alternative B. The same mitigation would apply.

Mitigation Measure 5.10.C-2c. Conduct Screening Mitigation Monitoring.

See Mitigation Measure 5.10.B-1c described above for Alternative B. The same mitigation would apply.

Implementation of Mitigation Measures 5.10.C-2a through 2c would reduce the impacts of Alternative C on SR-2, TRPA Scenic Quality Threshold Ratings to a **less-than-significant** level.

IMPACT 5.10.C-3 Effects on SR-3, TRPA Recreation Areas and Bike Trails Threshold. *Alternative C would be located on the same project site as Alternative A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. Part of Alternative C would be visible within the context of some identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. The visual presence of the project on these TRPA regulated scenic resources would be a* ***potentially significant*** *impact.*

The impacts of Alternative C on TRPA Recreation Areas and Bike Trails Threshold at Recreation Area No. 1 – Nevada Beach would be similar to those discussed under Impact 5.10.A-3.

Mitigation Measure 5.10.C-3a. Provide Screening of Proposed Buildings from the Nevada Beach Campground.

See Mitigation Measure 5.10.A-3a described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.C-3b. Conduct Screening Mitigation Monitoring.

See Mitigation Measure 5.10.A-1c described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.C-3c. Design the SEZ Habitat Restoration and Other On-Site Landscaping to Provide Screening of Proposed Buildings and Parking Areas.

See Mitigation Measure 5.10.A-1a described above for Alternative A. The same mitigation would apply.

Mitigation Measure 5.10.C-3d. Comply with TRPA Design Review Guidelines and Douglas County Guidelines Regarding Lighting.

See Mitigation Measure 5.10.A-3d described above for Alternative A. The same mitigation measure would apply.

Mitigation Measure 5.10.C-3e. Submit a Detailed Lighting Plan to TRPA.

See Mitigation Measure 5.10.A-3e described above for Alternative A. The same mitigation measure would apply.

Implementation of these mitigation measures would reduce the impacts of Alternative C on SR-3, TRPA Recreation Area and Bike Trails Threshold to a **less-than-significant** level.

IMPACT 5.10.C-4 Effects on SR-4, TRPA Community Design Threshold. *Alternative C would be located on the same project site as Alternative A; however, Alternative C proposes two multifamily complexes rather than the condominiums and beach and swim club associated with Alternative A. Alternative C would comply with all relevant aspects of the design standards and guidelines contained in the Code of Ordinances and Scenic Quality Improvement Program. There are no specific design standards and guidelines in Plan Area Statement 070A (Edgewood) or Plan Area Statement 077 (Oliver Park). Alternative C would have a* ***less-than-significant*** *impact on TRPA Community Design Thresholds.*

Alternative C would replace the grid of existing, high contrast mobile homes with two multifamily residential complexes. The new buildings, arranged in two parallel rows along the length of the site, would comply with TRPA building height standards. Their architectural design would be rustic alpine styling with design elements that include steeply pitched roofs, exposed wood elements, shingle and stone exteriors, and oversized porches. This style is consistent with other projects recently constructed in the basin that are recognized as improvements to community character. TRPA-approved, muted colors would be used on exterior surfaces. General landscaping of the grounds would be accomplished using native plant species.

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT – JERE WILLIAMS PLAN

Alternative D 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 result in **no impact** to SR-1 TRPA Travel Route Threshold Ratings, SR-2 TRPA Scenic Quality Threshold Ratings, or SR-3 TRPA Recreation Areas and Bike Trails Threshold. Since there would be no redevelopment of the site under Alternative D, it would not impact SR-4 TRPA Community Design Thresholds.

While no mitigation is required, the following enhancement measures are recommended to address the visual effects of the existing mobile home park on community design that have been recognized for some time and that could be perpetuated under Alternative D.

- A continuous and dense row consisting of large-growing native shrubs adapted to meadow environments should be planted and established along the entire northern boundary of the project site. The selection of plant species, the quantities of plant materials, and their arrangement and placement along the northern boundary should maximize the potential for screening views of the site from U.S. 50.

ALTERNATIVE E – NO PROJECT – MANUFACTURED HOUSING

Alternative E would involve removal of all existing mobile homes and conducting infrastructure repairs and replacement, including underground utility lines. The 155 mobile homes pads would then be reestablished and new one- and two-story manufactured housing units would be placed on the pads. New structures would conform to all applicable building codes and regulations. These changes would have little or **no impact** on existing views from U.S. 50, Lake Tahoe, and Nevada Beach. Alternative E would not impact SR-1 TRPA Travel Route Threshold Ratings, SR-2 TRPA Scenic Quality Threshold Ratings, or SR-3 TRPA Recreation Areas and Bike Trails Threshold. Partial redevelopment of the site under Alternative E would provide some opportunities to implement relevant aspects of the design standards and guidelines contained in the Code of Ordinances and Scenic Quality Improvement Program. Alternative E would have a **less-than-significant** impact on SR-4 TRPA Community Design Thresholds.

While no mitigation is required, the following enhancement measures are recommended to address the visual effects of the existing mobile home park on community design that have been recognized for some time and that could be perpetuated under Alternative E.

- A continuous and dense row consisting of large-growing native shrubs adapted to meadow environments should be planted and established along the entire northern boundary of the project site. The selection of plant species, the quantities of plant materials, and their arrangement and placement along the northern boundary should maximize the potential for screening views of the site from U.S. 50.

- Only muted TRPA-approved colors should be used on exterior surfaces of all new manufactured housing or other buildings placed on the project site.

5.11 CULTURAL RESOURCES

This section considers the effects of the proposed Beach Club project alternatives, A through E, on cultural resources located in the project area. This analysis (1) describes the criteria for determining cultural resource significance, including guidance provided in the TRPA Code of Ordinances, and the *Draft 2006 Douglas County Master Plan*; (2) provides an inventory of known cultural resources on the project site; (3) summarizes previous archaeological investigations; and (4) evaluates the potential project impacts to cultural resources and identifies mitigation measures that would reduce those impacts to less-than-significant levels. For the purposes of this EIS, cultural resources include paleontological, historic, prehistoric, and archaeological resources.

5.11.1 REGULATORY BACKGROUND

The criteria for determining the significance of cultural resources in the project area are based on the TRPA Code of Ordinances, Chapter 29, "Historic Resource Protection," and Goals and Policies outlined in Chapters 3 and 6 of the *Draft 2006 Douglas County Master Plan*. These regulations are described in greater detail below.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Because there is no involvement in the proposed project by federal agencies, no federal plans, policies, regulations, or laws related to cultural resources are applicable to the proposed project. However, federal regulations, such as Section 106 of the National Historic Preservation Act of 1966 (NHPA), provide the foundation and impetus for the cultural resources ordinances and provisions of the TRPA.

TRPA CODE OF ORDINANCES

In compliance with federal law and Douglas County policies, TRPA has adopted guidelines to determine cultural resource significance and impacts in the Lake Tahoe Basin. Chapter 29 of the TRPA Code of Ordinances states that "sites, objects, structures, districts or other resources of historical, cultural, archaeological, paleontological, or architectural significance locally, regionally, state-wide, or nationally" shall meet at least one of the following criteria:

- **(Section 29.5.A)** 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.

- **(Section 29.5.B)** 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.

- **(Section 29.5.C)** 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.

- **(Section 29.5.D)** Archeological or paleontological resources protected, or eligible for protection, under state or federal guidelines, are eligible.

- **(Section 29.5.E)** Prehistoric archaeological or paleontological resources that contribute to the knowledge and understanding of early cultural or biological development.

Section 29.2 of the 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.

Section 29.2.A requires the resource protection plan to be prepared by a qualified professional and provide surface or subsurface recovery data and artifacts and recordation of structural and other data. Section 29.2.B requires protection during construction, which includes prohibiting grading or excavation in designated historic resource areas, except with a TRPA-approved resource protection plan (TRPA 1991).

TRPA Code of Ordinances Section 29.6 addresses projects related to historic resources. Projects affecting designated historic resources would be required to supply documentation of compliance with standards in Sections 29.6.A through 29.6.D related to additions to historic structures or adjacent structures or in historic sites or districts; and repair, maintenance, reconstruction, or demolition of historic resources (TRPA 1991).

TRPA Code of Ordinances Section 64.8 addresses the discovery of historic resources during grading activities. This section requires grading to cease and TRPA notification if resources are encountered that appear to be 50 years or older. TRPA would suspend grading and consult with appropriate local, state, or federal entities to determine the significance of the resource, if any. The property owner is required to provide protection for the materials during the investigation period (TRPA 1991).

DOUGLAS COUNTY MASTER PLAN

The *Draft 2006 Douglas County Master Plan* outlines one goal that relates to the management and protection of cultural resources.

GOAL 9.01: 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 9.01.01:** 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 9.01.02:** 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 9.01.07:** 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, and in response the following goal and policy have been adopted.

GOAL 4.01: Douglas County should cooperate and work toward the mutual attainment of the goals of each entity's Master Plan.

- **Policy 4.01.01** Douglas County shall continue to coordinate with the Washoe Tribe regarding planning issues and seek formal agreements on land use, services to the Washoe population in Dresslerville and other development, and concurrency of adequate public facilities in the Pine Nut allotments, economic development, forest and woodlands, water resources, cultural resources, transportation, and other common issues to provide for attainment of Master Plan goals.

5.11.2 AFFECTED ENVIRONMENT

AREA OF POTENTIAL EFFECT

The Beach Club Project includes the 19.63-acre project site, which consists of two parcels: APN 1318-22-002-001 (17.26 acres) and APN 1318-22-002-002 (2.37 acres) (Exhibits 3-2 and 3-3). There are no known cultural resources that would be affected by construction of the Beach Club Project. However, because of prehistoric and historic activities in the vicinity of the project site, there is the potential for the presence of cultural deposits in subsurface contexts.

HISTORIC BACKGROUND AND SETTING

Prehistory

The prehistory of the Northern Sierra Front, which includes the Lake Tahoe Basin, has been studied by numerous researchers, among them Heizer and Elsasser (1953); Elsasser (1960, 1978); Elston (1971, 1982, 1986); Elston et al. (1977, 1994, and 1995); Miller and Elston (1979); Ingbar (1994); Moratto (1984), Pendleton et al., (1982), Kuffner (1987), Peterson (1984), Zeier and Elston (1986), Delacorte (1997), McGuire (1997a and 1997b), and Moore and Burke (1992). The cultural chronology of the Sierra Front is summarized in Table 5.11-1.

Table 5.11-1
Cultural Phases in the Central and Northern Sierra

Phase/Adaptive Strategy	Time Markers	Age (Years B.P.)	Climate
Late Kings Beach/ Late Archaic	Desert Series Projectile Points, chert cores, utilized flakes and other small chert tools, possibly shallow saucer-shaped house pits	700–150 B.P.	Neoglacial; wet and cool, but with little summer precipitation.
Early Kings Beach/Late Archaic	Rosegate Series points, chert cores, utilized flakes and other small chert tools, hullers, M1a sequin beads, possibly small shallow saucer-shaped house pits	1,300–700 B.P.	Neoglacial, dry trees growing in former bogs, Periods where Lake Tahoe may not have overflowed.
Late Martis/Middle Archaic	Corner-notched and eared points of the Martis and Elko Series; Large basalt bifaces	3,000–1,300 B.P.	Neoglacial; wet but not necessarily cooler, increased summer rain.
Early Martis/ Middle Archaic	Contracting Stem points of the Elko-Martis Series; Steamboat points, large basalt bifaces	5,000–3,000 B.P.	Beginning of Medithermal; Neoglacial, wet, but not necessarily cooler, increased summer precipitation, Lake Tahoe begins to overflow.
Spooner/Early Archaic	(None Defined)	8,000–4,000 B.P.	Altithermal; generally hot and dry, Lake Tahoe does not overflow for long periods of time.
Tahoe Reach/ Pre-Archaic	Great Basin Stemmed Series points.	>10,000–8,000 B.P.	Anathermal; warming trend, climate similar to the present.

Source: Elston et al (1994:11)

East of the Sierra Nevada crest, in the western Great Basin, the Tahoe Reach Phase (ca. > 10,000–8,000 B.P.) is a period of early occupation (Elston et al. 1994). This time period is marked by the presence of Great Basin stemmed points with ground margins, bifaces, choppers, and crescent shaped tools. The Spooner Phase (8,000–4,000 B.P.), originally proposed by Elston (1971), currently lacks diagnostic artifacts and remains generally undefined pending the results of future research.

Throughout the Archaic period, populations increased, the resource base broadened, and plant food gathering and processing tools became more complex, with new items and technologies added to existing ones. Flaked stone tools became simpler and smaller, with less stylistic variation, and during the Late Archaic the bow and arrow replaced the atlatl and dart (Elston 1982:187, 1986). The intensified use of resources and expanded tool kit complexity that is representative of the transition to the Late Archaic is thought to be in response to population pressure, possibly spurred by a hot, dry spell between 1,000 and 2,000 years before present (Elston 1986).

Two basic Archaic settlement patterns for the Great Basin have been proposed: a dispersed and a restricted pattern (Elston 1982:189). The dispersed pattern was the typical pattern in the more arid regions of the western Great Basin sub-area (central Nevada), where small residential groups frequently selected different winter and base camp sites from year to year to take full advantage of a relatively unpredictable and scarce resource base. The restricted pattern prevailed throughout the Northern Sierra Front between 4,000 and 2,000 years ago. At that time, greater effective moisture provided a resource base that was relatively more reliable and abundant in relation to population density. In the mid-Archaic, residential groups regularly occupied optimally located sites with access to a suite of subsistence resources. Thus high-return resources could be procured at low cost, with few residential moves (Elston 1982:196; Zeier and Elston 1986).

Four artifact classes characterize middle Archaic period sites (Moore and Burke 1992:21). These are large corner-notched and contracting-stem points; large bifaces used as scrapers, rather than for cutting (with steep-edged unifacially shaped working edges, truncations formed by smashing, and little morphological standardization); flake tools made on large interior flakes with steep edge angles similar to the bifaces; and expedient gravers and perforators. Reduction was generalized and inefficient, producing a large amount of waste lithic material (Moore and Burke 1992:21–24). Martis winter sites were located in optimal ecological locales with access to a suite of subsistence resources (Elston 1986:141). Within the Truckee Meadows, it appears from the density of diagnostic artifacts that land use intensified during this time period. However, there is no evidence for long-term occupation, but rather base camps that were visited frequently for limited periods of time.

During the Late Martis Phase (3,000–1,300 B.P.) the difference in Great Basin and California traits seem to form an interface at the crest of the Sierra Nevada. This may be reflective of a cultural and physical barrier that lasts at least throughout the Martis Phases (Ataman 1999:10–11), and may have continued into later times, as suggested by research conducted by Deis (1999), who presents evidence for a discontinuity in use of Great Basin projectile point types during the Late Martis/Early Kings Beach Phase transition.

Abrupt technological, settlement, and subsistence changes are seen throughout the area, and these changes may be associated with the ethnographic Washoe. Small projectile points, indicating a switch from atlatl to bow and arrow technology, are evident throughout the region. The corresponding Early Kings Beach Phase (1,300–700 B.P.) is characterized by the appearance of hullers and bedrock mortars, apparently associated with a northern population expansion and subsequent exploitation of pinyon pines. Fish and small game also become a major part of the diet. Technologically, the phase is marked by a switch to a toolstone-efficient technology centered on the primary use of locally available cherts and sinter. In addition to the major shift to small Rosegate arrow points, other diagnostic traits include the use of large and small triangular bifaces made exclusively of chert, well-thinned bifaces with large width to thickness ratios. Gravers are absent during this period, retouched flakes are rare, and perforators, if present, tend to be made on recycled small corner-notched points.

In the Late Archaic (Kings Beach), there was a more dispersed settlement pattern with less regular occupation of optimal sites, which has been linked to a changing subsistence pattern with progressively greater intensity of

exploitation of diverse resources and ecozones (Elston 1982:199). People continued to occupy the old sites, but also began to occupy new sites in less optimal locations (Zeier and Elston 1986:377–379). Resources were either being depleted faster at the old sites, necessitating more frequent moves, or demographic packing filled in the spaces between optimal locations. At the new sites, low ranked resources were used intensively at higher cost. These new site locations may reflect exploitation of pinyon which reached is northernmost expansion between 1200 and 710 B.P. (Raven 1990:78).

On the eastern Sierra Nevada front, the Late Kings Beach Phase (700–150 B.P.) is marked by flaked stone assemblages dominated by local cherts, with rare use of basalt and sinter (Elston et al. 1994:18). While Elston et al. (1994) ascribe the beginning of this period with the appearance of small side-notched point types that replace the early corner-notched types, Moore and Burke (1992:23) propose that the corner-notched varieties persist until ca. 500 B.P., which is consistent with evidence presented by Clay (1996). However, Elston et al. (1994:18) state that the evidence presented by Moore and Burke for the persistence of corner-notched points is not compelling. Moore and Burke (1992:37) suggest that the dietary breadth decreases during this phase, and there appears to be a decrease in sites at upper elevations, with increased occupation at lower elevations, particularly along terraces of the Truckee River.

Washoe History

Culturally the Washoe people are linked to both California and the Great Basin. However, their language is unique; it is the only non-Numic language group in the Great Basin. Although commonly classified as a member of the Hokan stock (cf., Shipley 1978), which has ten other branches in California (largely concentrated on the central coast), the relationships among these branches have not been established beyond controversy (Jacobsen 1986:107; Moratto 1984). There is no firmly established proto-language or homeland for the Washoe. For this reason, there is no linguistic support for either a California origin or a "formerly widespread Hokan-speaking area in the Great Basin" (Jacobsen 1986:107). Instead, Jacobsen suggests that the Washoe have long occupied their core area as implied by a residue of un-analyzable place names and of apparent older loanwords from the surrounding (linguistic) stocks. This is consistent with archaeological findings of continuity in settlement location between Martis and Kings Beach Phases (c.f. Elston 1971; Zeier and Elston 1986; Moratto 1984:295). It does not, however, confirm the hypothesized "cultural continuity between the Martis and Kings Beach Complexes" (Elston 1971).

Washoe core territory extended from Honey Lake, approximately 60 miles north of Reno, on the north to the West Walker River, south of Gardnerville, Nevada on the south, and from the Pine Nut Range, east of Reno to the Sierra crest on the west. Northerners (*Wel mel ti*) used areas from Eagle Valley north to Honey Lake; southerners (*Hunga lel ti*) occupied the area south of Woodfords; and valley dwellers (*Pau wa lu*) wintered in the Truckee Meadows (Nevers 1976). The project area falls in the center of historic Washoe territory, with primary use by the *Pau wa lu* and *wel mel ti* (Downs 1966, Nevers 1976, and Stewart 1966). In the project vicinity, a Washoe encampment (*lamwO'tha*) is identified at a small stream (most likely Burke Creek) that enters the lake, and two bedrock milling sites located on other drainages to the north and south of the encampment (Freed 1953:78 and 82).

Washoe population estimates are generally low, from 550 in 1861 to 300–400 in 1900 (d'Azevedo 1966:323), although John Reese, a Carson Valley businessman of the 1850s estimated the Carson Valley Washoe population at 2,000–3,000 individuals (d'Azevedo 1966:232–324). Washoe subsistence exhibited a pattern of seasonal resource exploitation, relying on extensive knowledge of the environment.

The Washoe gathered plants in early spring, moving to Lake Tahoe to fish and socialize as snow conditions allowed (Table 5.11-2). In summer, family groups gathered plant foods and hunted in mountain valleys, moving to lower elevations for seed harvests in mid to late summer, when communal rabbit and antelope drives were held. A major celebration began the pine nut harvest, which began in late summer with the taking of green cones and continued at least through late October, with whole cones or nuts in shells stored for winter subsistence (Fowler

1986:65). In summer, shelters were temporary, semi-circular brush affairs, while winter homes were more sturdy; consisting of circular bark or wood slab-covered pole frames that were dispersed in groups of two to ten (d'Azevedo 1986).

Archaeologically, the manifestations of ethnographic occupation may be viewed using the theoretical model presented by Binford (1980). According to this theoretical model, archaeological sites are the static remains of past activity, whose data allow reconstruction of patterns of former dynamic cultural systems. To this end, site classification systems attempt to define site function based on materials present and their distribution in the site, and the site's position relative to available resources. It is through the use of ethnographic data applied to archaeology that the archaeologist has the best chance to recreate past cultural adaptations (Binford 1980:5). Although a clear one-to-one correlation between ethnographic observation and archaeological material frequently does not exist, in general this is a good method if used wisely.

The Washoe combined the techniques of foragers: moving to a resource patch and ranging out from the residential base as collectors making fewer residential moves, gathering specific resources in organized groups, and storing subsistence resources for use during at least part of the year (Binford 1980). During the winter the Washoe lived in dispersed villages and consumed stored foods gathered by organized groups (e.g., pine nut harvests, game drives). Washoe groups fished together in the spring, but split into small family groups during the summer, occupying forager-type bases and moving from one resource patch to another. The general pattern of Washoe subsistence is presented in Table 5.11-2.

Table 5.11-2
General Pattern of Washoe Subsistence

Subsistence Activity and Major Resource	Resource Location	Season
Gathering plant foods, especially watercress, new grass and tule shoots and bulbs	On meadows or adjacent to valley floor in vicinity of winter camp	Late winter, very early spring
Fishing, spring spawning runs	Especially Lake Tahoe shore and tributaries but also Pyramid Lake, Truckee River, Honey Lake, Long Valley Creek, and probably most other large lakes and streams	Early spring
Gathering waterfowl eggs	Waterfowl nesting areas, lakes, marshes, and streams: valley bottoms	Spring
Hunting waterfowl; drives	Shallow lakes and marshes: valley bottoms	Late spring, early summer
Gathering various plant foods, small stream fishing	Sierran meadows and streams	Late spring, mid-summer
Gathering, concentration on grass and brush seeds	Valley floors and fans	Mid-summer to late summer
Upland bird hunting	Valley floors, fans and mountain foothills	Late summer, early fall
Rabbit drives	Valley floors, fans	Early fall
Gathering pine nuts	Eastern mountains, south of Truckee River	Early to mid-fall
Fishing, fall runs	Recorded for Truckee River and Donner Creek, probably most streams	Late Fall
Deer Hunting	Sierra Nevada, eastern mountains, along game migration trails	Throughout fall and winter
Mountain sheep hunting	Sierra Nevada, eastern mountains	Fall before snows
Antelope drives	Valley floors	Throughout fall
Subsistence on stored seeds and dried meat, shelter for winter	In winter camp on valley margins with topographic relief	Throughout winter

Source: Elston 1979.

The contemporary Washoe have developed a Comprehensive Land Use Plan (Washoe Tribal Council 1994). It includes goals of reestablishing a presence in the Tahoe Sierra and revitalizing Washoe heritage and cultural knowledge, including the harvest and care of traditional plant resources and the protection of traditional properties in the cultural landscape (Rucks 1996).

Euro-American History

Lake Tahoe was not viewed by Euro-American visitors to the area until 1844, when John C. Fremont first observed it from afar (Gudde 1974). Later that same year, members of the Stevens-Murphy-Townsend emigrant party were perhaps the first Euro-American people to venture onto the shore of the lake. The California gold rush of 1849, and the subsequent silver rush a decade later in Nevada, brought many miners through the Tahoe Sierra along opposite migration patterns. The strategic proximity of the Lake Tahoe Basin to the Mother Lode in California and the Comstock Lode in Nevada promoted related development in lumbering, grazing, transportation, market hunting and fishing, tourism, and urban development. Tahoe's strategic proximity to wood, water, mineral, rangeland, and recreational resources justified the investment of a significant amount of capital and energy into transportation to and through the basin.

In the vicinity of the project site, Martin K. "Friday" Burke formed a partnership with a Mr. Small, acquired the franchise for the western end of a toll road linking the basin with Carson and Washoe Valleys and opened Friday's Station, one of the principal way-stations along Kingsbury Grade, in 1860. The station, located near the current intersection of Highway 50 and Kahle Drive, was used by the Pony Express between 1860 and 1861, and the Pioneer Stage Line, and Wells Fargo Express. However, upon completion of the Central Pacific Railroad, business at the Station quickly declined (Scott 1957:232, 236, 237). Small became the sole owner in 1871 and later sold the business to John Wales Averill in 1896 when the name was changed to Edgewood (Scott 1957:234, 236, 237). Later in 1898 the land and business was purchased by David Broods Park (Scott 1957:237).

Discovery of the Comstock Lode in 1859 and the subsequent demand of lumber and timber for square set shoring in the mines created a booming logging industry in the Lake Tahoe Basin. By the 1870s the industry was dominated by several large firms consisting of Sierra Nevada Wood and Lumber Company, Donner Lumber and Boom Company, and the Pacific Wood, Lumber, and Flume Company, however, the largest was the Carson and Tahoe Lumber and Fluming Company. By the end of the Comstock Mining period, the majority of the prime timber in the Tahoe Basin had been removed. Logging was also a major theme in the vicinity of the project area. Following the death of Burke his widow sold 600+ acres to Folsom in 1888 and the following year Folsom established a logging camp named Hobart approximately one-half mile north of Friday's Station (Scott 1957:237, 239 and 240). However, Folsom's operation was short lived. After enjoying a peak in logging operations in 1893, when two log chutes ran through the meadow to the lakeshore, and a shingle mill was fed by Hobart's Ditch, the operations sank to only producing cordwood in 1896 and in 1897 Folsom was forced into bankruptcy (Scott 1957:240–241).

Ranching and dairying began with the grazing of cattle on Powers Ranch, south of Smalls Ranch in 1896. Later in the early 1900s the land, including the meadow to the north of the project site, was acquired by the Rabe family (Scott 1957:240 and 242).

A later historic development, between 1940 and 1950 was the construction of the Sky Harbor Airport, the first airstrip to border Lake Tahoe (Scott 1957:242). Upon construction of the South Tahoe Airport the airstrip was abandoned in the late 1950s and the project site was acquired by Oliver Kahle and Ben Jaffee. The current trailer park appears to have been construction around 1965.

Literature Review

Methods employed for this project consisted of pre-field research, Native American consultation, field inventory, and report preparation. This phased methodology provided for a logical structured assessment of the cultural resources sensitivity of the Tahoe Beach Club project area.

Pre-field Research

Research into cultural resource issues for the Tahoe Beach Club project began with a request for a record search from the Nevada State Museum, Carson City. The record search included, but was not necessarily restricted to, a review of select publications and properties listed in the following sources:

- *National Register of Historic Places* (National Park Service 1996 and updates)
- *GLO Plat Map, T13N, R 18E*
- *Nevada Place Names* (Carlson 1985)

Results of Pre-Field Research

A review of records on file at the Nevada State Museum Annex in Carson City indicated that no investigations have been reported for the proposed project site. However, several studies have been conducted within the immediate vicinity. All of these studies were conducted by the U.S. Forest Service on public lands north of the project site (Table 5.11-3).

Table 5.11-3
Results of Prefield Research

NSM Report Number	Author (Date)	Title	Identified Resources
3-102	Kraushaar (1984)	Nevada Beach Dwarf Mistletoe Suppression Project FS ARR 05-19-134	Isolated historic refuse
3-123	Casale (1990)	Nevada Beach pump (Station) House – FS ARR 05-19-209	Isolated historic refuse
3-138	Rucks (1991)	Burke Creek Rediversion/Restoration Project	None
3-150	Davis (1992)	Rabe Interpretive Trail – FS CRR 05-19-298	26Do481
--------	Heizer and Elsasser (1953); Davis (1993)	----------	26Do4

An intensive survey by the U.S. Forest Service of the Nevada Beach Campground directly north of the project site and bordering Lake Tahoe resulted in the location of a hole-in-top tin, one dark green and sun-colored amethyst glass fragment, and one white porcelain fragment (Kraushaar 1984). A small project associated with upgrades to the Nevada Beach Pump Station also resulted in the location of two isolated finds: a bottle and metal strap (Casale 1990). Field investigations conducted for the Burke Creek Rediversion/Restoration Project immediately north of the project site, failed to identify archaeological resources (Rucks 1991). Survey for the enhancement and reconstruction of an existing informal recreational trail through riparian and dry meadows environments within Rabe Meadow relocated site 26Do481, which appears to be the ethnographic locale of *lamwO'tha* identified by Freed (1966). The site consists of 19 milling features containing milling slicks and mortars, and flaked stone tools and projectile points. In 1953 Heizer and Elsasser documented three milling features and a light distribution of flakes stone artifacts approximately one-quarter mile south of the project site, on property which is now the Edgewood Golf Course (Davis 1993). Investigators failed to locate the site; based upon interviews with grounds keepers, they concluded that the milling features were most likely buried during golf course construction activities.

Native American Consultation

On August 5, 2004, a representative of the Washoe Tribe of Nevada and California met with project representatives to discuss potential concerns related to project planning and activities. In a letter dated August 26,

2004 (Appendix G), the Washoe Tribe expressed concern regarding the potential for buried prehistoric cultural deposits which may be encountered during project-related ground disturbing activities, given the proximity of the project to the ethnographic village *Lom Wata (lamwO'tha)*. Because of this potential, the Washoe Tribe requested that a Native American monitor be present during all project-related ground disturbing activities.

Field Techniques

Field survey methods were consistent with the *Secretary of the Interior's Standards and Guidelines for Identification of Cultural Resources* (48CFR 44720-23) and recordation of resources followed the guidelines outlined in Intermountain Antiquities Computer System (IMACS 2001).

Cultural Resource Inventory

A pedestrian survey of the project site was conducted by an EDAW archaeologist on May 2, 2006. The project site is occupied by the existing Tahoe Shores Mobile Home Park; therefore, the survey was hampered by extremely low surface visibility resulting from the presence of mobile homes, asphalt roadways, asphalt parking areas, and a large grass covered area near the west edge of the site. The area along the northern edge of the project site, adjacent to Burke Creek is also heavily vegetated with grasses and riparian vegetation, which impeded an inspection of the ground surface. Surface visibility along the lake shore area was excellent with no restrictions.

An inspection of the existing pier was also conducted on May 2, 2006. Structural elements consist of wood planking and steel circular supports which indicate that the structure was erected either at the same time as the trailer park or shortly thereafter (mid to late 1960s).

Widely distributed basalt materials were observed within the sandy matrix of the beach. All of this material exhibited acute angles, lacking feather terminations indicative of culturally modified flaked stone, and appeared to be gravel-like material that may have been present in fill imported to this location during construction of the Sky Harbor Airport, and/or the existing mobile home park.

While no cultural resources were observed, because of the proximity of the project site to the ethnographic location of *Lom Wata,* there is the potential for the presence of intact prehistoric cultural remains in subsurface contexts, a concern that has also been expressed by the Washoe Tribe (Appendix G). Therefore, because of this potential, and in response to Washoe tribal concerns, a Native American monitor shall be present on site during all ground disturbing activities.

5.11.3 Environmental Consequences and Recommended Mitigation Measures

Criteria of Significance

TRPA Criteria

The Goals and Policies of TRPA's Regional Plan for the Lake Tahoe Basin (TRPA 1986) provide for the identification and preservation of culturally and historically significant sites in the Basin. Section 29.5 of the TRPA Code of Ordinances codifies these goals, providing regulations for the recognition, protection, and preservation of the region's significant historical, archaeological, and paleontological resources, and setting standards for resource protection, discovery, evaluation, and management. Section 29.2 of the Code prohibits demolition, disturbance, removal, or significant alteration of designated historic resources, unless TRPA has approved a resource protection plan for the resources. Section 64.8 of the Code also provides measures to protect historic resources discovered during grading activities.

Significance Thresholds

Based upon the goals and policies of the TRPA and the *Draft 2006 Douglas County Master Plan*, implementation of the Beach Club on Lake Tahoe would have a significant effect 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;
- disturb any human remains, including those interred outside of formal cemeteries.

In addition, an adverse change to a historical resource or important archaeological resource is considered to be significant if the project would result in physical demolition, destruction, relocation, or alteration of a historic resource or its immediate surroundings such that the significance of the resource would be materially altered or otherwise impaired.

ENVIRONMENTAL CONSEQUENCES

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.11.A-1 Effects on Known Cultural Resources. *No cultural resources have been identified on the project site. Therefore, no portion of Alternative A would adversely affect any known significant cultural resources. This impact is less than significant.*

No cultural resources were inventoried during this study. All available potentially significant information has been recovered with the completion of the cultural inventory report (Appendix G). Alternative A would have no effect on any known significant cultural site, feature, or artifact. This impact is **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.11.A-2 Effects on Previously Undiscovered Cultural Resources. *Although the archaeological survey and literature search did not identify any significant historic resources on the project site, it is possible that buried or concealed cultural resources could be present and detected during ground-disturbing activities. If previously undiscovered, significant cultural resources are disturbed during construction, this could be a significant impact.*

The record search and the field survey conducted on the project site identified no historic cultural resources on the project site. However, because of the proximity of the project site to the ethnographic location of *Lom Wata*, there is the potential for the presence of intact prehistoric cultural remains in subsurface contexts and the potential for unknown cultural resources or human remains to be unearthed during construction. If significant archaeological resources were disturbed by construction, this would be a **significant** impact.

Mitigation Measure 5.11.A-2. Previously Undiscovered Cultural Resources. Because the project site is in a high-probability area for previously undiscovered prehistoric cultural resources, Washoe tribal members shall be notified at least 2 weeks in advance of ground-disturbing activities and invited to conduct archaeological monitoring during such activities. If previously unknown archaeological resources are discovered during any ground-disturbing activities, construction shall immediately cease in the vicinity of the resource. A qualified archaeologist approved by TRPA shall be consulted to evaluate the resource in accordance with TRPA guidelines. If the discovered resource is determined to be significant, a mitigation plan consistent with the TRPA Code of Ordinances shall be drafted and submitted for approval by TRPA and the Nevada State Historic Preservation Office (SHPO). Such a plan may include recovery and recordation of the resource, additional monitoring, or other

activities required by TRPA and the Nevada SHPO. Any necessary archaeological excavation and monitoring activities shall be conducted in accordance with prevailing professional standards and, shall be implemented before commencement of construction in the area of the resource.

If human remains are discovered, the Douglas County Coroner shall be contacted and also the Nevada Office of Historic Preservation if the remains are determined to be those of Native American in accordance with Section 383.170 of the Nevada State Revised Statutes. Section 383.170 directs the SHPO to consult immediately with the Nevada Indian Commission and notify the appropriate Indian tribe. This section also authorizes the Indian tribe, with the permission of the landowner, to inspect the site and recommend an appropriate means for the treatment and disposition of the site and all associated artifacts and human remains.

Implementing Mitigation Measure 5.11.A-2 would reduce the impact to a **less-than-significant** level.

IMPACT 5.11.A-3 Effects on Paleontological Resources. *The project site 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. Although Pleistocene deposits could contain fossils, the project site has been graded and filled for past development and proposed excavations would not exceed 8 feet. Therefore, project activities in the Pleistocene formations would also have no impact on paleontological resources.*

The Geologic Map of the Lake Tahoe Basin, California and Nevada (California Department of Conservation California Geological Survey 2005) indicates that the project site is located on three geologic map units. A portion of the site is located on Holocene (10,000 years ago to present) deposits. These deposits include beach deposits (Qb) of moderately sorted fine- to very coarse-grained to gravelly arkosic sand located along the project site's shoreline and flood-plain deposits (Qfp) of gravelly to silty sand and sandy to clayey silt located inland of the beach. The more easterly portion of the project site is located on Pleistocene era (1.8 million to 10,000 years ago) lacustrine terrace deposits (Qlt), which are poorly to moderately sorted silt, sand and gravel forming low terraces 5–10 meters above lake level.

An object must be more than 10,000 years old to be considered a fossil. Therefore, project activities in the Holocene rock formations would have no impact on paleontological resources. The Pleistocene alluvium formation could, however, contain paleontological resources. However, the project site has been heavily disturbed over the last 60 years, including grading and filling for an airstrip and a mobile home park. In addition, excavation activities for the foundations of the proposed beach and swim club, residential buildings, and associated structures would reach a depth of approximately 5 feet, with the deepest excavations, associated with building footing design, potentially reaching a maximum depth of approximately seven to 8 feet below ground surface (Appendix B) (Kleinfelder, 2003). Because of the shallow estimated depth of project-related excavation (no more than 8 feet) and the previous disturbance of the project site, project activities in the Pleistocene rock formations would also have **no impact** on paleontological resources.

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.11.B-1 Effects on Known Cultural Resources. *This impact is the same as Impact 5.11.A-1 described above for Alternative A. No cultural resources have been identified on the project site. Therefore, no portion of Alternative B would adversely affect any known significant cultural resources. This impact is less than significant.*

No cultural resources were inventoried during this study. All available potentially significant information has been recovered with the completion of the cultural inventory report (Appendix G). Alternative B would have no effect on any known significant cultural site, feature, or artifact. This impact is **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.11.B-2 Effects on Previously Undiscovered Cultural Resources. *This impact is the same as Impact 5.11.A-2 described above for Alternative A. Although the archaeological survey and literature search did not identify any significant historic resources on the project site, it is possible that buried or concealed cultural resources could be present and detected during ground-disturbing activities. If previously undiscovered, significant cultural resources are disturbed during construction, this could be a* ***significant*** *impact.*

The record search and the field survey conducted on the project site identified no historic cultural resources on the project site. However, because of the proximity of the project site to the ethnographic location of *Lom Wata*, there is the potential for the presence of intact prehistoric cultural remains in subsurface contexts and the potential for unknown cultural resources or human remains to be unearthed during construction. If significant archaeological resources were disturbed by construction, this would be a **significant** impact.

Mitigation Measure 5.11.B-2. Previously Undiscovered Cultural Resources. See Mitigation Measure 5.11.A-2 described above for Alternative A. The same mitigation would apply.

Implementing Mitigation Measure 5.11.B-2 would reduce the impact to a **less-than-significant** level.

IMPACT 5.11.B-3 Effects on Paleontological Resources. *This impact is the same as Impact 5.11.A-3 described above for Alternative A. The project site 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. In addition, although Pleistocene deposits could contain fossils, the project site has been graded and filled for past development and proposed excavations would not exceed 8 feet. Therefore, project activities in the Pleistocene formations would also have* ***no impact*** *on paleontological resources.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

IMPACT 5.11.C-1 Effects on Known Cultural Resources. *This impact is the same as Impact 5.11.A-1 described above for Alternative A. No cultural resources have been identified on the project site. Therefore, no portion of Alternative C would adversely affect any known significant cultural resources. This impact is* ***less than significant****.*

No cultural resources were inventoried during this study. All available potentially significant information has been recovered with the completion of the cultural inventory report (Appendix G). Alternative C would have no effect on any known significant cultural site, feature, or artifact. This impact is **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.11.C-2 Effects on Previously Undiscovered Cultural Resources. *This impact is the same as Impact 5.11.A-2 described above for Alternative A. Although the archaeological survey and literature search did not identify any significant historic resources on the project site, it is possible that buried or concealed cultural resources could be present and detected during ground-disturbing activities. If previously undiscovered, significant cultural resources are disturbed during construction, this could be a* ***significant*** *impact.*

The record search and the field survey conducted on the project site identified no historic cultural resources on the project site. However, because of the proximity of the project site to the ethnographic location of *Lom Wata*, there is the potential for the presence of intact prehistoric cultural remains in subsurface contexts and the potential for unknown cultural resources or human remains to be unearthed during construction. If significant archaeological resources were disturbed by construction, this would be a **significant** impact.

Mitigation Measure 5.11.C-2. Previously Undiscovered Cultural Resources. See Mitigation Measure 5.11.A-2 described above for Alternative A. The same mitigation discussion would apply.

IMPACT 5.11.C-3 Effects on Paleontological Resources. *This impact is the same as Impact 5.11.A-3 described above for Alternative A. The project site 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. In addition, although Pleistocene deposits could contain fossils, the project site has been graded and filled for past development and proposed excavations would not exceed 8 feet. Therefore, project activities in the Pleistocene formations would also have* ***no impact*** *on paleontological resources.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT – JERE WILLIAMS PLAN

Under this no project alternative, the Tahoe Shores Mobile Home Park would remain in operation and existing site conditions would remain the same, with minor maintenance and improvements implemented as needed. Because there would be no ground disturbance at the project site under Alternative D, there would be no potential disturbance of unknown cultural resources.

ALTERNATIVE E – NO PROJECT – MANUFACTURED HOUSING

Under this no project alternative, the Tahoe Shores Mobile Home Park would remain in operation and existing site conditions would remain the same. Under Alternative E, the site would be temporarily closed, the existing mobile homes would be cleared, and basic site improvements would be completed. These basic BMPs and utility improvements would not require extensive grading or ground disturbance. Therefore, there would be no potential disturbance of unknown cultural resources.

5.12 WATER RECREATION AND SHOREZONE

This section discusses the regulatory guidance for water recreation and shorezone impacts and evaluates potential environmental effects related to those resources associated with implementation of the Beach Club on Lake Tahoe Project. Included in this analysis is a description of existing conditions, followed by a discussion of any changes in or to water recreation and/or shorezone uses in the project area. Planning guidelines established by Tahoe Regional Planning Agency (TRPA) provide the regulatory framework that allow for the assessment of potential environmental effects to these resources.

5.12.1 REGULATORY BACKGROUND

TAHOE REGIONAL PLANNING AGENCY

The provision of recreation facilities in the Lake Tahoe Basin is governed primarily by the TRPA, which provides basinwide planning and policy direction related to recreation. The Regional Plan, including the Goals and Policies, Code of Ordinances, and Thresholds, is described in Section 5.3, "Land Use." The TRPA Draft 2006 Threshold Evaluation Report for recreation is described below.

TRPA has established environmental thresholds for nine indicators, including recreation. The threshold standards define levels of (environmental) quality desired for the region. Each indicator is assessed every 5 years to identify the progress made toward achieving threshold attainment. In April 2007 the 2006 Draft Threshold Evaluation Report was released for public and agency review. Impacts discussed in this section use the thresholds proposed in this document for determining significance. The same two recreation thresholds (i.e., indicators) analyzed in the 2001 Threshold Evaluation Report were analyzed in the 2006 evaluation. These thresholds correspond to the two policy statements in the Recreation Element of the Regional Plan:

- **Recreation Threshold Indicator 1 (R1) - 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.

- **Recreation Threshold Indicator 2 (R2) - 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.

R1 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. The attainment of this threshold standard is evaluated by considering the experience of recreation users and by considering public access to the lake and to other natural features. The Draft 2006 Threshold Evaluation Report considers the R1 indicator to be in attainment based on recreation surveys conducted by TRPA and recreation providers, by the quality of recreation facilities provided, and with consideration given to the increase in the amount of shoreline accessible to the public, as well as to an increase in other land and recreation opportunities – including additional bike trails that are accessible to the public in the basin. The 2006 Draft Threshold Evaluation Report cites an increase of almost 34.0 miles of publicly-owned shoreline since 1971, at a time when only 18% or 13.5 miles of the shoreline were publicly owned. This is a change in the attainment status determination from 2001 which considered the R1 indicator to be in nonattainment, a status given based on the subjective nature of the standard and that TRPA had not been able to successfully acquire the appropriate resources to conduct the required research and planning to accurately rate the status of R1 (TRPA 2002).

R2 is intended to ensure that a fair share of the region's outdoor recreation capacity is available to the general public. The attainment of this threshold standard is considered based on indicator units which are characterized by the cumulative accounts of Persons at One Time (PAOT) disposition (when applicable), the development of non PAOT projects, and land acquisition for recreation purposes. The 2006 Draft Threshold Evaluation Report found the R2 standard to be in attainment. The report states: "Most of the additional recreation capacity which has been added in the last 5 years is available to the general public." The report does raise some concern in relation to meeting the PAOT goals established by the 1986 Regional Plan, as well as concern that recreation facilities may become lost as private land owners convert existing recreation sites (e.g., campgrounds) to more lucrative venues (e.g., timeshares). The R2 threshold was also considered to be in attainment in 2001.

To provide background for the reader, the following paragraphs describe the PAOT allocation process.

As described in Chapter 33 of the TRPA Code of Ordinances, TRPA regulates the expansion of recreational use in the Lake Tahoe region by identifying targets for recreational use and regulating development to maintain them. It has identified targets for outdoor recreation measured in PAOT for overnight facilities, summer day-use facilities, and winter day-use facilities. TRPA regulates the rate and distribution of expanding recreational uses in the Lake Tahoe region through what is referred to as the allocation of PAOTs.

TRPA allocates PAOTs to plan area statements (PAS) and community plans and to a pool where PAOTs are held in reserve for overnight and summer day-use facilities. If a proposed expansion of recreational facilities meets TRPA's criteria, the project will be approved, and the number of PAOTs necessary to accommodate the increased level of activity associated with the project will be permitted to the project from the PAOTs allocated to the relevant plan area statement or community plan or reserve pool. Through this process, TRPA essentially grants permission for the project to increase use of the recreational facility by a particular number of people. PAOT disposition allows agencies to quantitatively measure recreation facility development and to determine how well the development of recreation facilities is keeping pace with other urban development pressures, such as residential and commercial development.

TRPA CODE OF ORDINANCES

Section 7 of the TRPA Code of Ordinances establishes regulations for projects in the shorezone of Lake Tahoe. Chapter 50 sets forth findings that must be made by TRPA prior to approving a project in the shorezone or lakezone. Chapter 51 sets forth the allowable uses and accessory structures in the shorezone and lakezone. Chapter 52 regulates the maintenance, repair and modification of piers and other existing structures in the nearshore and foreshore. Chapter 53 sets forth development standards for the eight tolerance districts; standards for designating shorezone areas as visually modified, visually dominated, naturally dominated, and visually sensitive; design standards; and standards for other related matters. Chapter 54 regulates the placement of new piers, buoys and other structures in the nearshore and foreshore to avoid degradation of fish habitat, creation of navigation hazards, interference with littoral drift, interference with the attainment of scenic thresholds and other relevant concerns. Chapter 55 establishes regulations for construction activity within the backshore. Chapter 56 establishes mitigation fee requirements for various structures, such as new or expanded piers, in the shorezone.

The shorezone of the project site is located within Shorezone Tolerance District 7 (District 7). The project activities that occur within the shorezone would be required to adhere to the applicable requirements in the TRPA Code of Ordinances.

TRPA is proposing a comprehensive package of new Shorezone Ordinance amendments. A proposed program has been crafted that is subject to environmental review, and draft Code language has been prepared. The Final Environmental Impact Statement (FEIS) on the new amendments will be considered for certification and the Proposed Program considered for adoption by the TRPA Governing Board as early as spring 2008. The Beach Club project will be required to adhere to Shorezone Ordinances in place at the time of its approval.

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

The Nevada Division of Environmental Protection (NDEP) has been working for more than three decades to improve water quality and develop water protection programs in the Tahoe Basin. In 2001, the State of Nevada, through the NDEP, joined forces with the State of California, through the Lahontan Regional Water Quality Control Board to address Lake Tahoe's declining water clarity. The division issues permits that limit the amount of pollutants which can be discharged to the air and water of the State. The division has a variety of permitting programs that deal with such discharges. Permit compliance is ensured through design reviews, inspections, review of monitoring reports and enforcement actions.

NEVADA DIVISION OF WILDLIFE

Nevada Division of Wildlife (NDOW) is responsible for boating and safety on navigable waters. NDOW's navigational safety and recreational access program (e.g., angler access along shoreline) is designed to protect boaters from navigational obstacles and provide recreational access along the shoreline. The NDOW is a reviewing and commenting agency that supplies Nevada Division of State Lands with comments recommending approval or denial of shorezone projects within their jurisdiction. However, NDOW does not issue permits for shorezone construction and they issue citations for boating violations and can remove hazards to navigation within the waters of Lake Tahoe.

NEVADA DIVISION OF STATE LANDS

The Nevada Division of State Lands (NDSL) leads the state's programs to protect Lake Tahoe. The Nevada Tahoe Resource Team is an interagency team coordinated by NDSL and dedicated to preserving and enhancing the natural environment in the Lake Tahoe basin. The team currently consists of eight members: five from NDSL; one from the Nevada Division of Forestry (NDF); one from the NDOW; and one from the Division of State Parks. The NDSL maintains the public trust on the Nevada side of Lake Tahoe for submerged land below 6223 feet Lake Tahoe Datum. The NDSL is a leasing agency that requires applications for structures lakeward of permanent high water, lake elevation 6229.1 feet. The NDSL is not required to make environmental quality findings for projects or lease agreements; the agency does, however, request comments from NDOW regarding any impacts to recreational access and fish habitat.

DOUGLAS COUNTY MASTER PLAN

The *Draft 2006 Douglas County Master Plan* contains the following applicable recreation policies:

- **Policy 12.08.01** To protect the natural, cultural, and scenic qualities of Douglas County, including open spaces, public lands, agricultural lands, wetlands, and waterways that are critical to the quality of life in our community. The Department will continue to plan for the needs and preserve the rights of current and future residents, and especially their access to public parks and recreation opportunities, while ensuring high standards of safety and public welfare.

- **Policy 12.08.02** 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 10.08.03** Provide recreation opportunities that enhance the physical and mental well-being of the community.

- **Policy 12.08.11** Continue to acquire/develop facilities through joint ventures and agreements with other public and/or private entities including, but not limited to: Douglas County School

District, Nevada Division of State Parks, Tahoe Regional Planning Agency, Nevada Department of Transportation, and private enterprises.

5.11.2 AFFECTED ENVIRONMENT

RECREATION FACILITIES AND OPPORTUNITIES ON THE PROJECT SITE

Recreation

The project site provides access to Nevada Beach and Lake Tahoe for residents of the existing mobile home park; no public recreational facilities are available. The project site includes approximately 217 feet of private beach frontage for the existing residents. There is also an existing 109-foot private recreational pier and three existing buoys at the project site. The pier is perpendicular to the shoreline and fixed in place.

Shorezone

The project site is located in District 7, which allows for water oriented recreation facilities such as beach recreation, buoys, piers, floating docks and platforms, water intake lines, and boat ramps in the backshore, nearshore, and foreshore. The backshore is defined as the area of instability and extends from the high-water level (elevation 6229.1) to stable uplands. The nearshore is defined as the zone extending from the low water elevation of Lake Tahoe (6223.0 feet Lake Tahoe Datum) to a lake bottom elevation of 6193 feet Lake Tahoe Datum, and the foreshore is defined as the zone of lake level fluctuation between the high and low water level. District 7 is relatively level shorezone underlain by morainic and alluvial materials with slopes of zero to nine percent (0-9%) (TRPA Code of Ordinances 51.2).

RECREATION FACILITIES AND OPPORTUNITIES IN THE PROJECT VICINITY

Recreation

Generally, opportunities for recreation in the Lake Tahoe Basin are associated with the lake's open water (e.g., swimming, boating, personal watercraft use, fishing), shoreline (e.g. sunbathing, camping, bicycling, sightseeing, picnicking), or the terrain surrounding the lake (e.g., hiking, wilderness camping, mountain biking, skiing, snowboarding). Because of the project site's immediate proximity to Lake Tahoe, recreational facilities in the project vicinity primarily provide opportunities for water- and shoreline-based recreation. Nevada Beach Campground, which is located on National Forest lands north of the project site, provides swimming and fishing opportunities. However, this campground does not have a boat ramp. The campground is operated by a private concessionaire, California Land Management. The Nevada State 4-H Camp, which encompasses 33 acres, is located south of the project site. This camp includes a beachfront area and provides swimming, kayaking and canoeing opportunities for camp attendees. South of the 4-H Camp is the Edgewood Golf Course and the casino core of South Lake Tahoe.

Shorezone

Approximately 0.75 mile north of the project site, the shorezone classification changes from District 7 to Shorezone Tolerance District 2. District 2 generally has the same allowable uses and development standards as District 7. Approximately 0.4 mile south of the project site, the shorezone classification changes from District 7 to Shorezone Tolerance District 1. Allowable uses in District 1 are the generally the same as District 7; however, development standards for District 1 are more restrictive due to the fragile ecology.

5.11.3 ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION MEASURES

TRPA CRITERIA OF SIGNIFICANCE

Based on TRPA's Initial Environmental Checklist, the proposed project would result in a significant impact on water recreation or the shorezone if it would:

- be inconsistent with the TRPA environmental thresholds related to recreation in the Regional Plan;
- result in conflicts with regional PAOT objectives;
- result in conflicts between recreation uses, either existing or proposed; or
- result in a decrease or loss of public access to any lake, waterway, or public lands.

It should be noted that no PAOTs would be assigned by TRPA for the Beach Club Project because the proposed pier reconstruction and expansion and existing buoys would be private. Therefore, the proposed project would not have an effect on PAOTs, and this topic is not discussed further in this document.

ALTERNATIVE A – PROPOSED PROJECT

IMPACT 5.12.A-1 Impacts on Boating Activity. *The proposed project would include expansion of the existing pier and retention and relocation of the three existing buoys for boat mooring. No additional mooring buoys would be added and boating activity in the area would remain approximately the same. Therefore, the proposed project would have a* ***less-than-significant*** *impact on boating activity.*

The proposed project would extend the existing 109-foot private pier 50 feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). The reconstructed and expanded pier would follow the current alignment (perpendicular to the shoreline), and the existing fixed section of the pier would be removed and replaced with a 159-foot pier that would include an 80-foot vertically moving fixed pier section, a 20-foot transition section that connects the fixed section to a 59-foot floating pier section (Exhibit 3-10). A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The floating section of the pier would be constructed in an "L" shape and would include two 10-foot by 20-foot platforms extending to the north intended to provide safer and more stable boat loading and unloading (see pier description in Chapter 3, "Project Description"). At its widest point, the floating pier would be 30 feet wide. The expanded pier would be a private pier with a ramp capable of adapting to boat entry levels.

The three existing buoys would be retained for boat mooring and would be relocated parallel to and north of the reconstructed pier (Exhibit 3-10). This relocation would remove the buoys from the scenic recreational viewshed from Nevada Beach. Motorized boat access would be provided between the pier and the relocated buoys. Expansion of the pier (limited to 50 feet) is not expected to cause an increase in boating access to the project site, and no additional mooring buoys, boat launching facilities, permanent moorings, or marina facilities would be constructed. Because no additional boating facilities would be added, it is expected that boat activity levels in the project area would remain approximately the same. The proposed project would have a **less-than-significant** impact on boating activity levels. For a discussion of water quality impacts related to boat usage, see Section 5.5, "Hydrology and Water Quality."

Mitigation Measures

No mitigation is required.

IMPACT 5.12.A-2 Impacts on Shoreline Access. *The proposed project would not change the level of public access to the shoreline. There would be no access improvements as part of the project and the extension of the pier is not expected to change boating activity in the project area. Therefore, there would be* ***no impact*** *to shoreline access.*

The proposed project would not change the level of shoreline access because there would be no access improvements as part of the project. Under Alternative A, the shoreline would continue to be accessible to residents of the project site and beach and swim club members and their guests.

A swimming area would be roped off along the shore in the project area to protect swimmers from adjacent boating activities. However, no public facilities (e.g., restrooms, parking) would be constructed on the project site. Because the proposed project would not change shoreline access in the project area, there would be **no impact** on shoreline access.

Mitigation Measures

No mitigation is required.

IMPACT 5.12.A-3 Impacts on Fishing Activities. *Construction of the 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. The project 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. Therefore, the proposed project would have a* ***less-than-significant*** *impact on fishing activities.*

As addressed in Impacts 5.5.A-5, 5.5.A-6, and Impacts 5.9.A-11 through 5.9.A-15, the reconstruction and extension of the existing pier and relocation of the three existing buoys would not be a significant direct source of water pollution and would not result in significant impacts to fisheries habitat. The proposed facilities would not be composed of biostimulatory materials (nutrient causing excessive growths of aquatic plants), and they would be installed without significant disturbance to the lake bottom. The primary activities in the Shorezone that contribute significantly to water quality degradation are dredging, boating activities (including marina operations), and backshore development. Alternative A does not include dredging, marina operations, or backshore development. As described in Impact 5.5.A-5, construction staging for the pier and relocated buoys 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 and relocation of the three buoys, which would prevent fine and coarse suspended sediment transport away from areas of water-based construction activities, in this case the driving of the pier piles. Therefore, construction of the extended pier and buoy relocation would not result in the degradation of water quality or 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 area surrounding both the existing pier and the proposed pier expansion and relocated buoys, 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 datum. Because the expanded pier would be extended to 159 feet from the high water datum, it would not affect the aquatic habitat that supports the localized recreational fishery or 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. Because the proposed project would have a minimal effect on fishing opportunities, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.12.A-4 Impacts on Recreational Facilities. *Construction of the proposed project would include improvements to existing on-site recreational facilities and would construct new facilities on the project site. The project would not have any direct impacts on recreational facilities outside the project area and the population at the project site would be roughly equivalent to the existing population, so demand for other local recreational facilities would be approximately the same. This impact is considered* ***less than significant****.*

Construction of the proposed project would include expansion of the existing private pier, relocation of three boat mooring buoys, and a roped-off swimming area. The project would also include construction of a beach and swim club with two swimming pools, men's and women's locker rooms, a restaurant, and an assembly room. Construction of these project elements would improve the existing recreational facilities on the project site. These facilities would be private, available only to residents and members of the beach and swim club and their guests. No new public recreational facilities would be constructed or expanded as part of the project, and the project would not have any direct impacts on recreational facilities outside of the project site. Increased recreational opportunities on the project site may indirectly reduce usage of other nearby recreational facilities. In addition, because the population on the project site would remain approximately the same, there would be no increased demand for recreational facilities in the project vicinity. Therefore, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.12.B-1 Impacts on Boating Activity. *Because implementation of Alternative B would include a similar expansion of the existing pier (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same retention and relocation of the three existing buoys for boat mooring as with Alternative A, this impact would be similar to Impact 5.12.A-1. No additional mooring buoys would be added. There would be fewer residents on the project site under this alternative; therefore, boating activity levels in the project area may decrease compared to existing conditions. However, because the reduction in boating activity would be limited to residents, and there is currently no public access to boating facilities at the project site, this impact would be* ***less than significant****.*

Under Alternative B, the project site would be developed as two single-family estates on the two realigned parcels. Both estates would share access to the beach and the pier, which would remain private and be extended 50 feet, for a total length of 159 feet. The Alternative B pier would differ from Alternative A in that it would remove and replace the existing fixed section of the pier with a 159-foot pier that would include an 80-foot fixed pier and a 34-foot ramp that would connect the fixed pier to a 45-foot floating pier (Exhibit 4-2). A 10-foot approach walk would also be constructed on the shoreline to provide stable access from the beach shore to the pier. The pier width would be limited to 10 feet and would not include the "L" shaped end section nor would it include the vertically moving fixed section included in Alternative A. The three existing buoys would be retained for boat mooring and would be relocated parallel to and north of the reconstructed pier as with Alternative A.

Expansion of the pier (limited to 50 feet) is not expected to cause an increase in boating access to the project site, and no additional mooring buoys, boat launching facilities, permanent moorings, or marina facilities would be constructed. Because no additional boating facilities would be added, and because fewer residents would have access to the existing facilities, Alternative B would likely cause a decrease in boating activity levels in the

project area. However, because this reduction in boating activity would only affect residents of the site, and the project site does not currently provide public access for boating, this impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

IMPACT 5.12.B-2 Impacts on Shoreline Access. *Under Alternative B, access to the shoreline in the project area would not be improved. There is currently no public access to the project site and none would be provided under this alternative. Although access to the shoreline would not change, the reduction in the number of residents in Alternative B would potentially reduce the number of visitors to the shoreline. This impact would be less than significant.*

Under Alternative B, the project site would remain private and the existing pier would be reconstructed and extended similar to Alternative A (minus the vertically moving fixed section and the "L" shaped end of the floating section). Therefore, shoreline access would not be improved under this alternative compared to existing conditions. Because the project site would be developed with two single-family estates, the number of residents that would have access to the shoreline would decrease compared to existing conditions. There is currently no formal public access to the shoreline project area; however, the public may use the shoreline in the project area informally. Implementation of Alternative B would not change public access to the shoreline in the project area; therefore, this impact is considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.12.B-3 Impacts on Fishing Activities. *Because implementation of Alternative B would include a similar expansion of the existing pier (minus the vertically moving fixed section and the "L" shaped end of the floating section) and the same retention and relocation of the three existing buoys for boat mooring as with Alternative A, this impact would be similar to Impact 5.12.A-3. Construction of the 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 B is not expected to cause an increase in boat activity levels. No new mooring buoys or boating facilities would be provided. Fishing activities in the area may decrease with the decrease in number of residents. Because the reduction in fishing activity would only affect residents of the site, this impact would be less than significant.*

This impact would be similar to Impact 5.12.A-3 above in that the construction of the extended pier and buoy relocation would not result in the degradation of water quality or fisheries habitat nor would it reduce the opportunities for and/or quality of fishing the project area.

Because the project site would be developed with two single-family estates under this alternative, the number of residents that would have access to the fishing in the project area would decrease compared to existing conditions. There is currently no formal public access to the project area for fishing; however, the public may use the project area informally for fishing. Implementation of Alternative B would not change public access for fishing in the project area, and any reduction in fishing opportunities for residents would be **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.12.B-4 Impacts on Recreational Facilities. *Under Alternative B, there would be no recreational facility improvements in the project area. Therefore, recreational facilities adjacent to the project site and in the surrounding area would remain unchanged. Alternative B would have* ***no impact*** *on recreational facilities.*

Under Alternative B, the existing pier would be extended and the existing buoys would be relocated similar to Alternative A (minus the vertically moving fixed section and the "L" shaped end of the floating section). There would be no changes to recreational facilities in the surrounding area under this alternative. In addition the population on the project site would decrease and may reduce the usage of recreational facilities in the project vicinity. Because there would be no changes to recreational facilities adjacent to the project site or in the surrounding area, and usage of recreational facilities by residents would decrease, this alternative would have **no impact** on recreational facilities.

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE, MULTIFAMILY RESIDENTIAL

IMPACT 5.12.C-1 Impacts on Boating Activity. *Because Alternative C would include the same facility improvements as Alternative A, this impact is the same as Impact 5.12.A-1 described above for Alternative A. Alternative C would include expansion of the existing pier and retention and relocation of the three existing buoys for boat mooring. No additional mooring buoys would be added and boating activity in the area would remain approximately the same. Therefore, Alternative C would have a* ***less-than-significant*** *impact on boating activity.*

Mitigation Measures

No mitigation is required.

IMPACT 5.12.C-2 Impacts on Shoreline Access. *Because Alternative C would include the same changes to the pier and buoys as Alternative A, this impact is the same as Impact 5.12.A-2 described above for Alternative A. Alternative C would expand the existing private pier and would relocate the existing buoys for boat mooring. Therefore, there would be* ***no impact*** *on shoreline access.*

Mitigation Measures

No mitigation is required.

IMPACT 5.12.C-3 Impacts on Fishing Activities. *Because Alternative C would include the same pier changes as Alternative A, this impact is the same as Impact 5.12.A-3 described above for Alternative A. Construction of the 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 C 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. Therefore, Alternative C would have a* ***less-than-significant*** *impact on fishing activities.*

Mitigation Measures

No mitigation is required.

IMPACT 5.12.C-4 Impacts on Recreational Facilities. *While Alternative C would include the same pier changes as Alternative A, there would be little change to recreational facilities for Alternative C. In addition, Alternative C would not have any direct impacts on recreational facilities outside the project area. Construction of Alternative C may slightly reduce usage of nearby recreational facilities. Alternative C would have no impact on recreational facilities.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT – JERE WILLIAMS PLAN

Under Alternative D, the existing mobile home park would remain on the project site and would continue to operate and site improvements would be made over time per the Jere Williams Plan. The existing 109-foot private pier would remain with no renovation or expansion, and no buoys would be relocated nor would a swimming area would be installed. This alternative would not increase boating or shoreline access in the project area. Under Alternative D, fishing levels and recreational facilities adjacent to the project site and in the surrounding area would remain unchanged compared to existing conditions. Therefore, implementation of Alternative D would have **no impact** on water recreation or the shorezone in the project area.

ALTERNATIVE E – NO PROJECT – MANUFACTURED HOUSING

Under Alternative E, the existing mobile home park would remain on the project site; however, the mobile home park would be closed for a period to allow for all site improvements to be implemented at one time. After the improvements the mobile home park would be reestablished with manufactured housing units. The existing 109-foot private pier would remain with no renovation or expansion, and no buoys would be relocated nor would a swimming area would be installed under this alternative. This alternative would not increase boating or shoreline access in the project area. Under Alternative E, there would be a temporary reduction in all water recreation activities at the project site while the mobile home park is closed. However, this reduction in water recreation would be temporary and would not have a substantial effect on water recreation in the project area. Implementation of Alternative E would have a **less-than-significant** impact on water recreation and the shorezone in the project area.

5.13 HUMAN HEALTH AND RISK OF UPSET

This section evaluates the potential impacts to public health and risk of upset from implementation of the Tahoe Beach Club Project. The analysis presented in this section is based on a Phase I Environmental Site Assessment prepared for the project site and other current information. This section describes the regulatory background, existing environmental conditions at the project site, and potential environmental impacts associated with each of the proposed alternatives, A through E, related to human health and risk of upset. Cumulative impacts are presented in Section 5.14.

5.13.1 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. The following discussion summarizes hazardous materials and other public health and safety requirements applicable to the Beach Club Project.

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. The Federal Emergency Planning and Community Right to Know Act of 1986 defines hazardous materials planning requirements to help protect local communities in the event of accidental release.

State

In compliance with the Community Right to Know Act of the Nevada State Emergency Response Commission (SERC) was established in 1987. SERC coordinates and supervises the activities of the 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 requests from the public for information.

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 Nev-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 (Nev-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 2007).

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 2006) 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. The only potential generator of hazardous waste on the project site is the Kingsbury General Improvement District (KGID) water treatment facilities. However, based on discussions with KGID staff, the facilities do not generate hazardous waste (for additional information see discussion below under Section 5.13.2) (Jacobs, pers. comm., 2007). As such, RCRA regulations related to generators of hazardous waste do not apply.

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 U.S. Environmental Protection Agency (EPA). With some modifications, Nevada has adopted 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.

County

Chapter 8 of the Douglas County Code discusses health and safety issues. In regards to solid waste the County Code declares the existence of waste matter on public and/or private roads or parcels of land is subject to Code Enforcement Action (County Code Section 8.14.020).

Douglas County Code also declares it unlawful for any person to dump any waste matter (including abandoned vehicles) on any parcel of land, lot, street, highway, gutter or alley, or in any water within Douglas County (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. Douglas County declares it unlawful for any person to drive vehicles containing garbage unless the garbage is covered (Sections 8.28.020 and 8.28.030).

FIRE HAZARD MANAGEMENT

Tahoe Regional Planning Agency

Regional Plan for the Lake Tahoe Basin

The Tahoe Regional Planning Agency's (TRPA's) *Regional Plan for the Lake Tahoe Basin* (1986) lists the following goals and policies related to hazards and hazardous materials that are applicable to the proposed project:

> Chapter 2, Land Use Element, Natural Hazards, 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.

TRPA Code of Ordinances

The TRPA Code of Ordinances (2004), Section IX, Chapter 75, Section 75.3 provides the following ordinances related to hazards and hazardous materials 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.

Tahoe-Douglas Fire Protection District

Nevada Community Wildfire Risk/Hazard Assessment Project

In 2002, the Healthy Forests Initiative was announced by the White House to implement the core components of the *National Fire Plan Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-year Strategy (Plan)*. The Plan called for more active forest management to reduce the threat of wildland fire in the wildland-urban interface. A report was prepared specifically for the Douglas County communities within the Tahoe Basin in conjunction with the Nevada Community Wildfire Risk/Hazard Assessment Project. The communities included are among those named in the 2001 Federal Register list of Communities-at-Risk within the vicinity of federal lands that are most vulnerable to the threat of wildfire. The communities assessed in the Douglas County portion of the Tahoe Basin include the Stateline area, in which the project site is located. According to the report, Stateline is in a Moderate Hazard category. This relatively low assessment score is primarily due to good defensible space (i.e., all dry and combustible vegetation removed from within 30 to 100 feet around buildings, depending on the slope) and moderate slopes (Tahoe Douglas Fire Protection District 2004).

DOUGLAS COUNTY EMERGENCY SERVICES

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, Tahoe Douglas Fire District (Fire District), Washoe Tribal Police, and 75% of Alpine County's Sheriff, fire, and medical dispatching services (County of Douglas 2006).

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 1 minute, while providing information to the Communications Center in the event the caller cannot talk or does not know their location (County of Douglas 2006).

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.

MOSQUITO CONTROL

The project site is located within the Douglas County Mosquito Abatement District (District). The District has one full-time employee 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.

5.13.2 AFFECTED ENVIRONMENT

The 19.63-acre project site includes 155 mobile home sites (148 are occupied), two asphalt-paved streets (Eugene Drive and Arthur Drive), an office building, maintenance shop, storage shed, and the KGID water pump station and ozonation facility (located on an easement). Other site features include a drainage ditch and three Kahle treatment ponds that collect and treat runoff from the adjacent development.

KGID FACILITIES

KGID, as a water purveyor, has the responsibility of providing safe and reliable drinking water supply to its customers. Water supplied by KGID presently comes entirely from Lake Tahoe. The supply system includes the Lake Tahoe intake pipeline, the Lake Pump Station, and the Ozone Disinfection Facility for treating the surface water. In addition, KGID has an above-ground fuel storage tank and two transformers that are also located on the project site.

Lake Pump Station

KGID operates the Lake Pump Station as its primary source of water supply. Water is drawn from Lake Tahoe using a 24-inch diameter pipeline. Water flows by gravity through an ozonation process for disinfection and is delivered to the water distribution system via the Lake Pump Station. The Lake Pump Station and Ozone Disinfection Facility are housed in a single building structure. The Lake Pump Station, Ozone Disinfection Facility and associated ozone contact chambers and pipelines are located on a KGID non-exclusive easement (on land owned by the project applicant) at the west end of the project site (Exhibit 3-3). A non-exclusive easement permits the landowner to make use of the land as long as they do not unreasonably interfere with KGID's services or facilities (AMEC 2005).

Several chemicals are used and stored at the KGID facilities on-site. Table 5.13-1 provides an inventory of these chemicals.

Table 5.13-1
KGID Lake Pump Station – Chemical Inventory

Common Name	Components	Amount
Zinc Orthophosphate	Phosphoric acid, Zinc Sulfate	120 gallons
Calcium Thiosulphate 30%	Calcium Thiosulphate 30%	350 gallons
Sodium Metabisulfate	Sodium Metabisulfate	450 pounds
Liquid bleach	Sodium Hypochlorite 1%	600 gallons
Liquid bleach	Sodium Hypochlorite 12%	110 gallons
Salt	Sodium Chloride	2,000 pounds
Diesel fuel	--	1,000 gallons
Lubricating oil	--	25 gallons

Source: KGID 2007

These chemicals are not included on EPA's list of chemicals subject to reporting requirements under the Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (KGID 2007).

Ozone

In addition to the chemicals listed above, the Ozone Disinfection Facility uses ozone to disinfect the water. Ozone is a faintly blue gas that forms when oxygen is excited to a higher energy state. This happens when oxygen is exposed to a high-energy source, such as lightening and ultraviolet radiation from the sun in the natural environment, or exposure to high voltage transformers and electrical transmission lines. Ozone's primary health effect is as an irritant, targeting the mucous membranes of the eyes, throat, nose, and lungs. Concentrations exceeding approximately 0.5 parts per million by volume (ppmv) cause extreme irritation. The Fed-OSHA 8-hour allowable exposure limit is 0.1 ppmv and the short-term exposure limit is 0.3 ppmv. However, ozone has a pungent odor at as little as 0.01 ppmv, well below the level at which health effects occur (Kernkamp and Roundtree 2007). Prolonged exposure (50 ppmv for 60 minutes) could be fatal (CDC 2007).

Ozone is an unstable molecule of elemental oxygen that decomposes back to oxygen very quickly, which means it quickly dissipates in the atmosphere and cannot be stored. Therefore, the ozone that is generated on-site at KGID's water treatment plant is readily available for immediate use, but not for storage. Although KGID has the capability to generate up to 100 pounds of ozone per day (at concentrations up to 20,000 ppm), it produces only what it needs on a daily basis (Jacobs, pers. comm., 2007). Three ozone contact chambers are located on-site. The ozone chambers are located below grade and are outside of the KGID buildings and fencing.

Other KGID Facilities

KGID has one 350-gallon above-ground storage tank (AST) for diesel fuel, located adjacent to the maintenance shop on-site. The AST has secondary containment and there was no evidence of leaks or spills observed during a site reconnaissance.

There are also two above ground transformers on-site located just east of the KGID pump station building.

KGID Safety Features

As per the terms of the non-exclusive easement granting KGID the right to operate and maintain a water pumping and treatment system on the Beach Club property, KGID is required to operate and maintain its facilities in accordance with applicable laws and regulations and in a safe, neat and orderly fashion. KGID implements basic safety precautions and signage to ensure public safety and to prevent risk of upset situations such as ozone release, service disruption, and/or water contamination. The pump station equipment and facility includes venting, security alarms and an entry monitoring system (video surveillance, alarms, and sensors) that operates continuously (24 hours per day, 7 days per week) for rapid assessment of unsafe conditions and has the capability to shutdown the ozone system. KGID personnel also visit the site to maintain/check facilities Mondays through Fridays between 8:00 AM and 5:00 PM. Within the ozone facility an ozone analyzer sounds an alarm when a set point of ozone concentration has been reached in the room and activates the automatic shutdown of the ozone generation system. An ozone analyzer also monitors the gas vented downstream of the ozone generating units and triggers an alarm and system shutdown above a set point. Any ozone escaping after a system shutdown would quickly dissipate in the atmosphere. Appropriate signage indicating the presence of ozone on-site is also in place at the ozone facility (Kernkamp and Roundtree 2007), including KGID facilities.

KGID has recently consulted with the project applicant and representatives of the University of Nevada, Reno, 4-H Camp to install a perimeter fence and video surveillance around the KGID facilities. A representative of KGID has indicated the fence and surveillance could serve as added security to possibly detect and delay unauthorized access to the site and separate the public from the water pumping and treatment facilities. Installation of such a fence is not authorized under KGID's non-exclusive easement. Both the project applicant and the 4-H Camp

representatives have rejected KGID's proposal on the basis that KGID has not provided sufficient evidence demonstrating that such a fence is warranted. Accordingly, the proposed project does not include a perimeter fence.

MOSQUITOES/VECTORS

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. The female mosquito needs blood in order to produce eggs. Hosts that can supply blood include reptiles, amphibians, mammals, birds, and humans. All mosquito species are potential vectors of organisms that can cause disease to pets, domestic animals, wildlife, or humans.

Mosquitoes require standing water to reproduce and, therefore, areas of standing water are often breeding grounds for mosquitoes. The existing drainage ditch located at the northern boundary of the project site has experienced stagnant water collection resulting in mosquito and nuisance vector breeding. In July of 2006 a mosquito sample taken in the Kahle Meadow area tested positive for the West Nile Virus (Lynch, pers. comm., 2006). Human West Nile Virus infections have been reported in Douglas County (Douglas County 2006).

Biological larvicides, including *Bacillus thuringiensis israelensis*, a naturally occurring bacterium, have been introduced via briquettes to standing water bodies near Kahle Drive and in the pond behind Lakeside Inn within the past 2 years by both the Mosquito Abatement District Control Program (District) and by employees of KGID (Lynch, pers. comm., 2006). Only mosquitoes, black flies, and certain midges are susceptible to these bacteria – other aquatic invertebrates and non-target insects are unaffected. The District has also used pyrethrins and pyrethroids for its adult mosquito-fogging program in and around the project site and in the residential community of Glenbrook. 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.

PHASE I ENVIRONMENTAL SITE ASSESSMENT

In November 2006, a Phase I Environmental Site Assessment (ESA) was prepared specifically for the project site. The purpose of the Phase I ESA is to identify existing or potential recognized environmental conditions or historically recognized environmental conditions (as defined by ASTM Standard E-1527-05) affecting the project site. The assessment is qualitative in nature consisting of a review of readily available information regarding past and present land uses for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the site, and a site reconnaissance to observe existing site conditions (Western Geologic, LLC 2006). The work conducted for the Phase I ESA did not include any testing or sampling of materials (i.e., soil, water, air, building materials). The Phase I ESA, included as an Appendix H, is summarized below.

The project site was undeveloped land until 1969, with the exception of a landing strip that was used in the 1950s. No buildings or fuel storage facilities were identified on the site during this period. In 1970, the existing mobile home park was developed. The existing office building and maintenance shop were constructed in 1978, and the KGID pump station building was built on an easement in the 1980s. The project site also contains one 350-gallon AST for diesel fuel, located adjacent to the maintenance shop. No current or previous underground storage tanks or pipelines (other than KGID water lines related to the pump station) are on the project site.

To the extent observed, no significant areas of stained soil or pavement were present. Areas of minor surface staining were observed in vehicle parking areas, likely the result of motor oil from engine leaks. There was no evidence of distressed vegetation, other surface staining, or surface migration of petroleum releases or hazardous materials onto or off the project site. There is no record of any hazardous materials events, fires, or mold/mildew problems on the project site.

An environmental records search was conducted for the project site and surrounding areas. A regulatory database report was prepared by Environmental First Search (refer to Appendix C in the Phase I ESA) that obtained information from numerous state and federal databases. The search revealed that in 1990 a release of hydraulic elevator oil was reported at the Lake Park Apartments, located 0.33 miles west of the project site. Soil affected by the oil was remediated and a clean closure was reported in 2000. The building containing the elevator was demolished and replaced with a new apartment complex. Given the results of the remediation and the current regulatory status, this site is not considered to pose an environmental risk to the project site.

In addition to the standard Phase I ESA considerations summarized above, the report also addresses asbestos-containing building materials, lead paint, and radon. These issues are summarized below.

Asbestos-Containing Building Materials

Asbestos is a naturally occurring mineral commonly used as an acoustic insulator, thermal insulation, fire proofing, and in other building materials. Prior to the 1970s, 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% 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 federal Clean Air Act. Many of the on-site structures were built before the 1980s and may have building materials containing asbestos. As part of the Phase I ESA, no suspect ACM was observed in building materials during the site inspection. However, sampling was not performed as part of the Phase I ESA.

Lead Paint

Lead is a highly toxic metal that was used for many years in products found in and around homes. Lead-based paint is more common and was used more extensively in buildings built before 1950. In 1978, paint containing more than 0.06% lead was banned; however, older stocks of leaded paint were still used for more than a decade. Most homes built before 1978 contain some lead-based paint. Lead may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. At the project site, paint sampling for lead paint was not performed.

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 US 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). At the project site, radon sampling was not performed as part of the Phase I ESA.

Phase I Conclusions

The Phase I ESA concludes there is no evidence of recognized environmental conditions in connection with the project site based on historical and current uses. There are no conditions at the project site indicative of releases or threatened releases of hazardous substances that would warrant additional investigation. No further environmental

investigations were recommended. However, no testing or sampling of onsite materials, soils, air or water was performed.

5.13.3 Environmental Consequences and Recommended Mitigation Measures

Criteria of Significance

An impact would be considered significant if the Beach Club Project caused any of the following:

- involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the even of an accident or upset conditions;
- involve possible interference with an emergency evacuation plan;
- creation of any health hazard or potential health hazard (excluding mental health);
- exposure of people to potential health hazards; or
- disruption to public services.

Alternative A – Proposed Project

IMPACT 5.13.A-1 Expose the Public or Environment to Hazardous Materials. *Alternative A would involve the storage, use, and transport of hazardous materials on the project site during construction and operation of the project. However, use of hazardous materials would be in compliance with local, state, and federal regulations. The existing KGID facility is a source of nearby hazardous materials on-site that could pose a significant health risk for people on the project site during a risk of upset event or other threat event. However, the project would not significantly alter the existing conditions at the site. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered* ***less than significant****.*

Construction and operation of the proposed project would involve the use and storage of hazardous materials (e.g., asphalt, fuel, lubricants, paint). All 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, as well as manufacturer's instructions. Transportation of hazardous materials on area roadways is regulated by the Nevada Highway Patrol. In addition, the project proposes several Best Management Practices (BMPs) that would also reduce potential impacts from accidental releases of hazardous materials. These include, but are not limited to:

- Fueling and concrete washout area lined with polyethylene sheeting and protected by silt fence;
- Designated staging and storage area protected by a silt barrier;
- Instruct on-site construction personnel in spill prevention practices;
- Provide pallets or secondary containment areas for chemicals, drums, or bagged materials and use drip pans or secondary containment measures beneath vehicles during storage;
- Immediately clean up and transport to a legal disposal site any spilled petroleum products or petroleum-contaminated soils, to the maximum extent possible and to the satisfaction of TRPA and Nevada Department of Environmental Protection; and

- Place wastes (i.e., grease, oil, transmission fluids, cleaning solutions, batteries, etc.) in proper containers, store the containers in designated areas and ultimately recycle or properly dispose of the materials.

These proposed BMPs and protective local, state, and federal requirements would be sufficient to minimize exposure of hazardous materials (e.g., asphalt, fuel, lubricants, paint) to the public and environment. Potential impacts related to these hazardous materials would be considered less than significant.

The existing KGID Lake Pump Station and Ozone Disinfection Facility would continue to be maintained on the project site. The KGID facilities would be in close proximity to proposed recreational and residential land uses. The closest proposed facility would be the swim and beach club located approximately 20 feet from KGID's facilities. The closest residential unit would be approximately 400 feet from KGID's facility. The potential exists for risk of upset situations such as ozone release, service disruption, and/or water contamination to occur. However, as required by the Homeland Security Act, KGID has conducted a Vulnerability Assessment that identifies measures to manage potential threats that could lead to risk of upset events. The management plan is currently being implemented and is updated as needed (Jacobs, pers. comm., 2007). KGID also implements basic safety precautions and signage to ensure public safety. The pump station equipment and facility includes venting, security alarms and an entry monitoring system (video surveillance, alarms, and sensors) that operates continuously (24 hours per day, 7 days per week) for rapid assessment of unsafe conditions and has the capability to shutdown the ozone system. KGID personnel also visit the site to maintain/check facilities Mondays through Fridays between 8:00 AM and 5:00 PM. Within the ozone facility an ozone analyzer sounds an alarm when a set point of ozone concentration has been reached in the room and activates automatic shutdown of the ozone generation system. An ozone analyzer also monitors the gas vented downstream of the ozone generating units and triggers an alarm and system shutdown above a set point. Any ozone escaping after a system shutdown would quickly dissipate in the atmosphere. Appropriate signage indicating the presence of ozone on-site is also in place at the ozone facility (Kernkamp and Roundtree 2007), including KGID facilities. As per the terms of the non-exclusive easement granting the KGID the right to operate and maintain a water pumping and treatment system on Beach Club property, KGID is required to operate and maintain its facilities in accordance with applicable laws and regulations and in a safe, neat and orderly fashion.

The project would add up to 54 part-time residents, but would decrease the full-time population by 27, for a net change of 27 additional people on-site (see Section 5.2, "Population and Housing," for more detail). Although the project would result in a slight increase in population on the site that could be exposed to a potential risk of upset situation of ozone or other existing chemical, existing measures are in place to address potential impacts as noted above. In addition, a security fence is proposed along the southern property boundary, between the project site and the 4-H Camp to the south that would discourage non-residents from entering the site. A pedestrian path would also be provided that directs residents and visitors away from KGID facilities (Exhibit 3-4) as compared to the existing path that directs resident and visitors directly to the KGID facilities.

Furthermore, residents are currently living on the site and using the beach and lake for recreating, including swimming and boating and the KGID facilities would continue to operate under the same conditions. Therefore, the project would not create any hazardous conditions. Because residents already live and recreate in the project area, the proposed project would not result in any new risk of exposure. Residences are currently located near the KGID facilities and the project would not significantly alter the distance between residents and the KGID facilities. Therefore, impacts related to exposing the public or environment to hazardous materials would be **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.13.A-2 Create a Safety Hazard to Construction Workers. *Demolition, excavation, and construction activities on the project site associated with Alternative A could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered* ***potentially significant****.*

With the implementation of Alternative A, the existing mobile home park, including all structures and roadways, would be removed and a new roadway, new residential buildings, a beach and swim club, and associated facilities would be constructed. Development of the project would involve site grading, excavation for utilities and demolition of existing facilities and any manufactured homes that are not relocated.

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 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 federal Clean Air Act. Many of the on-site structures were built before the 1980s and may have building materials containing asbestos.

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. The use of lead as an additive to paint was discontinued in 1978. However, many of the on-site structures were built before the 1980s and may contain lead-based paints.

According to the Phase I ESA, areas of minor surface staining of petroleum hydrocarbons were observed in vehicle parking areas, likely the result of motor oil from engine leaks. There was no evidence of distressed vegetation, other surface staining or surface migration of petroleum releases or hazardous materials onto or off the project site.

No testing or sampling of materials was conducted as part of the Phase I ESA. Many of the structures on-site were constructed prior to the 1970s and 1980s, when asbestos containing materials and lead-based paints were commonly used. During construction 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 5.13.A-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 ACM and lead shall be removed by an accredited inspector 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.

With implementation of Mitigation Measure 5.13.A-2, Impact 5.13.A-2 would be **less than significant.**

IMPACT 5.13.A-3 Disruption of Public Services. *Demolition, excavation, and construction activities on the project site associated with Alternative A could result in the disruption of continuous public services in and around the project site. 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. On-site utilities would be upgraded to serve the proposed project and would be realigned to follow the new roadway or dedicated utility easements. In addition, pursuant to Chapter 30 of the TRPA Code of Ordinances, any above ground utility lines would be placed underground. 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. This would be a **potentially significant** impact.

Mitigation Measure 5.13.A-3. Minimize Loss of Service. The project applicant shall coordinate with all affected utility providers including Sierra Pacific Power Company, Southwest Gas Corporation, KGID, Douglas County Sewer Improvement District, South Tahoe Refuse, and SBC Communications 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 5.13.A-3, Impact 5.13.A-3 would be **less than significant**.

IMPACT 5.13.A-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 A 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 future residents. This would be a **potentially significant** impact.

Mitigation Measure 5.13.A-4. Conduct Investigation and Implement Radon Resistant Construction Techniques. The project applicant shall conduct onsite testing for radon by a certified professional. If radon is found, mitigation plans shall be developed by a certified professional. Radon resistant new construction techniques may be required to reduce levels to less than 4 pCi/L. Basic elements include 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.

With implementation of Mitigation Measure 5.13.A-4, Impact 5.13.A-4 would be **less than significant**.

IMPACT 5.13.A-5 Increased Risk of Health Hazards From Vector-Born Diseases. *The Alternative A BMP Plan would include the construction of stormwater detention basins that could serve as potential breeding areas for mosquitoes. The project would also increase the number of people living in 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. The Tahoe Basin portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District. Over the past 2 years District employees, as well as KGID employees, have employed TRPA-approved mosquito abatement measures in the project area and would continue to do so. This would be a* ***less-than-significant*** *impact.*

The Alternative A BMP Plan would include the construction of stormwater detention basins that could serve as potential breeding grounds for mosquitoes. While creating potential mosquito breeding ground could increase mosquitoes in the area and, therefore, increase the possibility of vector-born diseases transmitted by mosquitoes, this condition would be lessened by the actions of Douglas County Mosquito Abatement Program employees who have been active in monitoring mosquito activity, testing mosquitoes for vector-born illnesses and utilizing mosquito abatement techniques in the project area over the past 2 years. Program employees have also taught KGID staff how to use abatement control substances such as the briquettes containing *Bacillus thuringiensis israelensis*. The continued mosquito abatement actions of the Douglas County Mosquito Abatement Control Program, assisted by the actions of KGID staff, would reduce the potential increase in vector-born disease carried by mosquitoes created by the stormwater detentions basins.

Implementation of the project would increase the number of people living in an area recognized as containing several mosquito breeding sites and, therefore, would increase the number of people routinely exposed to vector-born diseases carried by mosquitoes. However, people already live and recreate in the project area and, therefore, construction of the project would not result in any new risk of exposure to vector-born diseases. In addition, the techniques employed in mosquito abatement are considered safe and appropriate for human exposure by TRPA and Douglas County. Therefore, there would be no new risk of adverse health affects associated with mosquito control. This increase in human exposure would be mitigated by the activities of Douglas County Mosquito Abatement Program.

The activities of the Douglas County Mosquito Abatement Control Program would reduce impacts related to vector-born diseases carried by mosquitoes to a **less-than-significant** level.

Mitigation Measures

No mitigation is required.

IMPACT 5.13.A-6 Increased Exposure to Wildland Fire Hazard. *The project site is located in a moderate fire hazard area. The residential units proposed for the site 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 Fire District classifies the fire hazard rating in the Stateline area as moderate because of moderate slopes and good defensible space. The Fire District 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 (Tahoe Douglas Fire Protection District 2007). The project site is in a developed area where the topography is fairly level and fuel loading is low. The proposed project would provide appropriate setbacks given the flat terrain of the project site and proposed landscaping. In addition, the residential units proposed for the site would incorporate fire resistant roofs (i.e., asphalt shingles or other fire resistant material). Adequate fire protection services are available to the serve the project. Furthermore, the project site is already developed and is currently used as a residential site; therefore, no new potential for exposure to a wildland fire would occur. Therefore, the proposed

project's potential to increase exposure of people or structures to wildland fire would be considered **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.13.A-7 Increased Exposure to Boating Hazards. *By reconstructing and extending the private pier at the project site, there would be a potential to increase exposure of people to boating hazards. However, the project includes buoy-designated and roped off swimming areas, as well as appropriate signage. These measures would reduce the project's potential to increase exposure of people to boating hazards. This would be a* ***less-than-significant*** *impact.*

The project proposes to reconstruct and expand the existing 109-foot private pier by approximately 50 linear feet, for a total length of 159 feet from Lake Tahoe High Water Datum (elevation 6229.1). A portion of the pier would be floating, and the pier would include a ramp capable of adapting to boat entry levels. However, no general public parking or access would be provided and boating levels in the project area are expected to be similar to existing boating levels. The project would prohibit boat access along the pier's southerly side via navigational buoys and signage to protect swimmers from adjacent boating activities. In addition, a swimming area would be roped off along the shore of the project site. Further, people already live and recreate in the project area and; therefore, project development would not result in any new risk of exposure to boating hazards. These proposed measures, and the fact that boating levels in the area would be similar to existing levels, reduces the potential for increased exposure of people to boating hazards to a **less-than-significant** level.

Mitigation Measures

No mitigation is required.

ALTERNATIVE B – TWO-LOT ALTERNATIVE, SINGLE-FAMILY ESTATES

IMPACT 5.13.B-1 Expose the Public or Environment to Hazardous Materials. *Because Alterative B would be constructed on the same site and would result in similar facilities, this impact is the same as Impact 5.13.A-1 described above. Implementation of Alternative B would involve the storage, use, and transport of hazardous materials on the project site during construction and operation. However, use of hazardous materials would be in compliance with local, state, and federal regulations. The existing KGID facility is a source of nearby hazardous materials on-site that could pose a significant health risk for people at the project site during a risk of upset event or other threat event. However, Alternative B would not significantly alter the existing conditions at the site. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered* ***less than significant****.*

This impact is the same as Impact 5.13.A-1 for Alternative A. See full discussion above.

Alternative B would involve the storage, use, and transport of hazardous materials at the project site during construction, and to a lesser extent, following construction. Two single-family residences would be constructed rather than condominium units for Alternative B. Use of hazardous materials would be in compliance with local, state, and federal regulations. In addition, the project proposes several BMPs that would reduce potential impacts from accidental releases of hazardous materials. These proposed BMPs and protective local, state, and federal requirements are sufficient to minimize exposure of hazardous materials (e.g., asphalt, fuel, lubricants, paint) to the public and environment. Potential impacts related to these hazardous materials would be considered less than significant.

The existing KGID Lake Pump Station and Ozone Disinfection Facility would be maintained on the project site. The KGID facilities are in close proximity to proposed residential land uses. The potential exists for risk of upset situations such as ozone release, service disruption, and/or water contamination. However, existing measures are in place to address potential impacts as noted under Impact 5.13.A-1. It should also be noted that for Alternative B there would be a significant decrease in the population on the site that could be exposed to a potential risk of upset situation of ozone or any other existing chemical.

Therefore, impacts related to exposing the public or environment to hazardous materials would be **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.13.B-2 Create a Safety Hazard to Construction Workers. *This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative B could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered potentially significant.*

Mitigation Measure 5.13.B-2. Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint. See Mitigation Measure 5.13.A-2 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.B-3 Disruption of Public Services. *This impact is the same as 5.13.A-3 described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative B could result in the disruption of continuous public services in and around the project site. This impact is considered potentially significant.*

Mitigation Measure 5.13.B-3. Minimize Loss of Service. See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.B-4 Expose Future Residents to Potential Health Hazard Related to Radon. *This impact is the same as Impact 5.13.A-4 described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Development of Alternative B 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.*

Mitigation Measure 5.13.B-4. Conduct Investigation and Implement Radon Resistant Construction Techniques. See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.B-5 Increased Risk of Health Hazards From Vector-Born Diseases. *This impact is similar to Impact 5.13.A-5. As with Alternative A, Alternative B could include the construction of stormwater detention basins that could serve as potential breeding areas for mosquitoes. Contrary to Alternative A, Alternative B would decrease the number of people living in an area recognized as containing several mosquito breeding sites and, therefore, would decrease the number of people potentially exposed to vector-borne diseases carried by mosquitoes. The Tahoe Basin portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District. Over the past 2 years District employees, as well as KGID employees, have employed TRPA-approved mosquito abatement measures in the project area and would continue to do so. This would be a less-than-significant impact.*

Mitigation Measures

No mitigation is required.

IMPACT 5.13.B-6 Increased Exposure to Wildland Fire Hazard. *This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The residential units proposed for the site 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.*

Mitigation Measures

No mitigation is required.

IMPACT 5.13.B-7 Increased Exposure to Boating Hazards. *This impact is the same as Impact 5.13.A-7. Although the existing pier would be extended, the boating levels are expected to be similar or less than existing levels. Alternative B would include buoy-designated and roped off swimming areas, as well as appropriate signage. These measures would reduce Alternative B's potential to increase exposure of people to boating hazards. This would be a* ***less-than-significant*** *impact.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE C – TWO-LOT ALTERNATIVE MULTI-FAMILY RESIDENTIAL

IMPACT 5.13.C-1 Expose the Public or Environment to Hazardous Materials. *Because Alterative C would be constructed on the same site and would include similar facilities as Alternative A, this impact would be the same as Impact 5.13.A-1 described above. Implementation of Alternative C would involve the storage, use, and transport of hazardous materials on the project site during construction and operation. However, use of hazardous materials would be in compliance with local, state, and federal regulations. The existing KGID facility is a source of nearby hazardous materials on-site that could pose a significant health risk for people at the project site during a risk of upset event or other threat event. However, the project would not significantly alter the existing conditions at the site. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered* ***less than significant****.*

This impact is the same as Impact 5.13.A-1 for Alternative A. See full discussion above.

Alternative C would involve the storage, use, and transport of hazardous materials at the project site during construction and operation. However, use of hazardous materials would be in compliance with local, state, and federal regulations. In addition, the project proposes several BMPs that would reduce potential impacts from accidental releases of hazardous materials. These proposed BMPs and protective local, state, and federal requirements are sufficient to minimize exposure of hazardous materials (e.g., asphalt, fuel, lubricants, paint) to the public and environment. Potential impacts related to these hazardous materials would be considered less than significant.

The existing KGID Lake Pump Station and Ozone Disinfection Facility would be maintained on the project site. The KGID facilities are in close proximity to proposed residential and recreational land uses. The potential exists for risk of upset situations such as ozone release, service disruption, and/or water contamination. Although there would be a slight increase in population at the site that could be exposed to a potential risk of upset situation of ozone or any other existing chemical, existing measures are in place to address potential impacts as noted under Impact 5.13.A-1.

Therefore, impacts related to exposing the public or environment to hazardous materials would be **less than significant**.

Mitigation Measures

No mitigation is required.

IMPACT 5.13.C-2 Create a Safety Hazard to Construction Workers. *This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative C could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.13.C-2. Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint. See Mitigation Measure 5.13.A-2 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.C-3 Disruption of Public Services. *This impact is the same as 5.13.A-3 described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative C could result in the disruption of continuous public services in and around the project site. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.13.C-3. Minimize Loss of Service. See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.C-4 Expose Future Residents to Potential Health Hazard Related to Radon. *This impact is the same as Impact 5.13.A-4 described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Development of Alternative C 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****.*

Mitigation Measure 5.13.C-4. Conduct Investigation and Implement Radon Resistant Construction Techniques. See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.C-5 Increased Risk of Health Hazards From Vector-Born Diseases. *This impact is the same as Impact 5.13.A-5. As with Alternative A, Alternative C could include the construction of stormwater detention basins that could serve as potential breeding areas for mosquitoes. Alternative C would also increase the number of people living in 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. The Tahoe Basin portion of Douglas County is currently serviced by the Douglas County Mosquito Abatement District. Over the past 2 years District employees, as well as KGID employees, have employed TRPA-approved mosquito abatement measures in the project area and would continue to do so. This would be a* ***less-than-significant*** *impact.*

Mitigation Measures

No mitigation is required.

IMPACT 5.13.C-6 Increased Exposure to Wildland Fire Hazard. *This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The residential units proposed for the site 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.*

Mitigation Measures

No mitigation is required.

IMPACT 5.13.C-7 Increased Exposure to Boating Hazards. *This impact is the same as Impact 5.13.A-7. By reconstructing and extending the private pier at the project site there would be a potential to increase exposure of people to boating hazards. However, consistent with Alternative A, Alternative C would include buoy-designated and roped off swimming areas, as well as appropriate signage. These measures would reduce Alternative C's potential to increase exposure of people to boating hazards. This would be a* ***less-than-significant*** *impact.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE D – NO PROJECT – JERE WILLIAMS PLAN

IMPACT 5.13.D-1 Expose the Public or Environment to Hazardous Materials. *This impact is the same as Impact 5.13.A-1. Alterative D could involve the storage, use, and transport of hazardous materials on the project site during utility upgrade and replacement of mobile home units. However, use of hazardous materials would be in compliance with local, state, and federal regulations. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.13.D-2 Disruption of Public Services. *This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Repairs, maintenance, and replacement of on-site utilities could result in the disruption of public services on and around the project site. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.13.D-2. Minimize Loss of Service. See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.D-3 Expose Future Residents to Potential Health Hazard Related to Radon. *This impact is the same as Impact 5.13.A-4 described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Implementation of Alternative D on this site could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.13.D-3. Conduct Investigation and Implement Radon Resistant Construction Techniques. See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.D-4 Increased Exposure to Wildland Fire Hazard. *This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The new manufactured housing proposed for the site would incorporate fire resistant roofs and defensible space and adequate fire protection services are available to the serve the project site. 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.*

Mitigation Measures

No mitigation is required.

ALTERNATIVE E – NO PROJECT – MANUFACTURED HOUSING

IMPACT 5.13.E-1 Expose the Public or Environment to Hazardous Materials. *This impact is the same as Impact 5.13.A-1. Alterative E would involve the storage, use, and transport of hazardous materials on the project site during utility upgrade and replacement and mobile home units. However, use of hazardous materials would be in compliance with local, state, and federal regulations. Therefore, impacts related to exposure of the public or environment to significant hazardous materials would be considered* ***less than significant****.*

Mitigation Measures

No mitigation is required.

IMPACT 5.13.E-2 Create a Safety Hazard to Construction Workers. *This impact is the same as Impact 5.13.A-2 as described above for Alternative A. Demolition, excavation, and construction activities at the project site associated with Alternative E could result in the exposure of construction workers to hazardous materials, including asbestos and lead-based paint. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.13.E-2. Prepare and Implement a Site Health and Safety Plan, Conduct Investigation for Asbestos and Lead-Based Paint. See Mitigation Measure 5.13.A-2 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.E-3 Disruption of Public Services. *This impact is the same as 5.13.A-3 as described above for Alternative A. Repairs, maintenance, and replacement of on-site utilities could result in the disruption of public services on the project site associated with Alternative E could result in the disruption of continuous public services on and around the project site. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.13.E-3. Minimize Loss of Service. See Mitigation Measure 5.13.A-3 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.E-4 Expose Future Residents to Potential Health Hazard Related to Radon. *This impact is the same as 5.13.A-4 as described above for Alternative A. The project site is located in a High Radon Potential Zone, as designated by the EPA's Map of Radon Zones for Douglas County. Implementation of Alternative E on this site could expose future residents to radon levels that exceed EPA's recommended safe level of 4 pCi/L. This impact is considered* ***potentially significant****.*

Mitigation Measure 5.13.E-4. Conduct Investigation and Implement Radon Resistant Construction Techniques. See Mitigation Measure 5.13.A-4 described above for Alternative A. The same mitigation measure would apply.

IMPACT 5.13.E-5 Increased Exposure to Wildland Fire Hazard. *This impact is the same as Impact 5.13.A-6. The project site is located in a moderate fire hazard area. The new manufactured housing proposed for the site would incorporate fire resistant roofs and defensible space and adequate fire protection services are available to the serve the project site. 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.*

Mitigation Measures

No mitigation is required.

5.14 CUMULATIVE IMPACTS

5.14.1 REQUIREMENTS FOR CUMULATIVE IMPACT ANALYSIS

This section of the EIS provides an analysis of cumulative impacts of the Beach Club on Lake Tahoe Project (project), which are the environmental effects of the project considered together with other past, present, and reasonably foreseeable future projects producing related impacts. Because TRPA ordinances and rules do not include a definition of cumulative impacts, for the purposes of this analysis, the definition from the Council on Environmental Quality's NEPA Regulations is used (Section 1508.7): "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." They differ from indirect impacts of the project.

5.14.2 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 and reliable as feasible. A list approach is used to define the local project environment and includes projects within the South Lake Tahoe and Douglas County portions of the Tahoe Basin. Because the project directly influences, and is influenced by, regional development activities, the plan projection approach is also used to allow a cumulative analysis on this regional scale. Plans considered in this analysis include the applicable Plan Area Statements (PAS), PAS 070A (Edgewood), which includes 2.37 acres of the project site with 217 feet of lake frontage, and PAS 077 (Oliver Park) (APN 1318-22-002-001), which includes the remaining 17.26-acre upland portion of the property (TRPA 2005). This analysis also considers the TRPA Regional Plan and Code of Ordinances and the regulations of the Lake Tahoe Air Basin (LTAB).

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.

5.14.3 RELATED PROJECTS CONSIDERED IN CUMULATIVE IMPACT ANALYSIS

PATHWAY

Pathway is a collaborative planning effort between Tahoe Regional Planning Agency (TRPA), the U.S. Forest Service (USFS), the Lahontan Regional Water Quality Control Board (Lahontan RWQCB), and the Nevada Division of Environmental Protection (NDEP). Through Pathway, these agencies are working together to align environmental goals and develop integrated regional plans for the Tahoe Basin. The elements of Pathway include:

- developing the Lake Tahoe total maximum daily loads,
- updating TRPA's Environmental Thresholds and 20-Year Regional Plan, and
- updating the USFS Land and Resource Management Plan.

Each of the Pathway efforts is being undertaken using an adaptive management framework to provide ongoing opportunities for review and revision of the success of identified limits and restrictions.

SHOREZONE ORDINANCE AMENDMENTS

The Shorezone Ordinance amendments program is a comprehensive program and ordinances that will guide future development of Shorezone structures (e.g., piers, buoys, boat slips, boat ramps) in Lake Tahoe and other lakes in the region. The following are key elements of the program:

- Limitation on development of piers in the Shorezone over a defined planning period;
- Eligibility for pier development dependent on location standards, density standards, and environmental setbacks;
- Permitting of all buoys and recognition of existing buoys based on location standards, with an overall cap of buoys;
- Scenic quality assessment and mitigation guidelines to improve attainment of Thresholds in nonattainment areas;
- Creation and implementation of environmental protection features, including the Lake Tahoe Public Access Fund, ONRW boat pollution reduction program, and enhancement of the exotic aquatic taxa elimination program, to address possible future environmental impacts.

OTHER PAST, PRESENT 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 South Lake Tahoe and the Douglas County portions of the Tahoe Basin (Table 5.14-1). (Note: projects that are in their early planning stages [e.g., 54-Acre Project, redevelopment at the "Y," Van Sickle State Park, and trail plans along the east shore] are not evaluated in detail in this section.) 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."

Within the Lake Tahoe south shore area, the only current and active project is the Chateau at Heavenly Village (Project 3) in the City of South Lake Tahoe approximately one mile south of the proposed project on U.S. 50 across the road from Heavenly Village and the gondola. This project would include the construction of a convention center, retail/restaurant space, a small park, and two condominium hotels on approximately acres near the California/Nevada stateline. Construction related to the Chateau at Heavenly Village is anticipated to continue for several years.

5.14.5 CUMULATIVE IMPACTS

Land use and development in the Beach Club project area are guided by Plan Area Statements (PAS). The project site is located in PASs 077 and 070A and the surrounding PASs include PAS 070B, 076, 080, and 089A. The 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, the PASs were subject to environmental review in the form of an environmental impact statement.

Table 5.14-1
List of Related Projects in the South Lake Tahoe and Douglas County Portions of the Tahoe Basin

Project Name	Project Description	Status
Sierra Shores Project	Construction of 16 timeshare units, a pool, and a clubhouse. Beach front location with beach access.	Constructed
Sierra Colina	Development of approximately 50 residential units (40 market-rate units and 10 affordable housing units).	Pending environmental review
Gondola Vista	Development of approximately 20 residential and timeshare units.	Pending environmental review
Prim Commercial Complex	Mixed public services, commercial/office uses, and retail businesses.	Completed 2004
Round Hill Vacation Resorts	Development of 144 timeshare units and recreational amenities.	Completed 2004
The Chateau at Heavenly Village (Project 3)	Redevelopment project that includes construction of a convention center, retail/restaurant space, a small park, and two condominium hotels on approximately 12 acres near the California/Nevada stateline.	Under construction
Heavenly Master Plan	The Heavenly Master Plan improvements include, but are not limited to, ski lift improvements, ski trail improvements and expansion including development of a snowshoe and cross-county ski trail system, new ski runs, new lodge construction, maintenance facility upgrades, and snowmaking system upgrades.	Recently approved

Source: Eichar, pers. comm., 2006

Related projects listed in Table 5.14-1 identify development actions of varying type, size, and state of completion. 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 such development may be increased coverage, runoff volume, and runoff pollutant loads; increased traffic trips (vehicle miles traveled, VMT), related air pollutant emissions, and noise generation; massing and deterioration of 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.

The following section contains a discussion of the cumulative effects anticipated from implementation of the Beach Club project, together with the related projects and regional development. With some exceptions, the five Beach Club development alternatives, Alternatives A through E, all result in similar environmental impacts. Because the contribution to potential cumulative effects would be similar among all the alternatives, most impact sections of this cumulative analysis are based on the Beach Club project contribution, regardless of which alternative is chosen. For those cumulative impacts that vary substantially between alternatives, the cumulative impacts of each alternative are described.

This section focuses on the impacts that could either result in a potential cumulative effect involving the proposed project or have been identified as a key cumulative concern during consultation with TRPA and other affected agencies. Therefore, a selected number of impact topics are addressed. For environmental issues not specifically discussed below, this EIS has concluded that implementation of the Beach Club project would not contribute to significant cumulative impacts.

POPULATION AND HOUSING

IMPACT 5.14-1 Cumulative — Decrease in the Amount of Housing/Displacement of Residents. *Except for Alternative D, all Beach Club project alternatives would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile home spaces, 150 of which are currently occupied, and 128 of which had full-time residents as of February 2004. (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) Although the Nevada Revised Statutes would be followed for the closure of the mobile home park, its closure would displace existing residents and require their relocation elsewhere. In addition, depending on the alternative implemented, the project could result in a decrease of up to 153 residential units in the project area. However, the related projects propose approximately 230 units of housing and 477 condominium/hotel rooms, including residential units (market rate and affordable) and timeshare units. Because the proposed project would provide the required compensation for relocation for the mobile home residents or the purchase and removal of their units, because the proposed project would develop residential units, and because related projects would develop residential units, there would not be a cumulative decrease of housing in the region.*

Closure of the Tahoe Shores Mobile Home Park, as proposed under Alternatives A, B, C, and E, would permanently displace 128 mobile homes with full time residents as of February 2004 and 22 units with seasonal occupants. (Five spaces at the park are currently vacant.) (Data obtained from the current site manager shows a substantial reduction in full-time residents. As of November 2007, 36 of the 58 owner occupied units were occupied as primary residences – 17 of the remaining units were either rented or vacant, and 5 units had seasonal occupants.) (Alternative D would leave the mobile home park in place and would not require closure of the park or result in displacement of the existing residents.) Prior to closure of the mobile home park, the applicant would be required to implement the Nevada Revised Statutes, which provides for the compensation for relocation for existing mobile home owners or purchase and removal of their units. The Nevada Revised Statutes require that the owner of the park provide written notice of closure; a lead time of at least 180 days after the notice before requiring residents to move their mobile homes; and compensation to residents for relocation of their mobile homes and their appurtenances or for the fair market value of the manufactured home minus disposal costs, if the resident decides not to move the unit or the unit cannot be moved without being structurally damaged. Because Beach Club, Inc. has purchased 90 of the units at Tahoe Shores, they have already implemented the requirements of the Nevada Revised Statutes and have assumed disposal liability for those units. Beach Club, Inc. now temporarily rents their units on month-to-month leases. The remaining 58 mobile homes would receive compensation (relocation or disposal) under NRS 118B.177 if Tahoe Shores is closed.

Although the mobile home park would be closed pursuant to the Nevada Revised Statutes, Alternatives A, B, C, and E would displace existing residents, requiring them to relocate elsewhere and potentially creating a demand for housing elsewhere in the region. In addition, under Alternatives A and B, the total number of residential units in Stateline would be reduced. Under Alternative A, units would be reduced by 12 and under Alternative B, units would be reduced by 153. Under Alternatives C and E, the total residential units on the project site would remain at 155. Therefore, if Alternatives A or B were implemented, the project would contribute to the cumulative loss of housing units in the area.

However, five of the seven related projects listed in Table 5.14-1 propose the construction of residential units, including timeshare units as well as market-rate and affordable residential units. The five related projects could result in the construction of approximately 230 units of housing and 477 hotel/condominium rooms, which would offset the project's potential loss of up to 153 units. Therefore, there would not be a cumulative loss of housing in the region. In addition, the additional housing units in the region would provide additional options for relocation of the existing mobile home park residents. Because the proposed project would provide the required compensation for relocation for the mobile home residents or the purchase and removal of their units, because the

proposed project would develop residential units, and because related projects would develop residential units, there would not be a cumulative decrease of housing in the region.

IMPACT 5.14-2 Cumulative — Loss of Moderate Income Housing. *The analysis in Section 5.2, "Population and Housing," determined that none of the mobile homes at the Tahoe Shores Mobile Home Park qualify as affordable housing. However, the analysis did determine that 54 mobile home units qualify as moderate-income housing. Implementation of Alternatives A, B, C and E would result in the closure of the Tahoe Shores Mobile Home Park and the loss of the 54 moderate-income housing units. Only Alternatives A and C, which would result in subdivision of the property, would be required to mitigate for the loss of those 54 moderate-income units, by providing 54 deed-restricted moderate-income units on- or off-site. Under Alternatives B, D and E, no mitigation for the loss of moderate-income units would be provided. In relation to the demand for affordable and moderate income housing in the region, the potential loss of moderate-income housing due to the project under Alternatives B, D and E would contribute to the cumulative loss of the already relatively small pool of moderate-income housing available in the region as well as increase the demand for moderate-income housing.*

Based on the analysis in Section 5.2, "Population and Housing," none of the mobile homes at the Tahoe Shores Mobile Home Park qualify as affordable housing. However, there are 54 mobile home units at the Tahoe Shores Mobile Home Park that qualify as moderate income units. Except for Alternative D, all Beach Club project alternatives would result in the closure of the Tahoe Shores Mobile Home Park and the removal of 155 mobile homes, including the 54 moderate income housing units. TRPA regulations regarding moderate-income housing apply only when property is subdivided. Therefore, mitigation for the loss of the documented moderate-income units would be required under Alternatives A and C, which involve subdivision of the project site. Both Alternatives A and C would provide 54 deed-restricted moderate income units, through construction of on-site units and/or purchasing and deed-restricting off-site units. Since Douglas County maintains a TRPA-certified Local Government Moderate Income Housing Program, these moderate income housing units would be eligible for multi-residential bonus units pursuant to Chapter 35 of the TRPA Code of Ordinances. Accordingly, 54 multi-residential bonus units would be sought from TRPA for the 19 on-site and 35 off-site moderate income units. Under Alternatives B, D and E, the property would not be subdivided and there would be no mitigation for the loss of 54 moderate income units. Therefore, if Alternative B, D or E is implemented, the project could contribute to the cumulative loss of 54 moderate income housing units. Five of the seven related projects listed in Table 5.14-1 propose the construction of market-rate and affordable residential units and/or condominium units.

TRPA Goals and Policies (updated December 2004) include a land use planning goal (i.e., Housing Goal #1) that states, "to the extent possible, affordable housing will be provided in suitable locations for the residents of the region." Based on recent statistics provided by the Multiple Listing Service (MLS) and quoted in regional and nationwide newspapers, the median home prices for the Tahoe Basin far exceeds the TRPA definition of moderate income housing ("residential housing, deed restricted to be used exclusively as a residential dwelling by permanent residents with an income not in excess of 120% of the respective county's median income"). For instance, *USA Today* quoted the median home price on the Nevada side of Lake Tahoe to have been $735,000 in October of 2006 (USA Today, 2006). Comparatively the applicable median income for the Beach Club project is the Douglas County Median Family Income of $63,900 for a four-person household, $57,500 for a three-person household, $51,110 for a two person household, and $44,721 for a one person household (US Department of Housing and Urban Development 2004). At a median family (4 persons) income of approximately $64,000, and affordable home price would be approximately $253,200, with a mortgage of approximately $202,560, a down payment of approximately $50,640, and total monthly housing costs (including taxes, insurance, and utilities) of approximately $1,603 (Census 2000). With a median home price in the year 2006 of $735,000, the loss of 54 moderate income housing units and the displacement of residents from the mobile home park would not only contribute to a decrease in the supply of moderate-income housing, but would also contribute to the increase in demand for moderate-income housing. Therefore, the project, under Alternatives B, D and E, would result in a **substantial cumulative impact** on the available pool of moderate income housing available in the region.

LAND USE

IMPACT 5.14-3 Cumulative — Consistency with Applicable Land Use Plans and Policies. *Implementation of any of the Beach Club project alternatives would be consistent with applicable land use plans and standards and would be compatible with on-site and surrounding land uses. Except for Alternative D, all alternatives would result in the removal of the existing Tahoe Shores Mobile Home park community. However, the project would result in similar land uses to the existing site use and to uses in the surrounding area. All project alternatives would be consistent with the Goals and Policies of the TRPA Regional Plan (Table 5.3-1). Therefore, the project would not be expected to result in a cumulative impact related to land use.*

Impacts involving land use plans or policies and zoning generally 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. As described in Section 5.3, "Land Use," the Beach Club project would not result in significant land use planning impacts. The Beach Club project would require no amendment to current land use plans or policies, would be consistent with the applicable PASs, would be consistent with Goals and Policies of the TRPA Regional Plan as shown in Table 5.3-1 (Land Use Consistency Table), and would comply with the applicable land use policies of the State of Nevada and Douglas County. Alternatives A and C would require subdivision of the project site, but the subdivision would occur consistent with TRPA guidelines. Alternatives B and C would also require realignment of the two project site parcels, which would also be done consistent with TRPA guidelines.

Except for Alternative D, all alternatives would remove the 155 existing mobile home spaces, occupied by 150 mobile homes. However, the applicant would be required to follow the obligations of Nevada Revised Statutes, including reimbursement for relocation or purchase and removal of mobile homes. Although Alternatives A, C, D and E would result in the removal of the existing mobile home park community, the new development would include similar land uses to the existing site use (residential) and to those uses existing in the surrounding area (residential and recreational).

Because the Beach Club project would be consistent with applicable land use plans and policies as well as the Goals and Policies of the Regional Plan, and because other cumulative projects would be required to assess land use consistency on a site-specific basis, the Beach Club project and related projects would not be expected to result in any potential cumulative land use impacts.

GEOLOGY

IMPACT 5.14-4 Cumulative — Increased Risks for Geologic Hazards. *Implementation of the proposed project and related projects in the region could expose additional structures and people to seismic and soil hazards. However, each 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.*

A geotechnical investigation on the Beach Club project site determined the possibility of excessive settlement of foundations. This project specific potentially significant impact would be mitigated by application of Mitigation Measures 5.4 A-3a through d, described in Section 5.4, "Geology, Soils and Land Capability and Coverage." Geologic hazards are generally-site specific and generally neither affect, nor are affected by, other planned or proposed development in the region. However, cumulative geologic impacts could occur in cases where the project is a hillside development and project grading in conjunction with grading for other reasonably foreseeable projects on the same hillside or on a common ridge line would collectively alter the topographic features in the region. Also, grading for a number of 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 around the Beach Club project site.

Implementation of the various related projects and other projects in region could expose additional structures and people to seismic and soil hazards. The potential seismic and soil hazards, therefore, could represent a significant cumulative impact if projects are not developed to the latest building standards and do not incorporate recommendations from site-specific geotechnical reports and grading/erosion plans prepared for these projects. However, each 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.

HYDROLOGY AND WATER QUALITY

IMPACT 5.14-5 Cumulative — Potential Change in Surface Water Runoff, Groundwater and Water Quality in the Tahoe Basin. *Soil disturbance associated with construction of the Beach Club project and construction of related projects could cause accelerated soil erosion and sedimentation or the release of other pollutants to adjacent waterways and wetlands. Excavation during construction of cumulative projects could intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Operation of the Beach Club project and related projects could result in an increase of urban contaminants in surface runoff. However, the Beach Club project would result in a beneficial impact to runoff and water quality through the reduction of impervious surfaces, the implementation of drainage plans and BMPs, and a reduced pollutant load in runoff. Therefore, the project would not contribute to the degradation of water quality in the region. Furthermore, all related projects would be required to implement water quality protection measures and BMPs (as discussed in Section 5.5, "Hydrology and Water Quality") that reduce project-related effects on water quality to less-than-significant levels. Therefore, because project-specific effects on water quality in the Tahoe Basin are reduced to a less-than-significant levels, there would be* no cumulative impact *on water quality.*

Because of the close proximity of the Beach Club project site to Lake Tahoe and Burke Creek, which drains to the Lake, soil exposed during temporary construction activities could be transported to these water bodies, particularly during storm events. These activities would involve staging areas and extra traffic, excavation of trenches and temporary stockpiling of soils. Construction activities involving vegetation removal, grading, and excavation would expose soils to erosion. Excavation during construction could also intercept the groundwater table, creating the potential for introduction of contaminants to groundwater. Fuels and other construction related chemicals could be spilled, leaked, or otherwise discarded into nearby drainages and ultimately the Lake. These impacts are considered potentially significant on a project specific basis (see Section 5.5, "Hydrology and Water Quality").

Residential activities have the potential to contribute to water quality degradation through maintenance of landscaping associated with the use of fertilizers, herbicides, and pesticides; motor vehicle operation and maintenance; and animal waste. Runoff from developed uses would typically contain contaminants such as oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), nutrients, sediment, and other pollutants. However, implementation of any one of the project alternatives would maintain or reduce the current amount of impervious coverage on the project site, reducing the amount of runoff from the project site. In addition, Alternatives A, B, and C would implement new drainage plans and BMPs in accordance with TRPA requirements, which would greatly reduce the pollutant loads from runoff compared with existing conditions, such that TRPA stormwater water quality objectives would be met. Alternatives D and E would implement the TRPA required BMP upgrades pursuant to Chapter 25 of the TRPA Code; however, no other BMPs would be implemented. Because the proposed project would implement permanent BMPs and reduce the pollutant loads in runoff from the project site, the project would result in a beneficial effect on water quality and would therefore **not contribute** to a cumulative degradation of water quality in the Tahoe Basin.

Construction of the Beach Club project has the potential to occur concurrently with other development projects in the Tahoe Basin (e.g., such as those shown in Table 5.14-1), and the potential exists for contributions from

additional Tahoe Basin construction projects in the future. These projects are likely to have overlapping timing and cumulative construction-related waste discharges. These projects would also contribute to the potential for long-term operations-related increases in surface water runoff and water quality effects from urban runoff, as well as from other non-stormwater waste discharges, which could add to surface water quality impacts on Lake Tahoe. However, all projects in the Tahoe Basin, including the Beach Club project, are required to implement water quality protection measures and BMPs (as discussed in Section 5.5, "Hydrology and Water Quality") that reduce project-related effects on water quality to less-than-significant levels. Therefore, because project-specific effects on water quality in the Tahoe Basin are reduced to a less-than-significant level, there would be **no cumulative impact** on water quality.

TRANSPORTATION AND PARKING

Cumulative – 2030 Conditions

In order to accurately represent future traffic conditions along the roadway network under analysis, it is necessary to consider any additional projects in the area that are proposed to be in place by the Year 2030, as well as changes in regional through-traffic activity.

Except for the impact "Cumulative Construction Traffic and Parking," the other potential cumulative transportation and circulation effects of each alternative differ between the alternatives. Describing transportation and circulation conditions in the year 2030 without the Beach Club project is sufficient to determine the cumulative impacts of Alternatives B, D, and E because none of these alternatives would increase daily vehicle trips, generate additional Vehicle Miles Traveled (VMT) in the basin or create additional demand for parking. Specifically, Alternative B would result in a substantial reduction in all measures of traffic and would result in a reduction of VMT in the basin, while Alternatives D and E would maintain existing conditions. Alternatives A and C would increase daily vehicle trip ends and vehicle miles traveled, and would change the need for parking. Therefore, the cumulative transportation and circulation conditions in 2030 as affected by the implementation of Alternatives A and C are analyzed separately from Alternatives B, D, or E.

Construction

IMPACT 5.14-6 Cumulative — Construction Traffic and Parking. *Construction traffic due to the proposed project would only be present in the project vicinity during the construction period, which may occur between 2008 and 2011. Four related cumulative projects may also be under construction during this period. However, as with the Beach Club project, the related projects would be anticipated to provide on-site construction staging and parking and to implement measures to minimize heavy equipment trips on surrounding roadways. In addition, no construction traffic from the proposed project is expected in year 2030. This would be a* ***less-than-significant cumulative*** *impact.*

The proposed project would result in temporary construction traffic generated by the removal of the trailers, grading, SEZ restoration, construction employee traffic, deliveries, and movement of construction equipment. The project would be constructed over a total of three construction seasons, which would tend to reduce the traffic impacts in any one period. Construction traffic would access the project site via Kahle Drive and U.S. 50, and on-site construction staging areas would be established to minimize heavy equipment trips on surrounding roadways.

During the three year construction period, construction of other projects may be in progress in the area. Four of the related projects could potentially be in construction, including the Chateau at Heavenly Village (Project 3), Sierra Colina, the Heavenly Master Plan improvements, and Gondola Vista. None of these projects would result in construction traffic on Kahle Drive, but could result in construction-related trips on U.S. 50. These related projects would be anticipated to also provide on-site construction staging and parking and to implement measures to minimize heavy equipment trips on surrounding roadways.

All alternatives would be built-out before 2030. Construction traffic would only be present during the construction period, which may occur over a consecutive three to four year period. Therefore, there would be no impact due to construction traffic or parking during under 2030 conditions. This would be a **less-than-significant cumulative impact** under implementation of all alternatives.

Operation

Cumulative 2030 transportation and circulation conditions without the project and with implementation of Alternative A and C are described below.

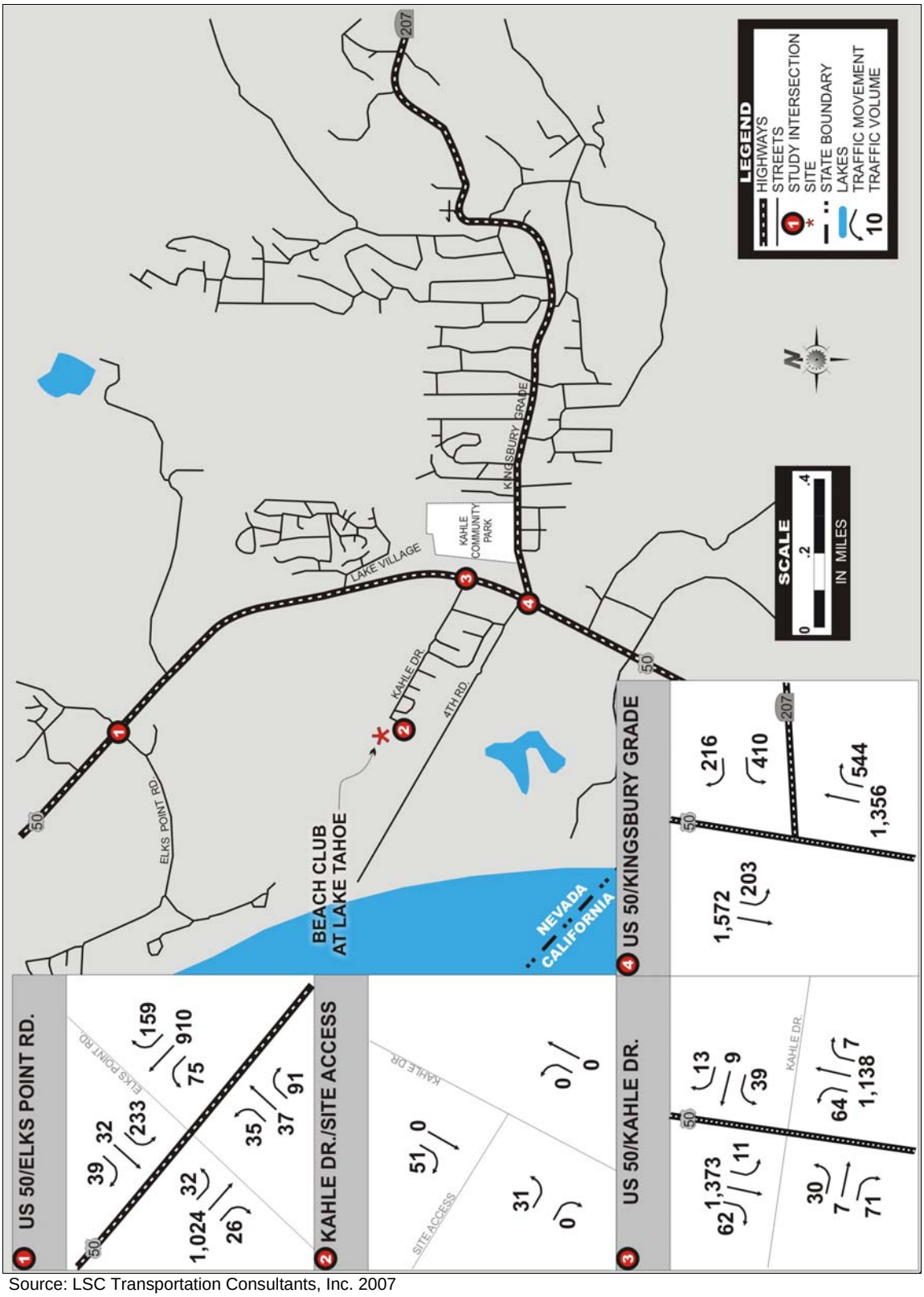
Year 2030 Traffic Volumes and LOS – Without project

IMPACT 5.14-7 Cumulative — "2030 without project" Level of Service (LOS) and Traffic Volume. *All study intersections are expected to operate at an acceptable LOS in 2030. Therefore, there would be a less-than-significant cumulative impact. Because Alternatives B, D or E mimic the "2030 without project" condition in regards to traffic generation, these alternatives also would not contribute substantial traffic to this* ***less-than-significant cumulative*** *impact.*

While the Nevada Department of Transportation (NDOT) plans to replace existing signs with dynamic message signs at each end of Kingsbury Grade, there are currently no planned NDOT construction projects that would impact the intersection operations or future traffic volumes within the vicinity of the project area. Therefore, no adjustments were made to future traffic infrastructure or volumes as a result of NDOT activities. Future Year 2030 PM peak-hour volumes at the U.S. 50/Kingsbury Grade intersection were identified from the U.S. Highway 50/Stateline Project Transportation Study (LSC Transportation Consultants, Inc. 2004).

In addition, Year 2010 volumes at the U.S. 50/Kingsbury Grade intersection were identified in Section 5.6, "Transportation and Parking." A comparison between the 2010 and 2030 volumes indicates an average annual growth rate along U.S. 50 of approximately 0.3% per year. This rate was applied to the 2011 design volumes at the remaining study intersections, in order to estimate 2030 conditions. The resulting "2030 No Project" PM peak-hour traffic volumes are illustrated in Exhibit 5.14-1.

The estimate of 2030 traffic LOS, without the inclusion of any project traffic, is shown in Table 5.14-2. As shown, the level of service of all the study intersections is estimated to be LOS C or better in the Year 2030. The minimum acceptable LOS based on TRPA Goals and Policies is 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 standards for unsignalized intersections. Therefore, LOS C or better at all study intersections is considered **a less-than-significant cumulative traffic** impact. Alternatives B, D or E mimic the "2030 without project" condition in regards to traffic generation. Therefore, these alternatives would not contribute substantial traffic to this **less-than-significant** cumulative impact.



Source: LSC Transportation Consultants, Inc. 2007

2030 PM Peak-Hour Traffic Volumes without Project **Exhibit 5.14-1**

Table 5.14-2 Beach Club on Lake Tahoe – 2030 Intersection Level of Service (LOS) Summary – No Project			
Intersection	Signalized/Unsignalized	2030 No Project	
		LOS [1]	Delay (sec)
U.S. 50/Kingsbury Grade	Signalized	C	24.1
U.S. 50/Kahle Drive	Signalized	B	11.5
U.S. 50/Elks Point Road	Signalized	B	17.7
Kahle Drive/Site Access	Unsignalized	A	8.9

Note: For unsignalized intersection, the LOS of the worst approach or worst movement is reported.
Source: LSC Transportation Consultants, Inc. 2006

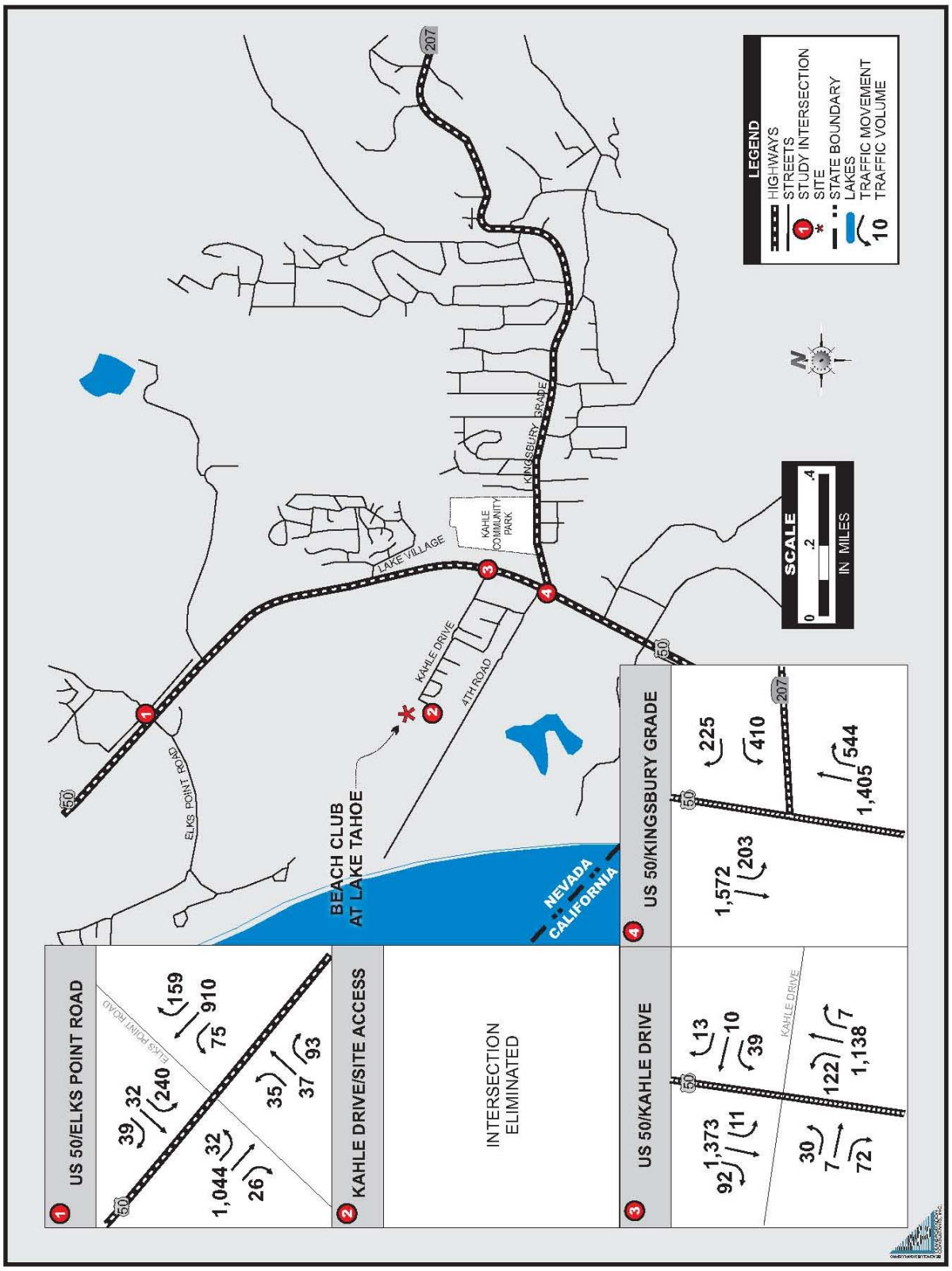
Cumulative – 2030 Plus Project Conditions (Alternative A)

IMPACT 5.14-8 Cumulative — Plus Alternative A Level of Service (LOS) and Traffic Volume. *All study intersections are expected to operate at an acceptable LOS under 2030 plus project conditions. This impact is considered* ***less than significant.***

Alternative A would not impact the LOS at the study intersections in the future as shown in Table 5.14-3. The addition of project-generated traffic would result in the Year 2030 PM peak-hour turning movement volumes shown in Exhibit 5.14-2. The project would increase the average delay at the intersections along U.S. 50 by roughly 1 to 3 seconds. In summary, although Alternative A would result in a relatively small increase in vehicular delays at some of the nearby intersections, all intersections maintain an acceptable LOS for 2030 conditions (LOS C or better). This cumulative impact is considered **less than significant.**

Table 5.14-3 Beach Club on Lake Tahoe – 2030 Intersection Level of Service (LOS) Summary – Alternative A					
Intersection	Signalized/Unsignalized	2030 No Project		2030 Plus Alternative A	
		LOS [1]	Delay (sec)	LOS [1]	Delay (sec)
U.S. 50/Kingsbury Grade	Signalized	C	24.1	C	25.5
U.S. 50/Kahle Drive	Signalized	B	11.5	B	13.8
U.S. 50/Elks Point Road	Signalized	B	17.7	B	18.1
Kahle Drive/Site Access	Unsignalized	A	8.9	*Intersection Eliminated*	

Note: For unsignalized intersection, the LOS of the worst approach or worst movement is reported.
Source: LSC Transportation Consultants, Inc. 2007



Source: LSC Transportation Consultants, Inc. 2007

2030 Plus Alternative A PM Peak-Hour Traffic Volumes **Exhibit 5.14-2**

Cumulative – 2030 Plus Project Conditions (Alternative C)

IMPACT 5.14-9 Cumulative — Plus Alternative C Level of Service (LOS) and Traffic Volume. *With Alternative C, all intersections maintain an acceptable LOS for 2030 conditions. This cumulative impact is considered* ***less than significant****.*

Alternative C would not impact the LOS at the study intersections in the future as shown in Table 5.14-4. As shown, the level of service of all the study intersections is estimated to be LOS C or better in the future. The addition of project-generated traffic results in the future PM peak-hour turning movement volumes for Alternative C, as shown in Exhibit 5.14-3. The impact on average delay at the intersections along U.S. 50 is expected to increase by less than 1 second. In summary, although the proposed project could result in small increases in vehicular delays at some of the nearby intersections; all intersections maintain an acceptable LOS for 2030 conditions. This cumulative impact is considered **less than significant.**

Table 5.14-4
Beach Club on Lake Tahoe – 2030 Intersection Level of Service (LOS) Summary

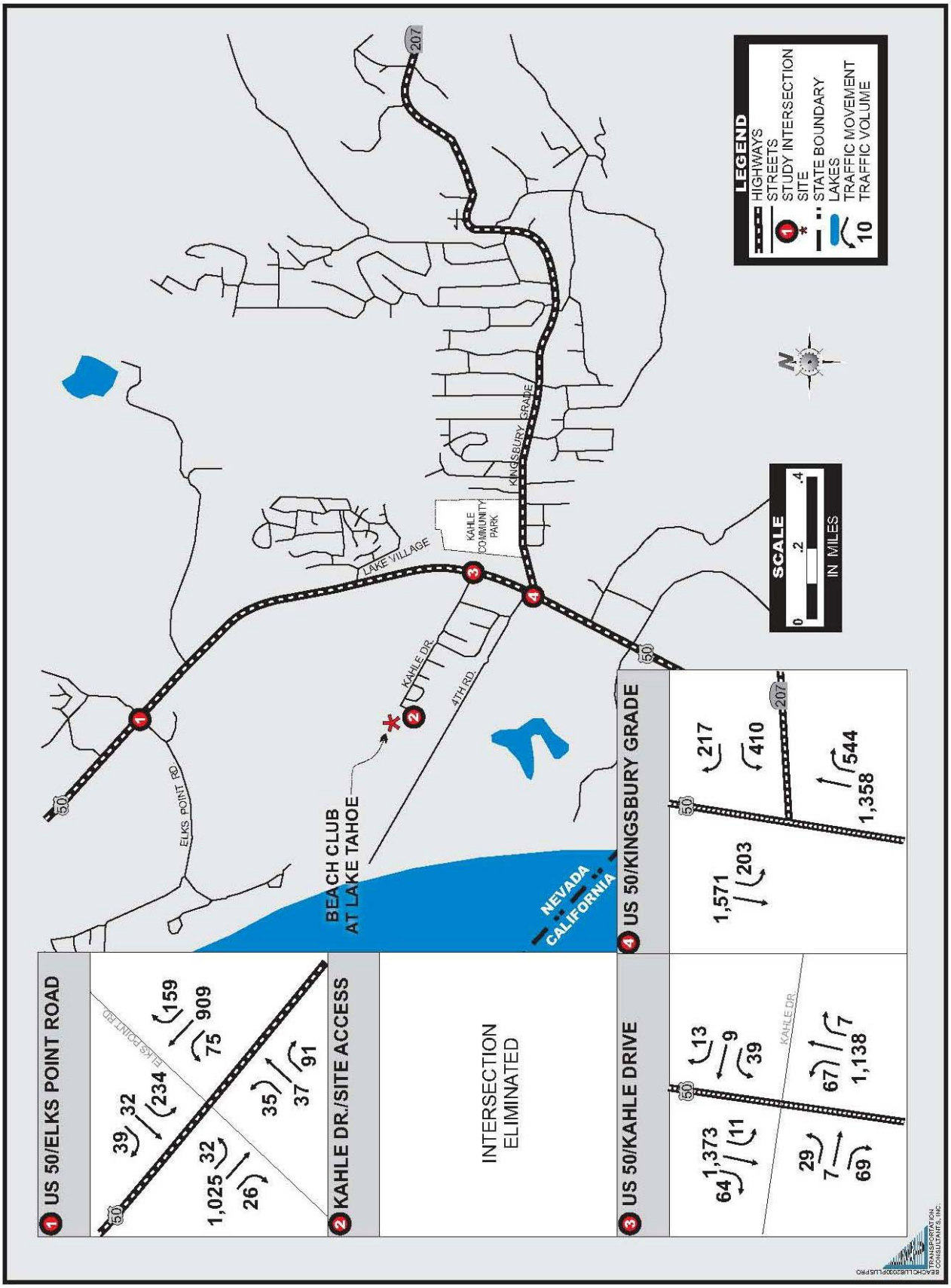
Intersection	Signalized/ Unsignalized	2030 No Project		2030 Plus Alternative C	
		LOS [1]	Delay (sec)	LOS [1]	Delay (sec)
U.S. 50/Kingsbury Grade	Signalized	C	24.1	C	24.2
U.S. 50/Kahle Drive	Signalized	B	11.5	B	11.5
U.S. 50/Elks Point Road	Signalized	B	17.7	B	17.8
Kahle Drive/Site Access	Unsignalized	A	8.9	*Intersection Eliminated*	

Note: For unsignalized intersection, the LOS of the worst approach or worst movement is reported.
Source: LSC Transportation Consultants, Inc. 2007

Cumulative – 2030 Plus Project Conditions (Alternatives A and C)

IMPACT 5.14-10 Cumulative — Vehicle Miles of Travel (VMT). *Alternative A would result in a net increase of 303 daily vehicle trip ends and 90 peak-hour vehicle trip ends (89 inbound and 1 outbound). These trips would result in a maximum increase of approximately 1,001 VMT in the Tahoe Basin. Alternative C would result in a net increase of 194 daily vehicle trip ends, 2 peak-hour vehicle trip ends, and an increase of approximately 685 VMT in the Tahoe Basin. Either of these increases, in combination with any increases in VMT associated with related projects, is considered to be* ***potentially significant cumulative*** *impact.*

Beach Club Alternative A would result in a net increase of 303 daily vehicle trip ends and 90 peak-hour vehicle trip ends (89 inbound and 1 outbound). The increase in VMT resulting from implementation of Alternative A would be a maximum of approximately 1,001 VMT, based upon the trip types and average trip lengths identified in the TRPA TRANPLAN traffic model, and the number of new trips generated. Alternative C would result in a net increase of 194 daily vehicle trip ends, 2 peak-hour vehicle trip ends, and an increase of approximately 685 VMT in the Tahoe Basin. In comparison with the approximately 1,790,602 total basin-wide VMT on a peak day, the impact of Alternative A represents a 0.06% basin-wide increase in VMT and Alternative C represents a 0.04% basin-wide increase in VMT. As discussed in Section 5.6, “Transportation and Parking,” an increase of 2,000 VMT or more is considered to be a significant impact. Therefore, implementation of either Alternative A or C would result in a less-than-significant impact related to VMT. Nonetheless, pursuant to Chapter 93.3.C of the TRPA Code of Ordinances, an air quality mitigation fee of $36.20 per daily vehicle trip end is required for new trips associated with non-residential land uses and $325.84 per daily vehicle trip end for new trips associated with



Source: LSC Transportation Consultants, Inc. 2007

Alternative C 2030 PM Peak-Hour Traffic Volumes **Exhibit 5.14-3**

residential land uses. Per TRPA Code of Ordinances Section 93.3.C, the Air Quality Mitigation Fund provides for regional and cumulative measures that may include, but are not limited to:

- transit facility construction;
- transportation Systems Management 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.

The less-than-significant increase in VMT due to the proposed project and the payment of the air quality mitigation fee would result in a **less-than-significant** contribution to cumulative VMT. Furthermore, related cumulative projects would be required to analyze the potential increase in VMT and contribute to the TRPA Air Quality Mitigation Fund to mitigate the effects of any new trips associated with their projects.

IMPACT 5.14-11 Cumulative — Parking Supply. *Sufficient parking for the Beach Club project alternatives would be provided entirely within the project site. Therefore, the project would have a* ***less-than-significant*** *impact on cumulative parking supply.*

Parking for the proposed project alternatives would be provided on site consistent with the rates discussed in Section 5.6, "Transportation and Parking."

The overall parking demand of Alternative A, including residential and beach and swim club, is approximately 342 spaces. The condominiums would be provided with 270 parking spaces, and the beach and swim club/restaurant would be provided with 88 spaces. Therefore, the total parking supply for Alternative A would be 358 spaces, which would exceed the parking demand and ensure a sufficient supply of on-site parking.

Alternative C was determined to require 265 parking spaces, and 267 spaces would be provided. Therefore, a sufficient supply of on-site parking would be provided. Therefore, the Beach Club project would include sufficient on-site parking. Related cumulative projects would be expected to meet standard parking requirements as well, and this would be a **less-than-significant** cumulative impact.

AIR QUALITY

IMPACT 5.14-12 Cumulative — Short-term Construction-Generated Air Quality Impacts. *Unmitigated, NO_x emissions from the proposed project and related construction projects in the Basin would exceed the significance threshold of 82 lb/day; therefore, construction-generated criteria air pollutant and precursor emissions 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 nonattainment status of the LTAB with respect to the TRPA standards. However, the project would implement Mitigation Measure 5.7.A-1 to reduce construction-generated emissions of ROG, NO_X, and PM_{10}. Therefore, the project would* ***not result in a contribution*** *to this potentially significant cumulative air impact.*

As discussed under Impact 5.7.A-1, 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 proposed project and other construction projects in the LTAB would be expected to exceed the applicable significance thresholds (82 lb/day of ROG, NO_X, or PM_{10}) on an individual activity basis. In addition, when taken together, the project-generated emissions would have the potential to result in violations of or substantial contributions to ambient air quality standards. The proposed project would implement Mitigation Measure 5.7.A-1 to reduce construction-generated emissions of ROG, NO_X, and PM_{10}. Therefore, the project would **not result in a contribution** to this potentially significant

cumulative air impact. Furthermore, it is anticipated that other projects in the Basin would also be required to implement similar mitigation to reduce their emissions of ROG, NO_X, and $PM_{10,}$ to a less-than-significant level.

IMPACT 5.14-13 Cumulative — Long-term Operational (Regional) Air Quality Impacts. *Implementation of the Beach Club project would not result in operational emissions of regional criteria air pollutants in excess of applicable thresholds. When taken in conjunction with other proposed projects throughout the region, the proposed project's emissions would not be substantial, and would not affect TRPA's attainment designations. Therefore, this* ***cumulative*** *impact would be* ***less than significant****.*

The most current national and TRPA attainment designations for the Douglas County portion of the LTAB are shown in Table 5.7-4 for each criteria air pollutant. The Beach Club project site is not located in a nonattainment or maintenance area with respect to the NAAQS. As described under Impact 5.7.A-2, emissions associated with the operation of the proposed project would be long-term and have associated regional emissions. However, the increase in emissions would be small relative to the existing land use, and would not contribute substantially to a cumulative long-term regional air quality impact, nor would it affect TRPA's attainment designations. This **cumulative** impact would be **less than significant**.

NOISE

IMPACT 5.14-14 Cumulative — Short-term Construction-Generated Noise Levels. *Construction of the Beach Club project would result in noise levels in excess of local standards. Construction of related cumulative projects could also result in the exceedance of local noise standards. However, construction noise occurring during the daytime hours is considered exempt from applicable standards, provided that construction equipment is properly fitted with feasible noise control devices. Because the project would adhere to the requirements of the exemption for construction noise, the project would not contribute to a substantial increase in noise levels. In addition, noise is a localized occurrence and attenuates with distance. Therefore, only cumulative development projects in the direct vicinity of the project site would have the potential to add to anticipated project-generated noise. Because the related cumulative projects are not located in the direct vicinity of the project site and because their construction schedules may or may not overlap with the proposed project's construction, there would be* ***no cumulative construction noise impact****.*

As discussed in Impact 5.8.A-1, noise levels generated during construction at nearby receptors would vary from 75 to 91 dBA, which would exceed applicable county and TRPA standards. Further, sensitive receptors located near the construction activities could experience increases in ambient noise levels in excess of the applicable standards, resulting in annoyance and a potentially significant impact. Construction activities occurring during the daytime hours are exempt from the provisions of the noise ordinance and applicable standards. Provided, however, that all construction equipment shall be fitted with factory installed muffling devices and maintained in good working order (Mitigation Measure 5.8.A-1). For the proposed project, it was determined that adherence to these noise regulations would be sufficient to avoid significant construction noise impacts.

Noise is a localized occurrence and attenuates with distance. Therefore, only cumulative development projects in the direct vicinity of the project site would have the potential to add to anticipated project-generated noise. Because the related cumulative projects are not located in the direct vicinity of the project site and because their construction schedules may or may not overlap with the proposed project's construction, there would be **no cumulative construction noise impact**.

IMPACT 5.14-15 Cumulative — Long-Term Operational Traffic-Generated Noise Levels. *Traffic generated by the Beach Club project, in combination with existing traffic levels, would not result in a perceptible increase in ambient noise levels on nearby local roadways or highways. Therefore, this* ***cumulative*** *impact would be* ***less than significant****.*

The FHWA Traffic Noise Prediction Model was used to calculate traffic noise levels along affected roadways for traffic conditions in the year 2030 with implementation of the proposed project (refer to Tables 5.14-5 and 5.14-6). The modeling is based on the trip distribution estimates presented in Chapter 5.6, "Transportation and Parking." Input data used in the model include average daily traffic levels for nearby area roadways, fleet mixes (percentages of automobiles, medium-duty trucks, and heavy-duty trucks during daytime, evening, and nighttime hours), vehicle speeds, ground attenuation factors, roadway grades, and roadway widths.

Table 5.14-5 summarizes the net change in annual average daily traffic volumes and in modeled traffic noise levels from cumulative no project to plus project conditions to determine the proposed project's contribution. Table 5.14-6 summarizes the net change in average daily traffic volumes and in modeled traffic noise levels from existing no project to cumulative plus project conditions to determine the total contribution from the proposed project, projected growth and other planned projects. (Refer to Table 5.8-7 in Chapter 5.8, "Noise," for the speed, grade, and traffic distribution parameters for each roadway segment shown in Tables 5.14-5 and 5.14-6.)

Alternatives B and C would generate fewer vehicle trips than Alternative A. Implementation of development Alternatives A, B, and C would not result in noise level increases along U.S. 50 (refer to Table 5.14-5). In addition, traffic increases would result in noise level increases of less than 1.6 dBA along Kahle Drive, which would be imperceptible to the human ear (refer to Table 5.14-5). Thus, traffic associated with the long-term operation of Alternatives A, B, and C would not result in a perceptible (e.g., 3 dBA or greater) increase in noise levels along affected local roadways or highways. When compared with existing conditions, implementation of Alternatives A, B, and C along with other planned projects and projected growth would result in noise levels increases of less than 0.3 dBA along U.S. 50 and 1.6 dBA along Kahle Drive (refer to Table 5.14-6). Thus, traffic associated with the long-term operation of Alternatives A, B, and C along with other planned projects would not result in a perceptible (e.g., 3 dBA or greater) increase in noise levels along affected local roadways or highways. Therefore, the proposed project and related projects **would not contribute significantly** to cumulative traffic noise.

Table 5.14-5
Summary of Net Change in Average Daily Traffic Volumes and Modeled Traffic Noise Levels for Alternative A under Cumulative Conditions

Roadway Segment	Alternative A			
	Annual Average Daily Traffic Volume			Net Change in Traffic Noise Levels (CNEL [dBA])
	Cumulative	Cumulative + Alternative A	Net Change (Alternative A)	
U.S. 50 north of Kahle Drive	39,400	39,504	+104	0.0
U.S. 50 south of Kahle Drive	40,300	40,499	+199	0.0
Kahle Drive immediately west of U.S. 50	2,160	2,466	+306	+0.6
Kahle Drive through the project site	696	1,002	+306	+1.6

Notes: Traffic noise levels were modeled using the FHWA Traffic Noise Prediction Model based on traffic information (e.g., average daily traffic, vehicle speeds, roadway width) obtained from the data generated by LSC Transportation Consultants used to prepare the traffic chapter for this Draft EIS and assuming no natural or human-made shielding (e.g., vegetation, berms, walls, buildings). Refer to Appendix E for modeling input assumptions and output results.
Source: Modeling performed by EDAW in 2007.

Table 5.14-6
Summary of Net Change in Average Daily Traffic Volumes and Modeled Traffic Noise Levels for from Existing to Cumulative Plus Project Conditions

Roadway Segment	Alternative A			
	Annual Average Daily Traffic Volume			Net Change in Traffic Noise Levels (CNEL [dBA])
	Existing	Cumulative + Alternative A	Net Change (Alternative A)	
U.S. 50 north of Kahle Drive	37,100	39,504	+2,404	+0.3
U.S. 50 south of Kahle Drive	38,000	40,499	+2,499	+0.3
Kahle Drive immediately west of U.S. 50	2,160	2,466	+306	+0.6
Kahle Drive through the project site	696	1,002	+306	+1.6

Notes: Traffic noise levels were modeled using the FHWA Traffic Noise Prediction Model based on traffic information (e.g., average daily traffic, vehicle speeds, roadway width) obtained from the data generated by LSC Transportation Consultants used to prepare the traffic chapter for this Draft EIS and assuming no natural or human-made shielding (e.g., vegetation, berms, walls, buildings). Refer to Appendix E for modeling input assumptions and output results.
Source: Modeling performed by EDAW in 2007.

BIOLOGICAL RESOURCES

IMPACT 5.14-16 Cumulative — Disturbance of Deciduous Riparian Vegetation. *Implementation of Alternative A would result in the reconstruction of the eastern portion of Kahle Ditch and associated removal or disturbance of approximately 1.07 acres of willow scrub and riparian vegetation. The TRPA threshold for Common Vegetation calls for the maintenance of at least 4% deciduous riparian vegetation. Removal of riparian vegetation in the Tahoe Basin would be a* ***potentially significant cumulative*** *impact. However, because the proposed project would result in "no net loss" of these habitat types, the project would have a* ***less-than-significant*** *contribution to this cumulative impact.*

Implementation of Alternative A would result in reconstruction of the eastern portion of Kahle Ditch, a potentially jurisdictional water, and removal of willow scrub and riparian vegetation currently lining this portion of the ditch. Willow scrub and riparian vegetation present on the western portion of the project site (west of the access road to the Douglas County Sewer Improvement District Pump Station) and along the shallow drainage ditch on the southern boundary of the project site would be unaffected by project implementation. A total of approximately 1.07 acres of willow scrub and riparian vegetation in the eastern portion of Kahle Ditch would be disturbed due to the project. Deciduous riparian vegetation is one of TRPA's threshold common vegetation types with an attainment threshold of 4%. The Beach Club project has the potential to occur concurrently with other projects that may result in the loss of jurisdictional waters or riparian vegetation and loss of riparian habitat in the Tahoe Basin could be a potentially significant cumulative impact. However, a Delineation of the Waters of the United States and Authorization of Fill would be completed for the proposed project that would ensure "no net loss" of deciduous riparian habitat would result from implementation of the proposed project. Implementation of this mitigation would mitigate the project's contribution to cumulative disturbance or loss of deciduous riparian vegetation to a **less-than-significant** level.

IMPACT 5.14-17 Cumulative — Tree Removal. *Implementation of Alternatives A, B and C would result in the loss of fewer than 100 native and nonnative trees on the project site during project construction. No trees larger than 24 inches in diameter at breast height (dbh) would be removed. The removal and/or relocation of fewer than 100 trees on the project site is not considered "substantial" as defined in the TRPA Code of Ordinances and would not require a tree removal plan. This would be a* ***less-than-significant*** *impact.*

Implementation of Alternative A would result in the removal of all mobile homes, grading of the property, construction of new residential buildings, a beach and swim club, and a road, and SEZ restoration and installation of associated landscaping. The project site contains 140 trees (78 conifers and 62 deciduous trees) that are 6 inches in diameter at breast height (dbh) or greater. Most trees on the project site are associated with the drainage ditches defining the north and south boundaries of the project site and current mobile homes. Ten of these trees are 24 inches dbh or greater. Exhibit 3-14 shows the location, type and size for trees 24 inches dbh or greater. Exhibit 3-14 also shows that while the proposed project would preserve trees along the northern and southern boundaries of the project site and all trees greater than 24 inches dbh, the proposed project would remove and/or relocate 51 trees (28 conifers and 23 deciduous trees). The trees marked for removal and/or relocation include those that would be directly affected by a proposed structure, roadway, pond or path footprint. The number of trees that would be removed under Alternatives B and C is unknown, but expected to be well below 100 trees. As discussed in Section 5.9, "Biological Resources," based on the smaller impact footprint of Alternative B as compared to Alternative A, it is assumed that implementation of Alternative B would result in fewer trees removed than under Alternative A (i.e., fewer than 51 trees would be removed). Using the same logic, it is assumed that implementation of Alternative C would result in an incrementally greater number of trees removed than under Alternative A (i.e., greater than 51 trees would be removed).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 the TRPA Code of Ordinances, Chapter 71, as: 1) removal of more than 100 live trees 10 inches dbh or larger on project areas of 20 acres or more; or 2) removal of more than 100 live trees 10 inches dbh or larger within land capability districts 1a, 1b, 1c, 2, or 3, regardless of the project area; or 3) 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 71.4.B.

As proposed, implementation of Alternatives A, B, and C would remove and/or relocate fewer than 100 trees; none of these trees are larger than 24 inches dbh. The removal and/or relocation of fewer than 100 trees on the project site is not considered "substantial" as defined in the TRPA Code and would not require a tree removal plan. Although tree removal in the Tahoe Basin is a potentially significant impact, the project would avoid and minimize tree loss to a **less-than-significant** level.

IMPACT 5.14-18 Cumulative — Loss of Tahoe Yellow Cress. *Tahoe yellow cress is a TRPA threshold sensitive plant species, listed as endangered by the state of California, critically endangered by the state of Nevada, and a USFWS candidate species. Tahoe yellow cress is known to occur in the beach zone of the project site along the drainage ditch. Implementation of the Beach Club project could disturb Tahoe yellow cress habitat resulting in habitat loss. Removal of Tahoe yellow cress is a potentially significant cumulative impact in the Tahoe Basin. However, the proposed project would avoid disturbance and removal of Tahoe yellow cress and would implement measures to counteract potential adverse effects related to site hydrology and changes in use patterns for this species as well as construction-related impacts. Therefore, the proposed project would have a* ***less-than-significant*** *contribution to this potentially significant cumulative impact.*

Tahoe yellow cress is a perennial herb with yellow flowers in the mustard family that is endemic to the sandy beaches of Lake Tahoe. Tahoe yellow cress is a candidate for listing by the USFWS, listed as endangered by the state of California, fully protected by the state of Nevada, and is a TRPA threshold species. Tahoe yellow cress is known to occur on Kahle beach at the western end of the project site. Because Tahoe yellow cress is only found on the shores of Lake Tahoe, Tahoe yellow cress is one of TRPA's threshold sensitive plant species and it is a candidate for listing by the USFWS. Activities associated with construction, SEZ restoration, and ongoing recreational use after the project development is fully functional could have a detrimental effect on Tahoe yellow cress. Loss of Tahoe yellow cress associated with other projects in the Tahoe Basin shoreline areas, is a potentially significant cumulative impact. However, the proposed project would avoid disturbance and removal of Tahoe yellow cress and would implement measures to counteract potential adverse effects related to site hydrology and changed use patterns for this species and construction-related impacts as discussed in Impact 5.9.A-4 in Section 5.9, "Biological Resources." Therefore, the proposed project would have a **less-than-significant** contribution to this **potentially significant cumulative** impact. Furthermore, all properties with

identified Tahoe yellow cress populations are also required to avoid disturbance and implement measures to avoid potential adverse effects to this species.

IMPACT 5.14-19 Cumulative — Introduction and Spread of Weeds. *There is the potential for the introduction and spread of weeds due to project implementation both during the construction phase and after construction. The introduction and spread of terrestrial or aquatic weeds would degrade vegetation and wildlife habitat on the project site and on adjacent lands, as well as degrade the waters of Lake Tahoe. Introduction and spread of weeds is a potentially significant cumulative impact in the Tahoe Basin. However, the proposed project would include weed management practices during construction that would reduce the potential spread of weeds. Therefore, the proposed project would have a* ***less-than-significant*** *contribution to this potentially significant cumulative impact.*

The introduction and proliferation of exotic, invasive, weeds, such as Eurasian watermilfoil (*Myriophyllum spicatum*), compete with native plant species and can significantly alter the dynamic nature of native aquatic and terrestrial plant communities. The TRPA Goals and Policies (Wildlife Conservation Goal #1, Policy #3) specifically forbids the release of exotic species in the basin because exotics can invade important wildlife habitats and compete for resources. Ground disturbance from construction activities and construction equipment coming into the project area carrying weeds could result in the increased distribution of weed species into terrestrial and aquatic environments. Many exotic species are introduced into Lake Tahoe and in the Tahoe Basin inadvertently during boating, grading, and construction activities resulting in a potentially significant cumulative impact. However, the proposed project would include weed management practices during construction that would reduce the potential spread of weeds. Therefore, the proposed project would have a **less-than-significant** contribution to this potentially significant cumulative impact.

IMPACT 5.14-20 Cumulative — Impacts on Nesting Special-Status Birds, Raptors, and Migratory Birds. *Development of the Beach Club project and related projects could adversely affect special-status bird species, nesting raptors, and other migratory birds. Loss of special-status birds, raptors, and migratory birds is a potentially significant cumulative impact in the Tahoe Basin, and these species are provided varying levels of protection under the federal and state wildlife laws. However, the proposed project would provide mitigation to protect special-status birds, raptors, and migratory birds; therefore, the proposed project would have a* ***less-than-significant*** *contribution to this potentially significant cumulative impact.*

The project site includes potential nesting and foraging habitat for several common migratory bird species. Construction within occupied habitat of nesting bird species could cause direct impacts on breeding and nesting activities, including removal of active nests, nest abandonment, and mortality to eggs and chicks. Construction could also result in noise, dust, and other disturbances to nesting bird species in the vicinity, resulting in potential nest abandonment and mortality to eggs and chicks. Loss of special-status birds, raptors, and migratory birds is a **potentially significant cumulative impact** in the Tahoe Basin. However, the proposed project would provide mitigation to protect special-status birds, raptors, and migratory birds; therefore, the proposed project would have a **less-than-significant** contribution to this **potentially significant cumulative** impact.

CULTURAL RESOURCES

IMPACT 5.14-21 Cumulative — Impacts on Undiscovered Cultural Resources. *Implementation of the Beach Club project and related projects could potentially uncover previously unknown prehistoric or historic resources. Depending on whether such resources are considered significant according to NRHP, NOHP, or TRPA this could be considered a significant impact. However, mitigation measures described in Section 5.11 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.*

The record search and the field survey conducted on the project site identified no historic cultural resources on the project site. However, because of the proximity of the project site to the ethnographic location of Lom Wata, there is the potential for the presence of intact prehistoric cultural remains in subsurface contexts and the potential for unknown cultural resources or human remains to be unearthed during construction. Implementation of the proposed project and related projects could potentially uncover previously unknown prehistoric or historic resources. Mitigation measures described in Section 5.11, "Cultural 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.

SCENIC RESOURCES

IMPACT 5.14-22 Cumulative — Effects on SR-1, TRPA Travel Route Threshold Ratings, SR-2, TRPA Scenic Quality Threshold Ratings, and SR-3, TRPA Recreation Areas and Bike Trails Threshold. *The Beach Club project would be visible to varying degrees from important surrounding viewpoints including U.S. 50, within Roadway Travel Unit 31, Meadow and Lake Tahoe Shoreline Travel Unit 30, Edgewood. Part of the project would also be visible within the context of identified TRPA Scenic Resources seen from TRPA Public Recreation Area No. 1 - Nevada Beach and the adjacent campground. Although the project would replace the existing Tahoe Shores Mobile Home Park and would be partially screened by trees and other vegetation, the project could contribute to cumulatively significant visual impacts on SR-1, SR-2, and SR-3. However, implementation of Mitigation Measures 5.10.A-1a through c and 5.10.A-3a through e would ensure that the project complies with TRPA scenic regulations and reduces the project's impacts to SR-1, SR-2, and SR-3 to a less-than-significant level. These measures would ensure that the project does not contribute to a potentially significant cumulative impact on scenic resources.*

Roadway Travel Unit 31, Meadow

In the view toward the lake from U.S. 50, the Beach Club project would replace the existing Tahoe Shores Mobile Home Park and would be partially screened by existing vegetation in the adjacent meadow. However, some of the residential buildings would be visible from U.S. 50. Without appropriate mitigation, the project, in combination with any other potential projects that would be visible within Roadway Travel Unit 31, Meadow (e.g., Sierra Colina), would impact the subcomponent scores for intactness and unity and cause a decrease in the Scenic Quality Threshold Ratings for Scenic Resources within Roadway Travel Unit 31, Meadow. This is considered a **potentially significant cumulative impact**.

Shoreline Travel Unit 30, Edgewood

Aspects of the proposed project would be visible from the lake and could thus potentially affect Shoreline Travel Unit 30. Visible structures may include a beach and swim club building and an extended pier. The existing mobile home park would be replaced with new residential development. Without appropriate mitigation, the project, in combination with any other potential projects that would be visible in Shoreline Travel Unit 30, Edgewood, would cause a decrease in the Scenic Quality Threshold Rating. This is considered a **potentially significant cumulative impact**.

Recreation Area No. 1 – Nevada Beach

Past scenic resource evaluations have identified the existing Tahoe Shores Mobile Home Park and KGID facility as disruptive to the natural character of the area. The Beach Club project would remove the mobile home park and replace it with new residential development and the existing overhead utility lines would be placed underground. The new buildings would be substantially taller than any of the existing mobile homes, but the architecture of the

proposed development would make it more visually attractive than the existing mobile home park. Nonetheless, the development would have a manmade character. Lighting of the new development at night could affect campers at nearby campsites. Without adequate mitigation measures, the project, in combination with any other potential projects that would be visible from TRPA Public Recreation Area No. 1 – Nevada Beach, would cause a decrease in the Scenic Quality Threshold Rating. This is considered a **potentially significant cumulative impact**.

The proposed project would implement the following mitigation measures to ensure the project would comply with TRPA scenic thresholds and result in a less-than-significant effect on scenic resources:

- Design the SEZ Habitat Restoration and other on-site landscaping to provide screening of proposed buildings and parking areas.
- Design other on-site landscaping to provide screening of existing and proposed buildings at levels anticipated in the assessment of scenic impacts reported herein.
- Conduct screening mitigation monitoring.
- Comply with TRPA Design Review Guidelines and Douglas County Guidelines Regarding Lighting.
- Submit a Detailed Lighting Plan to the Douglas County Design Review Committee.

The implementation of these measures would ensure that the project does **not contribute** to any significant cumulative impacts on scenic resources.

HUMAN HEALTH AND RISK OF UPSET

IMPACT 5.14-23 Cumulative — Expose the Public or Environment to Hazardous Materials. *Development of the project and related projects would involve the storage, use, and transport of hazardous materials at the project site during construction and operation. However, each project considered in this cumulative analysis must individually be in compliance with local, state, and federal regulations. Therefore, cumulative impacts related to exposure of the public or environment to significant hazardous materials would be* less than significant.

Implementation of the various related projects and other projects in the region could expose people to hazardous materials during construction and operation of those projects. The potential could represent a significant cumulative impact if projects are not developed in compliance with local, state, and federal hazardous materials regulations. However, each project considered in this cumulative analysis must individually meet these requirements. Therefore, no additive effect would result from the combination of the projects considered in this cumulative analysis and the proposed project. Cumulative impacts related to exposure of the public or environment to significant hazardous materials would be **less than significant**.

IMPACT 5.14-24 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, cumulative impacts related to safety hazards to construction workers would be* less than significant.

Other development projects in the Tahoe Basin where older structures would be demolished have a similar potential to result in health hazards related to exposure of construction workers to asbestos and lead-based paint. However, as with the proposed project, asbestos-containing materials and lead must be removed by an accredited inspector in accordance with EPA and Nev-OSHA standards. The project-specific potentially significant impact would be mitigated by implementation of Mitigation Measure 5.13.A-2 described in Section 5.13, "Human Health and Risk of Upset." Therefore, no additive effect would result from the combination of the projects considered in

this cumulative analysis and the proposed project. Cumulative impacts related to exposure of construction workers to significant hazardous materials would be **less than significant**.

IMPACT 5.14-25 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. However, the project-specific potentially significant impact would be mitigated by Mitigation Measure 5.13.A-4 and the measure would eliminate the project's contribution to any cumulative conditions. Therefore, cumulative impacts related to radon exposure would be* ***less than significant****.*

According to the EPA's Map of Radon Zones, Douglas County is located in a High Radon Potential Zone (greater than 4 pCi/L). Radon hazards are site specific and generally neither affect, nor are affected by other planned or proposed development in the region. The project-specific potentially significant impact would be mitigated by application of Mitigation Measure 5.13.A-4, described in Section 5.13, "Human Health and Risk of Upset." Cumulative impacts related to radon exposure would be **less than significant**.

IMPACT 5.14-26 Cumulative – Increased Risks of Health Hazards From Vector-Born Diseases. *Cumulative development would increase the number of people living in a region recognized as containing mosquito breeding sites and; therefore, would increase the number of people potentially exposed to vector-borne diseases carried by mosquitoes. However, the project would not increase the number of residents on the project site. In addition, Douglas County is serviced by a mosquito abatement district that has employed TRPA-approved mosquito abatement measures. Therefore, cumulative impacts related to increased risks of health hazards from vector-born diseases are considered* ***less than significant****.*

Development in the region could bring in additional residents and workers, which would increase the number of people potentially exposed to mosquito-born diseases. However, there are currently residents living on the site and, as with the proposed project, existing measures are in place to minimize potential risks of health hazards. Douglas County is serviced by a mosquito abatement district that has employed TRPA-approved mosquito abatement measures. Therefore, no additive effect would result from the combination of the projects considered in this cumulative analysis and the proposed project. Cumulative impacts related to increased risks of health hazards from vector-born diseases would be **less than significant**.

IMPACT 5.14-27 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****.*

The fire hazard rating for much of the Tahoe Basin is moderate to high because of the topography and extensive wildland areas. Cumulative development would increase the wildland-urban interface. However, as with the proposed project, each project must be individually evaluated to minimize the potential for exposure to wildland fire, and the project site is currently developed. Fire resistant construction materials, appropriate setbacks, removal and/or thinning of highly flammable vegetation and other measures would be required in areas of significant fire hazard. In addition, each project would be evaluated for provision of adequate fire protection services. Therefore, no additive effect would result from the combination of the projects considered in this cumulative analysis and the proposed project. Cumulative impacts related to increased exposure to wildland fire hazard would be **less than significant**.

6 TRPA-MANDATED SECTIONS

6.1 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

Section 5.8.B(2) of TRPA's Code of Ordinances requires an environmental impact statement (EIS) to include "any significant adverse environmental effects which cannot be avoided should the project be implemented." Chapter 5 of this EIS assesses the project-specific and cumulative environmental effects of five Beach Club project alternatives, and concludes that project impacts are less than significant or that mitigation measures recommended in this EIS would reduce significant impacts to less-than-significant levels.

6.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irreversible and irretrievable commitment of resources is the permanent loss of resources for future or alternative purposes. Irreversible and irretrievable resources are those that cannot be recovered or recycled or those that are consumed or reduced to unrecoverable forms. The Beach Club project alternatives would result in the irreversible and irretrievable commitment of energy and material resources during construction and operations.

Energy would be expended in the form of gasoline, diesel fuel, oil for equipment and transportation vehicles, and human labor. Construction activities would generate non-recyclable materials, such as solid waste and construction debris. Electricity would be expended for the construction and operations of the residential units. Using these nonrenewable resources is expected to account for a small portion of the resources in the Lake Tahoe Basin and their area of origin (generally, northern California and Nevada) and would not affect the availability of these resources for other needs within the Basin.

Building materials for the Beach Club project would include rocks, wood, concrete, glass, roof shingles, steel, and other materials. Future use of the site would remain consistent with the PAS 077 (residential) and PAS 070A (recreational) land use designations; therefore, future use of the site with or without the Beach Club project is anticipated to result in using nonrenewable resources.

6.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

A TRPA Initial Environmental Checklist was prepared for the project and was circulated with a notice of preparation (NOP) for public comment. The TRPA Initial Environmental Checklist concluded that the following issue areas would result in no impact or a less-than-significant impact given the resource conditions of the project area (e.g., clearly, none of the relevant resources are present or could be substantially affected by the project): agricultural resources, mineral resources, and utilities and public services.

All of the remaining environmental resources are analyzed in Chapter 5 of this EIS. The analysis in this document determines that the proposed project and project alternatives would result in a less-than-significant impact on land use and water recreation. The analysis also determines that, with the implementation of the identified mitigation measures, the proposed project and project alternatives would have less-than-significant impacts on: population and housing; geology, soils, and land capability and coverage; hydrology and water quality; transportation and parking; air quality; noise; vegetation and wildlife; scenic resources; cultural resources; water recreation and shorezone; and human health.

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

Chapter 5 of TRPA's Code of Ordinances requires a discussion of the relationship between a project's local short-term uses of the environment and the maintenance and enhancement of long-term productivity. The following discussion addresses how the Beach Club project would affect the short-term use and the long-term productivity of the environment. In general, "short-term" is used here to refer to the construction period, while "long-term" refers to the operational life of the Beach Club project and beyond.

The project site is currently occupied by the Tahoe Shores Mobile Home Park. The proposed project and project alternatives would result in continued use of the project site for residential purposes by providing market rate and/or moderate income housing units. The proposed project (Alternative A) would expand the recreational component in PAS 070A by constructing a beach and swim club and expanding the existing pier. The proposed construction activities would result in a short-term increase in use of the environment.

Construction of the Beach Club project Alternatives A, B, C and E would result in the use of energy and resources to clear the existing mobile home park from the site and construct new residential and recreational facilities. The No Project – Jere Williams Plan Alternative (Alternative D) would result in less use of energy and resources to maintain and operate the existing mobile home park because the site would not be cleared and reconstructed. The Beach Club project construction alternatives would result in short-term construction-related impacts such as: interference with local traffic and circulation, air emissions, increases in ambient noise levels, disturbance of wildlife, and construction-related runoff. However, these impacts would be temporary, occurring only during construction, and are not expected to alter the long-term productivity of the natural environment.

Approval of the Beach Club project would commit the project site to long-term development; it is expected that to do otherwise would be economically infeasible for the property owner. The project would, however, help to sustain natural resources and support social and economic health. The project alternatives would reduce the existing land coverage and would implement temporary and permanent best management practices (BMPs) to retain, infiltrate, and treat stormwater runoff, thereby improving the water quality of runoff into Lake Tahoe. Utility lines would be moved underground and buildings would be designed to comply with TRPA's scenic requirements. The number of residents at the project site would be reduced under Alternative B, which would reduce the traffic and associated air quality and noise effects relative to existing conditions. Alternative A would also reduce the number of residents at the project site, but the inclusion of the swim and beach club would result in an incremental increase in daily traffic and associated air emissions and noise. Under Alternatives C, D and E, the population would remain essentially the same as the existing mobile home park and the traffic, air quality, and noise effects would remain the same, except in the case of Alternative C where the expected trips per multifamily unit would be slightly higher than the existing mobile home units and, as such, related traffic, air quality, and noise effects would be incrementally greater. The proposed project (Alternative A) would also restore approximately 2 acres of SEZ habitat associated with the Burke Creek Meadow. The Beach Club project would provide safe, professionally managed, and professionally maintained housing that would incorporate quality design and energy efficiency and utilize energy-efficient appliances and equipment. The housing would support vacationers as well as permanent residents of South Lake Tahoe.

On the whole, the project's long-term beneficial effects related to BMPs and improved water quality of runoff, reduction in site coverage, and improved aesthetics would outweigh the potentially significant short-term impacts to the environment resulting primarily from project construction and the long-term incremental increases in traffic with related increases in air emissions and noise. In addition, Alternative A would result in approximately 2 acres of SEZ restoration. Although Alternatives B and C do not currently propose SEZ restoration, it is also possible that, through the TRPA approval process, these alternatives would also incorporate some SEZ restoration.

6.5 GROWTH-INDUCING IMPACTS

Section 5.8.B(8) of TRPA's Code of Ordinances requires an EIS to include a discussion of the "growth-inducing impact of the proposed project." Examples of potential growth-inducing actions include developing additional water supply, increasing wastewater treatment capacity, or other types of services in previously unserved areas, extending transportation routes into previously undeveloped areas, and establishing major new employment opportunities.

Growth inducement may not be considered necessarily detrimental, beneficial, or of insignificant consequence. Induced growth is considered a significant impact only if it directly (or indirectly) affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth, in some other way, significantly affects the environment.

The project would not open an undeveloped area to development, change land use designations, or expand services or utilities. The proposed project would result in the redevelopment of a currently developed site. The proposed project alternatives would be consistent with the designated land uses for the project site and would not result in any change of zoning. The project would not expand public services or utilities, but would utilize services and utilities that already serve the project site. The project would not remove obstacles to growth nor result in growth-inducing impacts.

The proposed project alternatives would result in a population that is similar to or less than the current site population. Under Alternative A, the proposed project, Alternatives C, the Two Multifamily Complexes Alternative, and Alternatives D and E, the no-project alternatives, the population on the project site would remain essentially the same as current conditions. Alternative A would result in a reduction of 12 units. It is anticipated that many of the units, especially the market-rate units, would be purchased as vacation homes, and the permanent resident population at the project site would be reduced. Alternative B, the Two Single-Family Estates Alternative, would result in the greatest reduction of residents on the project site because there would be a reduction of 153 units on the project site. Under Alternative C, 155 condominiums would be constructed, resulting in an equivalent number of units and similar population to the existing conditions and to the two no-project alternatives. However, because of the increased cost of ownership of condominiums in Alternative C or of improved mobile homes and manufactured housing in Alternatives D and E, it is anticipated that the population would transition from permanent residents to more vacation and second home ownership, effectively reducing the day-to-day population at the project site.

The Beach Club project alternatives would provide primarily residential uses. Under Alternatives A, D, and E the housing complex or the mobile home park would continue to require one full-time on-site manager. Under Alternative A, recreational uses and uses accessory to the recreation uses would also be constructed at the proposed beach and swim club, including a restaurant, bar, assembly room, gym and changing room; therefore, it is anticipated that this alternative would generate the need for up to 25 employees. Under Alternative C, it is anticipated that two full-time on-site managers would be necessary, one for each multifamily complex. Under Alternative B, Two Single-Family Estates, there would be no need for on-site managers. Up to 25 new employees is not considered substantial growth. Although the development alternatives would generate a short-term demand for workers during the construction phases of the project, their presence would be temporary. The Beach Club project would not foster substantial economic growth or generate a significant number of new jobs.

Because the Beach Club project would not generate an increase in residential units or population, it would not directly foster growth. Because the project would not open an undeveloped area to development, change land use designations, or expand services or utilities, it would not remove obstacles to growth. Therefore, the project would not be growth inducing.

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