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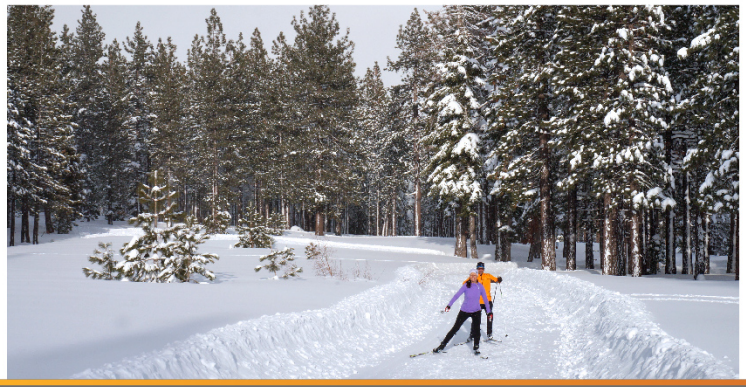

DRAFT ENVIRONMENTAL IMPACT REPORT

Tahoe Cross-Country Lodge Replacement and Expansion Project

SCH No.: 2018062045

Tahoe City
Public Utility District

PREPARED FOR:
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Draft Environmental Impact Report for the Tahoe Cross-Country Lodge Replacement and Expansion Project

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LIST OF ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
ACM	asbestos-containing material
ADT	average daily traffic
AFDC	Alternative Fuels Data Center
AFV	alternative fuel vehicles
AIS	aquatic invasive species
APN	Assessor Parcel Number
Area Plan	Placer County Tahoe Basin Area Plan
BACT	best available control technology
BMP	best management practices
Board	TCPUD Board of Directors
C&D	Construction and demolition
CA SDWA	California Safe Drinking Water Act
CAA	federal Clean Air Act
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
Conservancy	California Tahoe Conservancy

CPUC	California Public Utilities Commission
CWA	Clean Water Act
dB	decibels
dbh	diameter at breast height
DHS	California Department of Health Services
DOC	California Department of Conservation
DOT	U.S. Department of Transportation
DPW	Department of Public Works
DWR	California Department of Water Resources
DVTE	daily vehicle trip ends
EAP	Energy Action Plan
EIR	environmental impact report
EIR/EIS	environmental impact report/environmental impact statement
EMFAC	EMissions FACtor
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 1992
ESA	Federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code
FTA	Federal Transit Agency
gC/m^2	grams of carbon per square meter
GHG	greenhouse gas
gpd	gallons per day
HAP	hazardous air pollutant
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HRA	health risk assessment
Hz	hertz
I-80	Interstate 80
IEPR	Integrated Energy Policy Report
in/sec	inches per second
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers

Lahontan RWQCB	Lahontan Regional Water Quality Control Board
lb/day	pounds per day
LCD	land capability districts
L_{dn}	Day-Night Level
L_{eq}	Equivalent Continuous Sound Level
LID	low impact development
L_{max}	Maximum Sound Level
LOS	level of service
LTAB	Lake Tahoe Area Basin
L_X	Percentile-Exceeded Sound Level
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Levels
mgy	million gallons per year
MMBtu	million Btu
MOU	Memorandum of Understanding
mPa	micro-pascals
Mph	miles per hour
MRF	Material Recovery Facility
msl	mean sea level
$MTCO_2e$/year	metric tons of carbon dioxide equivalent per year
MUTCD	Manual of Uniform Traffic Control Devices
MWh	megawatt-hours
NAAQS	national ambient air quality standards
NDEP	Nevada Division of Environmental Protection
NEHRP	National Earthquake Hazards Reduction Program
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHTSA	National Highway Traffic and Safety Administration
NMFS	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NO_2	nitrogen dioxide
NOA	naturally-occurring asbestos
NOP	notice of preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTFPD	North Tahoe Fire Protection District
NTMP	Neighborhood Traffic Management Program
NTU	Nephelometric Turbidity Units

OEHHA	Office of Environmental Health Hazard Assessment
ONRW	Outstanding National Resource Water
OPR	Governor's Office of Planning and Research
PACE	Property Assesses Clean Energy
PAOT	persons at one time
PCAPCD	Placer County Air Pollution Control District
PM_{10}	respirable particulate matter with aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with aerodynamic diameter of 2.5 micrometers or less
PPV	peak particle velocity
PRC	Public Resources Code
Project	Tahoe Cross-Country Lodge Replacement and Expansion Project
RMS	root-mean-square
RPS	renewable portfolio standard
RPU	Regional Plan Update
RPU EIS	Regional Plan Update Environmental Impact Statement
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan and Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SAF Plan	State Alternative Fuels Plan
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SEZ	Stream Environmental Zone
SO_2	sulfur dioxide
SPL	sound pressure level
sq. ft.	square feet
SR	State Route
State Parks	California Departments of Parks and Recreation
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRCB-DDW	State Water Resources Control Board Division of Drinking Water
TAC	toxic air contaminant
Tahoe XC	Tahoe Cross-Country Center
TCCSEA	Tahoe Cross-Country Ski Education Association
TCPUD	Tahoe City Public Utility District
TDM	Transportation Demand Management Plan
TMDL	total maximum daily load
TMPO	Tahoe Metropolitan Planning Organization

TRI	Truckee River Interceptor
TRPA	Tahoe Regional Planning Agency
T-TSA	Tahoe-Truckee Sanitation Agency
TTSD	Tahoe Truckee Sierra Disposal
TTUSD	Tahoe Truckee Unified School District
UCMP	U.C. Berkeley Museum of Paleontology
US 50	U.S. Highway 50
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VdB	vibration decibels
VMT	vehicle miles traveled
WRP	Water Reclamation Plant
ZEV	zero-emission vehicle

EXECUTIVE SUMMARY

The project applicant, the Tahoe Cross-Country Ski Education Association (TCCSEA), is proposing the Tahoe Cross-Country Lodge Replacement and Expansion Project (Project), which repurposes the historic Schilling Residence for use as a year-round recreation facility, with adequate size and site amenities to serve existing and future anticipated public recreation use. With implementation of the Project, the Highlands Park and Community Center (Community Center) would no longer serve as the lodge for the cross-country ski area; instead, the reconstructed Schilling Residence would serve that purpose. The Community Center would be retained in its current located and operated by the Tahoe City Public Utility District (TCPUD).

Adaptive reuse of the Schilling Residence by TCCSEA provides an opportunity to preserve this historic structure, retain it for public use and historic interpretation, and allow for an enhanced and expanded lodge that consolidates outbuildings currently used for storage into a single building. The historic structure would be adaptively reused in compliance with *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (National Park Service 2017).

TCPUD is the lead agency under CEQA. The proposed Project and one alternative are evaluated at an equal level of detail in this EIR: Site D – Full Project (proposed Project) and Site A – Full Project (Alternative A). This EIR is intended to facilitate subsequent environmental review and permitting by the Tahoe Regional Planning Agency (TRPA) pursuant to its regulations.

PROJECT LOCATION AND SETTING

The Project is located along the northwest shore of Lake Tahoe in the Highlands neighborhood near Tahoe City in Placer County (see Figure 2-1). The existing cross-country lodge is located at the Community Center at 925 Country Club Drive. The Project proposes to utilize the historic Schilling Residence to replace and expand the existing cross-country lodge at a site off Polaris Road adjacent to the North Tahoe High School and North Tahoe Middle School (see Figure 2-2). Alternative A would be located at the site of the existing Community Center.

BACKGROUND AND NEED FOR THE PROJECT

The purpose and vision for the Tahoe Cross-Country Lodge Replacement and Expansion Project is to create a welcoming year-round community hub; support activities that build on Tahoe's history and the history of the cross-country ski area; improve visitor experience; advance youth and adult recreation opportunities year-round; provide opportunities for additional special events, community events, and private events; and improve operational efficiencies of the cross-country lodge and the cross-country ski area. The Project would serve both the resident and visitor population by upgrading the only Nordic ski center with a lodge in the Tahoe Region.

The existing cross-country lodge does not adequately meet current and future recreation use, and does not provide a welcoming or aesthetically pleasing lodge facility. TCCSEA indicates that additional deficiencies at the existing cross-country lodge that fail to meet operational needs include:

- Inadequate space to serve the existing wintertime use and future winter and summer uses, which includes areas for staff, gear rental, ski waxing and repair, retail, café, and equipment storage;
- The Existing Lodge at the Community Center is separated from the flatter, beginner terrain by a hill that presents obstacles for lessons in both summer and winter. Additionally, poor connectivity exists between the lodge and the existing trail network, particularly as it relates to higher elevation trails that tend to hold snow longer and provide for a longer ski season.

- Uncertain weather patterns and the poor quality of existing developed facilities stress the financial viability of the TCCSEA operation of the cross-country ski lodge and area. To continue providing subsidized youth programs, environmental education opportunities, and well-maintained access to a high quality trail network for residents and visitors, any facility operator needs more welcoming and attractive facilities that can better serve visitors throughout the year.

PROJECT OBJECTIVES

TCPUD and TCCSEA are undertaking the proposed Project for a variety of reasons, many of which are interrelated and include addressing some of the operational deficiencies described above. TCPUD's Project objectives are to:

- Expand recreational opportunities through construction of a new lodge at Highlands to improve resident and visitor experience.
- Construct a new lodge that minimizes effects on the neighborhood.
- Maintain a concessionaire partnership to operate improved and viable recreation opportunities.
- Preserve financial accountability and transparency of TCPUD property tax funds, while maximizing the use of private funding for construction of the new lodge.
- Create inviting community areas and public-use spaces.
- Support the North Lake Tahoe Tourism Plan by capitalizing infrastructure improvements on public lands and recreational assets.

TCCSEA's Project objectives are to:

- Address operational deficiencies in the current facility and improve financial viability.
- Repurpose the historic Schilling Residence into a new lodge for community use and recreation activities.
- Maximize the base elevation of the lodge site.
- Improve and maintain educational programs and activities offered to adults and youth and create more user-friendly access to the trail system for beginner, disabled, and senior recreationists.

TCPUD and TCCSEA share Project objectives to:

- Remedy inadequate parking and improve access to the lodge and trail system.
- Provide high quality and professionally maintained recreational amenities and facilitate growth and diversity of recreational opportunities by enhancing summer and winter activities.

SUMMARY DESCRIPTION OF THE PROPOSED PROJECT AND ALTERNATIVE A

The proposed Project (Site D – Full Project) and Alternative A are being considered for implementation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. The potential environmental effects of the proposed Project and Alternative A are analyzed at an equal level of detail in Sections 3.2 through 3.12 and in Chapter 5 of this EIR. Site D – Full Project (proposed Project) is the "proposed project" for purposes of CEQA, and is the project described in the project description of this EIR consistent with State CEQA Guidelines Section 15124. As the lead agency under CEQA, TCPUD elected to evaluate the proposed Project and one alternative at an equal level of detail in this EIR: Site D – Full Project (proposed Project) and Site A – Full Project alternative (Alternative A). While not required by CEQA, this approach was selected by the TCPUD Board of Directors (Board) to provide them with analysis of the proposed Project and Alternative A at an equal level of detail to allow them the flexibility to potentially approve a CEQA compliant project at either location. Possible reasons for this could include insurmountable difficulty in obtaining permitting for the proposed Project, failure to complete the land exchange with the Conservancy,

unavoidable environmental impacts of the proposed Project, and/or strong community and political opposition. In the event that any of these conditions occur, Alternative A is analyzed at this level of detail so that the EIR provides sufficient analysis to enable TCPUD to approve that alternative, should that be the ultimate decision of the TCPUD Board. To be clear, however, Alternative A is not the "proposed project." The components of the proposed Project and Alternative A are summarized below.

Three additional alternatives to the proposed Project are described and analyzed at a comparative level in Chapter 4 consistent with the requirements of State CEQA Guidelines Section 15126.6.

Site D – Full Project (Proposed Project)

The proposed Project includes a 10,154 square foot (sq. ft.) reconstructed lodge that would adaptively reuse the Schilling Residence with an addition and basement for use as the lodge for the cross-country ski area. Compared to the Existing Lodge at the Highlands Park and Community Center, the Schilling Lodge would include expanded space for rentals, a lounge area, restrooms, rentals, a wax room, storage, and a café (see Figures 2-3 and 2-4 and Tables 2-1 and Table 2-2 in Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail"). Other existing uses that would continue to occur in the Schilling Lodge include a ticketing area and retail. Additional uses that would be accommodated at the Schilling Lodge include staff space for staff administrative functions, meetings, lockers, showers, first aid, a team room, and a garage. Other amenities at the Schilling Lodge include a larger patio and bike racks. The site would include 100 vehicle parking spaces and two bus parking spaces in addition to the 46 parking spaces that would be retained at the Highlands Community Center. Access to the site would be from a new driveway off Polaris Road. Implementation of the proposed Project would retain the Existing Lodge (i.e., Highlands Community Center) under TCPUD ownership. The Existing Lodge would be managed and maintained by TCPUD as the Highlands Community Center, and would be accessible to the community in the way that other TCPUD-owned facilities, such as the Fairway Community Center, are available.

The location of the proposed Project would allow for a shared-parking agreement with the Tahoe Truckee Unified School District (TTUSD) to allow the adjacent North Tahoe High School and North Tahoe Middle School and the cross-country lodge to share parking during high-use events. Proximity to the schools would improve connectivity for student athletes accessing the cross-country ski area. The location of the lodge near the schools also improves access for beginning skiers to beginner terrain and provides direct access to more cross-country ski trails compared to the existing lodge location.

Implementation of the proposed Project would allow a limited number of public and private events to occur at the lodge. Large special events that are currently based at the lodge would continue at the relocated lodge site and there would be up to an additional three large special events throughout the year. The proposed Project would also increase the number of small meetings and community gatherings that already occur at the existing lodge by up to 40 throughout the year. With implementation of the proposed Project, private events could also occur at the lodge, including small meetings and private gatherings. The estimated type, number, and size of community, private, and special events that could occur at the proposed lodge are shown in Table 2-3 in Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail." A limited number of community events (e.g., recreation classes, community gatherings) could be held at the Highlands Community Center managed by TCPUD (see Table 2-5).

Site A – Full Project (Alternative A)

Implementation of Alternative A would replace the Existing Lodge at the Community Center with a reconstructed lodge of the same size and layout as the proposed Project, which would accommodate the same uses described above for the proposed Project. To be clear, Alternative A is not the proposed Project or part of the proposed Project. This alternative would include the same amount of parking at the Schilling Lodge (i.e., 100 parking spaces) as identified for the proposed Project. Access to the site would be provided from Country Club Drive, consistent with existing conditions. To construct Alternative A, the existing Community Center would be demolished. Implementation of this alternative would provide an opportunity to minimize ground disturbance on an undeveloped site since it

would use the Existing Lodge site. While this alternative could support a shared-parking agreement with TTUSD for shared parking between the lodge and the school, the distance between the two parking lots is less advantageous than the distance between the school parking lot and the parking lot for the proposed Project. Implementation of this alternative would also allow for an increase in public and private events at the cross-country lodge similar to that summarized above for the proposed Project and identified in Table 2-3.

AREAS OF KNOWN CONTROVERSY AND ISSUES TO BE RESOLVED

The State CEQA Guidelines require an EIR to include a list of areas of potential controversy and issues to be resolved. Appendix A includes a complete list of comments received during the scoping period. The following are key issues related to the Project:

- Potential traffic impacts in the Highlands neighborhood, effects on emergency access and evacuation routes, and effects on school-related traffic;
- Public safety related to traffic, pedestrian safety, and serving alcohol at the Schilling Lodge;
- Construction of a new lodge on an undeveloped site;
- Noise impacts, including from additional special events and potential disruption to the learning environment of the school; and
- Parking issues, including on-street parking.

ENVIRONMENTAL IMPACTS AND RECOMMENDED MITIGATION MEASURES

Chapters 3 and 5 of this Draft EIR describe in detail the environmental impacts that would result from implementation of the proposed Project and Alternative A. Impacts are classified as: (1) no impact (actions that result in no adverse effects); (2) less than significant (adverse effects that are not substantial); (3) significant or potentially significant (substantial or potentially substantial adverse changes in the environment, for which mitigation measures must be identified, if feasible); and (4) significant and unavoidable (substantial or potentially substantial adverse changes in the environment that cannot be feasibly reduced with mitigation measures to a less-than-significant level).

Table ES-1 summarizes the potential environmental impacts that would result from implementation of the proposed Project and Alternative A, and mitigation measures to avoid, eliminate, minimize, or reduce significant and potentially significant environmental impacts to less-than-significant levels, where feasible. This table presents a comparison of the potential environmental impacts of the proposed Project and Alternative A after mitigation.

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
3.3 Biological Resources			
Impact 3.3-1: Disturbance or Loss of Special-Status Plants and Wildlife Implementing the proposed Project or Alternative A would result in construction and operation of new facilities in habitats that may provide suitable habitat for special-status plants. If special-status plants are present in the proposed Project or Alternative A sites, Project construction could cause the disturbance or loss of those species. Loss of special-status plants would be a potentially significant impact. For special-status animals, although implementation of the proposed Project or Alternative A could disturb individuals and a small amount of potential habitat locally, the magnitude and intensity of potential adverse effects would be minor and are not expected to affect the species' distribution, active breeding sites, breeding productivity, viability, or regional populations.	Proposed Project, Alternative A = PS	**Mitigation Measure 3.3-1: Avoid, Minimize, and Compensate for Disturbance or Loss of Special-Status Plants** This mitigation measure would apply to the proposed Project and Alternative A. The Project applicant shall implement the following measures to reduce potential impacts on special-status plants: ▶ Before commencement of any Project construction for each phase of construction and during the blooming period for the special-status plant species with potential to occur on the Project site, a qualified botanist shall conduct protocol-level surveys for special-status plants in areas that were not surveyed previously and where potentially suitable habitat would be removed or disturbed by Project activities. ▶ If no special-status plants are found, the botanist shall document the findings in a letter report to TCPUD and CDFW and no further mitigation will be required. ▶ If special-status plant species are found outside the Project footprint, the locations of these occurrences will be clearly marked with fencing, staking, flagging, or another appropriate material. All Project personnel and equipment will be excluded from these areas. ▶ If special-status plant species are found that cannot be avoided during construction, the Project applicant shall consult with TRPA and/or CDFW, as appropriate depending on species status, to determine the appropriate mitigation measures for direct and indirect impacts that could occur as a result of Project construction and will implement the agreed-upon mitigation measures to achieve no net loss of occupied habitat or individuals. Mitigation measures may include, but are not limited to, preserving and enhancing existing populations, creating offsite populations on Project mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals. Potential mitigation sites could include suitable locations within or outside of the	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		Project area. A mitigation and monitoring plan shall be developed by the Project applicant describing how unavoidable losses of special-status plants will be compensated. ▶ If seed collection or transplantation are selected as appropriate mitigation actions, then the following measures will apply. ▪ A qualified botanist will collect any plants or mature seeds from the affected plants and store them at an appropriate native plant nursery or comparable facility. ▪ Upon the completion of work, a qualified botanist will redistribute the seeds within the original location of the occurrence if not directly within the Project footprint. If the original occurrence is within the Project footprint, then the Project applicant will consult with CDFW and/or TRPA to establish a suitable location for distribution of seeds or transplantation of individual plants. ▶ If relocation efforts are part of the mitigation plan, the plan shall include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements. ▶ Success criteria for preserved and compensatory populations shall include: ▪ The extent of occupied area and plant density (number of plants per unit area) in compensatory populations will be equal to or greater than the affected occupied habitat. ▪ Compensatory and preserved populations will be self-producing. Populations will be considered self-producing when: • plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and • reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the Project vicinity.	

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		▪ If offsite mitigation includes dedication of conservation easements, purchase of mitigation credits, or other offsite conservation measures, the details of these measures will be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable populations.	
Impact 3.3-2: Tree Removal Construction of the proposed Project and Alternative A would require the removal of an estimated 183 and 79 total trees, respectively. Because Project construction would be focused within areas subject to considerable levels of existing disturbances and habitat fragmentation, Project-related removal of native trees would not substantially affect common or sensitive biological resources or the surrounding environment. Because tree removal for the proposed Project and Alternative A would not substantially degrade biological resources or conflict with TRPA's threshold standard for late seral/old growth ecosystems, tree removal required for the proposed Project and Alternative A would not substantially affect the quality or viability of biological resources. However, the removal of 15 trees greater than 30 inches dbh under the current proposed Project design, and the removal of seven trees in this size class for Alternative A, could conflict with TRPA policy to prohibit the removal of trees larger than 30 inches dbh in westside forest types in lands classified as recreation, without appropriate mitigation and approval by TRPA. This impact would be **potentially significant** for the proposed Project and Alternative A	Proposed Project, Alternative A = PS	**Mitigation Measure 3.3-2: Minimize Tree Removal, Develop and Implement a Tree Removal and Management Plan** This mitigation measure would apply to the proposed Project and Alternative A. ▸ Where feasible, the Project will avoid and minimize the removal of trees, especially those larger than 30 inches dbh. This avoidance and minimization will be achieved through Project design to the greatest extent feasible and during the TRPA permitting process. This process typically includes: ▪ Minor realignment and reconfiguration of parking, traffic circulation, walkways, sidewalks, patios and other site amenities. ▪ A reduction in the parking requirements if approved by the regulatory agencies and acceptable to the project goals. ▪ Focusing on retaining healthy trees instead of diseased trees and removing smaller trees instead of larger trees; or attempting to prune trees if possible. ▪ Attempting to retain trees that enhance or provide additional scenic and sound barriers to the nearby neighborhood. ▸ For any residual removal of trees larger than 30 inches dbh and for any tree removal determined to be substantial tree removal by TRPA, the following measures will be implemented: ▪ For trees larger than 30 inches dbh to be removed, a limited forest plan pursuant to TRPA Code Section 61.1.4.C will be prepared by a	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		qualified forester, vegetation ecologist, or other qualified environmental professional. TRPA approval of the limited forest plan will be required before permit issuance and project implementation. The plan will be submitted to a TRPA Registered Professional Forester (RPF) or other qualified TRPA professional for review, input, and approval, and will be implemented prior to or during the project. The limited forest plan will include the following elements: • An assessment of the condition and health of trees greater than 30 inches dbh proposed for removal; this condition and health assessment will provide the basis for any compensatory measures that may be required. • Specifications for removal and retention of trees greater than 30 inches dbh, including provisions for vegetation retention and protection during construction to avoid temporary disturbances in accordance with Chapters 33 and 36 of the TRPA Code and with industry standards and recommended practices. • Feasible measures to compensate for the removal of trees larger than 30 inches dbh, such as implementation of forest enhancement actions to facilitate growth and development of large trees in appropriate locations on- or offsite, or enhancement of existing late seral/old growth forest stands offsite. • Management actions, such as fuels and vegetation treatments, to facilitate and enhance large-tree and/or old-growth habitat development within potential treatment areas. • A clear description of how the Project shall contribute to achieving TRPA threshold standards for late seral/old growth forest enhancement, identification of priority locations where forest enhancement actions could be implemented to achieve the plan's objectives, and a funding component (e.g., for late seral/old growth forest enhancement projects) to ensure plan	

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		implementation. Appropriate compensatory actions that meet these standards will be identified and developed in coordination with TRPA. • A detailed description of performance standards for any compensatory measures included in the plan and how they will be implemented. ▪ If a timber harvesting plan is required to be submitted to California Department of Forestry and Fire Protection and that timber harvesting plan meets the requirements of the limited forest plan described in this mitigation measure, the timber harvesting plan may be submitted to TRPA for review and approval in lieu of a separate limited forest plan. ▪ If a separate tree harvest plan is required by TRPA for overall tree removal on the site because the removal would qualify as "substantial," as defined in Section 61.1.8 (Substantial Tree Removal) of the TRPA Code as determined by TRPA, the elements of the limited forest plan described in this mitigation measure may be integrated into the TRPA tree harvest plan. ▪ All tree protection obligations required in the limited forest plan and/or the tree harvesting or harvest plan will be incorporated into construction contracts. Tree protection measures will be in accordance with TRPA Code and be installed and inspected by staff from TRPA before issuance of a grading permit.	
Impact 3.3-3: Potential Establishment and Spread of Invasive Plants Construction of the Schilling Lodge and associated facilities for the proposed Project and Alternative A have the potential to introduce and spread noxious weeds and other invasive plants during construction and revegetation periods. These activities would temporarily create areas of open ground that could be colonized by nonnative, invasive plant species from inside or outside of the proposed Project site. Noxious weeds and other invasive plants could inadvertently be introduced or spread on the proposed Project site during grading and	Proposed Project, Alternative A = PS	**Mitigation Measure 3.3-3: Implement Invasive Plant Management Practices During Project Construction** This mitigation measure would apply to the proposed Project and Alternative A. In consultation with TCPUD and/or TRPA, the Project applicant shall implement appropriate invasive plant management practices during Project construction. Recommended practices include the following: ▶ A qualified biologist will conduct a preconstruction survey to determine whether any populations of invasive plants are present within areas	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
construction activities, if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Soil, vegetation, and other materials transported to the proposed Project site from offsite sources for best management practices (BMPs), revegetation, or fill for Project construction could contain invasive plant seeds or plant material that could become established on the proposed Project site. Additionally, invasive plant species currently present on or near the proposed Project site have the potential to be spread by construction disturbances. The introduction and spread of invasive species would degrade terrestrial plant and wildlife habitats on or near the proposed Project site. The TRPA Code specifically prohibits the release of nonnative species in the Tahoe Basin because they can invade important wildlife habitats and compete for resources. The potential introduction and spread of invasive plant species as a result of the proposed Project or Alternative A would be a potentially significant impact.		proposed for ground-disturbing activities. This could be conducted in coordination with the focused special-status plant survey recommended above under Mitigation Measure 3.3-1. ▶ Before construction activities begin, invasive plant infestations will be treated where feasible. Treatments will be selected based on each species ecology and phenology. Control measures may include herbicide application, hand removal, or other means of mechanical control. This would help eliminate the threat of spreading the species throughout the Project site and adjacent areas. All treatment methods—including the use of herbicides—will be conducted in accordance with the law, regulations, and policies governing the land owner. As required by Section 60.1.7, Pesticide Use, of the TRPA Code, any use of herbicides shall be consistent with the TRPA Handbook of Best Management Practices to protect water quality. Land owners will be notified prior to the use of herbicides for invasive plant treatment. In areas where treatment is not feasible, noxious weed areas will be clearly flagged or fenced to clearly delineate work exclusion. Treatments will be implemented by a qualified biologist or other qualified specialist approved by TCPUD and/or TRPA. ▶ Vehicles and equipment will arrive at the Project site clean and weed-free. All equipment entering the Project site from weed-infested areas or areas of unknown weed status will be cleaned of all attached soil or plant parts before being allowed into the Project site. Vehicles and equipment will be cleaned using high-pressure water or air at designated weed-cleaning stations after exiting a weed-infested area. Cleaning stations will be designated by a botanist or noxious weed specialist and located away from aquatic resources. ▶ To ensure that fill material and seeds imported to the study area are free of invasive/noxious weeds, the Project will use onsite sources of fill and seeds whenever available. Fill and seed materials that need to be imported to the study area will be certified weed-free. In addition, only certified weed-free imported materials (or rice straw in upland areas) will be used for erosion control. ▶ If designated weed-infested areas are unavoidable, the plants will be cut, if feasible, and disposed of in a landfill in sealed bags or disposed of or destroyed in another manner acceptable to TCPUD, TRPA, or other agency	

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		as appropriate. If cutting weeds is not feasible, layers of mulch, degradable geotextiles, or similar materials will be placed over the infestation area to minimize the spread of seeds and plant materials by equipment and vehicles during construction. These materials will be secured so they are not blown or washed away. ▶ Locally collected native seed sources for revegetation shall be used when possible. Plant and seed material will be collected from or near the Project site, from within the same watershed, and at a similar elevation when possible and with approval of the appropriate authority (e.g., U.S. Forest Service [USFS] botanist for collection on USFS land). ▶ After construction is completed for each Project phase, the affected Project site shall be monitored on an annual basis for infestations of invasive weeds until the restored vegetation has become fully established. If new populations of invasive weeds are documented during monitoring, they will be treated and eradicated to prevent further spread. Monitoring by a qualified biologist shall occur for up to three years (as feasible) subsequent to Project implementation.	
Impact 3.3-4: Potential Degradation or Loss of Wildlife Movement Corridors The sites for the proposed Project and Alternative A are not positioned within known important wildlife movement or migratory corridors. The proposed Project and Alternative A sites are not likely to function as important corridors due to existing disturbance levels and relatively low-quality habitat. However, vegetation removal and facility construction could disrupt potential wildlife movements in the region, particularly for mule deer. No substantial permanent impacts to mule deer fawning, important foraging, or core movement routes are anticipated as a result of implementing the proposed Project or Alternative A, and no habitat loss would occur within any known fawning areas. Therefore, implementation of the proposed Project or Alternative A is not expected to substantially affect important movement corridors for mule deer or other wildlife. Any potential impacts would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
3.4 Archaeological, Historical, and Tribal Cultural Resources			
Impact 3.4-1: Cause the Alteration of, or Adversely Affect a Historical Site, Structure, Object, or Building The Schilling Residence has been evaluated as eligible as a historic resource under Section 67.6 of the TRPA Code and as eligible for listing in the NRHP under Criterion C. Relocation and reassembly of a historic structure, as identified for the proposed Project and Alternative A, could adversely affect its historic status. Consultation with SHPO has resulted in preservation measures, which are conditions of a TRPA permit for the project. Because the preservation measures required by SHPO will be a condition of the TRPA permit, these measures must be met for implementation of the proposed Project or Alternative A. Because these measures require that relocation and reconstruction of the Schilling Residence occur without adversely affecting its historic status, implementation of the proposed Project or Alternative A would result in a less-than-significant impact.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.4-2: Impacts to Unique Archaeological Resources The records search revealed one historic-era archaeological site on the proposed Project site; the pedestrian survey identified no additional sites. The site has been evaluated for the CRHR and was not found to be eligible, and therefore is not considered a unique archaeological resource. No archaeological sites were identified on the Alternative A site. However, project-related ground-disturbing activities could result in discovery or damage of as-yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5. With implementation of the proposed Project or Alternative A, this would be a potentially significant impact.	Proposed Project, Alternative A = PS	**Mitigation Measure 3.4-2: Halt Ground-Disturbing Activity Upon Discovery of Subsurface Archaeological Features, Assess Discovery, and Implement Measures that will Mitigate Potential Impacts on Archaeological Resources** This mitigation measure would apply to the proposed Project and Alternative A. In the event that any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during construction, the construction contractor shall halt all ground-disturbing activity within 100 feet of the resources and shall notify TRPA and TCPUD. A qualified professional archaeologist shall be retained by the applicant to assess the significance of the find. Specifically, the archaeologist shall determine whether the find qualifies as a historical resource, a unique archaeological resource, or tribal artifacts. If the find does fall within one of these three categories, the qualified archaeologist shall then make recommendations to TCPUD regarding appropriate procedures that could be used to protect the integrity of the resource and to ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to, preservation in place, archival research, subsurface testing, or	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		contiguous block unit excavation and data recovery, with preservation in place being the preferred option if feasible. If the find is a tribal artifact, TCPUD shall provide a reasonable opportunity for input from representatives of any tribe or tribes the professional archaeologist believes may be associated with the artifact. The tribal representative will determine whether the artifact is considered a TCR, as defined by PRC Section 21074. TCPUD shall require the applicant to implement such recommended measures if it determines that they are feasible in light of project design, logistics, and cost considerations.	
Impact 3.4-3: Impacts to Tribal Cultural Resources or Ethnic and Cultural Values TCPUD sent notification for consultation to two tribes on April 13, 2018. No responses were received during the 30-day response period for AB 52 as defined in PRC Section 21080.3.1; therefore, no resources were identified as TCRs. Additional tribal outreach by the archaeologist resulted in concern expressed by the Washoe Tribe related to unanticipated discoveries. Because proposed Project activities or activities associated with Alternative A could still uncover or destroy previously unknown archaeological resources with ethnic or cultural values, this impact would be potentially significant.	Proposed Project, Alternative A = PS	**Mitigation Measure 3.4-3: Halt Ground-Disturbing Activity Upon Discovery of Subsurface Archaeological Features, Assess Discovery, and Implement Measures that will Mitigate Potential Impacts on Archaeological Resources and Avoid Degradation of Ethnic and Cultural Values** This mitigation measure would apply to the proposed Project and Alternative A. Implement Mitigation Measure 3.4-2.	Proposed Project, Alternative A = LTS
Impact 3.4-4: Impacts to Previously Unidentified Human Remains No evidence exists that suggests any prehistoric or historic-era marked or un-marked human interments are present within or in the immediate vicinity of the proposed Project site or Alternative A site. However, ground-disturbing construction activities could uncover previously unknown human remains. Compliance with California HSC Sections 7050.5 and 7052 and PRC Section 5097 by the proposed Project and Alternative A would render this impact less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
3.5 Transportation			
Impact 3.5-1: Potential to Cause Intersection Level of Service to Substantially Worsen The proposed Project and Alternative A would add new trips to the roadway network and would incrementally increase traffic volumes at study intersections that provide access to Tahoe XC. Because the study intersections are anticipated to continue to operate at an acceptable LOS under existing plus project conditions	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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with the increase in Project-related trips, the proposed Project and Alternative A would not substantially worsen the LOS of an intersection. Therefore, the proposed Project and Alternative A would have a less-than-significant impact on LOS.			
Impact 3.5-2: Cause Traffic Volumes on a Residential Roadway to Exceed 2,500 Vehicles per Day The proposed Project and Alternative A would not alter travel patterns or increase traffic volumes to the extent that the capacity of a residential roadway would be exceeded. Because Project-related traffic would not cause traffic volumes on residential roadways to exceed Placer County's 2,500 vehicles per day standard for residential roadways, this impact would be less than significant for the proposed Project and Alternative A.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.5-3: Substantially Increase Hazards Due to a Design Feature or Incompatible Uses All Project-related transportation infrastructure (i.e., Project driveway) connecting to existing Placer County roadways would be constructed in accordance with applicable Placer County design and safety standards. Additionally, the Project design and improvement plans are subject to the Placer County design review and plan check processes, respectively. Thus, the Placer County design review and plan check procedures would ensure that that the Project design would comply with the Placer County design and safety standards. Therefore, this impact would be less than significant for the proposed Project and Alternative A.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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Impact 3.5-4: Potential to Result in Inadequate Parking Conditions Implementation of the proposed Project or Alternative A would result in the potential for a maximum of seven peak winter days on which residential street parking may need to be utilized by lodge patrons. Additionally, residential overflow parking may be required on as many as nine additional days per year on which large special events or premier events would be held. However, provisions to minimize the use of residential parking, such as carpooling, would be incorporated into event planning and implemented. Given that overflow residential parking already occurs during large events at the Highlands Community Center, and that the existing parking lot cannot accommodate current demand on peak winter days, which already totals more than seven days per year, implementation of the proposed Project and Alternative A would result in an improvement relative to existing conditions in the neighborhood as a whole. Therefore, this impact would be beneficial for the proposed Project and Alternative A.	Proposed Project, Alternative A = Beneficial	No mitigation is required for this impact.	Proposed Project, Alternative A = Beneficial
Impact 3.5-5: Construction-Related Impacts on Traffic Construction of the proposed Project or Alternative A may require restricting or redirecting pedestrian, bicycle, and vehicular movements on local roadways to accommodate construction activities and modifications to existing infrastructure. Such restrictions could include lane closures, lane narrowing, and detours; and therefore, could result in temporarily degraded roadways operations. Additionally, the addition of heavy vehicles to the local roadway network in the surrounding residential neighborhood devoid of onstreet bicycle and pedestrian facilities could potentially lead to a short-term temporary increase in traffic hazards. For these reasons, construction traffic impacts would be potentially significant.	Proposed Project, Alternative A = PS	**Mitigation Measure 3.5-5: Prepare and Implement a Temporary Traffic Control Plan** This mitigation measure would apply to the proposed Project and Alternative A. Before the beginning of construction or issuance of a building permit, the applicant and/or its construction contractor shall prepare a temporary traffic control (TTC) plan to the satisfaction of the Placer County Public Works Department. At a minimum, the plan shall include and/or show: ▶ a vicinity map including all streets within the work zone properly labeled with names, posted speed limits, and a north arrow; ▶ a description of construction work hours and work days; ▶ a description of the proposed work zone; ▶ a description of detours and/or lane closures (pedestrians, bicyclists, vehicular), no parking zones, and parking restrictions; ▶ a description of signalized and non-signalized intersections impacted by the work; ▶ a description of construction phasing and staging;	Proposed Project, Alternative A = LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		▶ a description of anticipated construction truck activity, including: number and size of trucks per day, expected arrival/departure times, truck circulation patterns; ▶ a restriction on the operation of heavy vehicles along the roadway network in the residential neighborhood surrounding the Project site to hours that do not conflict with the primary arrival and departures times of the students of the nearby high school; ▶ a description of maximum speed limits for heavy vehicles; and ▶ a description of signage and notification procedures.	
Impact 3.5-6: Result in an Unmitigated Increase in Daily VMT The proposed Project and Alternative A would both result in increases in daily VMT. Therefore, implementation of the proposed Project or Alternative A would result in a VMT impact, which would be **significant**.	Proposed Project, Alternative A = S	**Mitigation Measure 3.5-6a: Prepare and Implement a Transportation Demand Management Plan** This mitigation measure would apply to the proposed Project and Alternative A. The applicant shall submit to Placer County a Transportation Demand Management Plan (TDM) as part of the development review process. A menu of measures that could be included in TDM plans is provided in TRPA Code Section 65.5.3 and Placer County Code Section 10.20. These measures include: ▶ Preferential carpool/vanpool parking; ▶ Shuttle bus program; ▶ Transit pass subsidies; ▶ Paid parking; and ▶ Direct contributions to transit service.	Proposed Project, Alternative A = LTS
		Mitigation Measure 3.5-6b: Incorporate Design Features and Purchase and Retire Carbon Offsets to Reduce Project-Related Greenhouse Gas Emissions to Zero This mitigation measure would apply to the proposed Project and Alternative A. The applicant shall implement Mitigation Measure 3.7-1 identified in Section 3.7, "Greenhouse Gas Emissions and Climate Change." The applicant shall implement measures to reduce all GHG emissions associated with construction and operation of the Project to zero. More detail about measures to reduce construction-related GHGs, operational GHGs, and the purchase of carbon offsets are provided in Section 3.7.	

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3.6 Air Quality			
Impact 3.6-1: Short-Term Construction-Generated Emissions of ROG, NO_X, and PM_{10} The proposed Project and Alternative A would result in short-term construction-related emissions of ROG, NO_X, and PM_{10}; however, levels of emissions would be lower than PCAPCD's significance criteria of emission for these pollutants. Thus, construction-generated emission of criteria pollutant and ozone precursors would be less than significant from the proposed Project and Alternative A.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.6-2: Long-Term Operational Emissions of Criteria Air Pollutants and Precursors Implementation of the proposed Project and Alternative A would not result in long-term operational emissions of ROG, NO_X, and PM_{10} that exceed applicable significance criteria or substantially contribute to concentrations that would result in, or contribute to, an exceedance of the NAAQS or CAAQS. Therefore, long-term operational related emissions of criteria pollutants and precursors would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.6-3: Localized Exposure to Mobile-Source Emissions of Carbon Monoxide The increase in vehicle trips associated with operation of the proposed Project would not result in, or contribute to, concentrations of CO at sensitive receptors that exceed unhealthy levels. Due to the demolition of the Existing Lodge, additional trips under Alternative A would be even less than that of the proposed Project. This impact would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.6-4: Expose Sensitive Receptors to Toxic Air Contaminants Implementation of either the proposed Project or Alternative A would not introduce any new long-term operational sources of TACs. Construction-related emissions of TACs associated with the proposed Project or Alternative A would not result in an incremental increase in cancer risk greater than 10 in one million or a hazard index of 1.0 or greater at existing or future planned sensitive receptors. Therefore, this impact would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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3.7 Greenhouse Gas Emissions and Climate Change			
Impact 3.7-1: Project-Generated Emissions of GHGs The proposed Project would result in construction-related GHG emissions totaling 841 $MTCO_2e$/year over a period of up to 4 years and would generate operational emissions of 316 $MTCO_2e$/year. Alternative A would result in construction-related GHG emissions totaling 922 $MTCO_2e$/year over a period of up to 4 years and would generate operational emissions slightly less than what is emitted for the proposed Project. These levels of emissions would not be consistent with Mitigation Measure 12-1 identified in the Area Plan EIR/EIS, which indicates that projects should achieve a no net increase in GHG emissions to demonstrate consistency with statewide GHG reduction goals. Proposed Project- and Alternative A-generated GHG emissions would be potentially significant.	Proposed Project, Alternative A = PS	**Mitigation Measure 3.7-1: Incorporate Design Features and Purchase and Retire Carbon Offsets to Reduce Project-Related Greenhouse Gas Emissions to Zero** This mitigation measure would apply to the proposed Project and Alternative A. The applicant shall implement measures to reduce all GHG emissions associated with construction and operation of the Project to zero. More detail about measures to reduce construction-related GHGs, operational GHGs, and the purchase of carbon offsets is provided below. <u>Construction-Related Greenhouse Gas Emissions</u> The applicant shall implement all onsite feasible measures to reduce GHGs associated with Project construction. Such measures shall include, but are not limited to the measures in the list below. Many of these measures are identical to, or consistent with, the measures listed in Appendix B of the 2017 Scoping Plan (CARB 2017:B-7 to B-8), Appendix F-1 of PCAPCD's CEQA Thresholds of Significance Justification Report (PCDAPCD 2016), and measures listed in Mitigation Measure 12-1 of the Placer County Tahoe Basin Area Plan (TRPA 2017b). The effort to quantify the GHG reductions shall be fully funded by the applicant. ▶ The applicant shall enforce idling time restrictions for construction vehicles. ▶ The applicant shall increase use of electric-powered construction equipment including use of existing grid power for electric energy rather than operating temporary gasoline/diesel powered generators. ▶ The applicant shall require diesel-powered construction equipment to be fueled with renewable diesel fuel. The renewable diesel product that is used shall comply with California's Low Carbon Fuel Standards and be certified by the California Air Resources Board Executive Officer. ▶ The applicant shall require that all diesel-powered, off-road construction equipment shall meet EPA's Tier 4 emissions standards as defined in 40 Code of Federal Regulation (CFR) 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068.	Proposed Project, Alternative A = LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		▶ The applicant shall implement waste, disposal, and recycling strategies in accordance with Sections 4.408 and 5.408 of the 2016 California Green Building Standards Code (CALGreen Code), or in accordance with any update to these requirements in future iterations of the CALGreen Code in place at the time of Project construction. ▶ Project construction shall achieve or exceed the enhanced Tier 2 targets for recycling or reusing construction waste of 65 percent for nonresidential land uses as contained in Sections A5.408 of the CALGreen Code. <u>Operational Greenhouse Gas Emissions</u> The applicant shall implement all onsite feasible measures to reduce GHGs associated with operation of the Project. Such measures shall include but are not limited to, the measures in the list below. Many of these measures are identical to, or consistent with, the measures listed in Appendix B of the 2017 Scoping Plan (CARB 2017:B-7 to B-8), Appendix F-1 of PCAPCD's Thresholds of Significance Justification Report (PCDAPCD 2016), and measures listed in Mitigation Measure 12-1 of the Placer County Tahoe Basin Area Plan (TRPA 2017b). The effort to quantify the GHG reductions shall be fully funded by the applicant. ▶ The applicant shall achieve zero net energy (ZNE) if feasible. Prior to the issuance of building permits the Project developer or its designee shall submit a Zero Net Energy Confirmation Report (ZNE Report) prepared by a qualified building energy efficiency and design consultant to the county for review and approval. The ZNE Report shall demonstrate that development within the Project area subject to application of the California Energy Code has been designed and shall be constructed to achieve ZNE, as defined by CEC in its 2015 Integrated Energy Policy Report, or otherwise achieve an equivalent level of energy efficiency, renewable energy generation, or GHG emissions savings. This measure would differ from the achievement of zero net electricity because ZNE also concerns onsite consumption of natural gas. ▶ The applicant shall consult with Liberty Utilities to assess the feasibility of onsite solar. If it is determined that onsite solar is feasible, the building shall	

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		include rooftop solar photovoltaic systems to supply electricity to the building. ▶ If onsite solar is determined to be feasible, the applicant shall install rooftop solar water heaters if room is available after installing photovoltaic panels. ▶ Any household appliances required to operate the building shall be electric and certified Energy Star-certified (including dish washers, fans, and refrigerators, but not including tankless water heaters). ▶ All buildings shall be designed to comply with requirements for water efficiency and conservation as established in the CALGreen Code. ▶ The applicant shall also provide Level 2 electric vehicle charging stations at a minimum of 10 percent of parking spaces that the Project. ▶ The applicant shall dedicate onsite parking for shared vehicles. ▶ The applicant shall require gas or propane outlets in private outdoor areas of residential land uses for use with outdoor cooking appliances such as grills if natural gas service or propane service is available. ▶ The applicant shall require the installation of electrical outlets on the exterior walls of both the front and back of proposed lodge to support the use of electric landscape maintenance equipment. ▶ The applicant shall require the use of energy-efficient lighting for all area lighting. ▶ Notably, the California Air Pollution Officers Associations (CAPCOA) identifies parking restrictions as a feasible measure to reduce GHG emissions; however, parking restrictions have not been dismissed as infeasible onsite mitigation due to existing and projected community impacts associated with spill-over parking into nearby residential neighborhoods during peak seasonal periods. Nonetheless, even without limitations on parking availability, a no net increase in GHG emissions can be achieved. <u>Carbon Offsets</u> In addition to implementing all feasible onsite measures to reduction GHGs associated with construction and operation of the Project, the applicant shall	

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		offset the remaining levels of GHG emissions to zero by funding activities that directly reduce or sequester GHG emissions or by purchasing and retiring carbon credits from any of the following recognized and reputable voluntary carbon registries: (A) American Carbon Registry; (B) Climate Action Reserve; and/or (C) Verra (formally named Verified Carbon Standard). The applicant shall demonstrate that it has purchased and retired a sufficient quantity of carbon offsets prior to receipt of building permits from Placer County. The applicant shall purchase and retire a quantity of carbon credits sufficient to fully offset the Project's remaining operational emissions multiplied by the number of years of operation between commencement of operation and 2045, which is the target year of Executive Order B-55-18.	
3.8 Noise			
Impact 3.8-1: Construction Noise The proposed Project and Alternative A would result temporary construction-related noise. However, the project would comply with TRPA-required conditions of approval, limiting construction activities from 8:00 a.m. and 6:30 p.m., daily. Therefore, existing nearby sensitive receptors would not be substantially affected by construction noise and the proposed Project and Alternative A would have a less-than-significant impact related to temporary increases in noise.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

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Impact 3.8-2: Construction Vibration The proposed Project and Alternative A would result in temporary construction-related vibration. However, sensitive receptors and structures are located beyond distances that could result in disturbance or structural damage. Further, construction activities would be limited to the less sensitive times of the day. Therefore, existing nearby sensitive receptors would not be substantially affected by construction vibration and the proposed Project and Alternative A would have a less-than-significant impact from temporary increases in vibration.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.8-3: Operational Event Noise The proposed Project and Alternative A would be similar to what occurs in the project vicinity now. long-term increases in noise associated with outdoor recreational and sporting events at the Schilling Lodge. The increases in noise would not exceed applicable Area Plan noise standards (i.e., 55 dBA CNEL). Use of amplified sound would be required to comply with TCPUD rules and regulations and Placer County noise ordinance for operating hours; however, the use of amplified sound at the Schilling Lodge could result in exposure of sensitive receptors to noise levels that exceed the Placer County daytime (7:00 a.m. to 10:00 p.m.) noise standard of 50 dBA L_{eq} for amplified sound sources. This impact would be significant for the proposed Project and Alternative A.	Proposed Project, Alternative A = S	**Mitigation Measure 3.8-3 Minimize Amplified Sound** This mitigation measure would apply to the proposed Project. ▶ Building design and layout shall be such that any outdoor amplified speakers face away from offsite sensitive land uses and oriented/located such that the building structure is between the receiving land use and the attached speaker. Building design, layout, and final speaker location shall be identified in final site plans and approved by Placer County before issuance of building permits. ▶ To ensure receiving land uses are not exposed to noise levels that exceed Placer County daytime noise standards of 50 dBA L_{eq}, outdoor speakers shall be tuned such that combined noise levels from all proposed speakers do not exceed 71 dBA L_{eq} at 50 feet from the source. Sound levels shall be measured in accordance with Placer County Code Chapter 9.36.040 and proof of acceptable noise levels shall be provided to Placer County at the time of final building inspection. This mitigation measure would apply to Alternative A. ▶ Building design and layout shall be such that any outdoor amplified speakers face away from offsite sensitive land uses and oriented/located such that the building structure is between the receiving land use and the attached speaker. Building design, layout, and final speaker location shall be identified in final site plans and approved by Placer County before issuance of building permits.	Proposed Project, Alternative A = LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		▶ To ensure receiving land uses are not exposed to noise levels that exceed Placer County daytime noise standards of 50 dBA L_{eq}, outdoor speakers shall be tuned such that combined noise levels from all proposed speakers do not exceed 59 dBA L_{eq} at 50 feet from the source. Sound levels shall be measured in accordance with Placer County Code Chapter 9.36.040 and proof of acceptable noise levels shall be provided to Placer County at the time of final building inspection.	
Impact 3.8-4: Operational Traffic Noise The proposed Project and Alternative A would result in traffic, and associated noise, increases along local roads and SR 28, with the greatest increase occurring during the summer months of the year. However, traffic noise increases would not result in an increase that exceeds applicable Area Plan noise standards (i.e., 55 dBA CNEL) and no increase in noise would occur on SR 28. Therefore, the proposed Project and Alternative A would have a less-than-significant impact from long-term increases in traffic noise.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
3.9 Geology, Soils, Land Capability, and Coverage			
Impact 3.9-1: Potential for Substantial Erosion, Loss of Topsoil, or Modifications to Natural Topography Implementation of the proposed Project and Alternative A could expose soils to adverse effects from soil erosion during construction activities related to construction of the Schilling Lodge. Grading and earthmoving activities would be required to obtain grading and excavation permits and approvals in accordance with TRPA Code Chapter 33 and the Placer County grading ordinance. Adherence to existing, standard regulations and permit requirements would maintain the potential for substantial soil erosion or loss of topsoil for the proposed Project and Alternative A at a less-than-significant level.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

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NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Impact 3.9-2: Risk to People and Structures from Strong Seismic Shaking The proposed Project and Alternative A sites are located in a seismically active area and could experience strong shaking in the event of a nearby earthquake. However, the rehabilitation and reuse of the historic Schilling residence would comply with the seismic design and retrofit requirements of the CBC. These measures would reduce the potential threat to life and property from strong seismic ground shaking resulting from implementation of the proposed Project and Alternative A to a less-than-significant level.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.9-3: Potential for Compaction or Land Coverage Beyond TRPA Limits The proposed Project and Alternative A would result in an increase in land coverage relative to existing conditions. However, the proposed Project and Alternative A would be required to comply with TRPA land coverage regulations as a condition of permit approval. Therefore, the implementation of the proposed Project and Alternative A would have a less-than-significant impact relative to compaction and land coverage	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
3.10 Hydrology and Water Quality			
Impact 3.10-1: Potential for Project Construction to Degrade Surface or Groundwater Quality The proposed Project and Alternative A would create project specific construction-related disturbance, which would have the potential to degrade water quality. However, existing TRPA, Lahontan RWQCB, and Placer County regulations and standard permit conditions would substantially reduce the risk of construction-related stormwater quality impacts by controlling construction site contaminants (such as sediment-laden runoff and construction chemicals), and by proper management of hazardous materials onsite. Because stringent regulatory protections are in place, construction activities from the implementation of the proposed Project and Alternative A would have a less-than-significant impact on water quality.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Impact 3.10-2: Potential for Changes in Land Use or Facility Operation to Degrade Surface or Groundwater Quality The proposed Project would result in the development of the Schilling Lodge on forested lands designated for recreation. Similarly, Alternative A would include the redevelopment and expansion of an existing building. The proposed Project and Alternative A have the potential to generate pollutants that could be carried in stormwater runoff to surface waters. However, TRPA and Lahontan RWQCB regulations require the installation and maintenance of water quality BMPs, which would reduce the potential water quality effects the proposed development. Also, TRPA Code provisions would require fertilizer management and snow storage BMPs to prevent potential adverse effects from these activities. Because these stringent protections are in place, the potential for operation of the facilities associated with the proposed Project and Alternative A to degrade water quality would be a less-than-significant impact.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.10-3: Potential for Increase in Stormwater Runoff, Impacts to Existing Drainage Systems, or Alteration of Drainage Patterns The proposed Project and Alternative A would include new development, which would create increased impervious surfaces and increased runoff. However, the Project would be required to meet stormwater BMP standards and to demonstrate through subsequent drainage planning that each of the sites for the proposed Project and Alternative A would be able to capture and treat stormwater during peak flows, as required by TRPA and Placer County regulations. For these reasons, the potential for the proposed Project and Alternative A to create substantial adverse effects on stormwater runoff volumes and existing drainage systems would be less-than-significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
3.11 Utilities			
Impact 3.11-1: Increased Demand for Water Supply and Water Conveyance The estimated annual water demand for the proposed Project and Alternative A would be 111,694 gallons. With implementation of the proposed Project, there would also be some water demand associated with continuing operations at the	Proposed Project = LTS	**Mitigation Measure 3.11-1: Ensure Sufficient Capacity in TCPUD Water Supply Infrastructure to Meet Fire Flow Requirements** This mitigation measure is required for Alternative A.	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Existing Lodge. TCPUD has indicated there would be adequate water supply and conveyance infrastructure to serve the Project. Because TCPUD has sufficient water supply to meet water demand for the proposed Project and water conveyance infrastructure would be adequate, this impact would be less than significant for the proposed Project. Although there would be sufficient water supply to meet water demand for Alternative A, TCPUD has indicated that the ability of the 6-inch water line in Country Club Drive to meet fire flow requirements for this alternative is uncertain, requiring additional analysis. This impact would be potentially significant for Alternative A.	Alternative A = PS	As part of the process for TCPUD to authorize the water connection for Alternative A and before NTFPD plan review, the Project applicant shall coordinate with TCPUD to determine any necessary water system improvements in Country Club Drive that would be required to meet current fire flow requirements for the Schilling Lodge. The Project applicant shall coordinate with TCPUD to develop plans for and fund construction of improvements that would allow for conveyance of water supply to the site that meets fire flow requirements. The types of improvements that could be required include replacement of the existing water supply line in Country Club Drive or adding a new line parallel to the existing water line. The specific types of improvements that could be required would be determined in coordination with TCPUD as part of the analysis for the water connection authorization. The Project applicant shall be responsible for covering the cost of improvements that would be needed to serve Alternative A. The improvements shall be constructed to meet fire flow requirements identified in the NTFPD Fire Code. The improvements would be required before construction of the Schilling Lodge. The Project applicant shall provide a will-serve letter from TCPUD that indicates their water supply infrastructure has adequate capacity to meet fire flow requirements for Alternative A and that any necessary improvements to the system have been completed before the issuance of occupancy permits by Placer County.	
Impact 3.11-2: Increased Demand for Wastewater Collection, Conveyance, and Treatment The proposed Project would generate wastewater flows associated with operation of the Schilling Lodge and continued use of the Highlands Community Center, which would result in estimated total annual average wastewater flows of up to 129,315 gallons, an increase of up to 99,940 gallons over existing conditions. Operation of the proposed Project would increase average daily wastewater demand by 273 gpd and peak day wastewater demand by 1,625 gpd over existing conditions. Alternative A would result in the removal of the Highlands Community Center and construction and operation of the Schilling Lodge in its place, resulting in generation of annual average wastewater flows of up to 111,694 gallons, an	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
increase of up to 82,319 gallons over existing conditions. The average day wastewater flows for Alternative A would result in an increase of 225 gpd over existing conditions and an increase of 1,189 gpd over existing peak day wastewater flows. TCPUD has indicated there would be sufficient capacity in their wastewater collection system to convey wastewater flows from the proposed Project and Alternative A to the T-TSA TRI. Additionally, T-TSA has indicated there is sufficient capacity in the T-TSA TRI and WRP to serve the proposed Project. For these reasons, the proposed Project and Alternative A would have a less-than-significant impact on wastewater collection, conveyance, and treatment.			
Impact 3.11-3: Increased Demand for Electricity and Natural Gas Implementation of the Project, under either the proposed Project or Alternative A would increase electricity and natural gas consumption at each site relative to existing conditions. Liberty Utilities and Southwest Gas have indicated there would be adequate supplies and facilities to serve the electricity and natural gas needs of the proposed Project and Alternative A. For these reasons, the impact related to construction of new or expanded electricity or natural gas facilities would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.11-4: Increased Demand for Solid Waste Collection and Disposal Solid waste collection services are currently provided by TTSD. After recyclable materials are sorted by TTSD at the Eastern Regional Landfill and MRF, residual solid waste is disposed of at Lockwood Regional Landfill in Nevada. Implementation of the proposed Project and Alternative A would result in an increase in solid waste generation proportionate to the anticipated increase in visitation at the Schilling Lodge and would generate some construction and demolition debris associated with new facilities. The Eastern Regional Landfill and MRF and Lockwood Regional Landfill both have sufficient capacity to meet the additional construction and operation solid waste collection and disposal demand of the proposed Project and Alternative A. This impact would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
3.12 Energy			
Impact 3.12-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy During Project Construction or Operation Implementation of the proposed Project or Alternative A would increase electricity and natural gas consumption at the proposed Project site and Alternative A site relative to existing conditions; however, the proposed Project and Alternative A would be constructed in compliance with the 2019 California Energy Code, which achieves substantial reductions in overall energy use in nonresidential land uses relative to buildings constructed in compliance with previous versions of the code. Construction energy consumption associated with the proposed Project and Alternative A would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. For these reasons, the impact related to wasteful, inefficient, or unnecessary consumption of energy during construction or operation of either the proposed Project or Alternative A would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS
Impact 3.12-2: Consistency with a State or Local Plan for Renewable Energy or Energy Efficiency The proposed Project and Alternative a would comply with the Title 24 California Energy Code. Construction and operation of the proposed Project and Alternative A would not conflict with implementation of the RPS, SB 350, or other programs under the 2017 Scoping Plan that would indirectly reduce energy consumption by reducing GHG emissions. The proposed Project and Alternative A would also not conflict with the applicable policies of the Area Plan. Impacts from the proposed Project and Alternative A related to consistency with a state or local plan for renewable energy or energy efficiency would be less than significant.	Proposed Project, Alternative A = LTS	No mitigation is required for this impact.	Proposed Project, Alternative A = LTS

1 INTRODUCTION

Consistent with the California Environmental Quality Act (CEQA) requirements, the Tahoe City Public Utility District (TCPUD) is the lead agency under CEQA for the preparation of this environmental impact report (EIR) for the Tahoe Cross-Country Lodge Replacement and Expansion Project (Project). The Project area is located along the northwest shore of Lake Tahoe near Tahoe City in Placer County (see Figure 2-1). The proposed Project (Site D – Full Project) would relocate recreation and community uses currently provided at the existing Tahoe Cross-Country lodge to a new lodge site off Polaris Road adjacent to the North Tahoe High School and North Tahoe Middle School (see Figure 2-2), approximately 0.65 miles away from the existing lodge.

The proposed Project would address existing operational deficiencies relative to circulation and parking, storage, staff facilities, and community space; better accommodate existing and future recreation demand; and improve the quality of the recreation user experience. Additionally, the proposed Project would consolidate the existing accessory buildings (primarily storage) into a single facility, eliminate or minimize spillover parking on adjacent residential streets, and provide more amenities to serve guests and employees. These improvements would better serve additional recreational opportunities and community needs, especially in non-winter seasons. With construction of the proposed Project, the existing Highlands Community Center building would remain in its current location and continue to service existing community and TCPUD functions. No changes are proposed to the existing Highlands Park trail system or adjacent trails on state property.

1.1 PURPOSE AND INTENDED USES OF THIS DRAFT EIR

In accordance with CEQA, preparation of an environmental impact report (EIR) is required whenever it can be fairly argued, based on substantial evidence that a proposed project may result in a significant effect on the environment. An EIR is an informational document used to inform public-agency decision makers and the general public of the significant environmental impacts of a project, identify possible ways to minimize the significant impacts, and describe reasonable alternatives to the Project that could feasibly attain most of the basic objectives of the Project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project. This Draft EIR has been prepared to meet the requirements of a project EIR as defined by Section 15161 of the State CEQA Guidelines. A project EIR focuses on the changes in the physical environment that would result from the implementation of a project, including its planning, construction, and operation. As described above, TCPUD is the lead agency for the EIR, and it is TCPUD's intention in preparing a project EIR is that no further environmental analysis would be required for additional regulatory approvals following TCPUD approval of the Project, absent conditions requiring a subsequent EIR, a supplement to the EIR, or an addendum. (See State CEQA Guidelines Sections 15162–15164.)

While this Draft EIR satisfies the requirements of CEQA, it is also intended to address resources regulated by the Tahoe Regional Planning Agency (TRPA) and discussed in its Initial Environmental Checklist. This EIR is intended to facilitate subsequent environmental review and permitting by TRPA pursuant to its regulations.

1.2 SCOPE OF THIS DRAFT EIR

This Draft EIR includes a detailed evaluation of the following 10 environmental issue areas as well as other CEQA- and TRPA-mandated issues (e.g., cumulative impacts, growth-inducing impacts, significant unavoidable impacts, alternatives):

- Biological Resources;
- Archaeological, Historical, and Tribal Cultural Resources;
- Transportation;

- Air Quality;
- Greenhouse Gas Emissions and Climate Change;
- Noise;
- Geology, Soils, Land Capability, and Coverage;
- Hydrology and Water Quality;
- Utilities; and
- Energy.

Under the CEQA statutes and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when such effects are not considered potentially significant (Public Resources Code [PRC] Section 21002.1[e]; State CEQA Guidelines Sections 15128, 15143). As a result of the review of existing information and the scoping process, it was determined that each of the issue areas listed above should be evaluated fully in this Draft EIR.

1.3 REQUIRED PERMITS AND APPROVALS

This EIR will be used in the planning and decision-making process for adoption and implementation of the proposed Project. After reviewing this EIR and other information related to the Project, the TCPUD Board of Directors will consider EIR certification and Project approval. Additional permits and authorizations that are likely to be required for Project implementation are listed in Table 1-1.

A responsible agency under CEQA is a public agency with some discretionary authority over a project or a portion of it, but which has not been designated the lead agency (State CEQA Guidelines Section 15381). If a project would require discretionary actions by more than one agency, one may be selected as the lead agency pursuant to State CEQA Guidelines Section 15051, and the others would become responsible agencies that could rely on a CEQA document prepared by the Lead Agency to meet their CEQA compliance requirements. Responsible agencies for the proposed Project include the California Tahoe Conservancy, Placer County, and Lahontan Regional Water Quality Control Board.

Table 1-1 Expected Permits and Authorizations

Agency	Permit/Authorization	Action Requiring Permit Approval or Review
TRPA	TRPA Project Permit	TRPA Code compliance
California Tahoe Conservancy	Land exchange	Approval of the land exchange between the Conservancy and TCPUD
Placer County	Minor Use Permit	Required for certain land uses; triggers review by Placer County Planning Services and Zoning staff
	Design Review	Review the design elements of the Project for consistency with the design standards and guidelines for the area
	Improvement Plans	Grading and engineering work
	Building Permit	Building design compliance with building code
Lahontan Regional Water Quality Control Board	Section 401 Water Quality Certification	Potential impacts to state water quality; required when a federal permit is issued
	Board Order No. R6T-2011-0019 – Renewed Waste Discharge Requirements and NPDES General Permit for Limited Threat Discharges to Surface Waters	Dewatering of excavations to surface waters (if overland discharge is not feasible)

Table 1-1 Expected Permits and Authorizations

Agency	Permit/Authorization	Action Requiring Permit Approval or Review
Placer County Air Pollution Control District	Dust Control Plan	Disturbance of more than 1 acre of topsoil
State Historic Preservation Officer	Consultation	TRPA requirements for designation of the Schilling Residence as a historic resource and reuse of the structure for public use
North Tahoe Fire Protection District	Plan Review	Compliance with California State Fire, Building, Residential Codes, Placer County Building, Fire Codes and North Tahoe Fire Protection District Fire Code Amendments
TCPUD	Sewer Permit Water Permit	Authorization for sewer connections Authorization for water connections
Tahoe-Truckee Sanitation Agency	Sewer Permit	Authorization for wastewater treatment services

Source: Compiled by Ascent Environmental in 2019

1.4 PUBLIC REVIEW PROCESS

The public review process for this EIR began with efforts to gather information to establish the breadth, or scope, of environmental review. A notice of preparation (NOP) was issued to inform agencies and the public that an EIR would be prepared for the Project, and to solicit views of agencies and the public as to the scope and content of the document. Scoping meetings and public workshops were held to allow oral expression of those views, provide information about the proposal, and to answer questions. A summary of the written and oral comments and issues raised by the public, agencies, and organizations, and the comment letters in their entirety, are included in Appendix A.

In accordance with the State CEQA Guidelines, an NOP was distributed to responsible agencies, interested parties and organizations, and private organizations and individuals that could have interest in the Project. The NOP was released on June 22, 2018 for a 34-day scoping period that concluded on July 25, 2018, and was available at the Project website at https://www.tcpud.org/capital-improvement-projects/tahoe-cross-country-lodge-replacement-and-expansion. The NOP was submitted to the California Governor's Office of Planning and Research, State Clearinghouse and distributed to interested and affected federal, state, and local agencies; interested parties; and organizations. The NOP was also mailed to all TCPUD customer addresses for all properties located in the Highlands sub-division and emailed to all individuals who have expressed interest in this project and have provided their email addresses.

This Draft EIR is being circulated for public review and comment for a period of 49 days. During this period, comments from the general public as well as organizations and agencies on environmental issues may be submitted to the lead agency, TCPUD. Copies of the Draft EIR may be reviewed online at, or downloaded from, https://www.tcpud.org/capital-improvement-projects/tahoe-cross-country-lodge-replacement-and-expansion. Because the TCPUD's offices are closed due to COVID-19 pandemic emergency, one paper copy of the document will be left outside the offices at 221 Fairway Drive in Tahoe City, California during business hours between 9:00 a.m. and 4:00 p.m. on weekdays. Comments on the Draft EIR may be made either in writing before the end of the review period or at a public meeting. Dates, times, and locations of the public hearings are provided below and in the notice of availability accompanying this Draft EIR. Written comments on the Draft EIR should be mailed or emailed to:

Tahoe City Public Utility District
PO Box 5249, Tahoe City, CA 96145
Contact: Kim Boyd, Senior Management Analyst
Phone: (530) 580-6286
kboyd@tcpud.org

An opportunity to provide oral comments on the project and Draft EIR is scheduled as follows:

Friday, July 17, 2020
Time certain at 9:00 a.m. or thereafter

Please refer to the meeting agenda during the week prior to the meeting for updated information on participation details at the following link: https://www.tcpud.org/your-district/board-directors/boardcommittee-agendas-and-minutes. TCPUD staff and consultants will attend present at the meeting and record any oral comments on the Draft EIR that are received.

Following the public and agency review and comment period, comments relating to the environmental analysis will be reviewed and written responses will be prepared. The Draft EIR, together with responses to comments and other CEQA-mandated information, will constitute the Final EIR. Before considering Project approval, the lead agency, is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency.

1.5 ORGANIZATION OF THIS EIR

This Draft EIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Chapter 3, Environmental Setting, Environmental Impacts, and Mitigation Measures; and Section 3.3, Biological Resources).

Executive Summary: This chapter introduces the Tahoe Cross-Country Lodge Replacement and Expansion Project; areas of controversy; and a summary of the environmental impacts and mitigation measures associated with the Project.

Chapter 1, Introduction: This chapter provides a description of the lead and responsible agencies, the legal authority and purpose for the document, the scope of the document, and the public review process.

Chapter 2, Description of Proposed Project and Alternative Evaluated in Detail: This chapter describes the location, background, and goals and objectives for the Project, and describes the Project elements in detail. It also describes the one alternative that is evaluated at an equal level of detail as the proposed Project.

Chapter 3, Environmental Setting, Environmental Impacts, and Mitigation Measures: The sections within this chapter evaluate the expected environmental impacts generated by the Project, arranged by subject area (e.g., Transportation, Hydrology and Water Quality). Within each subsection of Chapter 3, the regulatory background, existing conditions, analysis methodology, and thresholds of significance are described. The anticipated changes to the existing conditions after development of the Project are then evaluated for each subject area. For any significant or potentially significant impact that would result from Project implementation, mitigation measures are presented and the level of impact significance after mitigation is identified. Environmental impacts are numbered sequentially within each section (e.g., Impact 3.3-1, Impact 3.3-2, etc.). Any required mitigation measures are numbered to correspond to the impact numbering; therefore, the mitigation measure for Impact 3.3-2 would be Mitigation Measure 3.3-2.

Chapter 4, Alternatives: This chapter evaluates alternatives to the proposed Project, including alternatives considered but eliminated from further consideration, the No Project Alternative, and two alternative development options. The environmentally superior alternative is identified.

Chapter 5, Other CEQA-Mandated Sections: This chapter evaluates growth-inducing impacts, the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity, irreversible and irretrievable commitment of resources, and discloses effects found not to be significant and any significant and unavoidable adverse impacts.

Chapter 6, References: This chapter identifies the documents and individuals used as sources for the analysis in this Draft EIR.

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

1.6 TERMINOLOGY USED IN THIS EIR

This Draft EIR uses the following standard terminology to denote the significance of environmental impacts of the Project:

- "No impact" means no change from existing conditions (no mitigation is needed).
- "Less-than-significant impact" means no substantial adverse change in the physical environment (no mitigation is needed).
- "Potentially significant impact" means an impact that might cause a substantial adverse change in the environment (mitigation is recommended because potentially significant impacts are treated as significant).
- "Significant impact" means an impact that would cause a substantial adverse change in the physical environment (mitigation is recommended).
- "Significant and unavoidable impact" means an impact that would cause a substantial adverse change in the physical environment and that cannot be avoided, even with the implementation of all feasible mitigation.

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File Contents

Appendices

Figures

No table of contents entries found.

Tables

Acronyms/Abbreviations

Moved to TOC 8/5

Citations

Yellow = confusing (sequential lettering doesn't match, years don't match, misspellings, etc.)
Green = matched reference
Aqua = missing full reference
Pink = no citation in text

None

References

2 DESCRIPTION OF THE PROPOSED PROJECT AND ALTERNATIVE EVALUATED IN DETAIL

2.1 OVERVIEW

The Tahoe Cross-Country Lodge Replacement and Expansion Project (Project) has three (3) distinct elements: (1) to relocate, expand, and adaptively reconstruct the historic Schilling residence into a new building (the Schilling Lodge), (2) to construct associated improvements, including a driveway and parking lot, utilities, landscaping, and outdoor community areas, and (3) to relocate the functions and operations of the Tahoe Cross-Country Center (Tahoe XC) to a new location. The current location of the Tahoe XC is near the north shore of Lake Tahoe (see Figure 2-1) at the Highlands Park and Community Center (Existing Lodge), located approximately 0.65 mile from the proposed Project location on a site off Polaris Road.

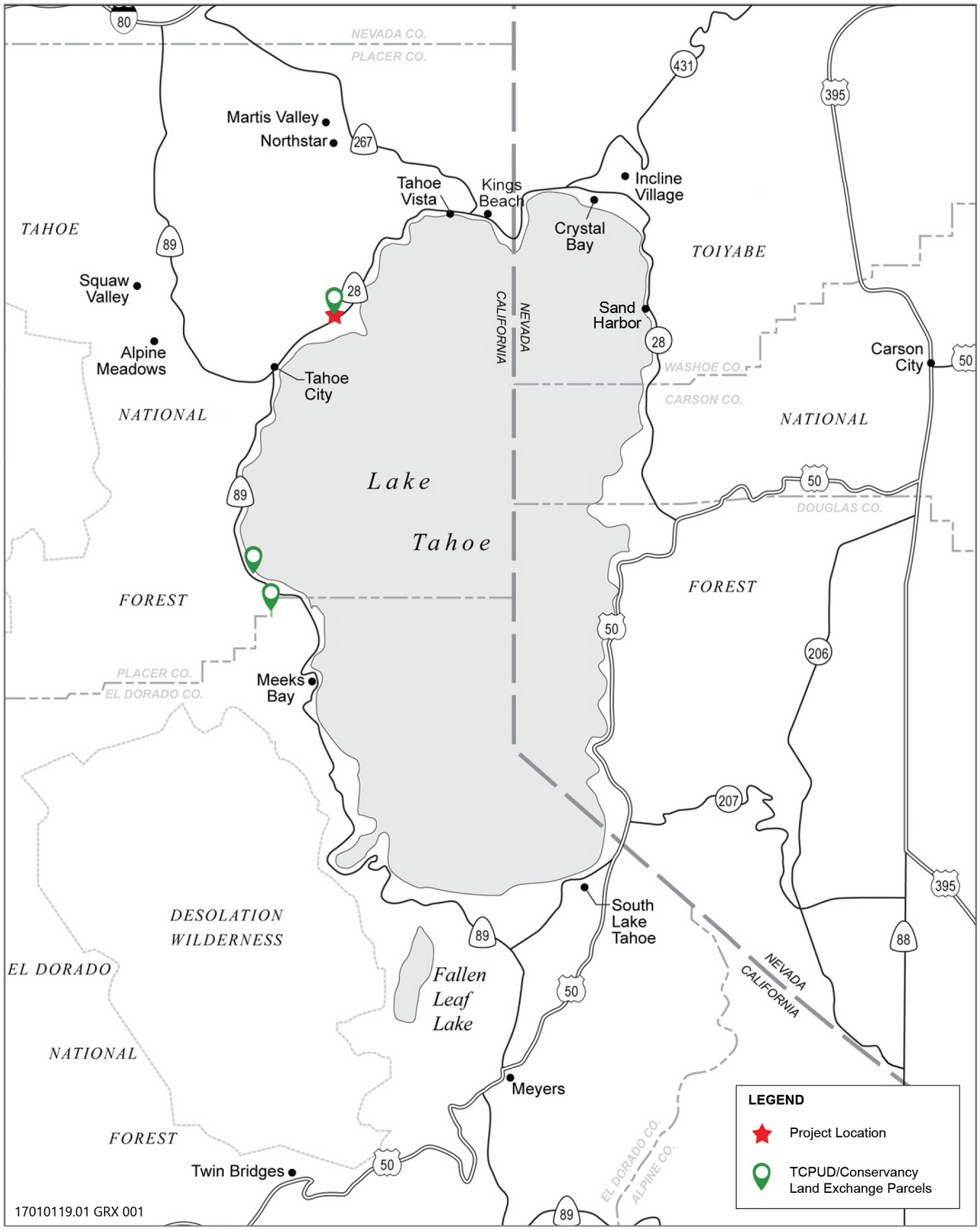
A key feature of the Project would involve the adaptive reuse of the historic two-story Schilling residence to become the new Schilling Lodge. The Schilling residence was donated to the Project applicant, the Tahoe Cross-Country Ski Education Association (TCCSEA), which initiated a comprehensive evaluation of the existing built facilities, the existing operations, and potential future needs. The Schilling residence was dismantled and is currently in cold storage, where it is protected from the elements, fire, theft and other damage. Reuse of the Schilling residence by TCCSEA provides an opportunity to preserve this historic structure, retain it for public use and historic interpretation, and allow for an enhanced and expanded Schilling Lodge that addresses internal space constraints, addresses current overcrowding, and consolidates a number of outbuildings used for storage into a single building. The Schilling Lodge would be a year-round recreation facility with adequate size and site amenities to serve existing and future anticipated public recreation and community use.

The Existing Lodge, which also serves as the Highlands Park and Community Center, is owned by the Tahoe City Public Utility District (TCPUD) and operated by the Project applicant and concessionaire, TCCSEA, under a concession agreement with TCPUD. The Project proposes to retain the Existing Lodge, under TCPUD ownership to be used as secondary community space and other allowable uses as needed by TCPUD.

Site D – Full Project (proposed Project) is the proposed project for purposes of CEQA, and is the Project described in this project description consistent with State CEQA Guidelines Section 15124. As the lead agency under CEQA, TCPUD elected to evaluate the proposed Project and one alternative at an equal level of detail in this EIR: Site D – Full Project (proposed Project) and Site A – Full Project alternative (Alternative A). While not required by CEQA, this approach was selected by the TCPUD Board to provide them with analysis of the proposed Project and Alternative A at an equal level of detail to allow them the flexibility to potentially approve a CEQA compliant project at either location. Possible reasons for this could include insurmountable difficulty in obtaining permitting for the proposed Project, failure to complete the land exchange with the Conservancy, unavoidable environmental impacts of the proposed Project, and/or strong community and political opposition. In the event that any of these conditions occur, Alternative A is analyzed at this level of detail so that the EIR provides sufficient analysis to enable TCPUD to approve that alternative, should that course of action be the ultimate decision of the TCPUD Board. To be clear, however, Alternative A is not the "proposed Project."

The proposed Project and Alternative A are described below. Other alternatives are evaluated at a comparative level of detail in Chapter 4, "Alternatives."

The purpose and intended uses of this EIR are described in Section 1.1 of Chapter 1, "Introduction." A list of permits, authorizations, and agencies that are expected to use this EIR in their decision making are described in Section 1.3, "Required Permits and Approvals."



Source: Image adapted by Ascent in 2018

Figure 2-1 Regional Location

2.2 LOCATION

The proposed Project and Alternative A are both located within the Highlands neighborhood northeast of Tahoe City in Placer County. Figure 2-2 shows the locations of the proposed Project and Alternative A and their approximate footprints (area of ground disturbance). Alternative A would occupy the location of the Existing Lodge located at 925 Country Club Drive. Alternative A is shown on Figure 2-2 to show the relative proximity to the proposed Project and Existing Lodge. As described above, Alternative A is the desired alternative in the event that the proposed Project is not approved or implemented for the reasons explained above.

As described later in this chapter under the header "TCPUD-Conservancy Land Exchange," in Section 2.5.1, "Project Characteristics," implementation of the proposed Project would require development of a portion of the Schilling Lodge and associated improvements on property currently owned by the California Tahoe Conservancy (Conservancy). The affected parcel is part of a separate and larger land exchange being contemplated by TCPUD and the Conservancy. Although Alternative A would also include a land exchange between TCPUD and the Conservancy, this alternative is not located on lands owned by the Conservancy. The properties being considered in the land exchange are referred to as the Highlands Properties, the Quail Properties, and the Tahoe Cedars Properties. The properties are located along the north and west shores of Lake Tahoe in Placer and El Dorado Counties (Figure 2-1).

2.3 EXISTING OPERATIONS AND FACILITIES

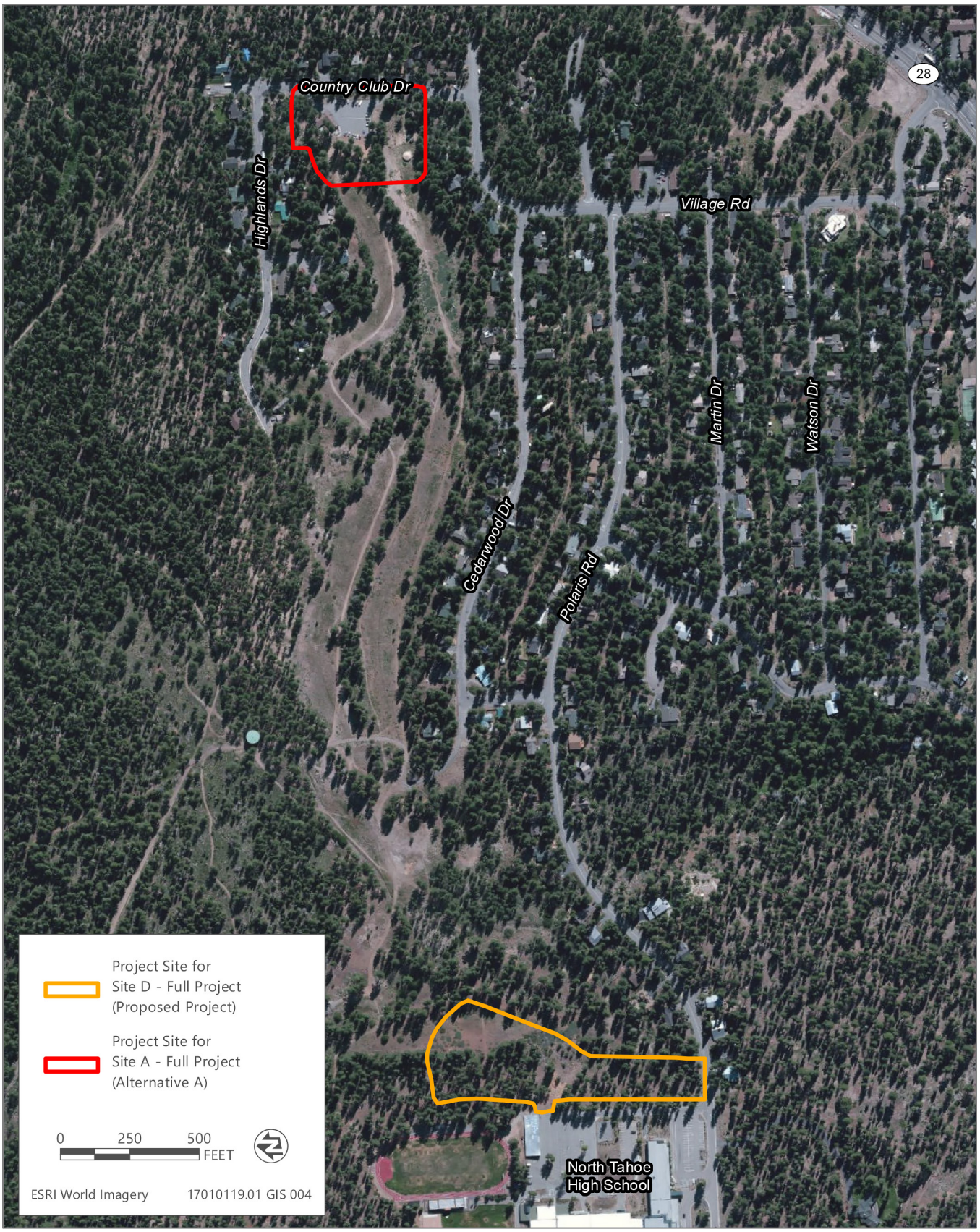
The Highlands Park and Community Center that serves as the Existing Lodge and trailhead for Tahoe XC connects to 65 kilometers (about 40 miles) of trails that extend through forests and meadows. TCCSEA is a nonprofit organization that has held a concession agreement with TCPUD since 1999 to provide primarily Nordic skiing opportunities in North Lake Tahoe. The cross-country ski trails are located on TCPUD, Conservancy, and California State Parks lands. TCCSEA has access to use Conservancy and California State Park lands through TCPUD-managed License and Operating Agreements, respectively.

During winter operations, the Existing Lodge amenities include space for ticketing, rentals, retail, waxing skis, a café, and storage. Existing exterior buildings include a yurt that is used for the Winter Discovery Center and seven small buildings or structures that provide storage for cross-country ski equipment.

Onsite parking is available for 46 vehicles, including two disabled parking spaces, in marked parking spaces. Offsite parking along Country Club Drive and Village Boulevard serves as overflow parking and occurs under winter permit from Placer County. This overflow parking accommodates approximately 40-50 spaces. Under current conditions, school buses that serve free skiing for schools and the Winter Discovery Center also find parking along neighborhood streets. Winter visitation to the Tahoe XC is dependent on snow conditions and varies yearly. During the 2017-2018 winter season, the Existing Lodge was open 61 days and had an average of 157 skiers per day, which included participants in the Strider Glider after school program and middle school and high school students.

During the spring, summer, and fall, TCCSEA provides bike rentals and other trailhead services at the Tahoe XC through the Existing Lodge. TCCSEA also operates the junior mountain bike program one day per week in six-week intervals. During 2018, there were 12 participants in each of the junior mountain bike program sessions. The Existing Lodge is also used for Boy Scouts of America meetings, Highlands Homeowners Association meetings, and special events, such as the Lake Tahoe Mountain Bike Race and the Burton Creek Trail Run.

TCCSEA provides a number of additional benefits to the community, including professionally operated access to public outdoor recreation spaces, youth and adult programs that encourage healthy outdoor lifestyles, and volunteer opportunities for trail maintenance each year. TCCSEA develops and offers community ski programs at the Existing Lodge for skiers of all ages. The Winter Discovery Center, currently housed in the onsite Yurt, accommodates the Sierra Watershed Education Partnership's winter programs, which includes snow science and winter safety education for local students.



Source: Adapted by Ascent Environmental in 2018

Figure 2-2 Proposed Project Site and Alternative A Site Locations

Each year, several winter and summer special athletic events are hosted at the Existing Lodge, including the Great Ski Race with the number of participants varying from year to year with approximately 330 finishers in 2017, Lake Tahoe Mountain Bike Race with approximately 100 participants, Burton Creek Trail Run with over 200 participants, and the Great Trail Race with over 100 participants. These numbers do not reflect the numbers of participants who did not finish, race organizers, or volunteers at each of these events.

The Existing Lodge is currently inadequate to meet existing and future year-round recreation and community uses associated with the Project because:

- The sizes of operating spaces are too small to serve the existing wintertime use and the predicted winter and summer use, including:
  - No offices or break areas for staff,
  - Limited storage for gear rental,
  - No material storage or repair space and poor ventilation for ski waxing and repair,
  - No storage space for retail use and limited space for displays and fitting rooms
  - Limited food storage and food preparation space, and
  - Lounge space is too small and is uninviting.
- There is limited recreation and equipment storage, the need for which is currently met by a number of small outdoor storage buildings and by leaving equipment outside (these buildings would be removed with the Project).
- The Existing Lodge is separated from beginner terrain by an intermediate hill and there is poor connectivity between the Existing Lodge and the existing trail network.
- Connections between the Existing Lodge and the trail network are at a lower elevation and are exposed, so they do not hold snow as long as other portions of the network. Melted snow serves as a barrier between the Existing Lodge and the trail network.
- The existing parking lot cannot meet the current wintertime need without overflow parking along adjacent neighborhood streets, which increases operational costs for snow removal, parking management, and permitting.

The sizes of the spaces used at the Existing Lodge are included in Table 2-1, along with the proposed space for these uses that would be included in the Schilling Lodge.

Table 2-1 Existing and Schilling Lodge Sizes

Lodge/Community Center Elements[1]	Existing Lodge (sq. ft.)	Schilling Lodge[2] (sq. ft.)
Public Spaces		
Entry/Foyer	158	252
Ticketing/Rental	96	66
Café (service counter and kitchen)	171	308
Lounge/Mezzanine	730	1,087
Meeting Space (public use)	0	300
Retail	273	257
Restrooms	214	566
Mudroom	37	202
Lockers (public use)	0	349
Showers (public use)	0	109
Rentals	397	680
First Aid	0	115
Wax Rooms	58[3]	166

Table 2-1 Existing and Schilling Lodge Sizes

Lodge/Community Center Elements[1]	Existing Lodge (sq. ft.)	Schilling Lodge[2] (sq. ft.)
Team Room (meeting space, lockers)	0	737
Staff Space (offices, meeting space, lockers, shower)	0[4]	576
Internal Circulation (stairs, elevators, hallways)	NA	1,955
Public Space Subtotal	**2,134**	**7,725**
Non-Public Spaces		
Outdoor Storage	838	NA
Garage	0	957
Mechanical/Electrical	0	207
Storage/Supplies	589[5]	1,265
Non-Public Space Subtotal	**1,427**	**2,429**
Total Size of the Lodge/Community Center	**3,561[6]**	**10,154**

Note: sq. ft. = square feet; NA = Not Applicable

[1] In addition to the spaces within the buildings and exterior storage, the Existing Lodge and Schilling Lodge include the 706-square-foot yurt structure used for the Winter Discovery Center.

[2] The layout and program elements of the Project would be the same for the proposed Project and Alternative A.

[3] An additional 60-sq. ft. waxing bench is located outside.

[4] In the Existing Lodge, these areas share space with the ticketing area.

[5] This number also includes 360 sq. ft. of attic space above the retail and ticket area that is currently used for storage. This area has extremely low ceilings and is not otherwise functional space. The outdoor storage buildings total 838 sq. ft.

[6] The Existing Lodge building combined with the areas containing the extra storage buildings and wax area encompasses a total of 3,621 sq. ft.

Source: Compiled by TCCSEA in 2018

2.4 PROJECT OBJECTIVES

TCPUD and TCCSEA are undertaking the proposed Project for a variety of reasons, many of which are interrelated. TCPUD's Project objectives are to:

- Expand recreational opportunities through construction of a new lodge at Highlands to improve resident and visitor experience.
- Construct a new lodge that minimizes effects on the neighborhood.
- Maintain a concessionaire partnership to operate improved and viable recreation opportunities.
- Preserve financial accountability and transparency of TCPUD property tax funds, while maximizing the use of private funding for construction of the new lodge.
- Create inviting community areas and public-use spaces.
- Support the North Lake Tahoe Tourism Plan by capitalizing infrastructure improvements on public lands and recreational assets.

TCCSEA's Project objectives are to:

- Address operational deficiencies in the current facility and improve financial viability.
- Repurpose the historic Schilling residence into a new lodge for community use and recreation activities.
- Maximize the base elevation of the lodge site.
- Improve and maintain educational programs and activities offered to adults and youth and create more user-friendly access to the trail system for beginner, disabled, and senior recreationists.

TCPUD and TCCSEA shared Project objectives are to:

- Remedy inadequate parking and improve access to the lodge and trail system.
- Provide high quality and professionally maintained recreational amenities and facilitate growth and diversity of recreational opportunities by enhancing summer and winter activities.

2.5 TAHOE CROSS-COUNTRY LODGE REPLACEMENT AND EXPANSION PROJECT

The Schilling Lodge would be larger than the Existing Lodge to accommodate the needs described above, as well as to expand opportunities for year-round use of the Tahoe XC. Additionally, a welcoming environment created by a new facility would enhance the current subsidized youth programs, environmental education opportunities, and well-maintained access to a high-quality trail network for residents and visitors. Ownership of the Schilling Lodge and associated improvements has not been determined, but could be owned by TCCSEA with a land lease from TCPUD.

2.5.1 Project Characteristics

The proposed Project would construct the Schilling Lodge through the adaptive reuse of the Schilling residence, with an added basement and gear rental space, and would improve parking, and create additional opportunities for year-round recreational and community use. The Project is located on lands designated and zoned as Recreation in the Placer County Tahoe Basin Area Plan (Area Plan) and TRPA Regional Plan (Placer County and TRPA 2017, TRPA 2018). With the proposed Project, the Existing Lodge would be retained by TCPUD as the Highlands Community Center in its current location to serve secondary needs of the community.

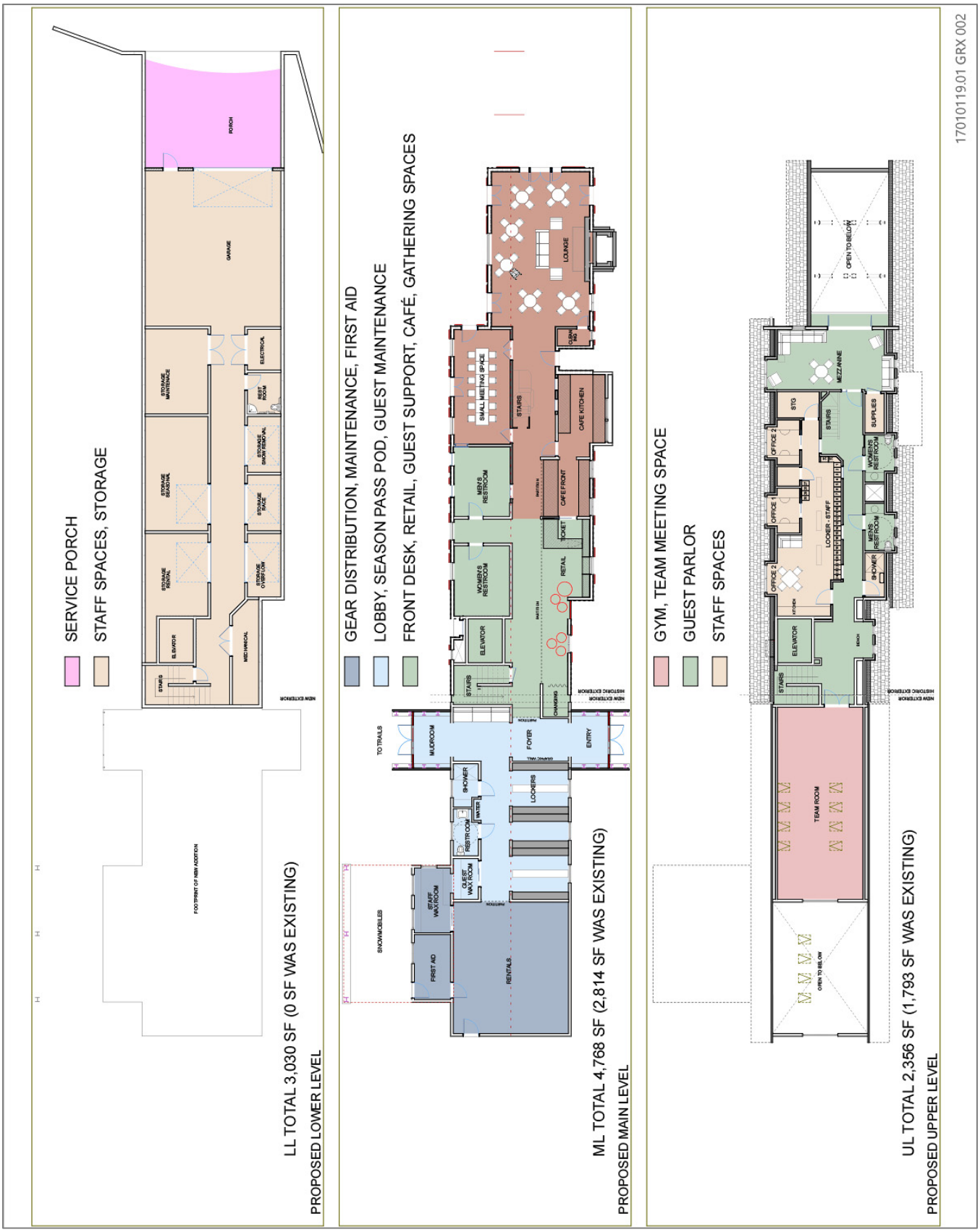
PROPOSED SCHILLING LODGE

The proposed Project would involve construction of the Schilling Lodge, which would adaptively reuse the historic Schilling residence. The Project would consolidate the uses and storage currently at the Existing Lodge into a single building, with many of the building components increasing in size (Table 2-1). Compared to the Existing Lodge and ancillary storage structures, the Project would increase the building footprint from the existing approximately 3,200 square feet (sq. ft.) to 5,457 sq. ft (see Tables 3.9-4 and 3.9-5 in Section 3.9, "Geology, Soils, Land Capability, and Coverage").

Unlike the Existing Lodge, the Schilling Lodge would have space dedicated for public lockers, public showers, staff administrative functions, first aid, a team room, and a garage (see Figure 2-3). The Schilling Lodge would have space dedicated for public meetings; whereas, the Existing Lodge relies on the yurt for public meetings. The increase in space at the Schilling Lodge would be accommodated by the repurposed Schilling residence, an addition to the building, and a basement. A visual representation of the Schilling Lodge facility is shown in Figure 2-4 below.

ADAPTIVE REUSE OF THE SCHILLING RESIDENCE

The Schilling residence is a 1930s summer home that was built in the Resort Rustic architecture style on the west shore of Lake Tahoe (Ogilvy Consulting 2014). It exemplifies the architecture and lifestyle of early Tahoe development in the modern era. The Schilling residence was constructed using local and natural materials as a 4,465-sq. ft., two-story, wood-framed structure. The structure, purchased in 2010 by the Mozart family and donated to TCCSEA for public use, has been dismantled and is in storage in preparation for reconstruction as part of the proposed Project. Construction of the proposed Schilling Lodge would retain the character defining features that contribute to its historic character as identified in the *Schilling Residence Targeted Historic Structure Report* (Wiss, Janney, Elstner Associates 2015) and in compliance with the standards for the rehabilitation of historic structures included in *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (National Park Service 2017), which include standards for additions to historic buildings.



Source: Image provided by Olson-Olson Architects, LLP in 2018

Figure 2-3 Schilling Lodge Proposed Floor Plan

Tahoe Cross-Country Ski Lodge (front of building).

Tahoe Cross-Country Ski Lodge (back of building).

Source: Image provided by Olson-Olson Architects, LLP in 2018

Figure 2-4 Schilling Lodge Visual Rendering

The desire of the Project applicant to repurpose the historic structure and allow public enjoyment of the signature spaces provided the basis for the current proposed Project and size of the building. TCCSEA has operated the Tahoe XC for 20 years and has extensive experience in identifying and managing known operating deficiencies in the Existing Lodge. This experience informed early documentation of existing facility uses, size demands, and internal circulation patterns. Public input and community feedback were also considered in the design development for the Schilling Lodge.

Functional and circulation requirements of existing operations as well as implementation of *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (National Park Service 2017) have influenced the sizes and locations of the building elements shown in Table 2-1. For example, adaptively reusing bedrooms and bathrooms for office and restroom/shower space dictated some space arrangements required to implement historic structure guidelines. The dimensions and size of the former living room, dining room, and kitchen in the Schilling residence established the size of a new lounge, small meeting space, and café kitchen in the Schilling Lodge. Establishing the need for public access space on the main level drove design of the upstairs areas to accommodate primarily appropriate staff spaces in the proposed Schilling Lodge. The main level of the historic residence could not serve the size or open floor plan needs of the gear rental area, so these space needs dictated the size of the proposed addition. The proposed Project would expand the approximately 4,500-sq. ft. existing Schilling residence to approximately 10,150 sq. ft., including a new 3,030 sq. ft. basement, to meet the operational needs of TCCSEA. Additionally, construction of the Schilling Lodge would include interpretive features that meet the Secretary of Interior's standards for treatment of historic properties to provide educational information about Tahoe history.

INTERIOR SPACES

Basement

The Project includes a full 3,030 sq. ft. basement to consolidate storage spaces that currently exist in several storage sheds and miscellaneous outside areas. The basement would function as seasonal equipment storage for skis during the summer and bikes during the winter, as well as off-season retail items and maintenance items such as chainsaws, hand tools, and snow mobiles. The basement would also include garage space for two pieces of grooming equipment, and generally reduces maintenance costs associated with storing equipment outside.

Main Level

The Project utilizes the high design values of the historic Shilling residence as the main public area of the Schilling Lodge. This space would house the primary social spaces proposed, including a lounge, small meeting space and café kitchen in repurposed rooms such as the living room, dining room, and former kitchen. The main level would also support spaces such as restrooms, ticket counter and retail space. The proposed arrangement of these spaces, locating the ticket and café counters near each other, allows for reduced staff, improved internal circulation between use areas, and a more efficient operation compared to the current facility.

The Project proposes an addition to the historic lodge structure that would enhance key portions of the recreation operations. This would include a larger rental space for skis, sleds and snowshoes in the winter and mountain bikes in the summer. This larger space addresses the most critical shortage in the current facility and would accommodate both the equipment and the needed benches for fitting as well as allowing easier circulation through the area. Another feature of the addition includes lockers to allow gear and clothing storage both for day users and frequent or season pass holders. And finally, the addition provides space for gear repair, ski waxing with both individual and staff waxing stations, restrooms, and a first aid station. In the Existing Lodge, the rental space and ski waxing operation share space and there is no dedicated space for repair, fitting, or first aid.

Upper Level

The Project proposes the upper level of the historic building as staff and public space, repurposing bedrooms and bathrooms from the historic residence for these uses. Thus, the upper level would house dedicated staff space including two offices, a break room and meeting space, staff lockers, and a shower. The Existing Lodge does not have

space for any of these needs. A mezzanine on the upper level would be available for the public in smaller groups and is functionally and visually connected to the lounge area below. These upper level spaces exist within the roofline of the historic building, and would rely on dormer windows to provide light.

The upper level of the proposed addition would also house a team room, which would provide space for team use such as the high school ski team and ski and mountain bike development teams. This space is not intended for the general public access and currently is not provided at the Existing Lodge.

EXTERIOR SPACES

Outdoor patron spaces proposed as part of the Project include a 6,808-sq. ft. patio with picnic tables, a grill, and sink. The proposed outdoor spaces would accommodate the same formal and informal gatherings that occur at the Existing Lodge, but would offer higher quality furnishings and more functional space. The existing yurt, which is the classroom structure housing the Winter Discovery Center, would be moved to an Americans with Disabilities Act (ADA)-accessible location near the proposed Schilling Lodge.

PARKING

The Project proposes to accommodate parking needs on site for regular recreation use, special events, and community uses including needs for patrons, staff, and school groups. The Project includes more parking than is currently available at the Existing Lodge. For this reason, the Project is designed to reduce overflow parking onto neighborhood streets relative to existing conditions. Currently, TCCSEA maintains a Placer County permit authorizing street parking in the winter to accommodate 40-50 vehicles. The parking area at the Schilling Lodge would include a 100-space parking lot with spaces for disabled and bus parking (Table 2-2). The additional parking relative to existing conditions would reduce impacts to neighbors, reduce costs and user confusion associated with wintertime parking along roadways, and improve visitor safety and quality of experience. Additionally, the Project applicant is in the process of pursuing a shared-parking agreement with the Tahoe Truckee Unified School District to allow for shared parking during high-use events. Importantly, use of parking at the school by TCCSEA (particularly for events such as the Great Ski Race or the Great Trail Race) would occur outside of school hours. For North Tahoe High School and North Tahoe Middle School, shared parking could be used by spectators and buses in the Schilling Lodge parking lot during school-sponsored sporting events.

LIGHTING

Exterior lighting would include lights on the Schilling Lodge at locations needed for security such as entrances/exits, along the walkways, and in the parking lot. No lights along the entrance driveway are proposed. Building lights shall conform to lighting requirements of the Placer County Design Standards and Guidelines (Section 3.09 of the Area Plan Implementing Regulations), which include shield cutoffs and downward orientation to prevent light spillage off site. Low-level lighting along walkways would also be shielded and oriented to light only the walking surface. In the parking lot, lighting levels shall meet the minimum requirements to provide safety, while keeping the light standards as low as possible. Lighting shall be implemented in zones so that most of the parking lot lights could be turned off when no one is present. Lighting close to the building is needed to allow security lighting for staff that work during non-daylight hours.

Table 2-2 Site Development Features

Item	Description		Existing Conditions	Proposed Project (Site D)	Alternative A
Parking	Proposed parking would meet the typical need and avoid overflow street parking in the neighborhood		46 total spaces[1] (approx. 16,820 sq. ft.)	100 total parking spaces[2] (59,799 sq. ft.)	100 total parking spaces (49,446 sq. ft.)
			2 disabled parking spaces	4 disabled parking spaces	4 disabled parking spaces
			0	2 bus parking spaces	2 bus parking spaces
School Connector	Driveway and walkway to allow shared parking; locked gate during school hours for security purposes		NA	60 – 70 linear feet	NA
Patio	For external gathering with picnic tables and outdoor grill and sink		1,345 sq. ft.	6,808 sq. ft.	6,808 sq. ft.
Kinder Sled Storage	Protected external storage to prevent damage		Along building in parking lot	80 sq. ft.	80 sq. ft.
Walkways	ADA accessible		N/A	N/A	N/A
Bike Racks	New bike racks would be provided to allow for more secure bike parking		0	2 racks	2 racks
Yurt	Existing structure moved to a new site to meet ADA standards		706 sq. ft.	706 sq. ft.	706 sq. ft.
Trees to be Removed[3]	The new facilities would require tree removal	Total	NA	183	79
		Trees > 30 inches dbh	NA	15	7
New Land Coverage	Includes asphalt, building, walkways/concrete, and miscellaneous utility needs.		76,455 sq. ft. for the Alternative A site 12,334 sq. ft. for the proposed Project site[4]	81,593 sq. ft.[5]	67,619 sq. ft.[6]
Site Grading/Excavation	Site grading and excavation for the parking lot, driveway, and basement; excavated material to be hauled off site		NA	3,728 cu. yd. cut/ 1,785 cu. yd. fill	3,446 cu. yd./ 1,723 cu. yd. fill

Notes: cu. yd. = cubic yards; sq. ft. = square feet; dbh = diameter at breast height, NA = not applicable; N/A = not available

[1] During the parking surveys conducted for the Transportation Impact Analysis (see Appendix D), 51 cars were observed to be parked in the parking lot.

[2] Under the proposed Project, because the 46 parking spaces at the Highlands Community Center would be retained, the total amount of parking spaces that would be available at the Schilling Lodge and the Highlands Community Center would be 146 parking spaces.

[3] Tree removal impacts are discussed in Section 3.3, "Biological Resources."

[4] This amount of coverage for the Existing Conditions is the existing coverage and does not include any new coverage. Existing coverage includes compacted soil areas on trails and impervious surfaces as shown by the 2010 TRPA LiDAR data within the land capability districts and on the parcels in which construction for the proposed Project or Alternative A.

[5] The Project components contributing to land coverage for the proposed Project are detailed in Table 3.9-4 in Section 3.9, "Geology, Soils, Land Capability, and Coverage."

[6] The Project components contributing to land coverage for Alternative A are detailed in Table 3.9-5 in Section 3.9, "Geology, Soils, Land Capability, and Coverage."

Source: Compiled by TCCSEA in 2018

MANAGEMENT PLAN

A Management Plan for operating the Schilling Lodge has been drafted by TCCSEA (see Appendix B). This Management Plan provides the underlying estimates and assumptions for the proposed community, private, and special events as described in Table 2-3. The Management Plan includes policies to guide TCCSEA management decisions and operational details for the Schilling Lodge and associated recreation activities, as described below. The Management Plan's policies would be included in a future land lease or agreement with TCPUD following construction of the Project. This future lease or agreement would be publicly discussed and approved by the TCPUD Board prior to opening the Schilling Lodge for public use. The lease or agreement would necessarily comply with and adhere to the parameters of the Project analyzed in this EIR, all Special Use Permits issued by Placer County and/or TRPA, and any other applicable regulatory requirements. Recreation facilities, such as this one, are managed to meet the needs of recreation demands, specific events, or changing circumstances; thus, the Management Plan would be a living document to allow for adaptive management of the uses at the Schilling Lodge. Any edits to the Management Plan would be approved by TCPUD and would be required to comply with the lease or agreement TCCSEA would have with TCPUD for use of the Schilling Lodge.

Table 2-3 Number of Community, Private, and Special Events at the Proposed Schilling Lodge with Attendance

Events	Maximum Number of People	Number of Existing Events at the Highlands Community Center	Number of Events at the Proposed Lodge				
			Winter	Spring	Summer	Fall	Total[1]
Large Special Events							
Premier Events	500	2	1	0	1	0	2
Other Large Special Events	250[2]	4	2	1	2	2	7
Community Events							
Small Meetings	15	12 (1/month)	0	2/month	2/month	2/month	18
Community Gatherings	50-80	5	2/month	2/month	4/month	3/month	33
Private Events							
Small Meetings	15	0	0	1/month	1/month	1/month	9
Private Gatherings	50-80	0	3/month	3/month	4/month	4/month	34
Other Private Events	50	0	1	0	2	0	3

[1] Total number of events assumes the existing events would continue and the total number is inclusive of these events. Under the proposed Project, events at the Highlands Community Center could continue to include community meetings, recreation classes and special events and would comply with the current patron capacity of the building and parking lot. For the proposed Project, the number of community events at the Highlands Community Center and their occurrence throughout the year are identified in Table 2-5, below.

[2] Attendance at "Other Large Special Events" assumes that the capacity would be limited to the number of parking spots (100) and average occupancy for each vehicle.

Source: Compiled by TCPUD and TCCSEA in 2019

The Management Plan includes policies that address impacts associated with TCCSEA activities, including:

- providing a high quality community gathering space at the facility;
- the relationship of the facility with nearby trails;
- operation of the facility, including for daily and special event activities;
- reducing perceived adverse effects on the entire community and neighbors;
- supporting junior development teams and youth ski and bike programs;
- transportation and carpooling;

- providing accessory uses, as defined and allowed by TRPA Code Sections 90.2 and 201.3.1.E, at the facility that would include retail space and a café;
- facility management in compliance with the prohibitions on outdoor advertising or offsite promotion for these uses; and
- restricting alcoholic beverage sales at the café.

SPECIAL EVENTS

As described in the Management Plan, a limited maximum number of public and private special events would be allowed at the Schilling Lodge. Special events staged from the Lodge would offer broad access to public recreation resources, help develop and foster community interactions, and help create a sustainable business model for continued public cross-country skiing operations and year round trailhead access. Existing uses that would continue with no fees include school district sporting events, Boy Scout meetings, and fundraising events for other non-profits. Fees for other user groups would generally follow similar fees established by public recreation providers in the region. The facilities could be used by small local community and non-profit organizations and larger organizations and/or events. For analysis purposes, TCPUD, in consultation with the Project applicant, estimated the type, number, and size of community, private, and special events that could occur at the Schilling Lodge and are shown in Table 2-3. The type, number, and size of events included in Table 2-3 and Table 2-5 represent the maximum number and size of events that would be allowed at the Schilling Lodge and Highlands Community Center. All event applications would be reviewed by TCCSEA for size and duration, time of year and conflicts with other planned events, presence of alcohol, and promotion of carpooling or use of shuttles to determine if the event complies with the policies of the Management Plan and consistency with the types of events that are allowed at the Schilling Lodge.

Under the proposed Project, community events and gatherings (e.g., community meetings, fitness classes) could occur at the Highlands Community Center under TCPUD's management similar to those that occur at other TCPUD community facilities (Table 2-5).

Premier Events and Large Special Events

As described above, the Existing Lodge is the location of several premier and large athletic events. The Schilling Lodge would become the new location for continuation of these large special events, including additional larger events that would generally be limited to two or three per season and not more than seven large events per year.

The Management Plan describes Large Special Events as having up to 250 people in attendance (e.g., participants, organizers, volunteers, spectators). Up to two premier events would occur at the site each year, including the Great Ski Race, which can have up to about 500 people in attendance. As part of the TCCSEA Management Plan, TCCSEA does not intend to host weddings. However, TCPUD and/or TCCSEA could decide, at a future date, that weddings are appropriate to either supplement revenue or for other reasons. For the purposes of this EIR, private weddings are considered a Large Special Event and were included in the Large Special Events analysis and would not be considered an addition to those events. As with any of the proposed Large Special Events, separate approvals may be required, such as special provisions within a Placer County Conditional Use Permit and/or a lease agreement with the TCPUD. The proposed Project identifies parking for these events to occur within the parking lot for the Schilling Lodge and could include overflow parking at the school under specific agreement and during non-school hours. Carpooling incentives would be included in the planning for each special event. Event planning would also consider the non-event user's access to public recreational lands that would occur during the event and make provisions to avoid substantial overflow parking into the surrounding neighborhood. Any outdoor amplified noise at the Schilling Lodge would comply with Placer County noise standards regarding outdoor amplified noise. No outdoor amplified noise would occur at the Existing Lodge as part of the proposed Project.

Community Events and Activities

Smaller group activities could occur either inside the building or in the nearby outdoor spaces that serve to foster community interactions (e.g., community potluck, non-profit fundraiser, Boy Scout pinewood derby). Up to two small

meetings could occur per month in the spring, summer, and fall (up to 18 per year) with an estimated 15 people in attendance at each meeting. Currently, 12 of these types of small meetings already occur at the Existing Lodge. Up to 33 larger community gatherings could occur per year with an estimated 50–80 people in attendance. Currently, five of these types of community gatherings already occur. These activities would not be expected to generate parking needs in excess of onsite availability. Community events or activities at the Schilling Lodge would comply with Placer County noise standards regarding outdoor amplified noise. No outdoor amplified noise would occur at the Existing Lodge as part of the proposed Project.

Private Events

The Schilling Lodge facilities could be rented for private meetings (up to 9 per year during the spring, summer, and fall), such as business meetings, and private gatherings (up to 34 per year), which could help financially support overall operations of the facility. Private gatherings could include rehearsal dinners, family reunions, celebrations of life, or employee parties. Private meetings could have up to 15 people in attendance and private gatherings could have up to 50–80 people in attendance. Parking demand shall not exceed what can be provided onsite, carpooling would be encouraged as part of the rental agreement. Private events at the Schilling Lodge would comply with Placer County noise standards regarding outdoor amplified noise. Up to three other private events that could occur each year at the Schilling Lodge include running, skiing, and biking day camps. These other private events could accommodate up to 50 attendees.

EMPLOYEES

The peak season for Tahoe XC and lodge staff would occur during the winter as the maintenance and coaching needs for winter activities result in greater staffing needs. During the summer season, TCCSEA intends to operate the café and retail shop during normal working hours, yet expects the total operations to be lower than during the winter and therefore, expects needing fewer staff. Implementation of the Project would result in a small increase in the number of employees (see Table 2-4) relative to existing conditions in both summer and winter.

Table 2-4 Estimated Number of Lodge Employees

Employees	Winter				Summer			
	Mid-Week		Peak Weekend		Mid-Week		Peak Weekend	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
Groomers (4:00 – 10:00 p.m.; winter only)	2	2	2	2	NA	NA	NA	NA
Lodge staff (including lesson instructors; 8:30 a.m. – 5:00 p.m.)	7	7	10	12	1	3	1	4
Total Employees	**9**	**9**	**12**	**14**	**1**	**3**	**1**	**4**
Volunteers Coaches (Strider Gliders/devo teams; 3:00 – 5:00 p.m.)	14	14	0	0	3	3	0	0
Total Employees and Volunteers	**23**	**23**	**12**	**14**	**4**	**6**	**1**	**4**

Notes: NA = not applicable

Source: Compiled by TCCSEA in 2018

TCCSEA intends to participate as a sponsor in very few special events. Special event proponents would bring their own employees or volunteers, which would be considered part of the total attendees at these events shown in Table 2-3.

Minimal staffing would be needed at the Existing Lodge for TCPUD to maintain public access to the Highlands Community Center as needed.

TCPUD-CONSERVANCY LAND EXCHANGE

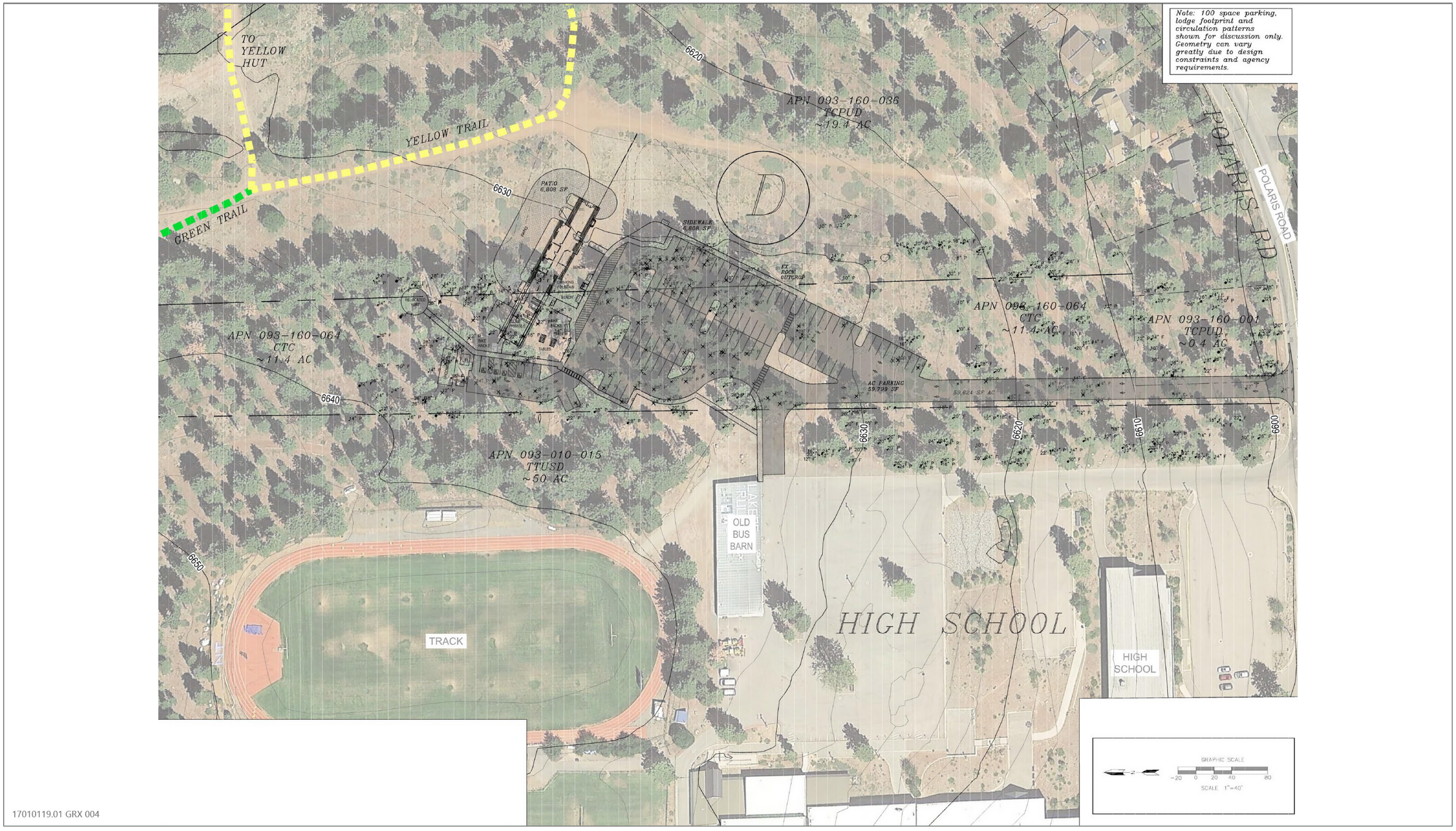
Implementation of the proposed Project would require development of a portion of the Schilling Lodge on property currently owned by the Conservancy (Assessor Parcel Number [APN] 093-160-064). The affected parcel is part of a separate and larger potential land exchange being contemplated by TCPUD and the Conservancy, the purpose of which is to consolidate ownership and increase land management efficiencies for the agencies. These types of land exchanges, for consolidation and management efficiencies, have been completed by both agencies in the past.

Creating land management efficiencies through this land exchange is important to each agency for several reasons: (1) it consolidates the Highlands properties into TCPUD ownership for TCPUD's management of the concession for a Nordic ski center and trailhead access; (2) it provides TCPUD flexibility to maintain TCPUD-owned, and currently established, water utility infrastructure on the Tahoe Cedars properties; and (3) it enables the Conservancy to contemplate passive recreation opportunities on the Quail properties consistent with existing uses. Therefore, the land exchange is planned to occur regardless of the outcome of the Project. For example, although implementation of Alternative A would not include development on property currently owned by the Conservancy, this land exchange could occur under Alternative A or similarly under any other action alternative. Additionally, the consideration of this land exchange, by TCPUD and the Conservancy, to execute a large, multi-parcel land exchange has been on-going for many years, and would typically be an exempt activity under CEQA provisions (California Code of Regulations Section 15325). The land exchange would also qualify for a statutory exemption from CEQA as an activity involving the land sale, acquisition, or transfer or acceptance of funding for the same by a public agency if it is for the purpose of certain conservation actions, such as for the preservation of open space or lands for park purposes (California Public Resources Code Section 21080.28). However, as development of the proposed Project progressed, land tenancy rights become necessary to proceed, and for this reason, the potential land exchange is a necessary part of this Project description. The properties being considered in the land exchange are referred to as the Highlands Properties, the Quail Properties, and the Tahoe Cedars Properties. The properties are located along the north and west shores of Lake Tahoe in Placer and El Dorado Counties (Figure 2-1).

The land exchange would result in the Conservancy gaining land that it would manage for recreational, habitat, and open space values. The Quail Properties (currently owned by TCPUD) consist of 106.7 acres of land used for passive recreation and include quality wildlife habitat, open space, and designated sensitive areas. The Highlands Properties and Tahoe Cedars Properties (currently owned by the Conservancy) consist of 58.15 acres of land used for active and passive recreation and do not include designated sensitive areas. Conservancy lands are managed to protect and enhance wildlife habitat, recreational value, and open space. Because the land exchange would result in a net increase of lands owned by the Conservancy, the exchange would result in net wildlife habitat, recreation, and open space benefits.

The Highlands Properties, currently owned by the Conservancy, comprise three parcels, totaling about 15.3 acres. Figure 2-5 shows the location of the Highlands Properties parcels relative to the proposed Project at Site D and the Alternative A site. The first parcel, APN 093-160-058, is located at the westerly terminus of Cedarwood Drive and is approximately 3 acres. The remaining two parcels, APNs 093-160-064 and -028, are located north of Polaris Road and east of North Tahoe High School and North Tahoe School. APN 093-190-064 is about 12 acres and APN 093-190-028 is about 0.3 acre. The Highlands Properties are adjacent to the TCPUD 45-acre Highlands Park and Community Center property. The proposed Project would be constructed on 5.2 acres, including a portion of APN 093-160-064. While the land exchange would support implementation of the proposed Project, it would also create single ownership of the underlying property associated with the existing TCPUD integrated trail system operated by TCCSEA. It would also provide direct connection between the trail system and the school, which would create optimal land management efficiencies for TCPUD irrespective of the final location and/or approval of the proposed Schilling Lodge.

The Quail Properties, owned by TCPUD, are located in Homewood and include seven parcels (APNs 097-050-025, -026, -028, -029, -030, -093, and -095), totaling approximately 107 acres (Figure 2-6). The individual parcels range in size from about 4 to 36 acres. The parcels are accessible from Lagoon Road and Grouse Drive. The Quail Properties are desirable to the Conservancy in that they represent a passive recreation area, quality wildlife habitat, open space, and include designated sensitive lands. The Quail Properties would be maintained and used in the same fashion as they are under existing conditions; no change in use or maintenance activities or policies would occur.



Source: Image provided by Tieslau Civil Engineering, Inc. in 2018

Figure 2-5 Schilling Lodge Site Plan – Proposed Project

Source: Image provided by TCPUD in 2018

Figure 2-6 TCPUD/Conservancy Land Exchange Parcels – Quail Properties

The Tahoe Cedars Properties, owned by the Conservancy, are located in Tahoma and include two parcels (APNs 014-304-06 and 014-021-07), totaling approximately 43 acres (Figure 2-7). APN 014-304-06 is a 0.3-acre residential lot located at 7250 Chinkapin Road. APN 014-021-07 is adjacent to and west of parcel 014-304-06 and includes about 43 acres situated in the McKinney Lake area. These parcels provide access to existing TCPUD water lines and water storage tanks in the Tahoe Cedars Water System; access is currently provided to TCPUD through a special-use permit with the Conservancy. The Tahoe Cedar Properties would be maintained and used in the same fashion as they are under existing conditions; no change in use or maintenance activities or policies would occur.

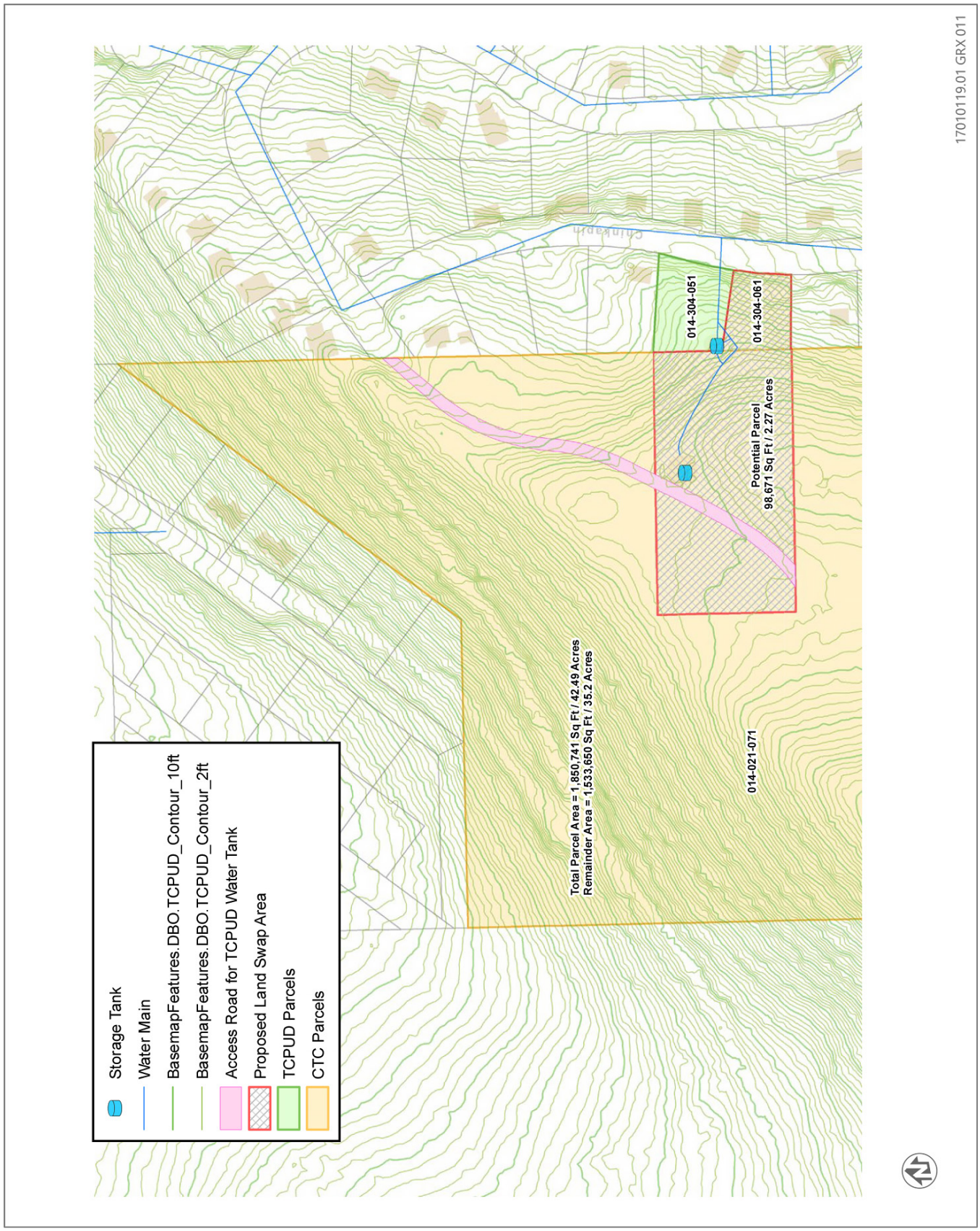
As currently proposed, TCPUD would relinquish all or portions of ownership of its Quail Properties in exchange for the Conservancy's Highlands Properties and portions of the Tahoe Cedar Properties. The land exchange is not dependent on the outcome of the proposed Project in that it creates land management efficiencies, as described above, regardless of the Schilling Lodge. It is anticipated that any formal action related to the land exchange would occur following completion of the environmental review and consideration of approval of the Tahoe Cross-Country Lodge Replacement and Expansion Project by the TCPUD Board of Directors. The action would be completed through an inter-governmental land exchange and would be subject to final approval by the Conservancy Board and TCPUD Board of Directors.

Reservations in the title of all parcels affected by the proposed Project would allow the Project to be constructed as evaluated in this EIR. Therefore, the land exchange (or some portion thereof) is necessary for the proposed Project, or any Project alternative that would be located on Conservancy-owned land, to move forward if approved (i.e., the proposed Project is dependent on the outcome of the land exchange). The land exchange is not necessary for implementation of Alternative A but could still occur with that alternative. Aside from the physical improvements associated with the proposed Project on APN 093-160-064, the land exchange constitutes a change in ownership, not a change in use. There are no other physical improvements proposed and no potential for adverse physical impacts to the Tahoe Cedars properties or Quail properties as a result of the land exchange by itself. Land exchanges, such as the one contemplated by TCPUD and the Conservancy, are normally exempt from CEQA when they are executed alone and not part of another project. However, a portion of the Highlands Properties serves as the location for the proposed Project; therefore, this EIR serves as the environmental clearance needed to proceed with the land exchange. While the evaluation of potential impacts herein constitutes the environmental review for the land exchange as a whole, the analysis focuses on the environmental effects associated with the proposed Project on APN 093-160-064, the only location where physical improvements would occur.

2.5.2 Placer County Tahoe Basin Area Plan Mitigation Measures

The Area Plan is a joint TRPA/Placer County plan, adopted in 2016 by the Placer County Board of Supervisors and in 2017 by the TRPA Governing Board. The plan incorporates TRPA goals and regulations but also includes additional land use regulations to implement and achieve the environmental improvement and redevelopment goals of the Lake Tahoe Regional Plan and the TRPA/Tahoe Metropolitan Planning Organization Regional Transportation Plan/Sustainable Communities Strategy while also addressing local goals. A full scope environmental impact report/environmental impact statement (EIR/EIS) was prepared for the Area Plan, and because the Tahoe Cross-Country Lodge Replacement and Expansion Project is located within the Area Plan boundaries, it is required to comply with its policies and implementing regulations. The Project is also required to implement mitigation measures that were developed as part of the EIR/EIS to avoid, minimize, or mitigate potentially significant and significant environmental effects. Applicable mitigation measures identified in the Area Plan EIR/EIS that would be implemented as part of the Project are limited to the following to address issues related to transportation, air quality, and greenhouse gas emissions:

- Mitigation Measure 10-1c: Payment of Traffic Mitigation Fees to Placer County.
- Mitigation Measure 10-1d: Expand Requirements for Transportation Demand Management Plans
- Mitigation Measure 11-2a: Reduce Short-Term Construction-Generated Emissions of ROG, NO_X, and PM_{10}.
- Mitigation Measure 11-5: Reduce Short-Term Construction-Generated TAC Emissions.



Source: Image provided by TCPUD in 2018

Figure 2-7 TCPUD/Conservancy Land Exchange Parcels – Tahoe Cedar Properties

- Mitigation Measure 12-1: Implement All Feasible Greenhouse Gas Reduction Measures to Achieve No Net Increase in Emissions.

The details of these mitigation measures are described in the applicable resource sections, which include Section 3.5, "Transportation;" Section 3.6, "Air Quality;" and Section 3.7, "Greenhouse Gas Emissions and Climate Change."

2.5.3 Construction Schedule and Activities

Groundbreaking for the proposed Project is anticipated to begin in spring 2021 with completion of the Project anticipated by spring 2023. Site utilities and the parking lot would be completed by October 2021. Completion of the Schilling Lodge and all associated improvements such as installing furniture, art, artifacts, donor plaque, and equipment would occur in May 2023, with an opening planned for June 2023. Any necessary site revegetation and trail connections needed to connect the Schilling Lodge to existing trails would be completed during summer 2023. In the early Project planning stages, Project construction was anticipated to potentially occur over up to four construction seasons; however, it is possible that Project construction could occur in as few as two years.

Construction activities would include installation of all required best management practices to offset the potential for soil erosion during construction and operations. Construction activities would be continuous, except during winter months when ground-disturbing activities would cease in accordance with TRPA and Lahontan Regional Water Quality Control Board regulations. Construction staging would be accomplished on the Project site or with approval from Tahoe Truckee School District, on the adjacent parking lot for North Tahoe High School and North Tahoe School when school is not in session. Staging would occur on previously disturbed areas, and would be secured to prevent unauthorized access.

Noise-generating construction activity, including the use of heavy-duty equipment, would take place during daytime hours exempt from noise standards by both TRPA (i.e., 8:00 a.m. to 6:30 p.m., daily) and Placer County (i.e., 6:00 a.m. to 8:00 p.m., Monday through Friday, and 8:00 a.m. to 8:00 p.m. Saturday and Sunday). As TRPA regulations are more restrictive, these would apply to the Project. On occasion, there may be a need for longer work hours to meet specific constructability challenges that cannot otherwise be accomplished in the 9.5-hour daily work period exempt from TRPA noise standards. Such work would be coordinated with and require authorization by TRPA and Placer County as well as emergency service providers and any local residents that could be affected by construction activities outside of the established construction-noise-exempt hours.

Construction equipment would be expected to include standard equipment such as haul trucks, backhoes, water trucks, and forklifts. Heavy equipment would primarily be used during the site preparation phase of construction for site clearing and grading activities. Once the initial site clearing and grading is completed, most construction vehicles would consist of lighter weight equipment (rubber tire excavators instead of more traditional track driven moving units) would be used whenever possible. No special construction techniques (e.g., pile driving) are anticipated to be required.

Project construction would involve material haul trips to the Tahoe Truckee Sierra Disposal Facility in Truckee, about 14 miles northwest of the proposed Project site. Site clearing activities would require disposal of between 3,446 cu. yd. of material for Alternative A and 3,728 cu. yd. of material for the proposed Project.

PRECONSTRUCTION SURVEYS FOR NESTING BIRDS

Native nesting birds are protected under California Fish and Game Code Sections 3503 and 3503.5 and the federal Migratory Bird Treaty Act. To minimize and avoid potential construction-related loss of active bird nests and comply with these regulations, TCPUD and/or its construction contractor would implement the following resource protection measure as part of the project.

- Conduct Preconstruction Survey for Nesting Birds and Implement Protective Measures. A qualified biologist will conduct pre-construction surveys for nesting birds during the nesting season and implement protection measures, if needed. For project-related removal of trees and other vegetation suitable for nesting during the bird nesting season (generally March 1 through August 31, depending on species, weather, and snowpack), and

for other substantial ground disturbance that may disturb or cause failure of nests in adjacent areas, a qualified biologist will conduct focused surveys for active nests of native bird species before and within 14 days of initiating the disturbance activity. Additionally, if project activities are suspended for more than 2 weeks, subsequent (i.e., repeat) surveys for nesting birds will be conducted. Generally, the survey area will include potential nesting habitat within 500 feet of the proposed disturbance areas.

If no active nests are found, no further action will be required. If an active bird nest is located, the biologist will document the nest location and notify TCPUD of the finding. Modifications to the project design to avoid removal of occupied habitat while still achieving project objectives will be evaluated, and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, construction or other disturbance activity will initially be prohibited within a minimum of 500 feet of a raptor nest and 250 feet of a non-raptor nest to minimize disturbance until the nest is no longer active. A qualified biologist will monitor the nest during project activities, to determine whether the exclusionary buffer is appropriately sized to minimize impacts to the nest during the start of disturbance activities. The qualified biologist will have the authority to stop work if project activities cause the nesting birds to vocalize, make defensive flights, displace from a brooding position, or fly off the nest. The buffer may be increased or decreased depending on the birds' level of tolerance to the disturbance. The results of the monitoring efforts and the professional judgement of the qualified biologist will be used to determine whether the exclusionary buffer can be modified or if other performance-based modifications are necessary. Other protective actions may include visible screens between the nest and project activities. The exclusionary buffer and/or other performance-based modifications will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.

2.6 UNIQUE FEATURES OF THE PROPOSED PROJECT AND ALTERNATIVE A

This EIR evaluates the proposed Project (Site D – Full Project) and Alternative A (Site A – Full Project) at an equal level of detail. As described under Section 2.1, "Overview," the TCPUD Board chose to prepare an EIR that analyzes the proposed Project and Alternative A at an equal level of detail to ensure that the analysis of Alternative A sufficiently meets the requirements of CEQA in the event that there is insurmountable difficulty in obtaining permits for the proposed Project, failure to complete the land exchange with the Conservancy, unavoidable environmental impacts of the proposed Project, and/or strong community and political opposition that reduces the feasibility of approving or implementing the proposed Project. Alternative A is not the proposed Project or part of the proposed Project.

Chapter 4, "Alternatives," discusses three additional alternatives, including the No Project Alternative, and analyzes them in comparison to the proposed Project as required by State CEQA Guidelines Section 15126.6(d). The characteristics of the adaptive reuse of the Schilling residence and Schilling Lodge operations associated with the proposed Project and the Alternative A would be the same and are described above under Section 2.4, "Tahoe Cross-Country Lodge Replacement and Expansion Project." The primary differences between the proposed Project and Alternative A are further discussed below.

2.6.1 Proposed Project (Site D – Full Project)

The proposed Project site is 5.2 acres of land off of Polaris Road, adjacent to North Tahoe High School at an elevation of 6,636 feet above mean sea level (msl). The proposed Project would site the Schilling Lodge and parking lot 370 feet from the nearest resident (see Figure 2-2). The location of this site would also place the lodge adjacent to beginner terrain, which would improve access for beginning skiers. This site is located in the North Tahoe High School Subdistrict and zoned for recreation in the Area Plan; the proposed Project site also has a land use designation of Recreation in the Area Plan and the TRPA Regional Plan Placer County and TRPA 2017, TRPA 2018.

Implementation of the proposed Project would include construction of a 10,154 sq. ft. building (Schilling Lodge) that adaptively reuses the Schilling residence and includes a building addition and a basement. The building would include ticket sales, retail, meeting room, café, rental, storage, staff area, first aid, lockers, family area, team room,

snowmobile carport, and community/outdoor space. One hundred vehicle parking spaces, including four disabled parking spaces and two bus parking spaces are also included. To accommodate development of the access driveway, parking spaces, and the Schilling Lodge, 183 trees would be removed as part of the proposed Project including up to 15 trees over 30 inch dbh, as identified in Table 2-2. Access to the proposed Project site would be from a new driveway on Polaris Road (Figure 2-8). The Project could provide a shared-parking opportunity with North Tahoe High School and North Tahoe Middle School consistent with Policy T-P-13 of the Area Plan, which states that Placer County shall encourage shared-parking facilities to more efficiently utilize parking lots. In this case, a connection between the high school property and the proposed Project site would be constructed and would include a gate that would be locked for safety during school hours and when not needed. Implementation of a shared-parking agreement with the North Tahoe High School and North Tahoe Middle School would achieve the goal of Policy T-P-13 as a result of the use of existing parking at the school outside of school hours to meet parking demand of the proposed Project without constructing a larger onsite parking lot.

HIGHLANDS COMMUNITY CENTER

Implementation of the proposed Project would retain the Existing Lodge (i.e., Highlands Community Center) under TCPUD ownership. The Existing Lodge would be managed and maintained by TCPUD as the Highlands Community Center, and would be accessible to the community in the way that other TCPUD-owned or operated community facilities, such as the Fairway Community Center, Rideout Community Center, or Tahoe City Golf Course Clubhouse, are available. As described in Table 2-5, up to two small recreation classes could occur per month (up to 24 per year) with an estimated 10-15 people in attendance at each class. Currently, these types of classes do not occur at the Existing Lodge, but under a TCPUD-owned facility this type of use may be requested. Up to four community gatherings could occur per year with an estimated 15-30 people in attendance. Currently, five of these types of community gatherings already occur. These activities would not be expected to generate parking needs in excess of onsite availability. Community classes or gatherings at the Existing Lodge would comply with Placer County noise standards; however, no outdoor amplified noise would occur at the Existing Lodge as part of the proposed Project.

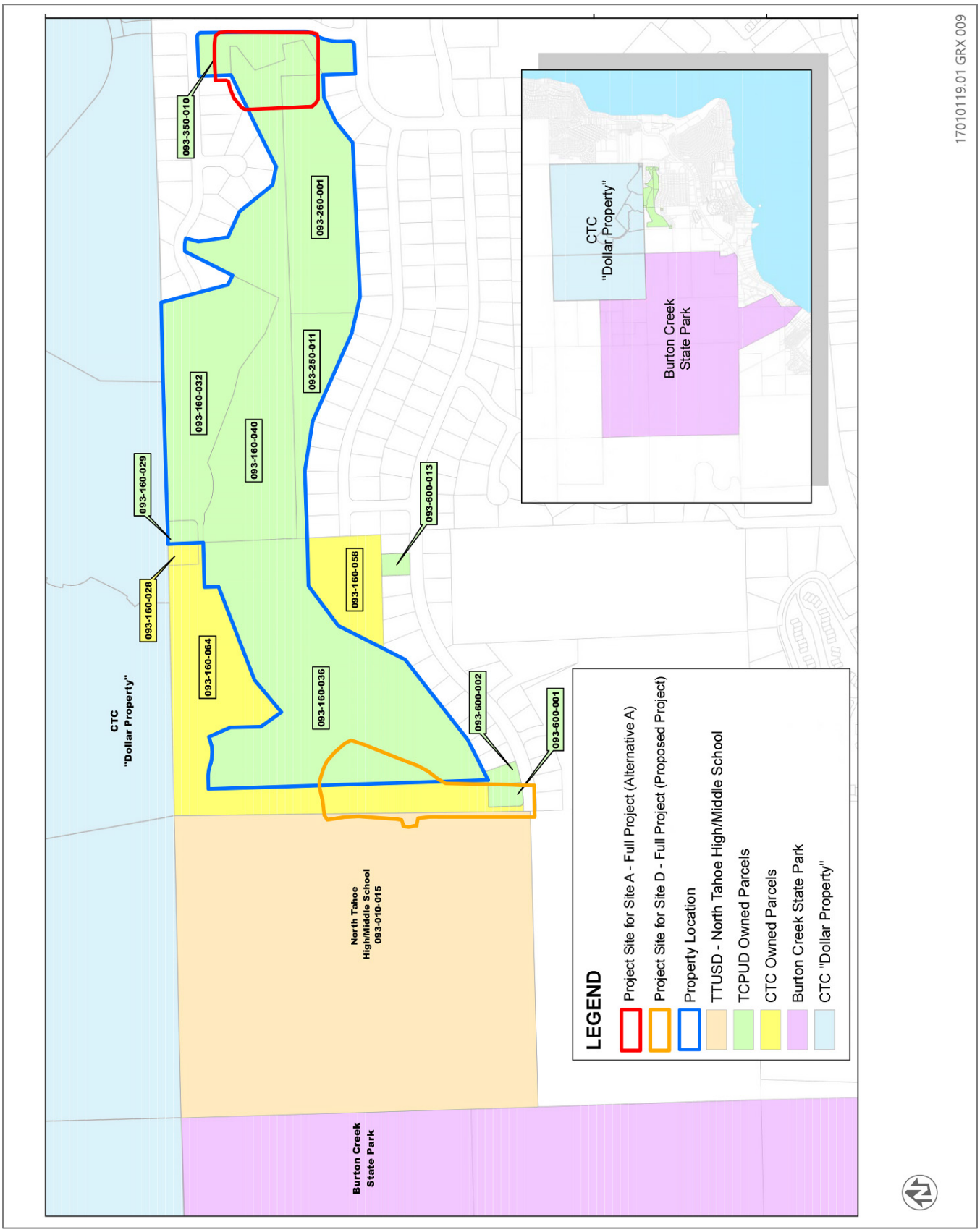
Table 2-5 Number of Community Events at the Existing Lodge with Proposed Project

Events	Maximum Number of People	Number of Events at the Highlands Community Center	Number of Events at Existing Lodge				
			Winter	Spring	Summer	Fall	Total[1]
Community Events[1]							
Recreation/Special Classes	10-15	24 (2/month)	2/month	2/month	2/month	2/month	24
Community Gatherings	15-30	4	1/season	1/season	1/season	1/season	4

[1] Under the proposed Project, events at the Existing Lodge (Highlands Community Center) could continue to include community meetings, recreation classes, and special events and would comply with the current patron capacity of the building and parking lot.

Source: Compiled by TCPUD and TCCSEA in 2019

Where feasible and possible, requests for use of the Existing Lodge community space would be directed to TCCSEA for primary consideration to access and use the Schilling Lodge. In instances where the Schilling Lodge is not available, the Highlands Community Center could be made available to the community, but only under the number and type of requests as described in Table 2-5. These uses could include community meetings, recreation classes, special events, multi-purpose room, fundraisers, and would comply with the current patron capacity of the building and parking lot. While community use of the Highlands Community Center would be considered secondary to the Schilling Lodge, other specific future TCPUD uses that would be a change from proposed and existing uses are unknown at this time and are therefore not considered part of this Project. Over time, TCPUD would assess improvement needs, such as rehabilitation or upgrades, but would continue to use the Highlands Community Center in a manner consistent with TCPUD public facilities. Cross-country skiers, hikers, trail runners, and mountain bikers could continue to park at the Highlands Community Center and access nearby trails from that location. TCPUD would staff the Highlands Community Center only as needed.



Source: Image provided by TCPUD in 2018; adapted by Ascent Environmental in 2019

2.6.2 Figure 2-8 TCPUD/Conservancy Land Exchange Parcels – Highlands Properties Alternative A (Site A – Full Project)

For the reasons described above under Section 2.1, "Overview," and under Section 2.6, "Unique Features of the Proposed Project and Alternative A," the TCPUD Board chose to prepare an EIR that analyzes the proposed Project and Alternative A at an equal level of detail. However, Alternative A is not the proposed Project or part of the proposed Project.

Alternative A would site the Schilling Lodge at the Existing Lodge location on Country Club Drive at an elevation of 6,560 feet msl. The Alternative A site encompasses 3.6 acres (Figure 2-9). Like the proposed Project, the Alternative A site is also located in the North Tahoe High School Subdistrict and zoned for recreation in the Area Plan and has a land use designation of Recreation in the Area Plan and the TRPA Regional Plan. The location of the Schilling Lodge under Alternative A would be located approximately 120 feet southeast of the nearest residence. Because it would use the Existing Lodge site, implementation of this alternative would provide an opportunity to minimize ground disturbance on an undeveloped site.

This alternative includes the adaptive reuse of the Schilling residence, plus construction of additional building space and a basement of the same size and layout as the proposed Project, and would accommodate the same uses described above and in Section 2.4, "Tahoe Cross-Country Lodge Replacement and Expansion Project." This alternative would include the same amount of parking spaces as identified for the proposed Project, and access to the site would be provided from Country Club Drive, consistent with existing conditions. To accommodate development of the expanded parking area and the Schilling Lodge, implementation of Alternative A would remove 79 trees including up to 7 trees over 30 inches dbh, as identified in Table 2-2.

HIGHLANDS COMMUNITY CENTER

To construct Alternative A, the Existing Lodge (i.e., Highlands Community Center) would be demolished.

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Source: Image provided by Tieslau Civil Engineering, Inc. in 2018

Figure 2-9 Schilling Lodge Site Plan – Alternative A

3 ENVIRONMENTAL SETTING, ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES

3.1 APPROACH TO THE ENVIRONMENTAL ANALYSIS

3.1.1 Overview

This draft environmental impact report (Draft EIR) evaluates and discloses the environmental impacts associated with the Tahoe Cross-Country Lodge Replacement and Expansion Project (Project), in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000, et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 1500, et seq.). Additionally, as the lead agency under CEQA, the Tahoe City Public Utility District (TCPUD) elected to evaluate the proposed Project and one alternative at an equal level of detail in this EIR: Site D – Full Project (proposed Project) and Site A – Full Project alternative (Alternative A). The proposed Project and Alternative A sites are both located within the Highlands neighborhood northeast of Tahoe City in Placer County (Figure 2-2), and both propose to reconstruct the historic Schilling residence into a new lodge (Schilling Lodge).

Sections 3.3 through 3.12 of this Draft EIR present a discussion of regulatory background, existing conditions, environmental impacts associated with construction and operation of the Project, mitigation measures to reduce the level of impact, and residual level of significance (i.e., after application of mitigation. Issues evaluated in these sections consist of the environmental topics identified for review in the Notice of Preparation (NOP) prepared for the Project (see Appendix A of this Draft EIR). Chapter 4, "Alternatives," presents a reasonable range of alternatives and evaluates the environmental effects of those alternatives relative to the proposed Project, as required by Section 15126.6 of the State CEQA Guidelines. Chapter 5, "Other CEQA-Mandated Sections," includes an analysis of the Project's growth-inducing impacts, as required by Section 21100(b)(5) of CEQA.

Sections 3.3 through 3.12 of this Draft EIR each include the following components.

Introduction: This section provides introductory text pertaining to each technical topic, including a summary of comments raised by the public in response to the NOP, and issue topics dismissed from further discussion.

Regulatory Setting: This subsection presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from the federal, state, and local levels are each discussed as appropriate.

Environmental Setting: This subsection presents the existing environmental conditions on the proposed Project site and Alternative A site and in the surrounding area as appropriate, in accordance with State CEQA Guidelines Section 15125. The discussion of the environmental setting focuses on information relevant to the issue under evaluation. The extent of the environmental setting area evaluated (the Project study area, which includes both the proposed Project site and Alternative A site) differs among resources, depending on the locations where impacts would be expected. For example, traffic impacts resulting from the proposed Project and Alternative A are assessed for the local and regional roadway network, whereas cultural-resource impacts from the proposed Project and Alternative A are assessed for the Project site and Alternative A site only.

Methods and Assumptions: This section describes the methods, process, procedures, and/or assumptions used to formulate and conduct the impact analysis.

Significance Criteria: This section provides the criteria by which an impact is considered significant, in accordance with CEQA and the Tahoe Regional Planning Agency (TRPA) Code of Ordinances. Significance criteria used in this EIR are based on the environmental checklist in Appendix G of the State CEQA Guidelines; the TRPA Initial Environmental Checklist; factual or scientific information and data; and regulatory standards of federal, state, and local agencies.

Environmental Impacts and Mitigation Measures: This subsection presents thresholds of significance and discusses potentially significant effects of the Project on the existing environment, including the environment beyond the proposed Project site and Alternative A site boundaries, in accordance with State CEQA Guidelines Section 15126.2. The methodology for impact analysis is described, including technical studies upon which the analyses rely. The thresholds of significance are defined and thresholds for which the Project would have no impact are disclosed and dismissed from further evaluation. Project impacts and mitigation measures are numbered sequentially in each subsection (Impact 3.3-1, Impact 3.3-2, Impact 3.3-3, etc.). A summary impact statement precedes a more detailed discussion of the environmental impact. The discussion includes the analysis, rationale, and substantial evidence upon which conclusions are drawn. The determination of level of significance of the impact is defined in bold text. A "less-than-significant" impact is one that would not result in a substantial adverse change in the physical environment. A "potentially significant" impact or "significant" impact is one that would result in a substantial adverse change in the physical environment; both are treated the same under CEQA in terms of procedural requirements and the need to identify feasible mitigation. Mitigation measures are identified, as feasible, to avoid, minimize, rectify, reduce, or compensate for significant or potentially significant impacts, in accordance with the State CEQA Guidelines Section 15126.4. Unless otherwise noted, the mitigation measures presented are recommended in the EIR for consideration by the TCPUD Board of Directors to adopt as conditions of approval.

Where an existing law, regulation, or permit specifies mandatory and prescriptive actions about how to fulfill the regulatory requirement as part of the project definition, leaving little discretion in its implementation, and would avoid an impact or maintain it at a less-than-significant level, the environmental protection afforded by the regulation is considered before determining impact significance. Where existing laws or regulations specify a mandatory permit process for future projects, performance standards without prescriptive actions to accomplish them, or other requirements that allow substantial discretion in how they are accomplished, or have a substantial compensatory component, the level of significance is determined before applying the influence of the regulatory requirements. In this circumstance, the impact would be potentially significant or significant, and the regulatory requirements would be included as a mitigation measure.

This subsection also describes whether mitigation measures would reduce Project impacts to less-than-significant levels. Significant-and-unavoidable impacts are identified as appropriate in accordance with State CEQA Guidelines Section 15126.2(b). Significant-and-unavoidable impacts are also summarized in Chapter 5, "Other CEQA-Mandated Sections."

Cumulative Impacts: This subsection presents an analysis of the Project's impacts considered together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines.

References: The full references associated with the in-text references found throughout Sections 3.3 through 3.12 can be found in Chapter 6, "References," organized by section number.

3.1.2 Cumulative Impact Analyses

Cumulative impacts are discussed in each resource section (Sections 3.3 through 3.12 of this Draft EIR), following discussions of the Project-specific impacts.

3.1.3 Cumulative Impact Analysis Methodology

Section 15130(a) of the State CEQA Guidelines requires a discussion of the cumulative impacts of a project when the Project's incremental effect is cumulatively considerable. Where a project's incremental effect is not cumulatively considerable, the effect need not be considered significant, but the basis for the conclusion must be briefly described. Cumulatively considerable, as defined in State CEQA Guidelines Section 15065(a)(3), means that the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." State CEQA Guidelines Section 15355 defines a cumulative impact as two or more individual effects which, when considered together, are considerable or which

compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

3.1.4 Cumulative Impact Approach

State CEQA Guidelines Section 15130 identifies two basic methods for establishing the cumulative environment in which a project is considered: the use of a list of past, present, and probable future projects; or the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. The cumulative analyses in this EIR primarily uses the list approach, with some use of the plan approach to describe the cumulative setting for some resource areas (e.g., air quality, greenhouse gas emissions, and transportation). The list approach identifies reasonably foreseeable projects that may contribute to a cumulative effect rather than projections contained in an adopted local, regional or statewide plan, or related planning document. The effects of past and present projects on the environment are reflected by the existing conditions in the Project area. Probable future projects are those in the vicinity that have the possibility of interacting with the proposed Project to generate a cumulative impact (based on proximity and construction schedule) and either:

- are partially occupied or under construction,
- have received final discretionary approvals,
- have applications accepted as complete by local agencies and are currently undergoing environmental review, or
- are projects that have been discussed publicly by an applicant or that otherwise become known to a local agency and have provided sufficient information about the project to allow at least a general analysis of environmental impacts.

The cumulative list below considers related, reasonably foreseeable projects likely to be constructed simultaneously with construction of the lodge, which would be expected to occur within the next 4 years. This time period was selected because it coincides with the timing of the introduction of Project impacts (Project impacts would be introduced by construction and operational activities).

3.1.5 Cumulative Setting

GEOGRAPHIC SCOPE

The geographic area that could be affected by the Project varies depending on the environmental resource topic. When the effects of the Project are considered in combination with those of other past, present, and reasonably foreseeable future projects to identify cumulative impacts, the specific projects considered may also vary depending on the type of environmental effects being assessed. Table 3.1-1 presents the general geographic areas associated with the different resource topics addressed in this analysis.

Table 3.1-1 Geographic Scope of Cumulative Impacts

Resource Topic	Geographic Area
Air Quality	Tahoe Region (pollutant emissions that affect the applicable air basin) and immediate Project vicinity (pollutant emissions that are highly localized)
Biological Resources	Defined differently for each species, based on species distribution, habitat requirements, and scope of impact from proposed activities
Archaeological, Historical, and Tribal Cultural Resources	Regional (historic lands of the Washoe people) for archaeological resources and Tribal Cultural Resources; Tahoe Basin for historic resources
Geology, Soils, Land Capability, and Coverage	Tahoe Region for land capability and coverage; proposed Project site and Alternative A site boundary for site grading and erosion potential
Greenhouse Gas Emissions and Climate Change and Energy	Global/statewide
Hydrology and Water Quality	Local and regional watersheds
Noise	Immediate Project vicinity where proposed Project- or Alternative A-generated noise could be heard concurrently with noise from other sources
Utilities	North Shore area of Lake Tahoe
Transportation	Regional and local roadways and freeways where the proposed Project or Alternative A could contribute traffic that could alter traffic conditions

Source: Compiled by Ascent Environmental in 2018

PROJECT LIST

Probable future projects considered in the cumulative analysis meet the criteria described above: they are in the proposed Project vicinity and have the possibility of interacting with the Project or Alternative A to generate a cumulative impact (Table 3.1-2 and Figure 3.1-1). This list of projects was considered in the development and analysis of the cumulative settings and impacts for most resource topics within the geographic scope of each resource topic (as listed in Table 3.1-1). Past and present projects in the vicinity were also considered as part of the cumulative setting, as they contribute to the existing conditions upon which the environmental effects of the proposed Project and Alternative A and reasonably foreseeable future projects are compared.

3.2 EFFECTS NOT FOUND TO BE SIGNIFICANT

As required by CEQA (State CEQA Guidelines Section 15128), this section presents discussions related to environmental effects found not to be significant. Some topical issues were found not to be significant and were not evaluated further in this EIR. For the proposed Project and Alternative A, many of these issues (e.g., effects on farmland) warrant no further discussion because they would clearly result in no impact. Other impacts determined to be less than significant warrant further discussion to describe the rationale for the conclusion. These issues include aesthetics, hazards and hazardous materials, land use and planning, public services, recreation, and wildfire. These issue areas are organized below to address the topics in the State CEQA Guidelines Appendix G Environmental Checklist Form. As applicable, the analysis below also addresses issue areas included in the TRPA Initial Environmental Checklist.

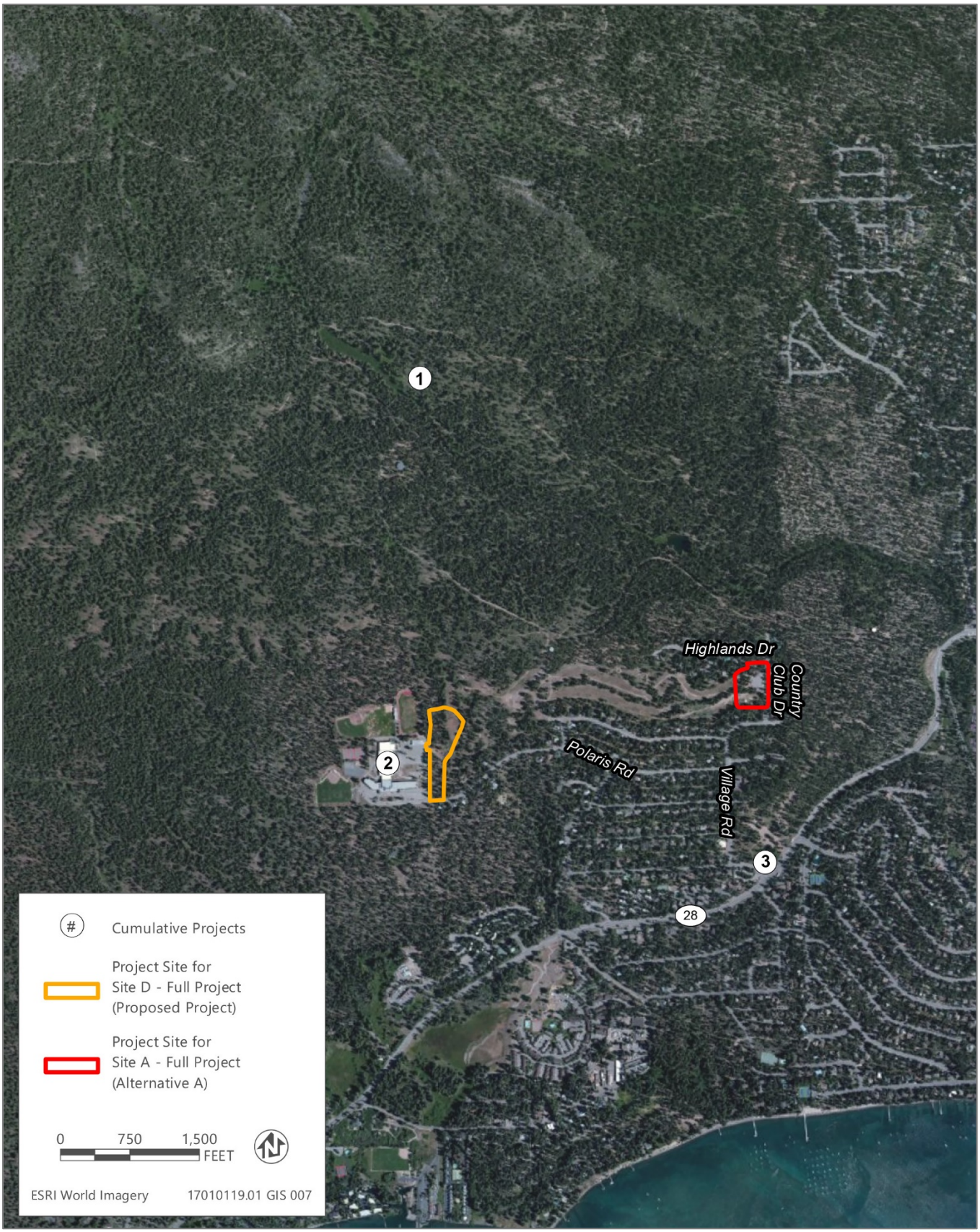
Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the California Tahoe Conservancy (Conservancy) by itself would have no impact on aesthetics, agriculture and forestry resources, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, recreation, or wildfire. The potential environmental effects from construction and operation of the proposed Project on a portion of Assessor Parcel Number 093-160-064, currently owned by the Conservancy, are assessed in this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

Table 3.1-2 Cumulative Projects List

Map Number	Project Name	Location	Description	Project Status
Plans (not mapped)				
NA	Lake Tahoe Regional Plan	Tahoe Basin, CA and NV	The Regional Plan is a regulatory framework that includes several initiatives and documents that shape how development may occur within the Tahoe Basin and provide protections for natural resources. Some of the components of the Regional Plan include Environmental Threshold Carrying Capacities, Goals and Policies, and Code of Ordinances.	Adopted by TRPA in 2012.
NA	Placer County Tahoe Basin Area Plan	Placer County within the Tahoe Basin, CA	The Area Plan contains land use regulations that apply in the Placer County portion of Tahoe Basin and is an update to existing community plans, general plans, plan area statements (PASs), maps, and ordinances in the Project area; implements the Regional Plan and conforms to the TRPA/Tahoe Metropolitan Planning Organization (TMPO) Regional Transportation Plan/Sustainable Communities Strategy.	Adopted by the Placer County Board of Supervisors on December 6, 2016 and by the TRPA Governing Board on January 25, 2017.
NA	2017 Linking Tahoe: Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)	Tahoe Basin, CA and NV	The 2017 RTP/SCS is an update to the 2012 RTP, *Mobility 2035*, and as such identifies the projects, policies, and programs planned for implementation in the Tahoe Region through 2040. The plan identifies a long-term vision, regional transportation goals and supportive projects, and policies and programs needed to meet these goals.	Adopted by TRPA in April 2017.
Individual Projects				
1	Dollar Creek Forest Health and Biomass Project	The project is bordered to the west by Burton Creek State Park, and by North Tahoe High School, North Tahoe Middle School, and the Highlands community to the south.	Mechanical forest management activities to improve forest health and reduce fire fuels on 151 acres within a 263-acre project site of the California Tahoe Conservancy (Conservancy) Dollar property starting in spring 2019 and ending in March 2020.	Approved by the Conservancy in June 2018.
2	North Tahoe High School and North Tahoe Middle School Facilities Program	2945 Polaris Road, Tahoe City, CA	The facilities program includes plans to expand the band room, construct a greenhouse, and implement other improvements to the outdoor quad areas. These projects are anticipated in 2021 to 2022, but could begin sooner.	In the early planning stages.
3	Dollar Creek Crossing	3205 North Lake Blvd, Tahoe City, CA	Placer County is in the preliminary planning stages with a developer for an affordable housing project at this site. Because of the nature of the project in its early planning stages, a preliminary estimate of the number of multi-family residential units that would be allowed for these parcels was calculated using the density limits in the Area Plan and the parcel area; it is estimated that the development could include up to 214 residential units that would primarily be multi-family units with a few single-family units. This estimated does not account for site constraints or other considerations that could ultimately reduce the number of residential units. Additionally, it is possible that, once submitted, the project application would propose a mix of multi-family and single-family residential units and commercial. At this time, it is assumed that vehicle access to the project site would be provided on Fabian Way and State Route (SR) 28.	In the early planning stages.

Note: NA = not applicable

Source: Compiled by Ascent Environmental in 2019



Source: Adapted by Ascent Environmental in 2018

Figure 3.1-1 Cumulative Projects

3.2.1 Aesthetics

Scenic vistas and views of Lake Tahoe. A scenic vista is generally considered to be a location from which the public can experience unique and exemplary high-quality views—often from elevated vantage points that offer panoramic views of great breadth and depth. The proposed Project site and the Alternative A site are located in forested areas that are not elevated above their surroundings. Construction of the Schilling Lodge at these locations would not block any views of Lake Tahoe from a public road or other public area, nor would implementation of the proposed Project or Alternative A adversely affect a scenic vista or views of Lake Tahoe seen from a public road or other public area.

Scenic highways. The proposed Project and Alternative A sites are not located within a state scenic highway and therefore neither would damage scenic resources (including trees, rock outcroppings, and historic buildings) within a state scenic highway. Additionally, the locations of the proposed Project and Alternative A are not visible from any state or federal highway, Pioneer Trail, or from Lake Tahoe. There would be no impact on scenic highways.

Visual character or quality of public views of the site and its surroundings. The Schilling Lodge would be a reconstruction and expansion of the historic Schilling residence, a structure that serves as an excellent example of Lake Tahoe resort rustic architecture (Wiss, Janney and Elstner Associates, Inc. 2015). In reviewing potential sites for the location of the Schilling Lodge, views of the surrounding areas and public views, including visibility to neighbors, were considered. The proposed Project site was preferred over other locations because it minimized visibility to neighbors while also providing beneficial views of the surrounding area for visitors (Olson-Olson 2017). The proposed Project site and Alternative A site are on publicly owned land that contains recreation resources (e.g., cross-country ski trails) and, in the case of the proposed Project site, on and near Conservancy-owned land containing additional trails. Recreation users on these trails and other public lands, as well as staff, students, and visitors to North Tahoe Middle School and North Tahoe High School, including people gathering at the school track and football field, may have limited views through the forest of the Schilling Lodge. The Project is intended to support and enhance existing recreation uses on, and accessed from, the proposed Project site or alternative A site. Implementation of Alternative A would replace the existing TCPUD-owned Highlands Community Center (Existing Lodge), locating the new Schilling Lodge in an area that is already disturbed by development. The Schilling Lodge at this location would improve the visual quality of the site by replacing a nondescript, contemporary building surrounded by scattered outbuildings with a single historic structure that exemplifies distinct rustic architecture associated with the Tahoe region (see Figure 3.2-1).

All changes to the proposed Project site and Alternative A site would comply with the Placer County Area-Wide Standards and Guidelines (Chapter 3 of the Placer County Tahoe Basin Area Plan [Area Plan] Implementing Regulations), which includes standards for building design, site design, onsite parking, lighting, and landscaping. Design standards are also specified for the North Tahoe High School Subdistrict in Section 2.07.F of the Area Plan Implementing Regulations. The Schilling Lodge would also be required to comply with the TRPA Scenic Quality Improvement Program and Design Review Guidelines and height limitations set forth in Chapter 37 of the TRPA Code. Because the proposed Project and Alternative A would be designed to blend with the natural setting and be compatible within the context of the both sites and the surroundings in compliance with applicable regulations, neither would degrade the existing visual character or quality of the either site or their surroundings. Additionally, the proposed Project and Alternative A would be consistent with the height and design standards required by the Area Plan or the TRPA Scenic Quality Improvement Program or Design Review Guidelines. The impact would be less than significant.

Visibility from TRPA-designated public recreation area or bicycle trail. The proposed Project and Alternative A are not visible from a TRPA-designated public recreation area or bicycle trail (TRPA 2015). The Conservancy's "Dollar Property," which contains numerous trails, is located adjacent to the Existing Lodge. The Dollar Property is not a TRPA-designated public recreation area. No bicycle paths, trails, or routes are identified within or adjacent to the proposed Project site or the Alternative A site (Lake Tahoe Bicycle Coalition 2017). The recently completed Dollar Creek shared-use path is located near the Existing Lodge, but is located to the west of Country Club Drive and views of the Existing Lodge are blocked by existing residences. TRPA has not designated this path as a scenic bikeway. There would be no impact.

Source: Photo taken by Ascent Environmental in 2019

View of the Existing Lodge

Source: Photos provided by TCCSEA in 2019

View of the Schilling Residence Prior to Disassembly

Figure 3.2-1 Representative Photographs

Light and glare. The proposed Project and the Alternative A would include new sources of exterior lighting, with the minimum amount of lighting necessary for safety and security purposes at entrances/exits, along the walkways, and in the parking lot. No lights along on the entrance driveway are proposed. Building lights shall conform to lighting requirements of the Placer County Design Standards and Guidelines (Section 3.09 of the Area Plan Implementing Regulations), which include shield cutoffs and downward orientation to prevent light spillage off site. Low-level lighting along walkways would also be shielded and oriented to light only the walking surface. In the parking lot, lighting levels shall meet the minimum requirements to provide safety, keeping the light levels as low as possible with downward orientation. Lighting would not be cast onto any nearby public lands. Because both proposed Project and Alternative A would include lighting that would be downward facing and the minimal necessary for safety purposes, neither would adversely affect day or nighttime views in the area. Additionally, the exterior building materials used for the Schilling Lodge would consist of wood siding and wood shake roof, consistent with the materials used in the historic Schilling residence. These materials would not create new sources of glare. Because the Schilling residence is recognized as a historic resource by TRPA and eligible for listing in the National Register of Historic Places, any physical components of the original Schilling residence that contribute to its historic character and eligibility as a historic resource would be retained consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* and permit conditions required by TRPA. If the applicant proposes to change any of the character-defining features that contribute to its historic character as identified in the *Schilling Residence Targeted Historic Structure Report* (Wiss, Janney, Elstner Associates 2015), they would be required to seek approval from TRPA as part of the TRPA permit process. Historic resources are further discussed in Section 3.4, "Archaeological, Historical, and Tribal Cultural Resources." This impact would be less than significant.

3.2.2 Agriculture and Forestry Resources

According to the California Department of Conservation (DOC), there are no lands considered to be important farmland on either the proposed Project site or Alternative A site (DOC 2017) or lands subject to Williamson Act contracts (DOC 2015). Thus, the proposed Project or Alternative A would not convert important farmland, conflict with Williamson Act contracts, or otherwise affect agricultural land. There would be no impacts related to agricultural resources.

The Project sites for the proposed Project and Alternative A are not zoned for forest land, timberland, or timberland production; therefore, neither the proposed Project nor Alternative A would result in conflicts with these zoning types. While implementation of either the proposed Project or Alternative A would result in some tree removal, the respective sites are primarily used for recreation. Implementation of the proposed Project and the Alternative A would not result in the loss of forest land or conversion of forest land to non-forest use.

3.2.3 Hazards and Hazardous Materials

The potential for the proposed Project or Alternative A to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires is discussed below in Section 3.2.9, "Wildfire."

Hazards to the public or environment through the routine transport, use, and disposal of hazardous materials or from reasonably foreseeable upset and accident conditions. Implementation of the proposed Project and Alternative A would involve the storage, use, and transport of hazardous materials and could result in accidental release of hazardous materials during construction of the Schilling Lodge.

During operation of the Schilling Lodge, future use and storage of hazardous materials would include fertilizers and pesticides typically used for landscaping and household cleaners that would be used for routine maintenance and would be similar to those used under existing conditions. Hazardous materials similar to those used during construction could also be used periodically as part of operation, maintenance, and repair of infrastructure, equipment, and facilities. Winter operations would also continue to conduct limited refueling for onsite equipment at the proposed Project site or Alternative A site consistent with existing conditions.

Buildings constructed prior to 1979 may contain asbestos and buildings constructed prior to 1978 may contain lead-based paint (California Department of Industrial Relations 2019; U.S. Environmental Protection Agency 2019). Because the Highlands Community Center was constructed before 1978 (TCPUD acquired the property with the building in 1975), there is the potential for lead-based paint and/or asbestos-containing material (ACM) to be present. Thus, construction workers could be exposed to lead-based paint or ACM if the building is demolished with implementation of Alternative A. With implementation of the proposed Project, only improvements that include general upkeep of the community center property would occur; no improvements are proposed that could expose workers to these potential hazards.

Federal and state regulations govern the renovation and demolition of structures where materials containing lead and asbestos could be present. Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services. Demolition of any building, such as demolition of the Existing Lodge under Alternative A, that could contain asbestos (based on the age of the building) would be regulated as an Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulated Facility. An Asbestos NESHAP Regulated Facility is subject to a thorough asbestos inspection of the facility and testing of materials to determine whether asbestos is present that must be conducted by a California Occupational Safety and Health Administration- (Cal/OSHA-) certified asbestos consultant (Cal/OSHA regulations, California Labor Code, Sections 9021.5 through 9021.8). Demolition projects require a NESHAP Notification even if there is found to be no asbestos present after testing. Section 1532.1 in Title 8 of the California Code of Regulations addresses construction work where an employee may be occupationally exposed to lead. In compliance with Cal/OSHA regulations, surveys for indicators of lead-based coatings, and flakes in soil, would be conducted before demolition of the Existing Lodge under Alternative A to further characterize the presence of lead on the Alternative A site. Loose or peeling paint may be classified as a hazardous waste if concentrations exceed total threshold limits. Cal/OSHA regulations require air monitoring, special work practices, and respiratory protection during demolition and paint removal where even small amounts of lead have been detected. Agency notification and compliance with California Department of Health Services and Cal/OSHA regulations would require that the presence of these materials be verified and remediated, which would eliminate potential health risks associated with exposure to asbestos or lead during building demolition associated with Alternative A. For this reason, this impact would be less than significant, and no mitigation would be required.

Hazards and hazardous materials are regulated by a number of federal, state, and local agencies, including the federal Occupational Safety and Health Administration (OSHA), U.S. Department of Transportation (USDOT), Cal/OSHA, California Department of Toxic Substances Control (DTSC), State Water Resources Control Board, California Highway Patrol (CHP), California Department of Transportation (Caltrans), and Placer County Environmental Health (PCEH). Regulations that would minimize potential hazards and hazardous materials impacts associated with the proposed Project or Alternative A include:

- OSHA has adopted numerous regulations pertaining to worker safety, contained in Title 29 of the Code of Federal Regulations (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to the handling of hazardous materials and those required for excavation and trenching.
- Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in California. Cal/OSHA standards, which typically are more stringent than federal OSHA regulations, are presented in Title 8 of the California Code of Regulations (8 CCR). Cal/OSHA conducts onsite evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.
- Under the Resource Conservation and Recovery Act of 1976, DTSC has the authority to implement permitting, inspection, compliance, and corrective action programs to ensure that people who manage hazardous waste follow state and federal requirements. The Hazard Communication Standard defined in 29 CFR Part 1910 requires that workers be informed of the hazards associated with the materials they handle. USDOT has also developed regulations (10 CFR and 49 CFR) pertaining to the transport of hazardous substances and hazardous wastes by all modes of transportation.

- California has adopted USDOT regulations for the movement of hazardous materials originating within the state and passing through the state; state regulations are contained in 26 CCR. State agencies with primary responsibility for enforcing state regulations and responding to hazardous materials transportation emergencies are CHP and Caltrans. Together, these agencies determine container types used and license hazardous waste haulers to transport hazardous waste on public roads.
- The Project falls within the jurisdiction of the Construction Stormwater General Permit for the Lake Tahoe Basin issued in March 2016 (Order No. R6T-2016-0010), as further described under Section 3.10.1, "Regulatory Setting," in Section 3.10, "Hydrology and Water Quality." Section 402 of the Clean Water Act establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate discharges of pollutants into waters of the United States. The NPDES permit and Construction Stormwater General Permit require that permit registration documents be filed for construction projects with greater than 1 acre of disturbance. The documents must include a notice of intent and a storm water pollution prevention plan (SWPPP) that identifies proposed best management practices and includes a site-specific construction site monitoring and reporting plan developed by a Qualified SWPPP Developer. Although a major focus of the SWPPP is managing stormwater on the construction site, it also must address proper use and storage of hazardous materials, spill prevention and containment, and cleanup and reporting of any hazardous materials releases if they do occur.
- PCEH is responsible for promoting a safe and healthy environment in the county and for enforcing hazardous waste laws and regulations at a local level. PCEH, as the local Certified Unified Program Agency (CUPA), monitors the proper use, storage, and cleanup of hazardous materials; monitoring wells; removal of leaking USTs; and permits for the collection, transport, use, or disposal of refuse.

Project construction and operation would also be required to implement and comply with these federal, state, and local regulatory requirements and manufacturer's instructions related to hazardous materials to reduce the potential for exposure of the public or environment to hazards resulting from routine use, storage, or transport of hazardous materials or from accidental release or upset.

Because construction of the proposed Project or Alternative A would disturb an area greater than 1 acre, a SWPPP (see Section 3.10, "Hydrology and Water Quality," and Impact 3.10-1) would be required to be prepared and implemented. Implementation of the SWPPP would minimize soil erosion and contain stormwater onsite for infiltration and/or treatment. The required TRPA permit would also include best management practices to prevent releases of hazardous materials and contain and clean up any accidental releases that might occur during construction activities (such as rupture of a hydraulic line on a piece of equipment releasing hydraulic fluid).

Because the level of use of hazardous materials in proposed Project or Alternative A construction and operation would be typical for recreation land uses, and because the proposed Project and Alternative A would be required to implement and comply with existing federal, state, TRPA, and local hazardous materials regulations, the proposed Project and Alternative A would not create significant hazards to the public or environment through the routine transport, use, and disposal of hazardous materials or from reasonably foreseeable upset and accident conditions.

Hazards to schools. Alternative A would be located at the site of the Existing Lodge, which is located approximately 0.65 miles northeast of the schools. Although the proposed Project would be located adjacent to the North Tahoe High School and North Tahoe Middle School, for the reasons described above, the potential hazards associated with the use of hazardous materials by the Project would be reduce to a less-than-significant level.

Hazardous materials sites. Neither the proposed Project site nor the Alternative A site are included on a list of hazardous materials sites compiled pursuant to California Government Code Section 65962.5. Therefore, neither the proposed Project or Alternative A would have no impact relative to construction on a hazardous waste site.

Airport-related hazards. The Truckee-Tahoe Airport is located approximately 17 miles northwest of the proposed Project site and the Alternative A site. Because of the distance from the airport, the proposed Project and Alternative A sites are outside of the airport land use plan. Additionally, there are also no nearby private air strips. For these reasons, the proposed Project and Alternative A would not result in a safety hazard related to people residing or working within the vicinity of a public airport or private airstrip.

Naturally-occurring asbestos. Asbestos is the common name for a group of naturally-occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally-occurring asbestos (NOA) is found in many parts of California and is commonly associated with serpentine soils and rocks. Special Report 190, Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, conducted by the California Geological Survey in 2006 provides a map of areas within Placer County likely to contain NOA. Although portions of Placer County contain areas of NOA, the proposed Project site and Alternative A site is in an area considered "least likely" to contain NOA (CGS 2006). The proposed Project and Alternative A sites are not located within any of the areas known to contain NOA.

Emergency response plan or emergency evacuation plan. The Placer Operational Area East Side Emergency Evacuation Plan (Placer County 2015) was developed to help increase preparedness and facilitate the efficient and rapid evacuation of threatened communities in the far eastern end of the county in the event of an emergency, probably a forest fire or flood. The plan provides details regarding evacuation alerts, evacuation emergency medical services and public information, traffic control, transportation, communication, and animal services. SR 28 is the major evacuation route near the cross-country ski area. The North Tahoe High School and North Tahoe Middle School adjacent to the proposed Project site is identified as one of the five potential emergency operations centers, to accommodate 'shelter in place', in the Tahoe Basin portion of Placer County.

Construction of either the proposed Project or Alternative A would require access by workers and heavy equipment, delivery and stockpiling of materials, demolition and removal of debris, and other operations that, depending on the exact timing and nature of construction activities, could limit vehicular access on roads adjacent to the proposed Project site or Alternative A site. However, the construction activities and staging areas would be located within the proposed Project site or Alternative A site and would not be substantial (e.g., would not require substantial numbers large earthmovers or excavators); thus, impairment of emergency routes, traffic delays, or potentially preventing access to calls for service or delays in evacuation would be minimal. Because of the short-term nature of the construction activities and access to in the Highlands Community neighborhood would be maintained during construction, construction activities would not interfere with use of the North Tahoe High School or North Tahoe Middle School as a potential emergency operations center and would not interfere with use of SR 28 as an evacuation route.

As part of Project approvals and a requirement of the TRPA permit, the North Tahoe Fire Protection District (NTFPD) would participate in the environmental review process by reviewing Project design plans and recommending additional design features or other fire safety prevention measures, as necessary. The lodge would be constructed in accordance with fire protection and safety requirements identified in the Uniform Fire Code, Uniform Building Code, and NTFPD Fire Code, including requirements for adequate fire flows and emergency access. The Project would also be required to develop and implement an Emergency Preparedness and Evacuation Plan consistent with Government Code Section 65302(g) and Placer County Tahoe Basin Area Plan Policy NH-P-6. Additionally, the Project-generated traffic, including for special events, would be appropriate to the capacity of the facility and therefore would not generate traffic volumes that would physically interfere with implementation of an adopted emergency response plan or emergency evacuation plan. This impact would be less than significant for the proposed Project and Alternative A.

3.2.4 Land Use and Planning

The proposed Project and Alternative A sites are located within the North Tahoe High School Subdistrict of the Area Plan and are zoned and designated for Recreation under the Lake Tahoe Regional Plan and Area Plan. The proposed Project would relocate the Existing Lodge with an expanded lodge and would allow for some additional special events (similar to existing large special events), small community events, and private events throughout the year.

The proposed Project would be located on undeveloped TCPUD- and Conservancy-owned land adjacent to the North Tahoe High School and residences. The Alternative A would replace the Existing Lodge and would allow for the same types of events described above for the proposed Project. For these reasons and because it would not amend, revise, or be inconsistent with any existing regulations related to land use planning and development, implementation of the proposed Project or Alternative A would not divide an established community and would not

cause a significant environmental impact due to a conflict with any applicable land use plan, local policies and regulations, habitat plan, or natural community conservation plan.

3.2.5 Mineral Resources

Impacts on mineral resources (loss of a known mineral resource or a locally-important mineral resource recovery site) were dismissed from further evaluation because there are no known mineral resources within the proposed Project or Alternative A sites (USGS 2018) and because mining is not an identified allowable use in the Tahoe Basin.

3.2.6 Population and Housing

Implementation of the Project could result in several new staff at the lodge. However, the amount of employment generated by the proposed Project and Alternative A would be minimal, and would not result in substantial unplanned population growth such that construction of additional housing would be required. Neither the proposed Project nor Alternative A would construct new roads. The proposed Project would require extension of utility service lines from utility lines in Polaris Road. As discussed in Impact 3.11-1 and Mitigation Measure 3.11-1, implementation of Alternative A could require the expansion of the TCPUD water line that services that site to meet fire flow standards, but would not be required to meet water supply needs to support growth in the community. Furthermore, the Project is located on public land that contains recreation facilities and, thus, implementation of either the proposed Project or Alternative A would not temporarily or permanently displace any people or housing. For these reasons, the proposed Project and Alternative A would not result in direct or indirect population growth or alter the location, distribution, density, or growth rate of the human population planned for the Tahoe Region.

3.2.7 Public Services

The potential for the Project to adversely affect parks and recreation resources is discussed below in Section 3.2.8, "Recreation."

Fire and police protection. The proposed Project would relocate Tahoe XC to a site approximately 0.8 mile by road southwest of its current location. Alternative A would be located at the Existing Lodge site. The nearest fire station is the NTFPD Station #51 located at 222 Fairway Drive, Tahoe City, California. The distance between the fire station and the Existing Lodge and Alternative A site is 3.5 miles and the distance between the fire station and the proposed Project site is 3.4 miles. The nearest Placer County Sheriff station is located at 2501 N Lake Boulevard, Tahoe City, California, which is 1.2 miles from the Existing Lodge and Alternative A site and would be 1.1 miles from the proposed Project site. For this reason, there would essentially be no change in emergency response times compared to existing conditions.

The proposed Project and Alternative A would result in a larger lodge building, which would allow for an increase in the number of events that are held at the lodge year-round. The Schilling Lodge with the increase in parking is also anticipated to meet existing cross-country ski demand. Because the potential increase in visitation at the Schilling Lodge under the proposed Project and Alternative A, and the continued use of the Existing Lodge under the proposed Project alternative, would be relatively minor, neither the proposed Project or Alternative A would substantially increase demand for fire protection or emergency response services such that there would be an adverse impact on station operations or response times, or that new stations or personnel would be required. Construction activities associated with the Schilling Lodge would be short-term and be completed over the course of four summer (i.e., May – October) seasons. The impact on fire protection, emergency response, and police protection services would be less than significant for the proposed Project and Alternative A.

Schools and library facilities. The proposed Project does not include new housing or other Project elements that would increase the permanent resident population in Tahoe City and the surrounding area, resulting in an increased demand for school or library facilities. No impact would occur related to these services for the proposed Project and Alternative A.

Maintenance of public facilities, including roads. Project construction activities would be short-term, estimated to be completed in four years, and would not be anticipated to generate substantial construction traffic that could result in the need for maintenance of roads. Additionally, the proposed Project or Alternative A would not result in a substantial increase in visitation at the Schilling Lodge such that the associated increase in traffic on nearby roads would not result in the need for an increase in the maintenance of roads. This impact would be less than significant for the proposed Project and Alternative A.

3.2.8 Recreation

Create additional demand for recreation facilities and quality of recreation user experience. The area surrounding the Tahoe Cross-Country Center (Tahoe XC) contains hiking, skiing, and biking trails that are frequently used by visitors to Tahoe XC during the winter and summer as well as by recreation users in Burton Creek State Park and on nearby recreation lands managed by the Conservancy and the U.S. Forest Service. Some of the trails accessed from the proposed Project and Alternative A sites are also used for special events (i.e., trail races), including races that are currently hosted at the Existing Lodge.

The proposed Project and Alternative A would increase the number of events that would use the trails in the surrounding area. Special events that use the trail system would temporarily impact parking and trail use because of an increase in participant users, which could interfere with other recreation users that want to use those trails and potentially reducing the quality of their recreation experience. Currently, six large special and premier events are held at Tahoe XC each year. The Project proposes a total of nine large special events, an increase of three large special events compared to existing conditions. Although implementation of the proposed Project or Alternative A would result in an increase in the number of trail users participating in the additional special events, this increase would be short-term and temporary, as the Project applicant would limit the number of additional races and the trail races last for only a few hours on a single day. Because the increase in use of trails and the temporary congestion of some trails during special events would be limited and not substantially different than under existing conditions, the proposed Project and Alternative A would not result in a substantial adverse effect on the quality of recreation users in these areas and would not accelerate the physical deterioration of these trails. Additionally, although the congestion of trails during additional special events that could occur with implementation of the proposed Project or Alternative A could result in a minor increase in recreation demand for trails in other areas, this increase in demand would not result in sufficient demand in other areas such that the physical deterioration of those facilities would be accelerated.

The average daily visitation at the Schilling Lodge over the course of the year, aside from attendance at special events and gatherings, would increase incrementally with implementation of the proposed Project and Alternative A. The increase in visitation would be associated with the draw of visitors that could occur simply because of the historic preservation of the Schilling residence as a new lodge compared to the Existing Lodge. Some increase in visitation and recreation users on the surrounding trails would also be associated with junior mountain biking, day camp sessions, summer Nordic dryland training activities, and summer youth camps, some of which occur under existing conditions. With the proposed Project or Alternative A, these activities may occur more frequently over the course of the summer, but the level of users on a busy day would not be expected to increase compared to existing conditions. The Project and Alternative A would also allow for the continuation of a mountain bike rental and bike tour operation. The estimated increase in visitors to the Schilling Lodge would not be considered a substantial increase in trail users, even if all visitors use nearby trails, because there are miles of trails in the surrounding public lands on which trail users can recreate. Additionally, the Project would not introduce any new types of recreation use that could occur on these trails. Because the increase in use of trails by additional visitors to the Schilling Lodge over existing conditions would be commensurate with the increased size and enhancement of the facility, which would be modest, it would not result in a substantial adverse effect on the quality of recreation users in these areas and would not accelerate the physical deterioration of these trails.

For the reasons described above, the proposed Project or Alternative A would not increase the use of nearby recreation facilities (i.e., trails) such that substantial physical deterioration of the facility would occur or be accelerated. Additionally, neither the proposed Project nor Alternative A include components, such as housing, that would

increase area population and result in additional demand for recreation facilities. Furthermore, because the increase in the number of special events and visitors at the Schilling Lodge would be limited by permit conditions and Project applicant management strategies, it would not result in a substantial adverse impact on the quality of recreational experiences or create user conflicts. This impact would be less than significant.

Create additional recreation capacity. As one of the metrics used by TRPA to analyze attainment of the TRPA threshold for fair-share distribution of recreation capacity, Chapter 50 of the TRPA Code regulates targets for developed outdoor recreation measured in "persons at one time" (PAOTs), for overnight facilities, winter day-use facilities, and summer day-use facilities in addition to development rights for commercial floor area, residential units of use, and tourist accommodation units. It also regulates. The PAOT measure is an estimate of the number of individuals that a recreation facility or area can support at any given time. For winter day-use activities, TRPA allocates PAOTs for downhill ski facilities. As part of a cross-country ski area, the Project is not subject to requirements for winter day-use PAOTs. For summer day-use activities, TRPA requires PAOTs for recreation centers, participant sport facilities, sport assembly, beach recreation, and day-use areas operated by the California Departments of Parks and Recreation (State Parks) or their permittees, or by federal agencies or their permittees. The proposed Project site is located on lands owned by TCPUD and lands owned by the Conservancy, neither of which is not State Parks or a federal agency and, thus, is not subject to requirements for summer day-use PAOTs. The Alternative A site is on land owned by TCPUD.

Neither the proposed Project or Alternative A would affect the fair-share distribution of recreation capacity in the Tahoe Basin because they would continue to provide public access to the cross-country ski area and surrounding trails. Additionally, a larger lodge would be available for public use and for an increase in the types of events year-round. This would be a beneficial impact of the Project.

Environmental effects from new or expanded recreational facilities. The proposed Project and Alternative A would include construction of a new lodge for Tahoe XC, which is located in an area designated as Recreation by Placer County and TRPA. The potential environmental effects from construction and operation of the Schilling Lodge are assessed in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures;" Chapter 4, "Alternatives;" and Chapter 5, "Other CEQA-Mandated Sections."

Public access to lakes, waterways, or public lands. Access to the public lands surrounding Tahoe XC, including Burton Creek State Park and Conservancy and USFS lands and waterways within those lands, would be retained at the proposed Project site and at the Alternative A site. The location of the proposed Project and Alternative A are not in close proximity to Lake Tahoe or any other lake, and therefore, Project would have no impact on public access to any lake, waterway, or public lands.

3.2.9 Wildfire

The potential for the Project to impact or physically interfere with an adopted emergency response plan or emergency evacuation plan is discussed above in Section 3.2.3, "Hazards and Hazardous Materials."

Exposure to wildland fires. The proposed Project site and the Alternative A site are located within a Very High Fire Hazard Severity Zone as designated by the California Department of Forestry and Fire Protection (CAL FIRE 2008).

Implementation of the Project would result in an increase in the number of visitors to the Schilling Lodge relative to existing conditions. Although implementation of the Project would not result in any new special events that would be larger than existing special events, there would be an increase in the number and frequency of large special events, community events, and private meetings compared to existing conditions. Average daily visitation at the Schilling Lodge as a result of the appeal of the historic building is expected to increase, and it is likely that many of the visitors would be residents of the region, most of which is within a Very High Fire Hazard Severity Zone.

Operations at the Schilling Lodge would include defensible space of at least 100 feet and would implement other applicable requirements of the Uniform Fire Code, Uniform Building Code, and NTFPD Fire Code requirements, including ignition-resistant construction, automatic interior fire sprinklers, onsite fire hydrant minimum flows, and adequate emergency and fire apparatus access. Additionally, both the proposed Project and Alternative A would not

include any outdoor Project components, such as fire rings, that would pose a wildfire ignition threat. The Schilling Lodge would include one indoor gas fireplace.

Because of the limited size of the facility, visitation, and the nature of the lodge as a recreation facility, the increase in exposure of people or structures to wildland fires from Project implementation would be minimal compared to existing conditions. Construction would comply with all applicable fire-related codes and regulations, and no feature of the Project would render it fire prone. Furthermore, for the reasons described above, implementation of the proposed Project or Alternative A would not exacerbate wildfire risks, thereby exposing visitors at the lodge, nearby residents, or occupants at the high school and middle school to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. These impacts would be less than significant for the proposed Project and Alternative A.

Fire risks associated with installation or maintenance of Project infrastructure. The proposed Project would include connections to existing utility services within the Project area as discussed in Section 3.11, "Utilities." The locations of these improvements would be on the proposed Project site or, if necessary, within roadways adjacent to the proposed Project site. Any new or upgraded utility services for Alternative A would be similar to those of the proposed Project, with the exception of additional water supply improvements to meet fire flow requirements that could occur within Country Club Drive as described under Impact 3.11-1 in Section 3.11, "Utilities." Neither the proposed Project or Alternative A would exacerbate fire risks through the connectivity or maintenance of utility connections. Therefore, this impact would be less than significant for the proposed Project and Alternative A.

Downslope or downstream risks associated with wildfires. As discussed in Sections 3.9, "Geology, Soils, Land Capability, and Coverage," and 3.10, "Hydrology and Water Quality," the proposed Project site and the Alternative A site slope gently (2-10 percent slopes) to the north and west, steepening to the south and east at the edge of the terrace and runoff occurs naturally at each site. The analyses in these sections do not indicate that landslide events or substantial flooding and landslide events would occur at either the proposed Project site or Alternative A site. Once operational, onsite drainage would not affect offsite drainage conditions, including runoff that naturally occurs north of the Project site. The proposed Project site Alternative A site and surrounding areas have not been subject to wildfire such that the people or structures within either site or in downslope areas would be exposed to significant risks (e.g., downslope or downstream flooding or landslides) as a result of runoff, post-fire slope instability, or drainage changes. This impact would be less than significant for the proposed Project and Alternative A.

3.3 BIOLOGICAL RESOURCES

This section summarizes the common and sensitive vegetation, terrestrial wildlife, and aquatic biological resources that are known or have the potential to occur on the proposed Project site and the Alternative A site. Biological resources include common vegetation and habitat types, sensitive plant communities, and special-status plant and animal species. Federal, Tahoe Regional Planning Agency (TRPA), state, and local regulations related to biological resources are summarized below. Potential direct, indirect, and cumulative impacts of the proposed Project and Alternative A are analyzed, and mitigation measures are provided for those impacts determined to be significant.

The primary issues raised during scoping that pertain to biological resources included:

- effects on plant and animal species, including protected species;
- analysis and permits for wetland impacts; and
- effects related to tree removal and disturbances to seasonal streams.

For this analysis, information about common and sensitive biological resources known or with potential to occur in the proposed Project site and Alternative A site is based on reconnaissance-level surveys of both sites and review of the following existing sources: TRPA and U.S. Forest Service (USFS) survey and GIS data; a records search of the California Natural Diversity Database (CNDDB 2019); California Native Plant Society Online Inventory or Rare and Endangered Plants (CNPS 2016); a list of federally proposed, candidate, threatened, and endangered species that may occur in the Project region obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system (USFWS 2019); USFS Region 5 EVeg land cover data (USFS 2014); USFWS National Wetlands Inventory (updated July 2016) (USFWS 2016); Section 3.10, "Biological Resources," of the Regional Plan Update Environmental Impact Statement (TRPA 2012a); and high resolution aerial imagery. A reconnaissance survey of the proposed Project site and Alternative A site was conducted by an Ascent biologist on November 26, 2018. On March 4, 2020, a registered professional forester and a wildlife biologist from the California Tahoe Conservancy (Conservancy) conducted a second reconnaissance survey of both sites. No additional focused or protocol-level surveys for any species were conducted; the habitat assessments conducted as part of the reconnaissance surveys were adequate to identify potential Project-related effects on biological resources.

Section 3.3.2, "Environmental Setting," addresses the special-status plant and animal species evaluated in this analysis, and Table B-1 in Appendix B summarize the potential for each of these species to occur on the proposed Project site and Alternative A site. Generally, those plant and animal species not expected to regularly occur, or with a low probability to occur (because of a lack of suitable habitat, existing disturbance levels, or lack of occurrence records), are not addressed further in the impact analysis. Implementation of the proposed Project or Alternative A are not expected to considerably affect those species, including any species listed, proposed for listing, or designated as a candidate for listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA).

No sensitive habitats or biological communities such as wetlands, streams, riparian vegetation, stream environment zone (SEZ), or late seral/old growth forest are present on the proposed Project or Alternative A sites. Therefore, neither the proposed Project nor Alternative A would disturb sensitive habitats. Additionally, neither the proposed Project or Alternative A evaluated herein would be constructed or operated within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state conservation plan. Therefore, implementation of the proposed Project or Alternative A would not conflict with the provisions of an adopted conservation plan and this issue is not evaluated further.

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact related to biological resources. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting," Environmental Impacts, and Mitigation Measures, and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR.

The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

3.3.1 Regulatory Setting

FEDERAL

Federal Endangered Species Act

Pursuant to the federal ESA (16 US Code [USC] Section 1531 et seq.), USFWS and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) regulate the taking of species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of 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.

Two sections of the ESA address take. Section 10 regulates take if a non-federal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting the action. However, if a project would result in take of a federally-listed species and federal discretionary action (even if a non-federal agency is the overall lead agency) is involved (i.e., a federal agency must issue a permit), the involved federal agency consults with USFWS under Section 7 of the ESA. Section 7 of the ESA outlines procedures for federal interagency cooperation to protect and conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS and NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

Clean Water Act

Section 404 of the Clean Water Act (CWA) (33 USC Section 1251 et seq.) requires 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. Fill material is material placed in waters of the United States that has the effect of replacing any portion of waters of the United States with dry land or changing the bottom elevation of any portion of waters of the United States. Waters of the United States include navigable waters; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters; and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands typically must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of the CWA pending U.S. Army Corps of Engineers verification.

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine regional water quality control boards (RWQCBs).

Bald and Golden Eagle Protection Act

Under the Bald and Golden Eagle Protection Act (16 USC Section 668 et seq.), it is illegal to take bald eagles, including their parts, nests, or eggs unless authorized. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 USC Section 668c). "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment (50 Code of Federal

Regulations [CFR] Section 22.3). In addition to immediate impacts, this definition also addresses impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC Section 703 et seq.), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

Executive Order 13112—National Invasive Species Management Plan

Executive Order 13112 directs all federal agencies to prevent the introduction and control the spread of invasive species in a cost-effective and environmentally sound manner to minimize economic, ecological, and human health impacts. It established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and advisory committee oversee and facilitate implementation of the executive order.

TAHOE REGIONAL PLANNING AGENCY

TRPA implements its authority to regulate growth and development, and manage fish, wildlife, and vegetation resources, in the Lake Tahoe region through the Regional Plan. The Regional Plan includes Resolution 82-11, the Environmental Threshold Carrying Capacities (threshold standards), Goals and Policies, Code of Ordinances, and other guidance documents.

Thresholds

The TRPA thresholds include standards and indicators that have been developed to focus management efforts and provide a measure of progress for vegetation, wildlife, and fisheries in the Tahoe region. The TRPA threshold standards for vegetation, wildlife, and fisheries, and the attainment status for each are summarized in Table 3.3-1 (TRPA 2016). Specific targets and indicators used to evaluate the standards can be found in the TRPA 2015 Threshold Evaluation Report (TRPA 2016), available online at: http://www.trpa.org/regional-plan/threshold-evaluation/.

Table 3.3-1 TRPA Vegetation, Wildlife, and Fisheries Resource Threshold Standards and their Attainment Status

TRPA Threshold Reporting Category and Standard	2015 Attainment Status
Vegetation	
Common Vegetation:	
Vegetation Community Richness	At or Somewhat Better than Target
Relative Abundance of Red Fir Forest in Seral Stages Other Than Mature	Considerably Worse than Target
Relative Abundance of Yellow Pine Forest in Seral Stages Other Than Mature	Considerably Worse than Target
Relative Abundance of Meadow and Wetland Vegetation	Somewhat Worse than Target
Relative Abundance of Shrub Vegetation	Considerably Better than Target
Relative Abundance of Deciduous Riparian Vegetation	Considerably Worse than Target
Size of Forest Openings and Juxtaposition of Vegetation Communities – Management Standard	Implemented
Consistency with Baily Land Capability System	Implemented
Nondegradation of Stream Environment Zones	Implemented
Appropriate Management Practices	Implemented
Uncommon Plant Communities:	
Upper Truckee Marsh	Somewhat Worse than Target
Taylor Creek Marsh	Insufficient Data to Determine Status
Pope Marsh	Insufficient Data to Determine Status
Osgood Swamp	Insufficient Data to Determine Status
Hell Hole	Insufficient Data to Determine Status
Grass Lake	Insufficient Data to Determine Status
Freel Peak Cushion Plant Community	Somewhat Worse than Target
Deep-Water Plants	Considerably Worse than Target
Sensitive Plants:	
Tahoe Yellow Cress	Considerably Better than Target
Tahoe Draba	Considerably Better than Target
Long-petaled Lewisia	Considerably Better than Target
Cup Lake Draba	Considerably Better than Target
Galena Creek Rockcress	Considerably Worse than Target
Late Seral/Old Growth Ecosystems Overall and in Montane, Upper Montane, and Subalpine Elevation Zones	Considerably Worse than Target (in all elevation zones)
Wildlife	
Special Interest Species:	
Northern Goshawk Population Sites	Insufficient Data to Determine Status
Osprey	Considerably Better than Target
Nesting Bald Eagle Population	At or Somewhat Better than Target
Wintering Bald Eagle Population Sites	Considerably Better than Target
Golden Eagle Population Sites	Insufficient Data to Determine Status

Table 3.3-1 TRPA Vegetation, Wildlife, and Fisheries Resource Threshold Standards and their Attainment Status

TRPA Threshold Reporting Category and Standard	2015 Attainment Status
Peregrine Falcon Population Sites	Considerably Better than Target
Waterfowl Population Sites	Somewhat Worse than Target
Deer	Insufficient Data to Determine Status
Disturbance Free Zones Management Standards	Implemented
Habitats of Special Significance:	
Riparian Habitat	Implemented
Fisheries	
Stream Habitat:	
Miles of Stream Habitat in Excellent Condition	Considerably Better than Target
Miles of Stream Habitat in Good Condition	Considerably Worse than Target
Miles of Stream Habitat in Marginal Condition	Considerably Worse than Target
Instream Flow:	
Nondegradation Standard for Instream Flow	Implemented
Divert Stream Intakes to Lake Sources	Implemented
Lahontan Cutthroat Trout	Implemented
Lake Habitat:	
Acres of "Prime" Fish Habitat	At or Somewhat Better than Target

Source: TRPA 2016

Goals and Policies

The Conservation Element of the TRPA Goals and Policies document establishes goals for the preservation, development, utilization, and management of natural resources within the Tahoe region. These goals and policies are designed to achieve and maintain adopted threshold standards and are implemented through the Code.

The Conservation Element includes 10 subelements that address the range of Lake Tahoe's natural and historical resources. The applicable subelements and goals are discussed in this section. Policies associated with each goal can be found in the TRPA Goals and Policies document online at: http://www.trpa.org/regional-plan/goals-policies/.

Chapter 4 of the Goals and Policies identifies the following six goals for vegetation in the Tahoe region:

GOAL Veg-1: Provide for a wide mix and increased diversity of plant communities;

GOAL Veg-2: Provide for the protection, maintenance, and restoration of such unique ecosystems as wetlands, meadows, and other riparian vegetation;

GOAL Veg-3: Conserve threatened, endangered, and sensitive plant species and uncommon plant communities of the Lake Tahoe Region;

GOAL Veg-4: Provide for and increase the amount of late seral/old growth stands within the Lake Tahoe Region;

GOAL Veg-5: The appropriate stocking level and distribution of snags and coarse woody debris shall be retained in the Region's forests to provide habitat for organisms that depend on such features and to perpetuate natural ecological processes; and

GOAL Veg-6: TRPA shall work with fire protection agencies in the Region to reduce the risk of catastrophic wildfire.

The two goals identified for wildlife are as follows:

GOAL WL-1: Maintain suitable habitats for all indigenous species of wildlife without preference to game or nongame species through maintenance and improvement of habitat diversity, and

GOAL WL-2: Preserve, enhance, and where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the Region.

Code of Ordinances

The applicable provisions of the TRPA Code regarding vegetation and wildlife are summarized below.

Protection and Management of Vegetation

The Code requires the protection and maintenance of all native vegetation types. Chapter 61, Vegetation and Forest Health, Section 61.3, Vegetation Protection and Management, provides for the protection of SEZ vegetation, other common vegetation, uncommon vegetation, and sensitive plants in SEZs (TRPA 2012b). TRPA defines an SEZ as an area that owes its biological and physical characteristics to the presence of surface water or groundwater. (Neither the proposed Project site nor the Alternative A site contains SEZ.) TRPA can require the preparation and implementation of a remedial vegetation management plan, where the need has been identified, for the purposes of threshold standard maintenance or attainment. In addition, Chapter 61, Section 61.4, Revegetation, specifies minimum criteria for revegetation programs.

Protection of Sensitive and Uncommon Plants

Code Chapter 61, Section 61.3.6, Sensitive and Uncommon Plant Protection and Fire Hazard Reduction, establishes standards for preserving and managing sensitive plants and uncommon plant communities, as referenced above in Thresholds. Projects and activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat must fully mitigate their significant adverse effects. Measures to protect sensitive plants and their habitat include:

- fencing to enclose individual populations or habitat,
- restricting access or intensity of use,
- modifying project design as necessary to avoid adverse impacts,
- dedicating open space to include entire areas of suitable habitat, and
- restoring disturbed habitat.

Tree Removal

TRPA regulates the management of forest resources in the Tahoe Basin to achieve and maintain the threshold standards 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 is subject to review and approval by TRPA (TRPA 2012b). Provisions for tree removal are provided in the following chapters and sections of the TRPA Code: Chapter 61, Vegetation and Forest Health, Section 61.1, Tree Removal, Section 61.3.6, Sensitive and Uncommon Plant Protection and Fire Hazard Reduction, and Section 61.4, Revegetation; Chapter 36, Design Standards; and Chapter 33, Grading and Construction, Section 33.6, Vegetation Protection During Construction.

Applicants must obtain a tree removal permit from TRPA for cutting of live trees 14 inches diameter at breast height (dbh) or greater. However, trees of any size marked as a fire hazard by a fire protection district or fire department that operates under a memorandum of understanding with TRPA can be removed without a separate tree permit.

TRPA Code Section 61.1.4, Old Growth Enhancement and Protection, prohibits, with limited exceptions, the removal of trees greater than 30 inches dbh in westside forest types for forest management activities and projects located in lands classified by TRPA as conservation or recreation land use or SEZ. Code Section 61.1.4 provides for eleven (11) exceptions to this prohibition, which includes a Private Landowner exception provided the landowner follows one of the planning processes identified in that section of the Code.

In addition, trees and vegetation not scheduled to be removed must be protected during construction in accordance with Chapter 33, Grading and Construction, Section 33.6, Vegetation Protection during Construction. If a project would result in substantial tree removal, a tree removal or harvest plan must be prepared by a qualified forester. The required elements of this plan, and TRPA's review process for tree removal plans, are described in Chapter 61, Section 61.1.5 of the Code. Substantial tree removal is defined under Code Section 61.1.8 as activities on project areas of three acres or more and proposing the removal of more than 100 live trees 14 inches dbh or larger. Chapter 62 also provides quantitative requirements for retention and protection of snags and coarse woody debris by forest type, in terms of size, density, and decay class.

Wildlife

TRPA sets standards for preserving and managing wildlife habitats, with special emphasis on protecting or increasing habitats of special significance, such as deciduous trees, wetlands, meadows, and riparian areas (Code Chapter 62). Specific habitats that are protected include riparian areas, wetlands, and SEZs; wildlife movement and migration corridors; important habitat for any species of concern; critical habitat necessary for the survival of any species; nesting habitat for raptors and waterfowl; fawning habitat for deer; and snags and coarse woody debris. In addition, TRPA-designated special-interest species (also referred to as "threshold species"), which are locally important because of rarity or other public interest, and species listed under the ESA or CESA are protected from habitat disturbance by conflicting land uses.

TRPA-designated special-interest wildlife species are northern goshawk (*Accipiter gentilis*), osprey (*Pandion haliaetus*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus anatum*), mule deer (*Odocoileus hemionus*), and waterfowl species.

The Code includes the following requirements for protection of wildlife movement and migration corridors.

- SEZs adjoining creeks and major drainages that link islands of habitat will be managed, in part, for use by wildlife as movement corridors. Structures, such as bridges, proposed within these movement corridors will be designed to avoid impairment of wildlife movement.
- Projects and activities in the vicinity of deer migration areas will be required to mitigate or avoid significant adverse impacts.

The Code also contains several provisions regarding critical habitat. TRPA defines critical habitat as any element of the overall habitat for any species of concern that, if diminished, could reduce the existing population or impair the stability or viability of the population. This applies also to habitat for special-interest species native to the Tahoe Basin whose breeding populations have been extirpated, but could return or be reintroduced. The Code includes the following critical-habitat provisions.

- No project or activity will cause, or threaten to cause, the loss of any habitat component considered critical to the survival of a particular wildlife species.
- No project or activity will threaten, damage, or destroy nesting habitat of raptors and waterfowl or fawning habitat of deer.
- Wetlands shall be preserved and managed for their ecological significance, including their value as nursery habitat to fishes, nesting and resting sites for waterfowl, and as a source of stream recharge, except as permitted pursuant to Chapter 30 of the TRPA Code.

Fish Resources

Chapter 63, Fish Resources, of the TRPA Code of Ordinances (TRPA Code), includes provisions to ensure the protection of fish habitat and to provide for the enhancement of degraded habitat. The chapter applies to all projects and activities that could interfere with the health of fish populations in Lake Tahoe, its tributaries, and other lakes in the region. Provisions for the protection or enhancement of fish habitat shall be included for all new uses, projects and activities within fish habitat as identified by TRPA fish habitat maps or a qualified biologist. Fish habitat consists of a complex set of elements, such as spawning and nursery areas, food supply, and escape cover.

For instream habitats, protection provisions in Chapter 63 include prohibiting stream channel alterations, facilitating fish movement at stream crossings, removing barriers to fish movement, mitigating impacts on fish habitat from development, maintaining instream flows, preventing sediment entry into the stream system, and encouraging native vegetative cover.

Aquatic Invasive Species

Chapter 63.4, Aquatic Invasive Species, discusses that aquatic invasive species (AIS) pose a serious threat to the waters of the Tahoe region and can disrupt the ecology and economy of the region. Chapter 63.4.1 prohibits the transport or introduction or AIS into the Tahoe region.

Placer County Tahoe Basin Area Plan

The Placer County Tahoe Basin Area Plan (Area Plan) is a joint TRPA/Placer County plan, adopted in 2016 by the Placer County Board of Supervisors and in 2017 by the TRPA Governing Board. The plan incorporates TRPA goals and regulations but also includes additional land use regulations to implement and achieve the environmental improvement and redevelopment goals of the Lake Tahoe Regional Plan while also addressing local goals. The following policies from the Placer County Tahoe Basin Area Plan apply to vegetation, wildlife, and fisheries and aquatic resources.

Vegetation Policies

- **Policy VEG-P-1:** Pursue vegetation enhancement projects in coordination with the EIP and TMDL programs, the California Tahoe Conservancy, and other partner agencies. Priority will be given to disturbed sites with rare or threatened vegetation, in high pollution loading catchments, and in SEZs.
- **Policy VEG-P-2:** Support forest enhancement projects being completed by land management agencies and fire districts, including selective cutting and controlled burning projects that improve forest health and reduce the risk of catastrophic wildfire.
- **Policy VEG-P-3:** Accelerate the restoration of native vegetation by implementing incentives for redevelopment within Town Centers and the transfer of development from SEZs and other sensitive lands to Town Centers in accordance with the Regional Plan.
- **Policy VEG-P-4:** All TRPA policies, ordinances and programs related to vegetation will remain in effect.

Wildlife Policies

- **Policy SE-P-1:** Pursue wildlife habitat enhancement projects in coordination with the EIP program, the California Tahoe Conservancy, and other partner agencies.
- **Policy SE-P-2:** Coordinate with partner agencies to manage bear populations and minimize conflicts with people. Programs should emphasize public education and expand the use of bear-proof solid waste enclosures.
- **Policy SE-P-3:** All TRPA policies, ordinances and programs related to wildlife will remain in effect.

STATE

California Endangered Species Act

Pursuant to CESA, a permit from California Department of Fish and Wildlife (CDFW) is required for projects that could result in the "take" of a plant or animal species that is listed by the state as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the CESA definition of take does not include "harm" or "harass," like the ESA definition does. As a result, the threshold for take is higher under CESA than under ESA. Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2081 incidental take permit.

California Native Plant Protection Act

In addition to CESA, the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.) provides protection to endangered and rare plant species, subspecies, and varieties of wild native plants in California. The California Native Plant Protection Act definitions of "endangered" and "rare" closely parallel the CESA definitions of endangered and threatened plant species. (Cal. Code. Regs., tit. 14, Section 786.9). A species or subspecies is considered "rare" if it is not presently threatened with extinction but is in such small numbers throughout its range that it may become endangered if its present environment worsens. (Cal. Fish and Game Code, Section 1901).

California Fish and Game Code Sections 3503 and 3503.5—Protection of Bird Nests and Raptors

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young

California Fish and Game Code Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species.

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1600 et seq. of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or use any material from the streambeds, without first notifying CDFW of such activity and obtaining a final agreement authorizing such activity. CDFW's jurisdiction in altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (Section 7 of the California Water Code) requires that each of the nine Regional Water Quality Control Boards (RWQCBs) prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the United States, as well as areas that meet the definition of "waters of the state." "Waters of the state" is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under CWA Section 404 provided they meet the definition of waters of the state and the State Water Resources Control Board published a new set of procedures for discharges of dredged or fill material into waters of the state on March 22, 2019. Mitigation requiring no net loss of wetlands functions and values of waters of the state typically is required by the RWQCB.

The State Water Resources Control Board has adopted the following definition of wetlands:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes the area lacks vegetation.

LOCAL

Placer County General Plan

The General Plan includes Goal 6.C, to protect restore, and enhance habitat that support fish and wildlife species so as to maintain populations at viable levels, and Goal 6.D, to preserve and protect the valuable vegetation resources of Placer County.

Placer County Code

Article 12.20. Tree Preservation in Area East of Sierra Summit

Placer County Code, Article 12.20, addresses tree preservation in the county east of the Sierra summit. The ordinance is applicable to all trees east of the Sierra summit that are 6 inches diameter or greater at breast height, excluding lands devoted to the growing and harvesting of timber for commercial purposes. A Timber Harvest Plan must be prepared and considered by the California Department of Forestry and Fire Protection before the removal of timberland, and a tree permit must be obtained before removal of trees over 6 inches dbh.

3.3.2 Environmental Setting

The following sections summarize the biological resources in the study area that are most relevant to the significance criteria and impact analysis for the Project, which are provided in Section 3.3.3, Environmental Impacts and Mitigation Measures.

VEGETATION AND HABITAT TYPES

The proposed Project site and the Alternative A site are located at 6,636 and 6,560 feet, respectively, above mean sea level. Land cover and habitat types on these sites were mapped and classified according to the California Wildlife Habitat Relationships system (CDFW 2015), with modifications to account for local variability. The 5.2 acres on the proposed Project site are composed of Sierran mixed conifer (4.3 acres) and perennial grassland (0.9 acre) (Table 3.3-2). The Alternative A site encompasses 3.6 acres composed of three land cover types: Sierran mixed conifer (1.7 acres), ruderal (1 acre), and developed (0.9 acre) (Table 3.3-2). Two reconnaissance-level surveys have been completed, one by an Ascent biologist and one by a Conservancy wildlife biologist. The surveys focused on identifying habitats, current conditions, and the biological setting of the proposed Project site and the Alternative A site.

Overall, the natural vegetation types on the proposed Project site (i.e., Sierran mixed conifer and perennial grassland) provide habitat value for common and native species, but they are fragmented and disturbed; and, the quality of habitat for native species is limited by existing disturbances and degradation from residential, recreation, and commercial uses on and near the site; adjacent roads; and associated edge effects. Foraging and breeding habitat for common bird and mammal species exists but is limited by the amount of habitat fragmentation and disturbance. In addition, a portion of the proposed Project site was graded and planted for a golf course fairway and still has buried irrigation pipes on the site. The Alternative A site has also experienced grading, golf course and other restoration planting, and irrigation.

Registered professional foresters have conducted multiple reconnaissance-level tree surveys of the proposed Project and Alternative A sites, which inform the biological effects analysis related to tree removal. The trees proposed for removal for the Proposed Project or the Alternative A Project, including trees larger than 30 inches dbh, include common species associated with upland habitat types that are predominantly Jeffrey pine, white fir, and lodgepole pine. These tree species are part of Sierran mixed conifer habitats that are relatively abundant in the Tahoe Basin. Furthermore, some of the larger trees proposed for removal are diseased. The TCPUD and Conservancy have completed various mechanical thinning projects in the area to reduce wildfire risk and severity within the last 15 years. However, untreated clusters of tightly-spaced trees exist at the proposed Project site and Alternative A site, and therefore, some tree removal would likely be proposed in this area regardless of the Project.

Table 3.3-2 Vegetation and Habitat Types on the Proposed Project Site and Alternative A Site

Land Cover/Habitat Type	Proposed Project Site (acres)	Alternative A Site (acres)
Sierran mixed conifer	4.3	1.7
Perennial grassland	0.9	-
Ruderal	-	1.0
Developed	-	0.9
TOTAL	5.2	3.6

Source: Compiled by Ascent Environmental in 2018

SPECIAL-STATUS SPECIES

Plants and animals may be considered special-status species due to declining populations, vulnerability to habitat change, or restricted distributions. Special-status species include those species legally protected under CESA, ESA, the TRPA Code of Ordinances, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. In this document, special-status species are defined as plants and animals in the following categories.

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR Sections 17.12 [listed plants], 17.11 [listed animals]) or candidates for possible future listing as threatened or endangered under ESA (75 CFR Section 69222).
- Species listed or candidates for listing by the State of California as threatened or endangered under CESA (14 Cal. Code Regs., Section 670.5).
- Animals fully protected under the California Fish and Game Code (FGC) (Section 3511 for birds, Section 4700 for mammals, Section 5050 for reptiles and amphibians, and Section 5515 for fish).
- Plants and animals designated as a sensitive, special interest, or threshold species by TRPA (TRPA Code of Ordinances, Chapters 61, 62, and 63).
- Plants listed as rare under the California Native Plant Protection Act (FGC Section 1900 et seq.).
- Plants considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California and either rare or extinct elsewhere; 1B, considered rare or endangered in California and elsewhere; 2A, presumed extinct in California but common elsewhere; and 2B, considered rare or endangered in California but more common elsewhere). Note, that while these rankings do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under CEQA.
- Animals identified by CDFW as species of special concern (CDFW 2019).
- Species considered locally significant, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (State CEQA Guidelines Section 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G).
- Species that otherwise meets the definition of rare or endangered under CEQA Section 15380.

A preliminary list of special-status plant and animal species with potential to occur on the proposed Project site and Alternative A site was developed based on the reconnaissance survey and a review of the existing data sources described previously. No special-status plant or animal species have been documented on either the proposed Project site or Alternative A site; however, focused surveys for special-status species have not been conducted for the proposed Project or Alternative A.

The data review preliminarily identified 26 special-status animal species and 30 special-status botanical species known or with potential to occur in the Lake Tahoe Basin and that could occur on the proposed Project and Alternative A sites, if suitable habitats were present. Table B-1 (Appendix B) summarizes the regulatory status, habitat associations, and potential for occurrence on the proposed Project site and Alternative A site for each special-status botanical and animal species evaluated during this analysis. Of these 56 animal and plant species, three have a moderate likelihood to occur (mule deer [*Odocoileus hemionus*], Davy's sedge [*Carex davyi*], and short-leaved hulsea [*Hulsea brevifolia*]), and the remainder have a low (or no) potential and are not expected to occur (Table B-1 in Appendix B). These determinations were based on the types, extent, and quality of habitats in the Project area determined during the reconnaissance-level field surveys; the proximity of the sites to known occurrences of the species; and the regional distribution and abundance of the species.

An osprey nest site is located approximately 0.25 mile northeast of the Alternative A site. This nest site has not been documented as active in recent years. The TRPA Code requires a non-degradation standard for habitat within a 0.25-mile buffer zone ("disturbance zone") around active and inactive osprey nest sites in nonurban Plan Areas. The edge of this osprey disturbance zone intersects just inside the northeast-corner boundary of the Alternative A site along Country Club Drive. Although osprey is not expected to use the proposed Project or Alternative A sites due to the lack of suitable habitat (Table B-1 in Appendix B), Project-related effects on the TRPA-designated osprey disturbance zone near the Alternative A site are discussed below.

SENSITIVE NATURAL COMMUNITIES AND HABITATS

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, the TRPA Goals and Policies and TRPA Code, Section 1602 of the California Fish and Game Code, Section 404 of the CWA, the state's Porter-Cologne Water Quality Control Act, and other applicable regulations. Sensitive natural habitat may be of special concern to agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Examples of sensitive habitats in the Lake Tahoe Basin include montane riparian, wet meadow, riverine (streams and rivers), and lacustrine (open water). No sensitive habitats are present on the proposed Project site or the Alternative A site. As described previously, land cover and habitat types on the proposed Project and Alternative A sites are common and include Sierran mixed conifer, perennial grassland, ruderal, and developed areas and these natural vegetation types are fragmented and highly disturbed by existing land uses.

3.3.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

Potential impacts of the proposed Project and Alternative A on vegetation and wildlife resources were initially identified by overlaying GIS layers of Project components on land cover maps of the proposed Project and Alternative A sites and maps of sensitive biological resources. Any natural community and wildlife habitat that overlapped with an area of proposed modification was considered to be directly affected during Project construction. Short-term construction impacts would occur where natural vegetation would be removed to construct new features and facilities or modify existing features. Construction-related impacts could affect biological resources through stormwater runoff, erosion, and the introduction of invasive or non-native species. Long-term impacts to biological resources would occur in or adjacent to habitats that would experience a permanent conversion in land use and cover (i.e., conversion of natural vegetation to paved areas, other facilities, and landscaping).

As described in Chapter 2, "Project Description," to minimize and avoid potential construction-related loss of active bird nests and comply with California Fish and Game Code Sections 3503 and 3503.5 and the Migratory Bird Treaty Act., a qualified biologist would conduct preconstruction surveys and implement protective measures, if needed, for nesting birds. This measure is incorporated into the project. Therefore, potential project-related effects on nesting birds are not discussed further in this section.

SIGNIFICANCE CRITERIA

CEQA Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Project would result in a significant impact if it would:

- have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS; or have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

TRPA Criteria

Based on the TRPA Initial Environmental Checklist, impacts on biological resources may be significant if the Project would:

- remove native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system;
- remove riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table;
- remove stream bank and/or backshore vegetation, including woody vegetation such as willows;
- introduce new vegetation that would require excessive fertilizer or water, or would provide a barrier to the normal replenishment of existing species;
- remove any native live, dead, or dying trees 30 inches or greater in dbh within TRPA's conservation or recreation land use classifications;
- introduce new species of animals into an area, or result in a barrier to the migration or movement of animals;
- change the diversity or distribution of species, or number of any species of plants or animals;
- reduce the numbers of any unique, rare, or endangered species of plants or animals;
- change the natural functioning of an old growth ecosystem; or
- deteriorate existing fish or wildlife habitat quantity or quality.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.3-1: Disturbance or Loss of Special-Status Plants and Wildlife

Implementing the proposed Project or Alternative A would result in construction and operation of new facilities in habitats that may provide suitable habitat for special-status plants. If special-status plants are present in the proposed Project or Alternative A sites, Project construction could cause the disturbance or loss of those species. Loss of special-status plants would be a **potentially significant** impact. For special-status animals, although implementation of the proposed Project or Alternative A could disturb individuals and a small amount of potential habitat locally, the magnitude and intensity of potential adverse effects would be minor and are not expected to affect the species' distribution, active breeding sites, breeding productivity, viability, or regional populations.

Proposed Project

Special-Status Plants

No special-status plants have been documented on the proposed Project site through the review of existing data or during the reconnaissance surveys conducted for the Project. Two special-status plant species – Davy's Sedge and short-leaved hulsea – were identified as having potential to occur in upland conifer forest on the proposed Project site (Table B-1 [Appendix B]). Although Davy's sedge and short-leaved hulsea have not been documented in the Project vicinity, and conifer forest habitat on the proposed Project site is degraded and not expected to support these species, a detailed habitat assessment or focused surveys to confirm the presence or absence of these or other special-status species have not been conducted. Therefore, this analysis conservatively assumes that Davy's sedge and short-leaved hulsea could potentially occur on the proposed Project site; and, Project construction and operation could disturb or remove special-status plants, if they are present.

With the proposed Project, site preparation activities, construction of the Schilling Lodge and associated facilities, and associated recreation uses could directly remove individuals and habitat for special-status plants, if they are present. Additionally, plants could suffer other direct physical damage, including breaking, crushing/trampling, and burying; and deposition of dust or debris, soil compaction, or disturbance to root systems. Damaged plants may experience altered growth and development, or reduced or eliminated seed-set and reproduction; and mortality of individuals or population declines can eventually result.

Special-Status Wildlife

No special-status wildlife species have been documented on the proposed Project site through the review of existing data or during the reconnaissance surveys conducted for the Project in November 2018 and March 2020; however, focused surveys for special-status species have not been conducted for the proposed Project. One special-status wildlife species – mule deer, which is designated by TRPA as "special interest" – was identified as having a moderate potential to occur on the proposed Project site (Table B-1 [Appendix B]).

Deer are not expected to fawn on or regularly use the proposed Project site due to existing human disturbance levels; lack of high-quality forage and cover; and habitat fragmentation and degradation from residential, recreation, commercial, and other uses on and near the site, and adjacent roads and associated edge effects. However, mule deer may occasionally migrate through or forage on the Project site. (Effects on mule deer migration and movement corridors specifically are discussed in detail in Impact 3.3-4, Potential Degradation or Loss of Wildlife Movement Corridors, below.) Construction-related activities could cause mule deer to avoid or move out of the areas immediately surrounding work areas. This could result in temporary impacts to foraging, movement, or sheltering behavior. Because mule deer are highly mobile and adaptive, potential effects of temporary construction activities would be minor. Construction of the proposed Project would not create any temporary or permanent barriers to movement that would redirect migration during non-working hours; during construction, deer could move around areas of construction through nearby coniferous forest and other natural habitats. Because the study area is outside of mule deer winter range, winter habitat or access to winter grounds would not be affected by Project implementation. Additionally, the amount of foraging or corridor habitat permanently removed as a result of the proposed Project would be minor

relative to the amount of habitat available in the surrounding landscape; and this small amount of natural vegetation is currently subjected to considerable disturbances and is relatively low quality.

No substantial permanent impacts to mule deer fawning, important foraging, or core movement routes are anticipated as a result of Project implementation, and no habitat loss would occur within any known fawning areas. No other special-status wildlife species are expected to regularly use the proposed Project site due to existing disturbance levels, degraded habitat conditions, and/or lack of suitable habitat for special-status species known to occur in the Tahoe Basin. Therefore, potential impacts to other special-status species are not expected or would be minor.

Impact Summary

If special-status plant species are present on the proposed Project site, the potential loss or injury of them as a result of implementing the proposed Project would be **potentially significant**. Any potential disturbances to mule deer or other special-status animal species would be minor and not substantial, for the reasons described above.

Alternative A

Special-Status Plants

No special-status plant species have been documented on the Alternative A site; however, focused or protocol-level surveys for any special-status species have not been conducted for this Project alternative. The potential for Davy's sedge and short-leaved hulsea to occur on the Alternative A site is similar to that described for the proposed Project site, although the Alternative A site contains slightly less natural vegetation and potential habitat. The Alternative A site does not provide suitable habitat for other special-status plants. For the same reasons discussed for the proposed Project, implementation of Alternative A could cause potential disturbance and loss of special-status plants if they are present; however, the potential for and magnitude of this impact may be less than that for the proposed Project. Implementation of Alternative A would require less ground disturbance and native vegetation removal, possibly resulting in a lower risk or magnitude of potential disturbance to special-status plants.

Special-Status Wildlife

No special-status wildlife species have been documented on the Alternative A site. The potential for mule deer to occasionally forage or move through the Alternative A site is similar to that described for the proposed Project site, although the Alternative A site contains slightly less natural vegetation and potential habitat. No other special-status wildlife species are expected to regularly use the Alternative A site due to existing disturbance levels, degraded habitat conditions, and/or lack of suitable habitat.

An osprey nest site is located approximately 0.25 mile northeast of the Alternative A site. Osprey is designated as a special interest species by TRPA. This nest site has not been documented as active in recent years. The TRPA Code requires a non-degradation standard for habitat within a 0.25-mile buffer zone ("disturbance zone") around active and inactive osprey nest sites in nonurban Plan Areas. The edge of this osprey disturbance zone intersects just inside the northeast-corner boundary of Alternative A along Country Club Drive. This small area includes the driveway entrance to the existing lodge, the shoulder of Country Club Drive, and some disturbed upland vegetation, and is not suitable for osprey nesting or foraging. Because of the existing disturbance levels and degraded habitat conditions on the Alternative A site, Project activities associated with Alternative A would not measurably change potential habitat conditions for osprey or disturb future nesting activity at the nest site located approximately 0.25 mile away.

For the same reasons discussed for mule deer with the proposed Project site, and because Project construction and operation would not further degrade habitat conditions within the TRPA osprey disturbance zone measurably above existing disturbance levels, potential effects on special-status wildlife species with Alternative A would be minor. The potential for and magnitude of disturbances to mule deer may be less than that for the proposed Project, and Alternative A would require less ground disturbance and native vegetation removal, possibly resulting in a lower risk or magnitude of potential disturbance to mule deer.

Impact Summary

If special-status plant species are present on the Alternative A site, the potential loss or injury of them as a result of implementing the Alternative A would be **potentially significant**. Any potential disturbances to mule deer, osprey, or other special-status animal species would be minor and not substantial, for the reasons described above.

Mitigation Measures

Mitigation Measure 3.3-1: Avoid, Minimize, and Compensate for Disturbance or Loss of Special-Status Plants

This mitigation measure would apply to the proposed Project and Alternative A.

The Project applicant shall implement the following measures to reduce potential impacts on special-status plants:

- Before commencement of any Project construction for each phase of construction and during the blooming period for the special-status plant species with potential to occur on the Project site, a qualified botanist shall conduct protocol-level surveys for special-status plants in areas that were not surveyed previously and where potentially suitable habitat would be removed or disturbed by Project activities.
- If no special-status plants are found, the botanist shall document the findings in a letter report to TCPUD and CDFW and no further mitigation will be required.
- If special-status plant species are found outside the Project footprint, the locations of these occurrences will be clearly marked with fencing, staking, flagging, or another appropriate material. All Project personnel and equipment will be excluded from these areas.
- If special-status plant species are found that cannot be avoided during construction, the Project applicant shall consult with TRPA and/or CDFW, as appropriate depending on species status, to determine the appropriate mitigation measures for direct and indirect impacts that could occur as a result of Project construction and will implement the agreed-upon mitigation measures to achieve no net loss of occupied habitat or individuals. Mitigation measures may include, but are not limited to, preserving and enhancing existing populations, creating offsite populations on Project mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals. Potential mitigation sites could include suitable locations within or outside of the Project area. A mitigation and monitoring plan shall be developed by the Project applicant describing how unavoidable losses of special-status plants will be compensated.
- If seed collection or transplantation are selected as appropriate mitigation actions, then the following measures will apply.
    - A qualified botanist will collect any plants or mature seeds from the affected plants and store them at an appropriate native plant nursery or comparable facility.
    - Upon the completion of work, a qualified botanist will redistribute the seeds within the original location of the occurrence if not directly within the Project footprint. If the original occurrence is within the Project footprint, then the Project applicant will consult with CDFW and/or TRPA to establish a suitable location for distribution of seeds or transplantation of individual plants.
- If relocation efforts are part of the mitigation plan, the plan shall include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements.
- Success criteria for preserved and compensatory populations shall include:
    - The extent of occupied area and plant density (number of plants per unit area) in compensatory populations will be equal to or greater than the affected occupied habitat.

- Compensatory and preserved populations will be self-producing. Populations will be considered self-producing when:
    - plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and
    - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the Project vicinity.
- If offsite mitigation includes dedication of conservation easements, purchase of mitigation credits, or other offsite conservation measures, the details of these measures will be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable populations.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-1 would reduce potentially significant impacts on special-status plant species to a **less-than-significant** level because it would require that any special-status plants are avoided and protected from construction activities, or that the applicant compensates for those plants that are removed.

Impact 3.3-2: Tree Removal

Construction of the proposed Project and Alternative A would require the removal of an estimated 183 and 79 total trees, respectively.

Because Project construction would be focused within areas subject to considerable levels of existing disturbances and habitat fragmentation, Project-related removal of native trees would not substantially affect common or sensitive biological resources or the surrounding environment. Because tree removal for the proposed Project and Alternative A would not substantially degrade biological resources or conflict with TRPA's threshold standard for late seral/old growth ecosystems, tree removal required for the proposed Project and Alternative A would not substantially affect the quality or viability of biological resources. However, the removal of 15 trees greater than 30 inches dbh under the current proposed Project design, and the removal of seven trees in this size class for Alternative A, could conflict with TRPA policy to prohibit the removal of trees larger than 30 inches dbh in westside forest types in lands classified as recreation, without appropriate mitigation and approval by TRPA. This impact would be **potentially significant** for the proposed Project and Alternative A.

Proposed Project

Construction of the proposed Project would require the removal of approximately 183 total trees (Tieslau Civil Engineering, Inc. 2020) including 15 trees larger than 30 inches dbh. Table 3.3-3 presents the quantity, size, and species of trees proposed for removal. The trees proposed for removal are largely common species. One sugar pine tree (measuring 32 inches dbh)—a species of limited occurrence as defined in TRPA Code Section 61.1.4.B(1)(d)—would be removed as part of the proposed Project. A representative of TRPA confirmed that the agency does not prohibit the removal of species of limited occurrence, including sugar pine trees (Nielsen, pers. comm., 2020).

Tree removal would not occur within late seral/old growth forest habitat, remove riparian vegetation or other sensitive habitat, or occur in areas outside of the permitted development footprint. The proposed Project site is not located within late seral/old growth forest, and therefore no impacts to this habitat type would result from the proposed Project. Vegetation removal for the proposed Project does not include riparian, wetland, or other sensitive vegetation types because they are not present within the construction footprint. Tree removal on the proposed Project site would not substantially affect breeding productivity or population viability of any species or cause a change in species diversity locally or regionally. The proposed Project would not reduce the numbers of any unique, rare, or endangered species of plants or animals because the tree removal would not occur in sensitive habitats or result in substantial impacts to sensitive species during construction. As required by TRPA, no tree removal would occur outside of the permitted development footprint and trees would only be removed as necessary to construct the proposed Project.

Habitat for common bird and mammal species does exist on the proposed Project site, but the proposed Project would not substantially affect common species. Tree removal at the proposed Project site would not substantially affect the amount of foraging and breeding habitat for common bird and mammal species because the habitat type at the proposed Project site is common and widespread in the immediate vicinity, including hundreds of acres of undeveloped lands at nearby Burton Creek State Park and the Conservancy's "Dollar Parcel." Thus, the proposed Project would not cause a significant impact on any wildlife species populations. Because proposed Project construction would be focused within areas subject to considerable levels of existing disturbances and habitat fragmentation, the removal of native trees would have a relatively minor effect on the surrounding environment. Also, the proposed Project would be constructed in areas that support common tree species such as Jeffrey pine, white fir, and/or lodgepole pine. Stands that consist of these species and their biological functions, particularly those that are disturbed and within developed or semi-urban landscapes, are not considered threatened or vulnerable to decline in the Tahoe region. These trees or stands are not considered critical or limiting to the presence or viability of common or sensitive biological resources in the region. Additionally, tree removal or other vegetation disturbances would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or interrupt the natural processes that support common vegetation communities on the proposed Project site. The proposed Project would also not substantially change the structure or composition of forest habitat in the proposed Project vicinity.

Regardless of the proposed Project, tree removal could be proposed in the future at the site due to existing tree densities in certain locations and for forest health reasons. Several of the trees proposed for removal under the proposed Project, including some that are larger than 30 inches dbh, are diseased and potentially hazardous. Because the project site contains untreated clusters of tightly-spaced trees, tree removal could be proposed in the future to reduce fuels and improve forest health, even if the proposed Project does not move forward at this location.

Regardless of the magnitude or biological effects of tree removal, native trees are protected in the Tahoe region. TRPA regulates the management of forest resources in the Tahoe Basin to achieve and maintain the threshold standards 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 is subject to review and approval by TRPA (TRPA 2012b).

TRPA's existing policies and Code provisions address tree removal through site-specific environmental review and permitting; require development and implementation of Project-specific measures to minimize or avoid impacts through the design, siting, and the permitting process; and require compensatory or other mitigation for any significant effects as a condition of Project approval. Specifically, the TRPA Goals and Policies and Code of Ordinances include provisions limiting tree removal and protecting late seral/old growth forests, and TRPA's Rules of Procedure require mitigation for any significant impact as a condition of Project approval. Additionally, TRPA cannot approve projects that would cause a significant adverse effect on the late seral/old growth ecosystem threshold standard without appropriate mitigation. Specific provisions for tree removal in the Tahoe Basin are provided in the following chapters and sections of the TRPA Code: Chapter 61, Vegetation and Forest Health, Section 61.1, Tree Removal, Section 61.3.6, Sensitive and Uncommon Plant Protection and Fire Hazard Reduction, and Section 61.4, Revegetation; Chapter 36, Design Standards; Chapter 33, Grading and Construction, Section 33.6, Vegetation Protection During Construction; and Chapter 62, Wildlife Resources.

Removal of trees greater than 14 inches dbh requires review and approval by TRPA. Specifically, applicants must obtain a tree removal permit from TRPA prior to removing trees greater than 14 inches dbh, except for certain cases exempt by the TRPA Code (for example, trees of any size marked as a fire hazard by a fire protection district or fire department that operates under a memorandum of understanding with TRPA can be removed without a separate tree permit). 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 Chapter 61 of the TRPA Code as activities on project areas of 3 acres or more and proposing: (1) removal of more than 100 live trees 14 inches dbh or larger, or (2) 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 Chapter 61. The proposed Project would likely involve substantial tree removal based on the quantity of trees greater than 14 inches dbh to be removed (see Table 3.3-3) and would, therefore, require a harvest or tree removal plan approved by TRPA. In addition, trees and vegetation

not scheduled to be removed must be protected during construction in accordance with TRPA Code Chapter 33, Grading and Construction, Section 33.6, Vegetation Protection During Construction.

Table 3.3-3 Tree Removal Associated with the Proposed Project and Alternative A[1]

Size Class (inches dbh)	Number of Trees to Be Removed by Species							
	Proposed Project				Alternative A			
	Fir	Pine	Species of Limited Occurrence[2]	Subtotal	Fir	Pine	Species of Limited Occurrence[2]	Subtotal
<14	10	18		**28**	16	19		**35**
14 – <24	48	55		**103**	5	18		**23**
24 – <30	14	23		**37**		12	2	**14**
≥30	7	7	1	**15**		7		**7**
TOTAL	**79**	**103**	**1**	**183**	**21**	**56**	**2**	**79**
Specific Size Class Details for Trees to Be Removed that Measure Greater than 30 Inches dbh								
30	3	2		**5**		1		**1**
31	1	1		**2**		1		**1**
32	1	2		**3**				**0**
33				**0**		1		**1**
34	1	1		**2**		1		**1**
35	1	2		**3**				**0**
36				**0**		1		**1**
37				**0**		1		**1**
43				**0**		1		**1**
TOTAL	**7**	**8**	**0**	**15**	**0**	**7**	**0**	**7**

[1] Tree removal details obtained from tree survey data provided by TTCSEA in 2020.

[2] The proposed Project would result in the removal of one sugar pine tree. Alternative A would result in the removal of two incense cedar trees. These species are categorized as species of limited occurrence in the TRPA Code.

Source: Tieslau Civil Engineering, Inc. 2020

The proposed Project site is not located within late seral/old growth forest, but rather contains patches of open to moderately dense mid-seral forest; and the removal of trees required for the Project would not substantially change the structure or composition of forest habitat in the Project vicinity. Therefore, the Project would not conflict with TRPA threshold standards for protecting late seral/old growth forest. However, for the purpose of late seral/old growth ecosystem protection, TRPA Code Section 61.1.4, Old Growth Enhancement and Protection, prohibits, with limited exceptions, the removal of trees larger than 30 inches dbh in westside forest types for forest management activities and projects located in lands classified by TRPA as conservation or recreation land use or SEZ. The proposed Project would be implemented within an area designated as a westside forest type and on lands classified as recreation by TRPA. The Code provides an exception to this prohibition for private landowners provided they prepare and receive TRPA approval of a limited forest plan according to the requirements of TRPA Code Section 61.1.4.C. The removal of trees larger than 30 inches dbh for any project is specifically addressed in TRPA's Initial Environmental Checklist for project review and is a significance criterion for this analysis of the proposed Project.

As part of the required TRPA approval and permitting process for the proposed Project, the Project applicant would complete the applicable TRPA application and review procedures and secure TRPA approval for all proposed tree removal. For substantial tree removal (as defined in the TRPA Code), the standard review process established in TRPA Code Section 61.1.8, Substantial Tree Removal, would be followed, including preparation of a harvest or tree removal plan for review and implementation of the plan upon approval. For the removal of trees larger than 30 inches dbh,

the project applicant would be required to prepare a limited forest plan according to Section 61.1.4.C, Alternative Private Landowner Process, for review and implementation of the plan upon approval. Therefore, if these procedures are followed the proposed Project-related tree removal would not conflict with the applicable tree removal and protection provisions of the TRPA Code.

Impact Conclusion

Because Project construction would be focused within areas subject to considerable levels of existing disturbances and habitat fragmentation, Project-related removal of native trees would not substantially affect common or sensitive biological resources or the surrounding environment. Because tree removal for the proposed Project would not substantially degrade biological resources or conflict with TRPA's threshold standard for late seral/old growth ecosystems, tree removal required for the proposed Project would not substantially affect the quality or viability of biological resources. However, the removal of 15 trees greater than 30 inches dbh under the current proposed Project design could conflict with TRPA policy to prohibit the removal of trees larger than 30 inches dbh in westside forest types in lands classified as recreation, without appropriate mitigation and approval by TRPA. This impact would be **potentially significant** for the proposed Project.

Alternative A

Construction of Alternative A would require the removal of approximately 79 total trees, including seven trees larger than 30 inches dbh. Table 3.3-3 presents the quantity, size, and species for all trees proposed for removal. The trees proposed for removal with Alternative A are largely common species. Two incense cedars (24 and 26 inches dbh) would be removed with Alternative A. Incense cedars are defined as species of limited occurrence in TRPA Code Section 61.1.4.B(1)(d). A representative of TRPA confirmed that the agency does not prohibit the removal of species of limited occurrence, including incense cedars (Nielsen, pers. comm., 2020).

The potential biological effects and TRPA review and permitting requirements related to tree removal, and the applicant's compliance with those requirements and applicable policies, would be similar to those described for the proposed Project. However, construction of Alternative A would require the removal of an amount of trees that would not qualify as substantial tree removal as defined in the TRPA Code and, therefore, a harvest or tree removal plan may not be required. For the same reasons described for the proposed Project, the removal of trees for Alternative A would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.3-2: Minimize Tree Removal, Develop and Implement a Tree Removal and Management Plan

This mitigation measure would apply to the proposed Project and Alternative A.

- Where feasible, the Project will avoid and minimize the removal of trees, especially those larger than 30 inches dbh. This avoidance and minimization will be achieved through Project design to the greatest extent feasible and during the TRPA permitting process. This process typically includes:
  - Minor realignment and reconfiguration of parking, traffic circulation, walkways, sidewalks, patios and other site amenities.
  - A reduction in the parking requirements if approved by the regulatory agencies and acceptable to the project goals.
  - Focusing on retaining healthy trees instead of diseased trees and removing smaller trees instead of larger trees; or attempting to prune trees if possible.
  - Attempting to retain trees that enhance or provide additional scenic and sound barriers to the nearby neighborhood.
- For any residual removal of trees larger than 30 inches dbh and for any tree removal determined to be substantial tree removal by TRPA, the following measures will be implemented:

- For trees larger than 30 inches dbh to be removed, a limited forest plan pursuant to TRPA Code Section 61.1.4.C will be prepared by a qualified forester, vegetation ecologist, or other qualified environmental professional. TRPA approval of the limited forest plan will be required before permit issuance and project implementation. The plan will be submitted to a TRPA Registered Professional Forester (RPF) or other qualified TRPA professional for review, input, and approval, and will be implemented prior to or during the project. The limited forest plan will include the following elements:
    - An assessment of the condition and health of trees greater than 30 inches dbh proposed for removal; this condition and health assessment will provide the basis for any compensatory measures that may be required.
    - Specifications for removal and retention of trees greater than 30 inches dbh, including provisions for vegetation retention and protection during construction to avoid temporary disturbances in accordance with Chapters 33 and 36 of the TRPA Code and with industry standards and recommended practices.
    - Feasible measures to compensate for the removal of trees larger than 30 inches dbh, such as implementation of forest enhancement actions to facilitate growth and development of large trees in appropriate locations on- or offsite, or enhancement of existing late seral/old growth forest stands offsite.
    - Management actions, such as fuels and vegetation treatments, to facilitate and enhance large-tree and/or old-growth habitat development within potential treatment areas.
    - A clear description of how the Project shall contribute to achieving TRPA threshold standards for late seral/old growth forest enhancement, identification of priority locations where forest enhancement actions could be implemented to achieve the plan's objectives, and a funding component (e.g., for late seral/old growth forest enhancement projects) to ensure plan implementation. Appropriate compensatory actions that meet these standards will be identified and developed in coordination with TRPA.
    - A detailed description of performance standards for any compensatory measures included in the plan and how they will be implemented.
- If a timber harvesting plan is required to be submitted to California Department of Forestry and Fire Protection and that timber harvesting plan meets the requirements of the limited forest plan described in this mitigation measure, the timber harvesting plan may be submitted to TRPA for review and approval in lieu of a separate limited forest plan.
- If a separate tree harvest plan is required by TRPA for overall tree removal on the site because the removal would qualify as "substantial," as defined in Section 61.1.8 (Substantial Tree Removal) of the TRPA Code as determined by TRPA, the elements of the limited forest plan described in this mitigation measure may be integrated into the TRPA tree harvest plan.
- All tree protection obligations required in the limited forest plan and/or the tree harvesting or harvest plan will be incorporated into construction contracts. Tree protection measures will be in accordance with TRPA Code and be installed and inspected by staff from TRPA before issuance of a grading permit.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-2 would ensure compliance with existing TRPA regulations and policies to identify potentially significant tree removal and would minimize or avoid those impacts through the design and permitting process. Therefore, the potentially significant impact related to tree removal would be reduced to a **less-than-significant** level.

Impact 3.3-3: Potential Establishment and Spread of Invasive Plants

Construction of the Schilling Lodge and associated facilities for the proposed Project and Alternative A have the potential to introduce and spread noxious weeds and other invasive plants during construction and revegetation periods. These activities would temporarily create areas of open ground that could be colonized by nonnative, invasive plant species from inside or outside of the proposed Project site. Noxious weeds and other invasive plants could inadvertently be introduced or spread on the proposed Project site during grading and construction activities,

if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Soil, vegetation, and other materials transported to the proposed Project site from offsite sources for best management practices (BMPs), revegetation, or fill for Project construction could contain invasive plant seeds or plant material that could become established on the proposed Project site. Additionally, invasive plant species currently present on or near the proposed Project site have the potential to be spread by construction disturbances. The introduction and spread of invasive species would degrade terrestrial plant and wildlife habitats on or near the proposed Project site. The TRPA Code specifically prohibits the release of nonnative species in the Tahoe Basin because they can invade important wildlife habitats and compete for resources. The potential introduction and spread of invasive plant species as a result of the proposed Project or Alternative A would be a **potentially significant** impact.

Proposed Project

Surveys for invasive plant species have not been conducted on the proposed Project site. However, several invasive plant species are present in the Placer County Tahoe Basin Area Plan boundaries; some of these species could occur on or adjacent to the proposed Project site. Table 3.3-4 lists several invasive plants that have been documented in the Area Plan boundaries.

Table 3.3-4 Name and Status of Several Invasive Plant Species Known to Occur in the Placer County Tahoe Basin Area Plan Boundaries

Common Name and *Scientific Name*	LTBWCG[1]	CDFA[2]	Cal-IPC[3]	LTBMU[4]
Cheatgrass, *Bromus tectorum*	-	-	High	Low
Bull thistle, *Cirsium vulgare*	Group 2	-	Moderate	High
Poison hemlock, *Conium maculatum*	-	-	Moderate	Medium
Scotch broom, *Cytisus scoparius*	Group 2	C	High	Medium
Klamath weed, *Hypericum perforatum*	Group 1	C	Moderate	Medium
Dyer's woad, *Isatis tinctoria*	-	B	Moderate	Medium
Broadleaved pepperweed, *Lepidium latifolium*	Group 2	B	High	Medium
Oxeye daisy, *Leucanthemum vulgare*	Group 2	-	Moderate	Medium
Dalmatian toadflax, *Linaria dalmatica* ssp. *dalmatica*	Group 2	A	Moderate	High
Butter and eggs, *Linaria vulgaris*	Group 2	-	Moderate	Medium
Eurasian water milfoil, *Myriophyllum spicatum*	-	C	High	N/A
Scotch thistle, *Onopordum acanthium* ssp. *acnathium*	Group 1	A	High	High
Russian thistle, *Salsola tragus*	-	C	Limited	-
Woolly mullein, *Verbascum thapsus*	-	-	Limited	-

[1] Lake Tahoe Basin Weed Coordinating Group (LTBWCG) prioritizes invasive weeds of concern by management group. Group 1: watch for, report, and eradicate immediately. Group 2: manage infestations with the goal of eradication.

[2] The California Department of Food and Agriculture's (CDFA) noxious weed list (http://www.cdfa.ca.gov/phpps/ipc/) List A: eradication or containment is required at the state or county level; List B: eradication or containment is at the discretion of the County Agricultural Commissioner; List C: eradication or containment only when found in a nursery or at the discretion of the County Agricultural Commissioner.

[3] California Invasive Plant Council (Cal-IPC) (http://www.cal-ipc.org/ip/inventory/weedlist.php) High: these species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure; Moderate: these species have substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure; Limited: these species are invasive but their ecological impacts are minor on a statewide level.

[4] The Lake Tahoe Basin Management Unit (LTBMU) High: species that have a large ecological impact and/or invasive potential and are easily controlled; Medium: species that have a medium ecological impact and/or invasive potential and medium ability to be controlled; Low: species that have a low ecological impact and/or invasive potential and are not easily controlled; species with an N/A were not evaluated.

Source: Compiled by Ascent Environmental in 2019

Construction of the Schilling Lodge and associated facilities for the proposed Project could result in the spread of noxious weeds and other invasive plants that may be present on the proposed Project site. Additionally, new noxious weed species and other invasive plants could be introduced into the proposed Project site during construction. Construction would involve ground-disturbing activities in disturbed and native vegetation types, and would temporarily create areas of open ground that could be colonized by invasive plant species from inside or outside of the proposed Project site. Invasive plants could inadvertently be introduced or spread on the proposed Project site during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if weed seeds or propagules are inadvertently transported and distributed by construction equipment and personnel from an infested area. Standard project BMPs required by TRPA would reduce the potential for introducing or spreading invasive plant populations on the proposed Project site by reducing the amount of open ground during construction; however, the potential for this effect would still exist. Erosion-control materials, seed mixes, and unwashed construction equipment can transport propagules of invasive plants to construction sites where disturbed areas can provide ideal conditions for their establishment and aid their spread into adjacent native plant communities.

Once established, invasive plant species can alter ecosystem processes and cause serious deleterious effects on native biological communities. Potential impacts to native species and ecosystems include altered hydrologic patterns, fire cycles, and soil chemistry; reduced nutrient, water, and light availability; and reduced biodiversity (Coblentz 1990, Vitousek et al. 1996, CalIPC 2006). The effects of invasive plant species can also decrease wildlife habitat values. Nonnative terrestrial and aquatic invasive species compete with native plant and animal species; their introduction and proliferation in ecosystems can substantially alter the dynamics of native aquatic and terrestrial communities. This conversion can indirectly affect wildlife and fish species by changing and often reducing food sources and habitat structure and can lead to competition between native plant species and the weeds, often resulting in loss of native vegetation.

The TRPA Code specifically prohibits the release of nonnative species in the Tahoe Basin because they can invade important wildlife habitats and compete for resources. Any introduction or spread of invasive plants would degrade plant and wildlife habitat on or near the proposed Project site. This construction-related impact would be **potentially significant**.

Alternative A

The potential construction-related introduction and spread of invasive species with Alternative A would be similar to that described for the proposed Project, because Project construction and ground disturbance for Alternative A would be located in the same general vicinity and would include the same impact mechanisms and construction effects as the proposed Project. For the reasons discussed above, this impact would be **potentially significant**. The potential for and magnitude of this impact may be less than that for the proposed Project in that Alternative A would require less ground disturbance and native vegetation removal, possibly resulting in a lower risk or magnitude of invasive plant introduction and spread.

Mitigation Measures

Mitigation Measure 3.3-3: Implement Invasive Plant Management Practices During Project Construction

This mitigation measure would apply to the proposed Project and Alternative A.

In consultation with TCPUD and/or TRPA, the Project applicant shall implement appropriate invasive plant management practices during Project construction. Recommended practices include the following:

- A qualified biologist will conduct a preconstruction survey to determine whether any populations of invasive plants are present within areas proposed for ground-disturbing activities. This could be conducted in coordination with the focused special-status plant survey recommended above under Mitigation Measure 3.3-1.
- Before construction activities begin, invasive plant infestations will be treated where feasible. Treatments will be selected based on each species ecology and phenology. Control measures may include herbicide application, hand removal, or other means of mechanical control. This would help eliminate the threat of spreading the species

throughout the Project site and adjacent areas. All treatment methods—including the use of herbicides—will be conducted in accordance with the law, regulations, and policies governing the land owner. As required by Section 60.1.7, Pesticide Use, of the TRPA Code, any use of herbicides shall be consistent with the TRPA Handbook of Best Management Practices to protect water quality. Land owners will be notified prior to the use of herbicides for invasive plant treatment. In areas where treatment is not feasible, noxious weed areas will be clearly flagged or fenced to clearly delineate work exclusion. Treatments will be implemented by a qualified biologist or other qualified specialist approved by TCPUD and/or TRPA.

- Vehicles and equipment will arrive at the Project site clean and weed-free. All equipment entering the Project site from weed-infested areas or areas of unknown weed status will be cleaned of all attached soil or plant parts before being allowed into the Project site. Vehicles and equipment will be cleaned using high-pressure water or air at designated weed-cleaning stations after exiting a weed-infested area. Cleaning stations will be designated by a botanist or noxious weed specialist and located away from aquatic resources.
- To ensure that fill material and seeds imported to the study area are free of invasive/noxious weeds, the Project will use onsite sources of fill and seeds whenever available. Fill and seed materials that need to be imported to the study area will be certified weed-free. In addition, only certified weed-free imported materials (or rice straw in upland areas) will be used for erosion control.
- If designated weed-infested areas are unavoidable, the plants will be cut, if feasible, and disposed of in a landfill in sealed bags or disposed of or destroyed in another manner acceptable to TCPUD, TRPA, or other agency as appropriate. If cutting weeds is not feasible, layers of mulch, degradable geotextiles, or similar materials will be placed over the infestation area to minimize the spread of seeds and plant materials by equipment and vehicles during construction. These materials will be secured so they are not blown or washed away.
- Locally collected native seed sources for revegetation shall be used when possible. Plant and seed material will be collected from or near the Project site, from within the same watershed, and at a similar elevation when possible and with approval of the appropriate authority (e.g., U.S. Forest Service [USFS] botanist for collection on USFS land).
- After construction is completed for each Project phase, the affected Project site shall be monitored on an annual basis for infestations of invasive weeds until the restored vegetation has become fully established. If new populations of invasive weeds are documented during monitoring, they will be treated and eradicated to prevent further spread. Monitoring by a qualified biologist shall occur for up to three years (as feasible) subsequent to Project implementation.

Significance after Mitigation

Implementing Mitigation Measure 3.3-1 would reduce potentially significant impacts from the spread of invasive plants to a **less-than-significant** level because invasive plant management practices would be implemented during Project construction, and the inadvertent introduction and spread of invasive plants from Project construction would be prevented.

Impact 3.3-4: Potential Degradation or Loss of Wildlife Movement Corridors

The sites for the proposed Project and Alternative A are not positioned within known important wildlife movement or migratory corridors. The proposed Project and Alternative A sites are not likely to function as important corridors due to existing disturbance levels and relatively low-quality habitat. However, vegetation removal and facility construction could disrupt potential wildlife movements in the region, particularly for mule deer. No substantial permanent impacts to mule deer fawning, important foraging, or core movement routes are anticipated as a result of implementing the proposed Project or Alternative A, and no habitat loss would occur within any known fawning areas. Therefore, implementation of the proposed Project or Alternative A is not expected to substantially affect important movement corridors for mule deer or other wildlife. Any potential impacts would be **less than significant**.

Proposed Project

The proposed Project would not impede fish passage and no Project work would occur within any fish bearing stream. Additionally, the proposed Project site is not positioned within known important wildlife movement or migratory corridors. This site is not likely to function as an important corridor due to existing human disturbance levels; lack of high-quality forage and cover; and habitat fragmentation and degradation from residential, recreation, commercial, and other uses on and near the site, and adjacent roads and associated edge effects. However, vegetation removal and facility construction could disrupt potential wildlife movements in the region, particularly for mule deer.

The Verdi sub-unit of the Loyalton-Truckee Deer Herd migrates from the eastern Sierra Nevada foothills outside of Reno, Nevada, southwest into eastern Sierra, Nevada, and Placer counties in California during the spring and summer months after breeding. As described in the Loyalton-Truckee Deer Herd Management Plan (CDFW 1982), individuals migrated along the northern and southern sides of Interstate 80 (I-80) southwest from the Truckee Meadows in Nevada. Deer moving along the southern side of I-80 then followed the Truckee River into the Martis Valley before diverging into the Donner Lake and west Lake Tahoe Basin areas. Because the 1982 Loyalton-Truckee Deer Herd Management Plan is 30 years old, deer migratory and fawning patterns have probably shifted since the Plan's completion due to development in the Truckee and Northstar region, the increased use of SR 267, and the expansion of I-80. The proposed Project site is located in the vicinity of the migration route along the Truckee River into the Lake Tahoe Basin.

Mule deer use early to mid-successional stages of several vegetation types, including riparian, meadow, and forest for summer range. Important habitat requirements for mule deer fawning include undisturbed meadow and riparian areas that provide hiding cover and forage. The proposed Project site includes potential foraging habitat but does not contain suitable fawning habitat for mule deer. Mule deer are highly mobile ungulates and may use habitats on the proposed Project site for foraging or movement occasionally during non-winter months. However, the proposed Project site is not expected to be within a core migration or movement corridor for mule deer. The proposed Project site is located in the southern extent of the herd's range and is not positioned between known fawning areas, or between winter habitat and known fawning areas. Mule deer numbers in the southern portion of the herd's range, particularly the Tahoe Basin, are relatively low. Also, the proposed Project site is presently subject to considerable levels of human disturbance due to the adjacent high school, residential development, presence of roads, maintenance activities, and recreational uses on or adjacent to the site, reducing its potential value as important migratory habitat. Additionally, the amount of foraging or movement habitat permanently removed as a result of the proposed Project would be minor relative to the amount available in the surrounding landscape; and this small amount of natural vegetation is currently subject to considerable disturbances and is relatively low quality.

As discussed previously for Impact 3.3-1, construction-related activities could cause mule deer to avoid or move out of the areas immediately surrounding work areas. This could result in temporary impacts to foraging, movement, or sheltering behavior. Because mule deer are highly mobile and adaptive, potential effects of temporary construction activities are expected to be minor. Construction of the proposed Project would not create any temporary or permanent barriers to movement that would redirect migration during non-working hours; during construction, deer could move around areas of construction through nearby coniferous forest and other natural habitats. Because the study area is outside of mule deer winter range, winter habitat or access to winter grounds would not be affected by proposed Project implementation.

No substantial permanent impacts to mule deer fawning, important foraging, or core movement routes are anticipated as a result of Project implementation, and no habitat loss would occur within any known fawning areas. Mule deer may occasionally migrate through or forage on the proposed Project site; if so, short-term construction and increased human disturbances there could disturb individuals. However, because the proposed Project site is not expected to support fawning mule deer or provide core migratory habitat, and Project implementation would not substantially affect the composition, structure, or abundance of core mule deer foraging or known important migratory routes, potential effects of the proposed Project would not be substantial. The proposed Project would not introduce any new large linear corridors or other structures that are expected to deter or prevent mule deer from using traditional areas or other presently-used core habitat locations throughout its range. Therefore, implementation of the proposed Project is not expected to substantially affect deer movements or migration routes. The proposed

Project site does not occur within any other known migration routes or native wildlife nursery sites and would not substantially interfere with the movement of any resident fish or wildlife species. Any potential impacts would be **less than significant**.

Alternative A

The potential disturbance to movement corridors for mule deer and other wildlife species with Alternative A would be similar to that described for the proposed Project because construction and ground disturbance for Alternative A would be located in the same general vicinity and would include the same impact mechanisms and construction effects as the proposed Project. For the reasons discussed above, this impact would be **less than significant**. The potential for and magnitude of this impact may be less than that for the proposed Project. Alternative A would require less ground disturbance and native vegetation removal, possibly resulting in a lower risk or magnitude of disturbance to mule deer and other wildlife movements locally.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

The geographic scope of cumulative impacts for biological resources is the Tahoe region. Biological resources in the Tahoe region have been subjected to multiple historic impacts that date back to the extensive logging during the Comstock era. Following that major disturbance, decades of fire suppression and development in the region have reduced the quality and quantity of habitats from pre-Comstock conditions. Past, present, and foreseeable future activities that have affected or may affect biological resources in the Tahoe region include logging, grazing, fuels management, recreational development and activities, urban and commercial development, and right-of-way maintenance and operation activities. Specific projects that may interact with the proposed Project or Alternative A on a cumulative basis are listed in Table 3.1-2.

The primary biological resource issues relevant to cumulative impacts, where the proposed Project or Alternative A have the potential to contribute to impacts generated by other projects, are effects related to special-status plant species (Impact 3.3-1), tree removal (Impact 3.3-2), invasive plant species (Impact 3.3-3), and wildlife movement (Impact 3.3-4). Past projects and activities have resulted in the decline of some native plant populations and rarity of some species, and the introduction and spread of various noxious weeds and invasive species in the Project region, resulting in habitat degradation and other adverse effects on biological resources. Existing and foreseeable future projects have the potential to continue this trend, although current policies, regulations, and programs currently minimize the potential for the further spread of noxious weeds and invasive species and loss of rare or special-status plants. The current presence and spread of noxious weeds and invasive species in the Project region, and the decline of some native plant populations and species, are considered significant cumulative impacts. The significance level of existing cumulative effects related to tree removal and wildlife movement generally in the Tahoe region is less clear.

Implementation of either the proposed Project or Alternative A would remove native trees and other vegetation, and could potentially cause disturbance or loss of special-status plants if they are present on the proposed Project site, establishment or spread of invasive plants, and disturbances to wildlife movement. However, natural vegetation types on the proposed Project and Alternative A sites (i.e., Sierran mixed conifer and perennial grassland) are fragmented and highly disturbed; and, the quality of habitat for native species is limited by existing disturbances and degradation from residential, recreation, and commercial uses on and near either site; adjacent roads; and associated edge effects. As described in detail for Impacts 3.3-1, 3.3-2, 3.3-3, and 3.3-4, direct or indirect effects on these biological resources as a result of the proposed Project or Alternative A would be relatively minor. Additionally, with implementation of Mitigation Measure 3.3-1, potential disturbances or loss of special-status plants would be avoided, minimized, or compensated for. With implementation of Mitigation Measure 3.3-3, invasive plant management practices would be implemented during Project construction and the inadvertent introduction and spread of invasive from Project construction would be prevented.

The proposed Project or Alternative A, when combined with past, present, and reasonably foreseeable future projects, would not substantially affect the distribution, breeding productivity, population viability, or the regional population of any common or special-status species; or cause a change in species diversity locally or regionally. Additionally, Project implementation, would not threaten, regionally eliminate, or contribute to a substantial reduction in the distribution or abundance of any native habitat type in the Tahoe region. Therefore, the Project would not have a considerable contribution to any significant cumulative impact related to biological resources.

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3.4 ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

This section analyzes and evaluates the potential impacts of the Tahoe Cross-Country Lodge Replacement and Expansion Project (Project) on known and unknown cultural resources. Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include pre-historic resources, historic-era resources, and "tribal cultural resources" (the latter as defined by Assembly Bill (AB) 52, Statutes of 2014, in Public Resources Code [PRC] Section 21074).

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-era physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical (or architectural) resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, roads, districts), or landscapes. A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Tribal cultural resources (TCRs) were added as a resource subject to review under CEQA, effective January 1, 2015 under AB 52 and include site features, places, cultural landscapes, sacred places or objects, which are of cultural value to a tribe.

The primary issues raised during scoping that pertain to archaeological, historical, and TCRs were related to general concern for impacts to cultural resources. Additionally, the California Native American Heritage Commission (NAHC) requested AB 52 and Senate Bill (SB) 18 compliance information. SB 18 applies to General Plan amendments and is therefore not applicable to this project. AB 52 compliance is described below.

The evaluation is based on information obtained from the following reports:

- *Tahoe Cross-Country Ski Center Lodge Cultural Resource Inventory and Evaluation* (Lindström 2017),
- *Tahoe Cross-Country Lodge Replacement and Expansion Project Cultural Resource Inventory Addendum* (Lindström 2018), and
- *Schilling Residence Targeted Historic Structure Report* (Wiss, Janney, Elstner Associates 2015).

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact on archaeological, historical, and tribal cultural resources. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

3.4.1 Regulatory Setting

FEDERAL

National Park Service

Federal protection of resources is legislated by (a) the National Historic Preservation Act (NHPA) of 1966 as amended by 16 U.S. Code 470, (b) the Archaeological Resource Protection Act of 1979, and (c) the Advisory Council on Historical Preservation. These laws and organizations maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP).

Section 106 of NHPA and accompanying regulations (36 Code of Federal Regulations [CFR] Part 800) constitute the main federal regulatory framework guiding cultural resources investigations and require consideration of effects on

properties that are listed in, or may be eligible for listing in the NRHP. The NRHP is the nation's master inventory of known historic resources. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, and cultural districts that are considered significant at the national, state, or local level.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:
    A. Association with events that have made a significant contribution to the broad patterns of history (events).
    B. Association with the lives of persons significant in the past (persons).
    C. Distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).
    D. Has yielded, or may be likely to yield, information important to prehistory or history (information potential).

Listing in the NRHP does not entail specific protection or assistance for a property but it does guarantee recognition in planning for federal or federally-assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.

Secretary of the Interior's Standards

The *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Secretary's Standards) provide guidance for working with historic properties. The Secretary's Standards are used by lead agencies to evaluate proposed rehabilitative work on historic properties. The Secretary's Standards are a useful analytic tool for understanding and describing the potential impacts of proposed changes to historic resources. Projects that comply with the Secretary's Standards benefit from a regulatory presumption that they would not result in a significant impact to a historic resource.

In 1992 the Secretary's Standards were revised so they could be applied to all types of historic resources, including landscapes. They were reduced to four sets of treatments to guide work on historic properties: Preservation, Rehabilitation, Restoration, and Reconstruction. The four distinct treatments are defined as follows:

- **Preservation** focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.
- **Rehabilitation** acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.
- **Restoration** depicts a property at a particular period of time in its history, while removing evidence of other periods.
- **Reconstruction** re-creates vanished or non-surviving portions of a property for interpretive purposes.

In accordance with the Secretary's Standards, the appropriate treatment for the Schilling Residence is dependent on the future use selected for the structure. If the building was to be retained and used for museum or interpretive purposes, the appropriate treatment would be "Restoration." If the building were to be adapted to a new use, the appropriate treatment would be "Rehabilitation."

The building is currently dismantled and located in storage, and is proposed to be reconstructed and converted to a public use once relocated for the Project. Given the historical significance of the building, and the anticipated

adaptation of the structures for a compatible new use, the treatment "Rehabilitation" is appropriate for the Schilling Residence.

The Secretary of the Interior's Standards for "Rehabilitation" are as follows:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

TAHOE REGIONAL PLANNING AGENCY

Article V(c)(3) of the Tahoe Regional Planning Compact (Public Law 96-551) requires the development of a conservation plan for the preservation, development, utilization, and management of scenic and other natural resources within the Tahoe Basin, including historic resources. TRPA accomplishes historic resource protection through implementation of its Goals and Policies document and Code provisions as described below.

Thresholds

There are no TRPA Environmental Threshold Carrying Capacities that pertain to archaeological, historical, or TCRs.

Goals and Policies

The Goals and Policies component of the Regional Plan establishes guiding policies for each resource element. The Conservation Element (Chapter 4) of the Goals and Policies document includes a Cultural Subelement, that includes the following relevant goal and policies:

GOAL C-1: identify and preserve sites of historical, cultural and architectural significance within the region.

- Policy C-1.1: historical or culturally significant landmarks in the region shall be identified and protected from indiscriminate damage or alteration.
- Policy C-1.2: 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.

Code of Ordinances

The TRPA Code is a compilation of the rules, regulations, and standards to implement the Regional Plan Goals and Policies. TRPA recognizes sites, objects, structures, districts or other resources, eligible for designation as resources of historical, cultural, archaeological, paleontological, or architectural significance locally, regionally, state-wide, or nationally. Those resources must meet at least one of the criteria summarized below. Chapter 67 of the Code also provides for consultation with State Historic Preservation Offices (SHPO) as well as the Washoe Tribe. Additionally, Standard 33.4.7 in Chapter 33 (Grading and Construction, Section 33.4, Grading Standards) addresses discovery of historic resources.

- Resources Associated with Historically Significant Events and Sites. Such resources shall meet one or more of the following: a) association with an important community function in the past, b) association with a memorable happening in the past, or c) contain outstanding qualities reminiscent of an early state of development in the region.
- Resources Associated with Significant Persons. Such resources include a) buildings or structures associated with a locally, regionally, or nationally known person; b) notable example or best surviving works or a pioneer architect, designer or master builder; or c) structures associated with the life or work of significant persons.
- Resources Embodying Distinctive Characteristics. Resources that embody the distinctive characteristics of a type, period, or method of construction that possess high artistic values or that represent a significant and distinguishable entity but whose components may lack individual distinction. Works of a master builder, designer, or architect also are eligible. Resources may be classified as significant if they are a prototype of, or a representative example of, a period style, architectural movement, or method of construction unique in the region, the states, or the nation.
- State and Federal Guidelines. Archaeological or paleontological resources protected or eligible for protection under state or federal guidelines.
- Prehistoric Sites. Sites where prehistoric archaeological or paleontological resources that may contribute to the basic understanding of early cultural or biological development in the region.

Placer County Tahoe Basin Area Plan

Part 2, Conservation Plan, of the Placer County Tahoe Basin Area Plan contains the following policies that are relevant to the project:

- Policy C-P-1: Encourage reuse and incorporate buildings or structures that are determined to be of historic significance into site plans.
- Policy C-P-2: Evaluate cultural and/or historic resources when evaluating project activities with the goal of avoiding impacts to such resources.
- Policy C-P-3: All TRPA policies, ordinances, and programs related to cultural resources will remain in effect.

STATE

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on "historical resources," "unique archaeological resources," and "tribal cultural resources." Pursuant to PRC 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether projects would have effects on unique archaeological resources.

Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC Section 21084.1; determining significant impacts to historical and archaeological resources is described in the State CEQA Guidelines, Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register of Historical Resources [CRHR]; PRC Section 5024.1).

2) A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1), including the following:

    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    b) Is associated with the lives of persons important in our past;

    c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    d) Has yielded, or may be likely to yield, information important in prehistory or history.

4) The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Section 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. PRC Section 21083.2, subdivision (g), states that unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Tribal Cultural Resources

CEQA also requires lead agencies to consider whether projects will impact TCRs. PRC Section 21074 states the following:

a) "Tribal cultural resources" are either of the following:

    1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

        A) Included or determined to be eligible for inclusion in the CRHR.

        B) Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.

    2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a TCR if it conforms with the criteria of subdivision (a).

California Register of Historical Resources

All properties in California that are listed in or formally determined eligible for listing in the NRHP are eligible for the CRHR. The CRHR is a listing of State of California resources that are significant within the context of California's history. The CRHR is a statewide program of similar scope and with similar criteria for inclusion as those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historic resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are similar to the NRHP criteria and are tied to CEQA because any resource that meets the criteria below is considered a significant historical resource under CEQA.

The CRHR uses four evaluation criteria:

1. Is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. Is associated with the lives of persons important to local, California, or national history.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a resource must meet one of the above criteria and retain integrity. The CRHR uses the same seven aspects of integrity as the NRHP.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (Act) applies to both state and private lands. The Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner be notified. If the remains are of a Native American, the coroner must notify the NAHC, which notifies and has the authority to designate the most likely descendant (MLD) of the deceased. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Health and Safety Code, Sections 7050.5 and 7052

Section 7050.5 of the California Health and Safety Code (HSC) requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the NAHC. Section 7052 states that the disturbance of Native American cemeteries is a felony.

Public Resources Code, Section 5097

PRC Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC. Section 5097.5 of the Code states the following:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Public Resources Code Section 21080.3

AB 52, signed by the California Governor in September of 2014, established a new class of resources under CEQA: "tribal cultural resources," defined in PRC 21074. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation before the release of an environmental impact report, negative declaration, or mitigated negative declaration.

LOCAL

Placer County

The Recreational and Cultural Resources Section (Section 5) of the Placer County General Plan includes a goal to "identify, protect, and enhance Placer County's important historical, archaeological, paleontological, and cultural sites and their contributing environment." This plan also includes policies to protect and enhance cultural resources through various means, including incentive programs for private property owners, public education, avoidance and mitigation of cultural resource impacts in discretionary development projects, coordination with the local Native American community and NAHC, and assisting private citizens seeking historic landmark designations for their property.

3.4.2 Environmental Setting

REGIONAL PREHISTORY

In broadest terms, the archaeological signature of the Tahoe Basin is marked by a trend from hunting-based societies in earlier times to populations that were increasingly reliant upon imported resources by the time of historic contact. The shift in lifeways may be attributed partially to factors involving paleoclimate, a shifting subsistence base, and demographic change. Current understanding of northern Sierra Nevada and western Great Basin prehistory is framed within a hypothetical sequence spanning nearly 12,000 years that is drawn from archaeological investigations throughout the northern Sierra and the Truckee Meadows. The archaeological phenomena are organized into time periods, known as the Eastern Sierra Front Chronology, for comparing and interpreting Tahoe Sierra archaeology.

Pre-Archaic sites date from 10,000 to circa (ca.) 7,000 before present (B.P.) and cluster around lakeshores, river terraces, and high ground above valleys. Following the retreat of sierran glaciers, humans began to occupy the Tahoe Sierra by at least 8,000 to 9,000 years ago during the Tahoe Reach Phase. Climates were warmer and drier, although conditions remained relatively cool and moist. The earliest archaeological evidence of human presence in the region

is found at South Lake Tahoe along Taylor Creek and along the Truckee River near Squaw Valley. Early populations were highly mobile in the pursuit of large game animals and are represented by scant occurrences of isolated projectile points.

The Early Archaic Period (or Spooner Phase ca. 7,000 to 4,000 B.P.) begins with a mid-Holocene warming trend, during which lakes and marshes receded and drought-tolerant vegetation communities expanded. Drying lowlands may have prompted sparse populations to travel into upland resource zones to hunt and fish and gather plants. Archaeological sites dated to the Early Archaic are rare and no diagnostic projectile point types have been identified until ca. 5,000 B.P., which is when the Martis Contracting Stem and Martis Split Stem atlatl dart points appear. This cultural phase was first identified at Spooner Lake in the Lake Tahoe Basin.

The Middle Archaic Period begins at about 4,000 years ago during the Early Martis Phase, and continues through the Late Martis Phase to ca. 1,300 B.P. The Martis Contracting Stem and Martis Split Stem projectile points reflect an early aspect of the Middle Archaic, but Martis Corner-notched and Elko Eared points (ca. 3,000 to 1,300 B.P.) are the predominant Middle Archaic time markers. A hallmark of Middle Archaic prehistoric culture in the Tahoe Sierra is the use of basalt (fine-grained volcanics) in the manufacture of stone tools and production of large bifaces.

The Late Archaic Period spans about 1,300 years ago to historic contact. This period is marked by an overall drying trend, punctuated by cool-moist episodes alternating with extended severe drought that lasted until about 500 years ago. Such extreme climatic fluctuations may have allowed for year-round residence in the Tahoe highlands at times and prohibited even seasonal occupation at other times. Throughout the Late Archaic populations continued to rise, as reflected archaeologically in more intensive use of all parts of the Tahoe Sierra landscape and a greater emphasis on plants, fish and small game. The early half of this period (Early Kings Beach Phase ca. 1,300 to 700 B.P.) is characterized by Rose Spring series arrow points and the latter half (Late Kings Beach Phase; ca. 700 – 150 B.P.) is marked by Desert Side-notched and Cottonwood arrow points. The bow and arrow (with emphasis on core/flake technology) replaced the atlatl and dart (and production of large bifaces). This period has been associated with the Washoe Indians, as known from the ethnographic period.

ETHNOGRAPHY

The proposed Project site and Alternative A site fall within the center of historic Washoe territory, with primary use by the northern Washoe. Lake Tahoe was both the spiritual and physical center of the Washoe world. The name "Tahoe," adopted in popular jargon early on, is derived from the Washoe word *da 'ow*, signifying "lake." The lake was not officially designated as Lake Tahoe until an act by the legislature in 1945.

Several Washoe encampments have been recorded in the northwest quadrant of the Tahoe Basin, including locations near the outlets of the Truckee River, Burton Creek, and Dollar Creek. The outlet of the Truckee River was an important site where the Washoe paid respect and gave thanks to the Tahoe's waters.

While the Washoe were an informal and flexible political collective, their ethnography hints at a level of technological specialization and social complexity that was uncharacteristic of their surrounding neighbors in the Great Basin. A semi-sedentary existence and higher population densities, concepts of private property, and communal labor and ownership are reported and may have developed in conjunction with their residential and subsistence resource stability. The ethnographic record suggests that during the mild season, small groups traveled through high mountain valleys of the Tahoe Sierra collecting edible and medicinal roots, seeds and marsh plants. In the higher elevations, men hunted large game and trapped smaller mammals. Lake Tahoe and its tributaries were important fisheries year round. Suitable toolstone was quarried at various locales. The Washoe have a tradition of making long treks across the Sierran passes for the purpose of hunting, trading and gathering acorns. While some Washoe trekked to distant places for desired resources, most groups circulated in the vicinity of their traditional habitation sites.

Their relatively rich environment afforded the Washoe a degree of isolation and independence from neighboring peoples and may account for their long tenure in their known area of historic occupation, as also evidenced by linguistic studies. The Washoe are part of an ancient Hokan-speaking population, which has been subsequently surrounded by incoming Numic speakers, such as the Northern Paiute. By the 1850s Euroamericans had permanently

occupied the Washoe territory and changed traditional lifeways. Mining, lumbering, grazing, commercial fishing, tourism, and the growth of settlements disrupted traditional Indian relationships to the land. As hunting and gathering wild foods were no longer possible, the Washoe were forced into dependency upon the Euroamerican settlers. Beginning in 1917, however, the Washoe Tribe began acquiring back a small part of their traditional lands. The Washoe remain as a recognized tribe by the U.S. government and have maintained an established land base. Its approximate 1,200 tribal members are governed by a tribal council that consists of members of the Carson, Dresslerville, Woodfords, and Reno-Sparks Indian colonies, as well as members from non-reservation areas.

The Washoe have not been completely displaced from their traditional lands. The contemporary Washoe have developed a Comprehensive Land Use Plan that includes goals of reestablishing a presence within the Tahoe Sierra and re-vitalizing Washoe cultural and cultural knowledge, including the harvest and care of traditional plant resources and the protection of traditional properties within the cultural landscape.

HISTORIC SETTING

Regional History

Historic topics germane to the Project center around the themes of: (1) transportation, (2) logging, and (3) 20th-century residential development.

Transportation

Lake Tahoe's strategic proximity to wood, water, mineral, rangeland, and recreational resources justified that a significant amount of capital and energy be invested into transportation to and through the Tahoe Basin. Beginning in 1852 Scott's Route (later known as the Placer County Emigrant Road) was traveled intermittently between Auburn and the Comstock mines by westbound emigrants and eastbound prospectors. It crossed the main sierran crest above Squaw Valley and entered the Tahoe Basin at Tahoe City. This historic route is now State Route (SR) 28. This road appears on historic maps dating from 1865. The opening of the Central Pacific Railroad in 1869, with connections to Tahoe's north shore by stage in the 1860s and by rail in 1900, fostered tourism and encouraged the development of long-lived communities, even after the demise of timber harvesting and grazing activities. Owing to the difficulty of overland travel within the Tahoe Basin, steamships became critical modes of transportation as early as 1864. Automobile roads in the Tahoe Basin generally date after the 1910s. During the 1930s the Forest Highway system was established, which resulted in a network of engineered and major routes through the Tahoe Basin. Not until 1927 did paved highways circle the lakeshore.

Logging

During the 1860s and until around the turn of the century, demands for large saw logs and cordwood targeted pine species for the production of timbers for the mines and the railroad. As timber markets were gradually expanded with the completion of the transcontinental railroad, a growing emphasis was placed on the production of other wood products. The expansion beyond sawmilling into such facilities as planing mills, box factories, and sash and door establishments, meant that self-sufficient communities grew up where the larger mills were situated. In this era, the logistics of timber extraction and transport were accomplished by large lumber companies, whose timber holdings locked up immense blocks of land.

By the turn of the century, lands in the Tahoe Basin were largely stripped of pine, but fir and other species remained. Fir had been largely ignored during the earlier harvesting, as it was considered unsuitable for the production of ties and timbers. With the introduction of paper mills, stands were re-entered to harvest fir for use as pulpwood for paper mills. The greater "digestibility" of fir species (over pine) now made them the targets of harvest. Local pulpwood was processed at the Floriston Pulp and Paper Mill, located down the Truckee River Canyon on the main transcontinental line near the California/Nevada state line.

Twentieth century logging operations were conducted on a much smaller scale and carried out on a more limited land base than during the prior Comstock Era. By the 1950s, the offspring from pines cut in the 1800s were mature enough for harvest. Lumber harvest continued on a reduced scale through the 1970s. Growing communities in the

region also created a demand that was supported by localized sawmills and shingle mills, sawing pine and cedar, respectively. By the 1980s the forests around Lake Tahoe were of more value as recreational rather than timber resources, and the large-scale logging that occurred elsewhere in the northern Sierra was curtailed in the Tahoe Basin.

Community Development

Recreation

Over time, land in the Tahoe Basin became more valuable for residential, commercial, and recreational purposes. Prior use of national forest lands for grazing or timber production gave way to recreation, as recreation and allied services became the major economic forces shaping growth. Tahoe's budding recreational economy amplified the rate of development and growth in population, with the majority of the population remaining transient or semi-transient.

As the Tahoe Basin attracted more interest and tourists with the entrance of automobiles and improved roadways, diverse resorts and rustic hotels appeared along the shores of the lake. Growing numbers of eastern visitors joined the members of San Francisco's elite and the wealthy mining and business interests of the Comstock at the lake's best hotels, such as the Tahoe Tavern in Tahoe City. Tahoe's backwoods became increasingly populated by recreationists. The U.S. Forest Service initiated patrols for visitor safety and to respond to the increased fire danger. Fire lookouts like the one on Martis Peak were established, along with remote guard stations. Early horse trails were improved and telephone lines were installed as part of a fairly extensive system which linked outlying forest government facilities with main forest offices.

With the legalization of gambling in 1931 and the Winter Olympics in 1960, the burgeoning recreational and resort industry increasingly depended upon locally based services and personnel and prompted development of subdivisions and the continual expansion of Tahoe's infrastructure. During the 1970s, unprecedented levels of growth took place at Lake Tahoe, stimulated by the availability of more reliable and widespread community sanitary water and sewer systems and organized garbage collection and landfills.

Lake Forest

The proposed Project site and Alternative A site are located north of the communities of Lake Forest and Dollar Point. The first settlement of the Lake Forest area came around 1859, when Homer D. Burton laid claim to the lakeside meadowlands of the creek which now bears his name. Burton named his Island Farm after a small hill exposed during low-water periods on the terminal end of a marshy spit of land. Here, Burton developed and cultivated garden vegetables, buckwheat, and timothy hay. Burton's Island Farm could also accommodate upwards of 30 guests. Lake Forest was a refueling stop for lake steamers, and a huge wharf, located near the present Coast Guard pier, was an over-water cache for cordwood. It took about four cords of wood per day to fuel a large steamer, much of it being harvested nearby and skidded to the wharf by teams of horses.

In the 1880s, Burton sold his 300-acre farm to Antone Russi, a dairyman whose name graces the upstream meadows of the Burton Creek drainage, two miles to the northwest. Russi died in the 1890s, and his widow married dairyman Frank X. Walker, who then took over the farm. In 1910, after having owned Russi's property for more than a decade, Walker sold a parcel, which included the Burton home. This acreage was subdivided and called Tahoe Island Park, and later it was re-subdivided into Lake Forest by Henry Droste of Tahoe Realty, the first real estate office on the western side of the lake. Seasonal residences grew in number, supplied by the founding of the Snyder Lumber Company in 1939. Several local businesses participated in an advertising campaign in 1946, reflecting the commercial upswing which Lake Forest enjoyed in the early postwar years. A post office, which opened in 1947, signaled the sense of permanence for this primarily seasonal community. With the relocation of SR 28 in 1954 to shorten and straighten the Tahoe City approach to Dollar Grade, the horseshoe, now known as Lake Forest Road, was removed as a main thoroughfare.

Dollar Point

Over the decades, Dollar Point has carried a variety of names: Chinquapin (after the Washoe derivation), Griff's, Old Lousy, Observatory, and Wychwood. The appellation "Old Lousy" has at least two explanations that have bearing on its historic land use. Griffin, a land squatter and cordwood cutter in the area, was nicknamed "Old Lousy," as he allegedly never changed his clothes. An alternative derivation comes from the notion that the waters off the promontory were considered "lousy" with trout. The name "Observatory Point" was coined in 1873 when James Lick, the San Francisco philanthropist, offered to appropriate $1,000,000 for the construction of a large observatory there. An added incentive in this venture was the boost given by D. L. Bliss and H. M. Yerington of the CTLFC, who owned a half section of land at "Old Lousy" and generously agreed to donate 140 acres to James Lick if his plans materialized. Upon the death of D. L. Bliss in 1906, the land was turned over to his heirs. In 1915, Mrs. Lora Moore Knight acquired the property and built her first Tahoe home, calling it Wychwood. The "Old Tea House," built by Mrs. Knight in the early 1920s at her famous Vikingsholm Castle at Emerald Bay, was once located on Dollar Point. Moving to Emerald Bay in 1927, she sold the property to Robert Stanley Dollar, Sr. Dollar Point and Dollar Hill are named in his honor.

Highlands Subdivision

The Highlands Subdivision was developed sometime during the early 1950s by realtors Elsie and Howard Martin. Grand plans included a pool and a golf course known as Highland Greens; however, plans were below expectations, as the development lost profits on the golf course. The nine-hole golf course and small clubhouse were built by Dave Young and Gordon Moyer sometime during the later 1960s as part of the subdivision and it may never have been opened commercially. A sprinkler system was installed and there were fairways with grass, but the course had its problems with design and terrain, given the abundance of rock and trees that obstructed golf holes. Members of the subdivision cleared the rocks from the course as part of organized work days; non-residents who picked up rocks could play for free. By various accounts, the golf course was not open long, somewhere between one season to five years; the course closed sometime during the mid-1970s, after which time the TCPUD reseeded the golf fairways.

The golf course clubhouse was later converted into the present community building, which serves the cross-country ski area and community activities. The clubhouse was small and it was enlarged to accommodate the cross-country ski area, which operates on the abandoned golf greens.

RECORDS SEARCHES, SURVEYS, AND CONSULTATION

Archaeological Resources

In September 2016 a records search of the proposed Project site and a 0.25-mile radius (includes Sites D and A) was performed by the North-Central Information Center (NCIC) of the California Historical Resources Information System (NCIC File No.: PLA-16-100). The search was conducted to determine if prehistoric or historic cultural resources were previously recorded within the proposed Project site or Alternative A site; the records were reviewed by NCIC staff to identify any properties listed on the CRHR and other listings. In addition to the records and maps for sites and studies in Placer County, other official inventories were also reviewed:

- Office of Historic Preservation's Historic Property Directory,
- Determination of Eligibility,
- California Inventory of Historical Resources,
- California State Historical Landmarks,
- NRHP/CRHR listings,
- California Points of Historical Interest, and
- Caltrans State and Local Bridge Surveys.

The records search results disclosed that 13 prior archaeological studies have been conducted within the search area and a single archaeological resource, a segment of Old County Road (P-31-2008) has been recorded numerous times.

Old County Road may date at least to 1889, or earlier as the route may be schematically shown on maps dating to 1874 and 1876. the Old County Road alignment appears to be the primary route around Lake Tahoe's north-central shore until ca. 1940. By 1940 the primary road around the north end of the lake was shifted to the current SR 28 corridor and the Old County Road alignment was designated as a secondary roadway. The 225-foot section of the road recorded within the Project area has been recommended ineligible for listing in the CRHR due to lack of integrity. All but 15 feet have been disturbed by either bulldozer activity or grading for the former golf course. Its setting has also been compromised by construction of the school to the west and the residential development to the south.

An intensive-level pedestrian survey of the proposed Project site was conducted in October 2017. The one known archaeological site, Old County Road (P-31-2008), was re-visited and site record updates were prepared. No new archaeological sites were identified. An additional pedestrian survey for the Alternative A site was conducted in October 2018. The survey disclosed no archaeological resources.

Historical Resources

The Schilling Residence, also known as Paradise Flat, is an example of the Resort Rustic architecture popular around Lake Tahoe from roughly 1900 to 1940, designed by a known architect. The subject 4,465-square foot building designed by Berkeley architect Roland I. Stringham was built in 1936. The roofs have open eaves and rounded rafter tails. The chimney for the large stone fireplace in the living room also provides for an outdoor fireplace mortared of local stone reflecting a high level of workmanship. The interior walls are horizontal tongue and groove pine throughout, with the exception of the dining room, which is clear redwood. There are exposed wood scissor trusses in the living room. The floor on the lower level is comprised of 4-inch redwood blocks hand-laid in courses. A significant refurbishment of the building occurred between 2000 and 2002, including replacement of exterior siding (Ogilvy Consulting 2014).

The Schilling Residence was evaluated for historical significance in a report by Kautz Environmental Consultants, June 12, 2013. In that report, the preliminary conclusion was reached that the Schilling Residence is eligible as a historic resource under Section 67.6 of the TRPA Code, as "it is an excellent example of Lake Tahoe resort rustic architecture, designed by a known architect, and is therefore eligible as a historic property under TRPA Criterion 67.6.3." In addition, the report found the property to be eligible for listing in the NRHP under Criterion C, in that it embodies the distinctive characteristics of a type, period, or method of construction.

Tribal Cultural Resources

Native American Consultation

As previously stated in Section 3.4.1, "Regulatory Setting," PRC 21080.3 (AB 52) applies to those projects for which a lead agency had issued a notice of preparation of an EIR or notice of intent to adopt a negative declaration or mitigated negative declaration on or after July 1, 2015.

On April 13, 2018, TCPUD sent letters to the following tribal representatives:

- Michael Mirelez, Cultural Resources Coordinator, Torres Martinez Desert Cahuilla Indians;
- Gene Whitehouse, Chairman, United Auburn Indian Community of the Auburn Rancheria (UAIC);
- Jason Camp, Tribal Historic Preservation Officer, UAIC; and
- Marcos Guerrero, Cultural Resources Manager, UAIC.

No responses were received during the 30-day response period for AB 52 as defined in PRC 21080.3.1.

In January 2017, a letter was sent to NAHC requesting a search of the Sacred Lands File database for the proposed Project and Alternative A sites. The response from NAHC received on January 13, 2017 stated that the search was negative for sacred sites in the Project vicinity.

Independent of Native American consultation pursuant to PRC 21080.3.1, additional Native American outreach was conducted by the Project archaeologist. This outreach aimed to incorporate tribal opinions, knowledge, and any potential concerns regarding the Project (Lindström 2017). Although prior ethnographic studies indicate that the Washoe Tribe is the applicable tribal authority for lands encompassing the Project, a number of adjoining Native American groups were also contacted including the Shingle Springs Band of Miwok Indians, T'si-Akim Maidu, and UAIC. Shingle Springs Band of Miwok Indians and UAIC did not respond. T'si-Akim Maidu knew of no recorded sites within 12 miles of Lake Tahoe and deferred to Washoe Tribe. The Washoe Tribe knew of no recorded sites within the Project area; however, the Tribe expressed concern related to possible unanticipated discoveries.

3.4.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

The impact analysis for archaeological and historical resources is based on the findings and recommendations of the *Tahoe Cross-Country Ski Center Lodge Cultural Resource Inventory and Evaluation (Lindström 2017)*; *Tahoe-Cross Country Lodge Replacement and Expansion Project Cultural Resource Inventory Addendum* (Lindström 2018); and the *Schilling Residence Targeted Historic Structure Report* (Wiss, Janney, Elstner Associates 2015).

The analysis is also informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources.

Section 21083.2 of the State CEQA Guidelines defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the CRHR-related criteria described in Section 3.4.1, "Regulatory Setting." An impact on a "nonunique resource" is not a significant environmental impact under CEQA (State CEQA Guidelines Section 15064.5[c][4]). If an archaeological resource qualifies as a resource under CRHR criteria, then the resource is treated as a unique archaeological resource for the purposes of CEQA.

PRC Section 21074 defines TCRs as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are listed or determined eligible for CRHR listing, listed in a local register of historical resources, or otherwise determined by the lead agency to be a TCR.

In addition, according to PRC Section 15126.4(b)(1), if a project adheres to the Secretary of the Interior's Standards for the Treatment of Historic Properties, the project's impact "will generally be considered mitigated below the level of a significance and thus is not significant."

SIGNIFICANCE CRITERIA

CEQA Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Project would result in a significant impact if it would:

- cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074; or
- disturb any human remains, including those interred outside of dedicated cemeteries.

TRPA Criteria

Based on the TRPA Initial Environmental Checklist, impacts on cultural resources would be significant if the Project would:

- result in alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building;
- be located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records;
- be located on a property associated with any historically significant events and/or sites or persons;
- have the potential to cause a physical change which would affect unique ethnic cultural values; or
- restrict historic or pre-historic religious or sacred uses within the potential impact area.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.4-1: Cause the Alteration of, or Adversely Affect a Historical Site, Structure, Object, or Building

The Schilling Residence has been evaluated as eligible as a historic resource under Section 67.6 of the TRPA Code and as eligible for listing in the NRHP under Criterion C. Relocation and reassembly of a historic structure, as identified for the proposed Project and Alternative A, could adversely affect its historic status. Consultation with SHPO has resulted in preservation measures, which are conditions of a TRPA permit for the proposed Project. These conditions would also be applicable to a TRPA permit for Alternative A. Because the preservation measures required by SHPO would be a condition of the TRPA permit, these measures must be met for implementation of the proposed Project or Alternative A. Because these measures require that relocation and reconstruction of the Schilling Residence occur without adversely affecting its historic status, implementation of the proposed Project or Alternative A would result in a **less-than-significant** impact.

Proposed Project

The Schilling Residence has been evaluated as eligible as a historic resource under Section 67.6 of the TRPA Code and as eligible for listing in the NRHP under Criterion C related to its architectural character and construction type. The Project proposes to relocate the residence from its original location in Tahoma, adjacent to Rubicon Bay, to the Highlands Park residential neighborhood on lands designated for recreation. Relocation and reassembly of a historic structure has the potential to impact the integrity of its historic character by altering the location, setting, and feeling of the property, while also impacting its association with the events that engendered its construction. The Schilling Residence has already been disassembled and moved away from its original location. It is currently in storage in compliance with the TRPA conditions of approval (TRPA 2014) and SHPO conditions for the residential project that originally proposed to disassemble the Schilling Residence located at 291 & 301 Paradise Flat (SHPO 2014, TRPA 2014) for the new residence that has been constructed in the original location of the Schilling Residence.

Chapter 67 of the TRPA Code states, "Sites, objects, structures, or other resources eligible or designated as historic resources, or for which designation is pending, shall not be demolished, disturbed, removed, or significantly altered unless TRPA has approved a resource protection plan to protect the historic resources." The Code also provides for consultation with SHPO. TRPA initiated consultation with SHPO in 2014, related to the historic designation of the residence and its relocation. In September 2014, SHPO concurred with the historic designation of the property and listed conditions that would allow for relocation of the Schilling Residence without impacting its historic status.

The conditions included preparing a targeted Historic Structures Report (prepared in 2015; Wiss, Janney, Elstner Associates 2015), adhering to the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*; photo documentation; and completion of the reconstruction within 5 years. In TRPA's October 2014 response to SHPO, the agency stated that

TCCSEA would be the permittee under a separate permit for the proposed reuse of the structure, and in that permit, TRPA would include SHPO's recommended preservation measures as permit conditions to be implemented before TRPA permit acknowledgement (SHPO 2014, TRPA 2014). The preservation measures are as follows:

- All work shall follow the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings.
- Qualified professionals or, at a minimum, any supervisor, shall meet the Secretory of the Interior's Professional Qualifications in the appropriate discipline will be addressed in a contract for work specified In the Plan.
- Reconstruction plans shall be submitted to the Office of Historic Preservation for review.
- Contractors shall be qualified as being suited for preservation reconstruction.
- The State Historic Building Code shall be used where appropriate.
- Structural work to the reconstruction shall not be visible from the outside or from significant Interiors, as defined under the targeted Historic Structures Report, wherever feasible.
- The reconstruction shall retain the original building orientation (i.e., the orientation defining the public approach to the residence).
- If after 5 years the Recovery Plan has not been Implemented, TCCSEA shall consult with both TRPA and SHPO regarding how to address the adverse effect resulting from the prolonged storage of the historical resource.

While the Historic Structure Report identified significant character defining features of the Schilling Residence as a historic structure include the axial and spatial relationship of the building to the frontage on Rubicon Bay and the orientation defining the public approach to the residence, the SHPO and TRPA conditions simply require that reconstruction of the Schilling Residence retain the original building orientation (Wiss, Janney, Elstner Associates 2015).

As further described under "National Park Service," above, the Secretary of the Interior's Standards include standards for the rehabilitation of historic structures, recognizing that rehabilitation may involve additions to the historic building. Included in one of the standards of rehabilitation, listed above, is the following requirement:

- New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

Thus, although the proposed Project would construct an addition to the Schilling Residence, the addition would be required to comply with the requirements of the Secretary of Interior's Standards, as acknowledged in the "Adaptive Reuse of the Schilling Residence" section in Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail." For these reasons, the addition to the Schilling Residence as part of the proposed Project would not substantially alter the historic character of the Schilling Residence.

Because the preservation measures required by SHPO, including following the Secretary of Interior's Standards, would be incorporated into Project design and would be a condition of the TRPA permit, these measures must be met for Project implementation. Given that construction of the proposed Project would occur at the outer limits of the five-year timeframe for implementation of the Recovery Plan, TCCSEA would consult with TRPA and SHPO to determine what actions may be necessary to continue to preserve the historical resource. Additionally, if the applicant proposes to change any of the character defining features that contribute to its historic character as identified in the Historic Structure Report prepared by Wiss, Janney, Elstner Associates in 2015, they would be required to seek approval from TRPA as part of the TRPA permit process. Historic resources are further discussed in Section 3.4, "Archaeological, Historical, and Tribal Cultural Resources." This would ensure that relocation of the Schilling Residence would occur without impacting its historic status and the impact would be **less than significant**.

Alternative A

Under this alternative, the Existing Lodge (Highlands Park and Community Center building) would be demolished. However, the building is less than 50 years old and therefore does not meet the NRHP or CRHR standards for evaluation and is not considered a resource under CEQA. Historic resources records searches were conducted for the Project as described above under the "Records Searches, Surveys, and Consultation" section. The Existing Lodge building was not identified in any of the results of those records searches (Lindström 2017, 2018). While the cultural resources reports prepared by Susan Lindström described the history of the Existing Lodge building, it was not recognized as having any characteristics that would make it eligible for listing as a historic resource. The reconstruction of the Schilling Residence at the Alternative A site would be subject to the same preservation measures required by SHPO for the TRPA permit as at the proposed Project site. Therefore, for the same reasons discussed for the proposed Project, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.4-2: Impacts to Unique Archaeological Resources

The records search revealed one historic-era archaeological site on the proposed Project site; the pedestrian survey identified no additional sites. The site has been evaluated for the CRHR and was not found to be eligible, and therefore is not considered a unique archaeological resource. No archaeological sites were identified on the Alternative A site. However, Project-related ground-disturbing activities for either the proposed Project or alternative A could result in discovery or damage of as-yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5. With implementation of the proposed Project or Alternative A, this would be a **potentially significant** impact.

Proposed Project

One previously recorded historic-era archaeological site was identified in the NCIC records search and confirmed during the pedestrian survey of the proposed Project site. Archaeological site P-31-2008 has been evaluated for the CRHR and was not found to be eligible for listing. The site lacks integrity—all but 15 feet of the 225-foot section of road recorded within the Project area have been disturbed by either bulldozer activity or grading for the former golf course—and has no potential to yield any additional information important in local, regional, or state history. For these reasons, the proposed Project site is not considered to be a unique archaeological resource under CEQA.

Nonetheless, Project construction could encounter previously undiscovered or unrecorded archaeological sites and materials during preconstruction or construction-related ground disturbing activities. These activities could damage or destroy previously undiscovered unique archaeological resources. This would be a **potentially significant** impact.

Alternative A

The NCIC records search revealed no previously recorded archaeological sites in the Alternative A site. The pedestrian survey also identified no archaeological sites. This alternative requires less ground disturbance than the proposed Project because it is situated on an existing developed site; however, for the same reasons discussed under the proposed Project, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-2: Halt Ground-Disturbing Activity Upon Discovery of Subsurface Archaeological Features, Assess Discovery, and Implement Measures that will Mitigate Potential Impacts on Archaeological Resources

This mitigation measure would apply to the proposed Project and Alternative A.

In the event that any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during construction, the construction contractor shall halt all ground-disturbing activity within 100 feet of the resources and shall notify TRPA and TCPUD. A

qualified professional archaeologist shall be retained by the applicant to assess the significance of the find. Specifically, the archaeologist shall determine whether the find qualifies as a historical resource, a unique archaeological resource, or tribal artifacts. If the find does fall within one of these three categories, the qualified archaeologist shall then make recommendations to TCPUD regarding appropriate procedures that could be used to protect the integrity of the resource and to ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to, preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery, with preservation in place being the preferred option if feasible. If the find is a tribal artifact, TCPUD shall provide a reasonable opportunity for input from representatives of any tribe or tribes the professional archaeologist believes may be associated with the artifact. The tribal representative will determine whether the artifact is considered a TCR, as defined by PRC Section 21074. TCPUD shall require the applicant to implement such recommended measures if it determines that they are feasible in light of Project design, logistics, and cost considerations.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2 would reduce impacts associated with archaeological resources to a **less-than-significant** level because it would require the performance of feasible, professionally accepted, and legally compliant procedures for the discovery of any previously undocumented unique archaeological resources.

Impact 3.4-3: Impacts to Tribal Cultural Resources or Ethnic and Cultural Values

TCPUD sent notification for consultation to two tribes on April 13, 2018. No responses were received during the 30-day response period for AB 52 as defined in PRC Section 21080.3.1; therefore, no resources were identified as TCRs. Additional tribal outreach by the archaeologist resulted in concern expressed by the Washoe Tribe related to unanticipated discoveries. Because proposed Project activities or activities associated with Alternative A could still uncover or destroy previously unknown archaeological resources with ethnic or cultural values, this impact would be **potentially significant**.

Proposed Project

As part of the 2013/2014 legislative session, AB 52 established a new class of resources under CEQA, TCRs, and requires that lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation once the lead agency determines that the application for the Project is complete. As detailed above, the TCPUD sent letters to tribal representatives of the Torres Martinez Desert Cahuilla Indians and UAIC. No responses were received during the 30-day response period for AB 52 as defined in PRC 21080.3.1.

Neither the records search at NCIC nor the pedestrian survey revealed any pre-historic archaeologic or ethnographic sites. In addition, a record search of the NAHC Sacred Lands File database was completed on January 13, 2017 with negative results. For these reasons, no part of the proposed Project site meets any of the criteria for TCRs as defined in PRC Section 21074.

Independent of Native American consultation pursuant to PRC 21080.3.1, additional Native American outreach by the Project archaeologist included the Washoe Tribe, the Shingle Springs Band of Miwok Indians, T'si-Akim Maidu, and UAIC. The Shingle Springs Band of Miwok Indians and UAIC did not respond. T'si-Akim Maidu knew of no recorded sites within 12 miles of Lake Tahoe and deferred to the Washoe Tribe. The Washoe Tribe knew of no recorded sites within the Project area; however, the Tribe expressed concern related to possible unanticipated discoveries.

Because construction-related activities, both ground-disturbing and staging access, could encounter previously undiscovered or unrecorded resources, development of the proposed Project site could result in physical changes to sites, structures, and areas that have religious or sacred significance or other cultural significance to the Washoe people. Therefore, this impact would be **potentially significant**.

Alternative A

As with the proposed Project site, there are no known TCRs or specific concerns related to the Alternative A site. However, this site would result in the development of a similar type and intensity as the proposed Project; therefore, for the same reasons discussed under the proposed Project, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-3: Halt Ground-Disturbing Activity Upon Discovery of Subsurface Archaeological Features, Assess Discovery, and Implement Measures that will Mitigate Potential Impacts on Archaeological Resources and Avoid Degradation of Ethnic and Cultural Values

This mitigation measure would apply to the proposed Project and Alternative A.

Implement Mitigation Measure 3.4-2.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2 would reduce potentially significant impacts to archaeological and TCRs because mitigation would avoid, move, record, or otherwise treat a discovered resource appropriately, in accordance with pertinent laws and regulations. By providing an opportunity to avoid disturbance, disruption, or destruction of sites, structures, and areas that have religious or sacred significance or other cultural significance to the Washoe people, this impact would be reduced to a **less-than-significant** level.

Impact 3.4-4: Impacts to Previously Unidentified Human Remains

No evidence exists that suggests any prehistoric or historic-era marked or un-marked human interments are present within or in the immediate vicinity of the proposed Project site or Alternative A site. However, ground-disturbing construction activities could uncover previously unknown human remains. Compliance with California HSC Sections 7050.5 and 7052 and PRC Section 5097 by the proposed Project and Alternative A would render this impact **less than significant**.

Proposed Project

Based on documentary research, no evidence suggests that any prehistoric or historic-era marked or un-marked human interments are present within or in the immediate vicinity of the proposed Project site. However, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, there is a possibility that unmarked, previously unknown Native American or other graves could be present within the proposed Project site and could be uncovered by construction activities related to the proposed Project.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California HSC Sections 7050.5 and 7052 and PRC Section 5097.

These statutes require that, if human remains are discovered, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the Placer County coroner shall be notified immediately. If the remains are determined by the coroner to be Native American, NAHC shall be notified within 48 hours and the guidelines of NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the NAHC-designated MLD, and the landowner shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments, if present, are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Compliance with California HSC Sections 7050.5 and 7052 and California PRC Section 5097 would provide an opportunity to avoid or minimize the disturbance of human remains, and to appropriately treat any remains that are discovered. Therefore, this impact would be **less than significant**.

Alternative A

As with the proposed Project site, no evidence suggests that any prehistoric or historic-era marked or un-marked human interments are present within or in the immediate vicinity of the Alternative A site. This alternative requires less ground disturbance than the proposed Project site because it is situated on an existing developed site; however, for the same reasons discussed under the proposed Project, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

Because all significant cultural resources are unique and nonrenewable members of finite classes, meaning there are a limited number of significant cultural resources, all adverse effects erode a dwindling resource base. The loss of any one archaeological site could affect the scientific value of others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. The cultural system is represented archaeologically by the total inventory of all sites and other cultural remains in the region. As a result, a meaningful approach to preserving and managing cultural resources must focus on the likely distribution of cultural resources, rather than on a single project or parcel boundary.

The geographic scope for the analysis of cumulative impacts to archaeological resources, TCRs, and human remains is the historic lands of the Washoe people, primarily the Tahoe Basin. By the 1850s, Euroamericans had permanently occupied the Washoe territory and changed traditional lifeways. Mining, lumbering, grazing, commercial fishing, tourism, and the growth of settlements disrupted traditional Indian relationships to the land.

Similarly, the geographic scope for the analysis of historic structures is the Tahoe Basin. Continued development of the Tahoe Basin has resulted in the loss of rustic single-family residences, similar to the Schilling Residence. Compliance with preservation measures required by SHPO as a condition of the TRPA permit, would ensure that relocation of the Schilling Residence would occur without impacting its historic status and the impact would be less than significant.

No known unique archaeological resources, TCRs, or human remains are located within the boundaries of the proposed Project site or Alternative A site; nonetheless, Project-related earth-disturbing activities could damage undiscovered archaeological resources, TCRs, or human remains. The proposed Project or Alternative A, in combination with other development in the region, could contribute to ongoing substantial adverse changes in the significance of unique archaeological resources resulting from urban development and conversion of natural lands. Cumulative development could result in potentially significant archaeological resource impacts.

Implementation of Mitigation Measure 3.4-2 would ensure that the proposed Project's or Alternative A's contribution to cumulatively significant archaeological resource and TCR impacts would not be considerable by requiring construction work to cease in the event of an accidental find and the appropriate treatment of discovered resources, in accordance with pertinent laws and regulations. With implementation of this mitigation measure, the proposed Project's or Alternative A's contribution to these impacts would be offset. Further, cumulative development would be required to implement similar mitigation to avoid/reduce impacts to archaeological resources and TCRs. Compliance with California HSC Sections 7050.5 and 7052 and PRC Section 5097 would ensure that treatment and disposition of the remains occurs in a manner consistent with state guidelines and California NAHC guidance. Therefore, the proposed Project or Alternative A would not have a considerable contribution to any significant cumulative impact related to archaeological resources, historical resources, and TCRs.

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3.5 TRANSPORTATION

This section describes existing transportation conditions in the Project area, presents the regulations applicable to the Project, and evaluates the potential transportation impacts that could result from implementation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. As discussed in Section 3.1, "Approach to the Environmental Analysis," this analysis is provided to fully document potentially significant transportation effects of the proposed Project and Alternative A in accordance with State CEQA Guidelines Section 15126.2. The evaluation herein is based on information contained in the *Tahoe XC Lodge Project Transportation Impact Analysis* (Transportation Impact Analysis) prepared by LSC Transportation Consultants, Inc. included as Appendix D to this document. The Traffic Impact Analysis in Appendix D includes a more comprehensive discussion of the transportation setting in the Project area (including historical crash data, driveway spacing, and results of speed surveys) and effects that were determined not to be potentially significant and excluded from the discussion herein.

The primary considerations raised during scoping that pertain to transportation included recommendations to:

- address project effects on traffic, access, and public and pedestrian safety;
- analyze a.m. and p.m. peak traffic volumes and consistency with the Placer County Tahoe Basin Area Plan (Area Plan) policies;
- consider the Placer County Neighborhood Traffic Management Program and related approval process;
- evaluate parking demand;
- consider the effect of a new driveway on Polaris Road and the combined traffic associated with the school and lodge; and
- analyze effects on emergency evacuation.

The methods of analysis used in this section are generally consistent with standard traffic engineering practices. Information on existing and forecasted transportation conditions is based on traffic, parking counts, and field observations conducted in 2015, 2016, and 2018; Caltrans traffic volumes; the Transportation Research Board's Highway Capacity Manual; the TRPA TransCAD transportation model; a review of existing and proposed facilities; and traffic forecasts from other projects in the Tahoe Basin. The analysis considers impacts during winter and summer seasons.

The proposed Project site and Alternative A site are located more than 0.5 mile from the closest transit stops located on State Route (SR) 28, near Old Mill Road and Fabian Way. The proposed Project site and Alternative A site are topographically separated from SR 28, meaning that access to the sites from transit stops on SR 28 would require a steep climb, which would limit transit ridership for site users. Because the Existing Lodge is not well-served by existing transit, it is reasonable to conclude that the proposed Project would not result in inadequate transit service to meet demand or adversely affect existing transit operations. Therefore, transit impacts are not evaluated further.

Local roadways providing access to the proposed Project site and Alternative A site do not include bike lanes or sidewalks, and no transit facilities are located in close proximity to the sites. Thus, neither the proposed Project nor Alternative A would alter or conflict with any bicycle, pedestrian, or transit facilities in the vicinity of either site. Additionally, the sites are located near an extensive network of unpaved trails; however, the project would not alter any of these unpaved trails. Therefore, the Project would not adversely affect any existing or planned public transit, bicycle, or pedestrian facilities. This issue is not discussed further.

The Project does not involve airports, rail lines, or waterborne facilities; nor would it alter travel demand to the extent that it would result in changes to existing air, rail, or waterborne travel patterns. Because the Project would not affect air, rail, or waterborne travel patterns, the effects on these transportation systems are not evaluated further.

The potential for the Project to interfere with implementation of an adopted emergency response plan or emergency evacuation plan is discussed in Section 3.2.3, "Hazards and Hazardous Materials."

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the California Tahoe Conservancy (Conservancy) by itself would have no impact related to transportation. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

3.5.1 Regulatory Setting

TAHOE REGIONAL PLANNING AGENCY

Regional Plan

Chapter 3, "Transportation Element," of the Regional Plan provides goals and policies that are intended to establish a safe, efficient, and integrated transportation system that provides quality mobility options for all sectors of the population, supports the region's economic base, enhances quality of life, and maximizes opportunities for environmental benefits. The Transportation Element includes transportation goals, policies, and implementation measures that address multiple aspects of transportation planning and interact to create a successful multi-modal transportation system. TRPA's Goals and Policies sets standards for vehicle "level of service (LOS)." A more detailed definition of LOS is provided below. The TRPA Goals and Policies require that peak period traffic flow not exceed the following:

- LOS C on rural recreational/scenic roads;
- LOS D on rural developed area roads;
- LOS D on urban developed area roads;
- LOS D for signalized intersections; and
- LOS E may be acceptable during peak periods in urban areas, not to exceed 4 hours per day.

These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the Project-generated traffic in relation to overall traffic conditions on affected roadways. While the Tahoe Regional Planning Compact looks to "reduce the dependency on the private automobile" there are currently no adopted requirements or standards regarding the quality of service of other travel modes (i.e.; transit, biking, or walking) that could potentially reduce the demand on the roadway system. TRPA has no standards specific to unsignalized intersections.

Linking Tahoe: Regional Transportation Plan and Sustainable Communities Strategy

In 2017, TRPA adopted the Linking Tahoe: Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), which seeks to improve mobility and safety for the commuting public while at the same time delivering environmental improvements throughout the transportation network in the Tahoe region. The plan's horizon year extends to 2040 (TRPA 2017). Important directions of the plan are to reduce the overall environmental impact of transportation in the region, create walkable, vibrant communities, and provide real alternatives to driving. The RTP/SCS offers strategies to address the travel demands of residents, commuters, and the millions of people who visit Lake Tahoe each year. Goals and policies are included in the RTP/SCS that are consistent with regional and federal requirements that focus on a reduction in dependency on the automobile and give preference to projects that increase the capacity of the region's transportation system through public transportation projects and programs.

Thresholds

Two threshold standards pertaining to air quality are set forth in terms of Basin-wide vehicle miles traveled (VMT). These thresholds are applicable to transportation analyses. VMT is a computed value, which correlates to the extent of an area's reliance on the private automobile for trip making. The TRPA TransCAD Travel Demand Model provides a forecast of the number of trips made on the highway network and the distance between trip origins and destinations for each trip purpose. Total VMT is the sum of all these trip lengths.

Two air quality management threshold standards that relate to transportation facilities in the region: (1) the reduction in VMT by 10 percent from 1981 base year conditions to reduce nitrate deposition; and (2) the reduction in VMT by 10 percent from 1981 base year conditions to improve visibility. The VMT threshold is periodically updated whenever TRPA updates its transportation model. The most recent VMT threshold was calculated at 2,030,938 for a peak summer day, based on the 2014 model update. Based on the most recent modeling completed in support of the RTP/SCS, the existing VMT in the Tahoe Basin over the course of a peak summer weekday is approximately 1,937,070 (TRPA 2017).

Code of Ordinances

Changes in daily vehicle trip ends (DVTE) as a result of additional development and transferred development, and all changes in project operation are discussed in Section 65.2, "Traffic and Air Quality Mitigation Program," of the TRPA Code. Fees are assessed in accordance with TRPA's Mitigation Fee Schedule (TRPA 2018) on an individual project basis for projects that increase DVTE. The purpose of the fee program is to offset impacts from indirect sources of air pollution. Temporary activities are governed by TRPA Code Section 2.3.6, and construction projects are required to comply with TRPA's standard conditions of approval.

Placer County Tahoe Basin Area Plan

The Placer County Tahoe Basin Area Plan (Area Plan), a joint TRPA/Placer County plan, incorporates TRPA goals and regulations but also includes the following additional transportation policies relevant to the Project.

Transportation Network

- **Policy T-P-6:** Maintain consistency with Level of Service (LOS) and quality of service standards identified in the Regional Transportation Plan (RTP), with the exception of intersections and roadway segments within the Town Center boundaries where LOS F is acceptable during peak periods. The RTP allows for possible exceptions to the LOS standards outside the Town Center boundaries when provisions for multi-modal amenities and/or services (such as transit, bicycling and walking facilities) are incorporated and found to be consistent with Policy T-10.7 of the RTP.
- **Policy T-P-9:** New and/or modified development shall be assessed Traffic Mitigation Fees associated with the Placer County Tahoe Region's Capital Improvement Program. Fees shall be representative of the fair share portion of that development's impacts on the local and regional transportation system.
- **Policy T-P-12:** In an effort to reduce peak-period vehicle trips and improve LOS, future development project proposals which will employee between 20 and 100 employees and/or include tourist accommodation or recreational uses will be required to submit to Placer County a Transportation Demand Management Plan (TDM) upon Development Review.

Parking

- **Policy T-P-13:** Encourage shared-use parking facilities to more efficiently utilize parking lots.
- **Policy T-P-16:** Provide suitable parking facilities for recreational areas while encouraging major commercial with recreational and/or excursion activities to provide transit services and/or incentives to patrons, such as proximate bicycle parking facilities.

Pedestrian and Bicycle

- **Policy T-P-24:** Require installation of bicycle racks or secured lockers as a condition of approval for projects and encourage transit providers to offer bicycle racks on their buses.

- **Policy T-P-34:** Implement safety for pedestrian and bicycle routes and maximize visibility at bicycle, pedestrian, and vehicle conflict points through increased safety signage, sight distance and facility design.

The environmental document prepared for the Area Plan (i.e., the Placer County Tahoe Basin Area Plan and Tahoe City Lodge Project EIR/EIS [Area Plan EIR/EIS]) identified plan-level mitigation that would apply to all new construction located within the Area Plan boundaries. Placer County and TRPA developed mitigation measures to address transportation impacts of the Area Plan. Mitigation Measures 10-1c and 10-1d are shown below and would apply to the Project (Placer County and TRPA 2016):

> Mitigation Measure 10-1c: Payment of Traffic Mitigation Fees to Placer County
>
> Prior to issuance of any Placer County Building Permits, projects within the Area Plan shall be subject to the payment of established Placer County traffic impact fees that are in effect in this area, pursuant to applicable county Ordinances and Resolutions. Traffic mitigation fees shall be required and shall be paid to the Placer County Department of Public Works and Facilities subject to the County Wide Traffic Limitation Zone: Article 15.28.010, Placer County Code. The fees will be calculated using the information supplied. If the use or the square footage changes, then the fees will change. The actual fees paid will be those in effect at the time the payment occurs.
>
> Mitigation Measure 10-1d: Expand Requirements for Transportation Demand Management Plans
>
> To reduce peak-period vehicle trips and improve LOS, future development project proposals which will employ between 20 and 100 employees and/or include tourist accommodation or recreational uses will be required to submit to Placer County a Transportation Demand Management Plan (TDM) upon Development Review. The current threshold for preparation of a TDM or Employee Transportation Plan (TRPA Code Section 65.5.2.B) and compliance with the Placer County Trip Reduction Ordinance (Placer County Code Section 10.20) is 100 or more employees in a single location which applies to a very limited number of sites in the Plan area. This existing requirement also does not address trips that are generated from sources other than employee commutes, and in the Plan area, a large proportion of peak period trips are the result of tourist or visitor trips rather than employee trips.
>
> Development of the expanded requirements for TDM plans will consider trip sources and characteristics in the Plan area during peak periods. This mitigation measure will expand the requirements for TDM plans with criteria that would require some employers with fewer than 100 employees to prepare such plans and implement through project mitigation for LOS impacts.
>
> A menu of measures that could be included in TDM plans is provided in TRPA Code Section 65.5.3 and Placer County Code Section 10.20. These measures include but are not limited to:
>
> - Preferential carpool/vanpool parking;
> - Shuttle bus program;
> - Transit pass subsidies;
> - Paid parking; and
> - Direct contributions to transit service.

2019 Guidance for Assessment of Vehicle Miles Traveled Impacts of Projects in the Tahoe Basin

TRPA's memorandum titled *Guidance for Assessment of Vehicle Miles Traveled Impacts of Projects in the Tahoe Basin* establishes a consistent methodology for determining vehicle miles traveled (VMT) impacts of projects proposed in the Tahoe region (TRPA 2019). The guidance includes screening criteria used to determine whether a project needs to undergo an in-depth traffic and VMT analysis and specific guidance on how to conduct the VMT analysis for projects where such an analysis is warranted.

Projects that generate fewer than 100 daily vehicle trips, and that are not changing from one major use classification to another, are not required to complete a traffic or VMT analysis. In accordance with TRPA Code Section 65.2, projects that generate between 100 and 200 daily vehicle trips are required to complete a traffic analysis if the project is located within 300 feet of U.S. Highway 50 (U.S. 50) and a "maintenance" area. Because the Tahoe region has achieved its air quality goals and no longer has air quality maintenance areas, projects that generate between 100 and 200 vehicle trips are no longer required to complete a traffic analysis, though they are still subject to TRPA's air quality mitigation fee. All projects that would generate greater than 200 additional vehicle trips per day must complete a traffic analysis; the requirements for which are specified in TRPA Code Section 65.2.4. Projects that generate between 100 and 200 trips per day are required to complete a VMT analysis, but not a full traffic analysis that would consider level of service impacts, parking impacts, or traffic hazards (TRPA 2019:12).

The memorandum describes methods for conducting VMT analyses, using both a calculation-based off model approach (i.e., the applicant must show the steps involved in VMT calculations) and a model-based approach (using TRPA's TransCAD transportation model). Until refinements and validation of TRPA's model are complete, TRPA recommends that the model approach not be used as the sole method for evaluating project effects on VMT (TRPA 2019:12).

STATE

Caltrans Transportation Corridor Concept Report

Caltrans prepares a Transportation Corridor Concept Report for each highway in the state system that include a "20-Year Concept LOS" for each segment. Reflecting forecast conditions and the limited opportunities to expand capacity in the Tahoe region, the most recent Transportation Corridor Concept Report (2012) for SR 28 identifies the 20-year concept LOS as E. Although this report provides LOS standards for intersection and roadway operations, the standards set forth by TRPA typically govern over the state standards for projects located within the Tahoe Basin, but any projects affecting a state highway are also subject to Caltrans review. Because the LOS standards set forth by TRPA are more stringent, they are applied in this analysis.

Senate Bill 743

Senate Bill (SB) 743, passed in 2013, required the Governor's Office of Planning and Research (OPR) to develop new State CEQA guidelines that address traffic metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

OPR published its proposal for the comprehensive updates to the State CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to Senate Bill 743. These updates indicated that vehicle miles traveled (VMT) be the primary metric used to identify transportation impacts. In December of 2018, OPR published the most recent version of the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) which provides guidance for VMT analysis. The Office of Administrative Law approved the updated State CEQA Guidelines and lead agencies will have an opt-in period until July 1, 2020 to implement the updated guidelines.

LOCAL

Placer County General Plan

The Circulation Element of the Placer County General Plan provides guidance to help achieve efficiency and economy in the transportation system, and to facilitate the planning required to maintain and expand the existing transportation network. Goal 3.A of the General Plan is to provide for the long range planning and development of the county's roadway system. To meet this goal, the county manages its roadway system to maintain a LOS C on all roadways except within 0.5 mile of state highways, where the LOS standard is LOS D. The LOS standard in the county's Congestion Management Plan (CMP) for signalized intersections located along state highways is "E." If the

worst movement on an unsignalized intersection in Placer County exceeds LOS standards, a "peak-hour" signal warrant analysis, consistent with the Manual of Uniform Traffic Control Devices (MUTCD), is required. If the intersection attains minimum signal warrant volumes, mitigation is required.

Placer County may allow exceptions to its LOS standards where it finds that the improvements or other measures required to achieve the LOS standards is unacceptable based on established criteria. Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation. Where TRPA LOS standards are more stringent than county standards, the TRPA standards apply.

Placer County Neighborhood Traffic Management Program

The Placer County Department of Public Works (DPW) has a comprehensive program that addresses neighborhood traffic issues; the program includes a systematic approach to handling neighborhood traffic concerns, and applying the most appropriate traffic calming measures on a case-by-case basis. The Neighborhood Traffic Management Program (NTMP) engages community residents during the development of individual neighborhood traffic calming plans and determines neighborhood support for the plan through a neighborhood vote (Placer County Department of Public Works 2007).

The terms "local" and "collector" streets refer to the functional classification that denotes a specific level in the transportation network hierarchy and establishes the roadway capacity pursuant to Placer County standards. Local streets provide direct access to residential properties and facilitate short neighborhood trips; these streets typically include a 24- to 28-foot travel way and serve fewer than 75 residential units on a through street. Collector streets are secondary roads that connect motorists from surrounding local streets to arterial roadways and freeways and facilitate intermediate trip lengths; these streets typically include a 32- to 40-foot travel way and serve more than 75 residential units. The pavement width on neighborhood roadways that serve the proposed Project site and Alternative A site range from about 32 to 38 feet (see Appendix D). The NTMP recommends that during the development review process, County staff determine whether a project would result in excessive volumes of vehicles on residential streets causing an exceedance of roadway capacity. Where appropriate, developers should be required to incorporate traffic calming measures into their development plan. The NTMP identifies incorporating traffic calming measures to lessen neighborhood impacts when projected volumes on residential streets would exceed 2,500 vehicles per day (Placer County Department of Public Works 2007).

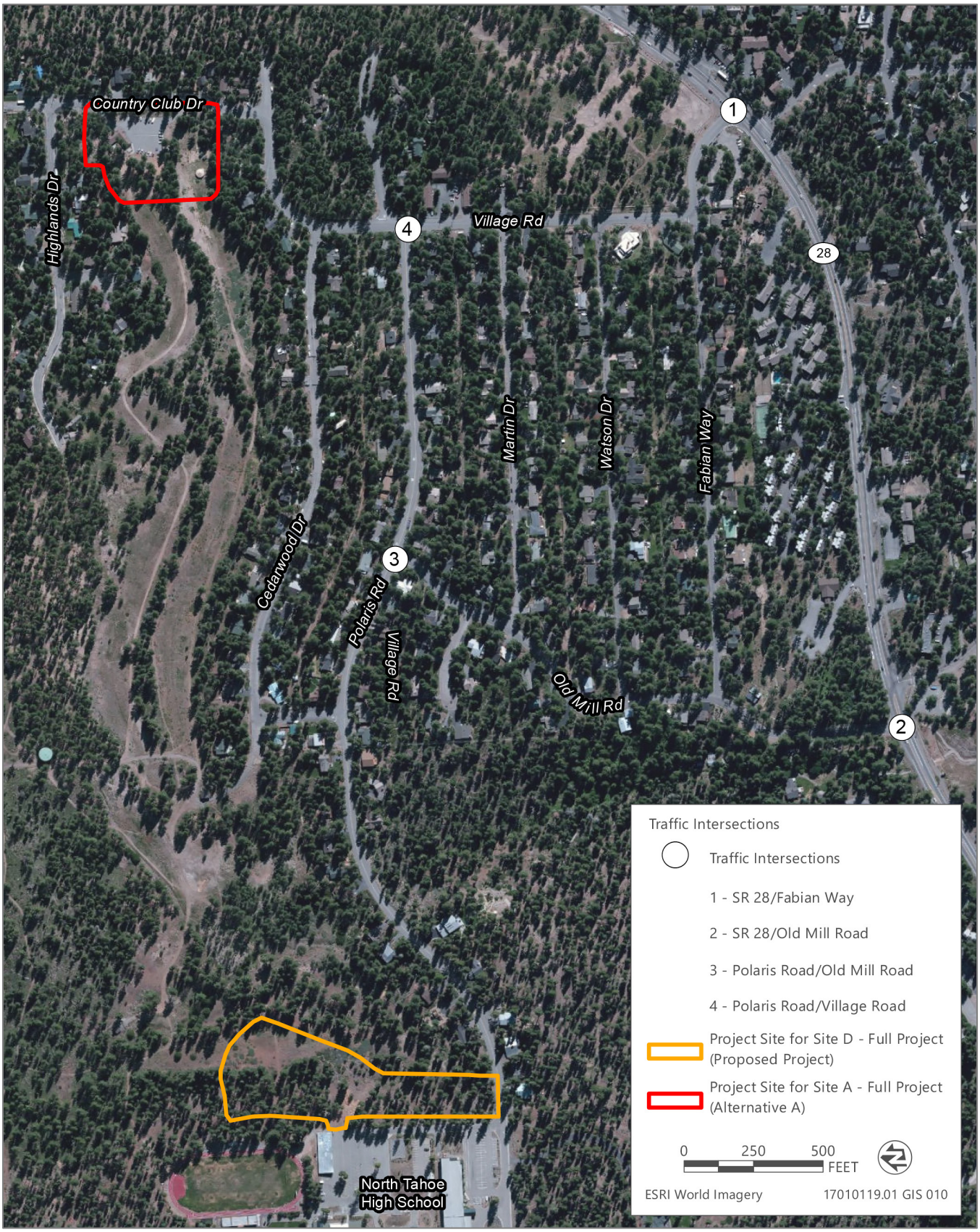
3.5.2 Environmental Setting

This section describes the existing environmental setting, which is the baseline scenario upon which Project-specific impacts are evaluated. The baseline for this study represents conditions based on data collection and field observations conducted in 2015, 2016, and 2018, as described herein. The environmental setting for transportation includes baseline descriptions for roadway, bicycle, and pedestrian facilities.

The existing Highlands Community Center is located on Country Club Drive and is accessed from SR 28 via Fabian Way and Village Road. TCCSEA provides winter cross-country ski and snowshoe opportunities, and is opened when snow conditions allow. It also operates as a trailhead for hiking and mountain biking in the summer months, though activity levels are generally higher in winter months.

EXISTING STUDY AREA AND ROADWAY NETWORK

A study area was developed based on collaboration between the EIR consultants and TCPUD and considered scoping comments. The following factors were considered when developing the study area: the Project's expected travel characteristics (including number of vehicle trips and directionality of those trips), primary travel routes to/from the proposed Project site and Alternative A site, anticipated parking demand, and other considerations. Figure 3.5-1 shows the extent of the study area, the proposed Project site, the Alternative A site, and intersections selected for analysis. The study area also includes bicycle and pedestrian facilities in the Project vicinity.



Source: Compiled by LSC in the Transportation Impact Analysis (see Appendix D)

Figure 3.5-1 Study Area

SR 28

SR 28 is the major roadway serving Lake Tahoe's North Shore. It provides a link between Incline Village, Nevada and Tahoe City. SR 28 is typically a bi-direction, two-lane facility. A center two-way left-turn lane is provided in Tahoe City, Tahoe Vista, and Kings Beach. Traffic volumes along SR 28 exhibit strong seasonal variation, with the highest traffic activity during the summer. Caltrans reports that the peak month Average Daily Traffic (ADT) on SR 28 in the Project vicinity is 14,500 vehicles per day based on data from a count location about one mile east of the proposed Project site and Alternative A site at Lardin Way in Carnelian Bay. The posted speed limited along SR 28 near the Project is 45 miles per hour (mph).

Local Roads

The majority of the roadways in the Project vicinity, including those listed below, are owned and maintained by Placer County.

Old Mill Road

Old Mill Road is a north/south running residential street off of SR 28, which connects Polaris Road to the north. Though it is possible to access the proposed Project site and Alternative A site via Old Mill Road, it is not the preferred or signed access route as it is both steeper and longer.

Fabian Way

Fabian Way is a residential street connecting SR 28 on the south and Village Road to the north, and extending west to Old Mill Road. Those traveling to and from the Existing Lodge use Fabian Way for a short distance (400 feet) between SR 28 and Village Road. This short segment of Fabian Way provides access to commercial uses.

Village Road

Village Road is a residential street connecting Fabian Way at the south and Country Club Drive to the north. It is the main access route to the Existing Lodge.

Polaris Road

Polaris Road is an east-west roadway serving primarily single-family homes. It also serves as the sole public access to the North Tahoe High School and North Tahoe Middle School at its western end. To the east, Polaris Road terminates about 630 feet east of Village Road. The western portion of Polaris Road carries approximately 1,400 daily vehicle trips on a school day.

EXISTING TRAFFIC VOLUMES

Winter Traffic Volumes

Traffic volume counts were collected at various locations within the study area. Intersection turning movements were counted during the winter at the following intersections:

- SR 28/Fabian Way (winter weekend/holiday included)
- SR 28/Old Mill Road (winter weekend/holiday included)
- Polaris Road/Old Mill Road
- Polaris Road/Village Way

The winter weekend/holiday intersection turning-movement counts were conducted on Thursday, December 31, 2015 (New Year's Eve day). The weekday (school day) intersection turning movement counts were conducted during the afternoon peak periods of school-related traffic activity on January 12, 13, 14, and 19, 2016. For detailed count data see Appendix D. It is reasonable and appropriate to use the traffic data collected in 2015/2016 for the purposes of evaluating transportation impacts of the Project, because based on a comparison of Tahoe Cross-Country Center (Tahoe XC) skier data from recent seasons (2015/2016, 2016/2017, and 2017/2018), as well as snowfall data over the past few seasons, the Tahoe XC visitation and related traffic volumes were highest in 2015/2016. (Note: The winter

p.m. peak-hour traffic volumes measured during these counts and the direction turning movements for each intersection are presented in Figure 2 of Appendix D.)

In addition, 24-hour roadway volume counts for were conducted at the following locations:

- Polaris Road, just east of the easternmost High School driveway (weekday)
- Village Road, just southwest of Country Club Drive (holiday)
- Country Club Drive, near the existing Highlands Community Center (holiday)

The roadway volumes used to calculate winter holiday trip generation were collected from Wednesday, December 30, 2015 through Tuesday, January 5, 2016. Weekday volumes were collected from Wednesday, January 13 through Tuesday, January 19, 2016. The purpose of the two data collection periods was to capture both typical conditions (during a school day) and peak ski traffic conditions. The holiday period generates the highest skier volumes, whereas the school traffic periods typically generate the highest existing traffic volumes in the neighborhood.

Summer Traffic Volumes

The summer intersection turning-movement counts were collected on Friday, August 10, 2018. (Note: the summer p.m. peak-hour traffic volumes are presented in Figure 3 of Appendix D.) Counts were conducted on a Friday because the highest daily traffic volumes in the Dollar Hill area during the summer typically occur on Fridays.

The roadway volumes used to calculate summer trip generation were collected at the same locations as the winter counts, from Thursday, August 9, 2018 to Monday, August 13, 2018. The data collection was conducted to ensure that both typical summer weekend conditions and summer weekday conditions were captured. The highest daily traffic volumes during the count period occurred on Friday, August 10 (the same day the intersection counts were conducted).

EXISTING INTERSECTION LEVEL OF SERVICE

The existing LOS at each study intersection is summarized in Table 3.5-1, which shows that all study intersections currently operate at a relatively good LOS (A or B) in the winter and summer under existing conditions.

Table 3.5-1 Existing Intersection Level of Service Summary

Intersection	Analysis Period	Existing Conditions	
		LOS	Delay (seconds)
Winter			
SR 28/Fabian Way	Weekday p.m. Weekend/Holiday p.m.	A A	9.7 9.9
SR 28/Old Mill Road	Weekday p.m. Weekend/Holiday p.m.	A B	9.8 10.1
Polaris Road/Old Mill Road	Weekday p.m.	A	8.1
Polaris Road/Village Drive	Weekday p.m.	A	8.9
Summer			
SR 28/Fabian Way	p.m.	A	9.3
SR 28/Old Mill Road	p.m.	B	10.1
Polaris Road/Old Mill Road	p.m.	A	7.1
Polaris Road/Village Drive	p.m.	A	8.9

Note: LOS = Level of Service

Source: Transportation Impact Analysis in Appendix D

EXISTING TRIP GENERATION

Existing trip generation is the evaluation of the number of vehicle-trips that would either have an origin or destination at the Existing Lodge on Country Club Drive. As a cross-country ski facility is not a standard land use found in the Institute of Transportation Engineers (ITE) Trip Generation manual, trip generation for this Project is based on the trips currently generated by the Existing Lodge, as well as the change in activities anticipated with the Schilling Lodge.

It should be noted that estimating the existing trip generation is complicated by the fact that some of the existing parking occurs along the shoulders of Country Club Drive and Village Road (per an agreement with Placer County), and that homes along these streets (and beyond) add to the traffic in the vicinity.

Winter Trip Generation at Existing Lodge

The winter roadway counts were used to identify the peak-hour traffic generated by the Existing Lodge. Two sets of roadway count volumes were collected, one on Village Road south of the Existing Lodge and one on Country Club Drive just north of the Existing Lodge. Subtracting the northern volumes from the southern volumes yields the number of trips that are generated by the Existing Lodge plus the trips generated by the nine homes located between the two roadway counters.

Based on this methodology, the Existing Lodge generates 34 inbound and 15 outbound trips during the winter weekday p.m. peak hour, while 24 inbound and 36 outbound trips are generated during the weekend p.m. peak hour. Over the course of an entire winter day, 372 total vehicle-trips are generated on a weekend day and 178 total vehicle-trips are generated on a weekday (see first row of data in Table 3.5-2). For additional details related to the winter trip generation estimates for the Existing Lodge see Appendix D.

Summer Trip Generation at Existing Lodge

The summer roadway counts were used to identify the peak-hour traffic generated by the Existing Lodge, applying the same method used for winter to adjust the roadway counts. The weekday and weekend p.m. peak-hour volumes at this location are generally similar, although the p.m. peak hour does not tend to occur at the same time each day. This study assumes the p.m. peak hour of site-generated traffic coincides with the p.m. peak hour of adjacent street traffic to yield conservatively high traffic volumes. The existing lodge generates 17 inbound and 20 outbound trips during the summer p.m. peak hour. Over the course of a busy summer day (weekday and weekend), this methodology yields about 370 total daily vehicle-trips (see first row of data in Table 3.5-5 later in this section). For additional details related to the summer trip generation estimates for the Existing Lodge see Appendix D.

EXISTING VEHICLE SPEEDS

As described in Appendix D, LSC Transportation Consultants, Inc. conducted speed surveys between March 26 and April 3, 2019 that measured existing vehicle speeds on Polaris Road and Village Road. Speed surveys were conducted on Polaris Road, near the high school, and on Village Road, near the Existing Lodge, during typical busy winter days, capturing both school-related traffic activity and cross-country skier traffic activity. The posted speed limit along both roadways is 25 mph.

The majority of speeds recorded on Polaris Road are above the speed limit. The average speed at a point east of the high school is approximately 26 mph (average of both directions), and the 85th-percentile speed (the speed that is only exceeded by 15 percent of the vehicles) is calculated to be approximately 30 mph. The 85th-percentile of the distribution of observed speeds is the most frequently used measure of the operating speed associated with a particular roadway location. The maximum recorded speed was 42 mph.

The recorded speeds on Village Road were generally lower than the speed limit, likely due to the curvature along Village Road and the close proximity to Country Club Drive, where most vehicles make a turn. The average observed speed was 18 mph, and the 85th-percentile speed (20 mph) is about 5 mph below the speed limit. The maximum recorded speed was 33 mph.

Table 3.5-2 Winter Trip Generation: Proposed Project

Description	Quantity	Vehicle Occupancy	Project Generated Vehicle Trips at Site Access - Weekday				Project Generated Vehicle Trips at Site Access - Weekend			
			Daily	p.m. Peak Hour In	p.m. Peak Hour Out	p.m. Peak Hour Total	Daily	p.m. Peak Hour In	p.m. Peak Hour Out	p.m. Peak Hour Total
Proposed Project Site										
Skier Activity - Proposed Project Site										
Existing Lodge Use			178	34	15	49	372	24	36	60
10% Increase in Visitation			18	3	2	5	37	2	4	6
Skier Activity Subtotal			*196*	*37*	*17*	*54*	*409*	*26*	*40*	*66*
Gatherings at Schilling Lodge										
Attendees	65	1.8	72	36	0	36	72	36	0	36
Staff/Service/Deliveries	2	1.1	4	2	0	2	4	2	0	2
Gatherings at Schilling Lodge Subtotal			*76*	*38*	*0*	*38*	*76*	*38*	*0*	*38*
Additional Employees at Schilling Lodge (Weekends Only)										
Staff	2	1.1	0	0	0	0	4	0	2	2
Total Proposed Project Trip Generation			**272**	**75**	**17**	**92**	**489**	**64**	**42**	**106**
Existing Site										
Remove Existing Lodge Use										
Existing Uses Relocated to Schilling Lodge			-178	-34	-15	-49	-372	-24	-36	-60
Potential Existing Lodge Continuing Use[1]										
Attendees	30	2.5	24	0	12	12	24	0	12	12
Staff/Service/Deliveries	4	1.0	8	0	0	0	8	0	0	0
Existing Lodge Subtotal			*32*	*0*	*12*	*12*	*32*	*0*	*12*	*12*
Net Impact at Existing Lodge			**-146**	**-34**	**-3**	**-37**	**-340**	**-24**	**-24**	**-48**
PROPOSED PROJECT NET IMPACT – WINTER TRIP GENERATION			***126***	***41***	***14***	***55***	***149***	***40***	***18***	***58***

Notes:

[1] The proposed Project proposes to retain the Existing Lodge, under TCPUD ownership to be used as secondary community space and other allowable uses as needed by TCPUD.

Source: Transportation Impact Analysis in Appendix D

PEDESTRIAN AND BICYCLE SYSTEM

TCPUD operates the Class 1 multi-purpose trail along the North Shore of Lake Tahoe from Tahoe City to Dollar Hill, including the 0.9-mile lakefront trail through the core of Tahoe City from Commons Beach to the State Park Campground.

The recently completed Dollar Creek shared-use path is located about 350 feet east of the Existing Lodge. This 2.2-mile paved path extends from SR 28 north to a point near the northern terminus of Country Club Drive and connects via crosswalk across SR 28 to the existing Class 1 multi-purpose trail system extending into downtown Tahoe City and beyond.

SR 28 between Tahoe City and Kings Beach also includes Class II (striped) bicycle lanes.

The proposed Project site and Alternative A site are also located near an extensive network of unpaved trails, including the trails owned by TCPUD on the proposed Project site and Alternative A site and other trails managed by the U.S. Forest Service, California State Parks, and the Conservancy.

Local roadways providing access to the proposed Project site and Alternative A site do not include sidewalks.

3.5.3 Environmental Impacts and Mitigation Measures

This section describes the analysis techniques, assumptions, and results used to identify potential significant impacts of the proposed Project and Alternative A on the transportation system. Transportation impacts are described and assessed, and mitigation measures are recommended for impacts identified as significant.

METHODS AND ASSUMPTIONS

The transportation methodology uses the anticipated travel characteristics of the Project, trip generation assumptions, and vehicle trip distribution, as described below. TCPUD and the applicant developed a set of reasonable assumptions about the types of programs, number of staff and attendees, and timing of the programs that could occur at the Schilling Lodge under the proposed Project and Alternative A based on existing operations and programs at the Existing Lodge. Additionally, the traffic analysis is based on data collected and modeled for a typical busy day at Tahoe XC. These assumptions form the basis of the transportation analysis completed for the Project.

Trip Generation

The Schilling Lodge is not expected to increase skier visitation to the site. Trip generation at a ski area or trailhead is typically a function of the skiable terrain, snow conditions, and skier capacity rather than lodge amenities. Because the proposed Project would not alter the terrain or skier capacity, the number of skiers expected to visit the site is expected to be the same as the number that currently travel to the Existing Lodge. While additional visitation is not expected for the aforementioned reasons, this analysis takes a conservative approach and assumes skier visitation during winter conditions would increase by 10 percent. This would also account for any increase resulting from events and gatherings held at the Schilling Lodge.

Reasonable assumptions about trip generation for a cross-country ski area or a trailhead were developed by LSC based on trip generation rates in the Institute of Transportation Engineers Trip Generation Manual. As standard trip generation rates are not provided for a cross-country ski lodge or community center, the trip generation of the Project is estimated based upon a "person-trip analysis." Multiplying the number of persons by the number of one-way person-trips per day (one entering and one exiting) and dividing by the average vehicle occupancy rate yields the number of vehicle trips generated at the site driveways.

The first step in the analysis of future transportation impacts is to prepare an estimate of the number of one-way vehicle-trips generated by the proposed Project. Trip generation is the evaluation of the number of vehicle-trips that would either have an origin or destination at the Project site. As a cross-country ski resort is not a standard land use

found in the Institute of Transportation Engineers (ITE) Trip Generation manual, trip generation is based on the existing trips currently generated by the Existing Lodge, as well as the change in activities anticipated with the Schilling Lodge.

Winter Trip Generation

Winter Trip Generation Associated with the Proposed Project

Existing Site

With the proposed Project, the functions of the Existing Lodge would be moved to a new lodge located at the proposed Project site, and the Existing Lodge would continue to be operated as a community center by TCPUD. On a typical busy winter day, a gathering of about 15 people could occur at the Existing Lodge with the proposed Project. However, a 30-person gathering is assumed at the Existing Lodge with the proposed Project in winter to remain conservative (conservatively high) with respect to winter trip generation. For purposes of trip generation, this gathering is assumed to let out during the p.m. peak hour. Compared to the existing background traffic levels on Country Club Drive (excluding lodge traffic), this gathering would generate an incremental increase in peak-hour traffic. Additionally, up to four persons (more often one to two), such as staff, service, and/or delivery trips, are assumed to be on the site over the course of the day. Large wedding events are not held at the Existing Lodge, and are not considered in this analysis.

Subtracting the Existing Lodge trips that would be removed from this site and adding the trips generated by the continuing Existing Lodge activities yields the Project "net impact" on the number of trips at the Existing Lodge driveways. As shown in the lower portion of Table 3.5-2, the proposed Project would result in a net reduction of approximately 146 daily vehicle trips at the Existing Lodge driveways over the course of a winter weekday, including a reduction of approximately 37 p.m. peak-hour trips. On a winter weekend, the net reduction would be approximately 340 daily trips and 48 p.m. peak-hour trips.

Proposed Project Site

With the proposed Project, the winter trip generation at the proposed Project site is summarized in the upper portion of Table 3.5-2, and is estimated based on the following assumptions (see Appendix D):

- Although the Schilling Lodge is not expected to increase the general skier visitation to Tahoe XC, general visitation is assumed to increase by 10 percent in winter months (in addition to the potential events and gatherings held at the Schilling Lodge), for purposes of this study. This is a conservatively high traffic increase, as trip generation of a ski area is typically a function of the skiable terrain (i.e., snow conditions) and skier capacity rather than lodge amenities. No expansion of the country-country ski trails are proposed and the average growth in skier visits over the last 10 years is essentially flat. However, skiing trends such as crowded and expensive downhill ski areas, increasing interest in human powered sports, and emphasis on family friendly activities are likely to lead to an increased skier visits to Tahoe XC. To insure an appropriately conservative analysis, the evaluation assumes that skier visitation at the proposed lodge site would increase by 10 percent over existing levels.
- Some existing trailhead users would continue to use the Existing Lodge to access the trails, and some would shift to the new location. However, for purposes of this analysis, all existing users are assumed to relocate to the new site, resulting in conservatively high traffic volume impacts at the new site and along Polaris Road and Old Mill Road.
- On a typical busy winter day (either weekend or weekday), a 65-person gathering (including event attendees, staff, performers, volunteers) is assumed could occur at the proposed lodge. This gathering is conservatively assumed to start/arrive during the p.m. peak hour. The average vehicle occupancy rate of event attendees is assumed to be 1.8 persons per vehicle.
- No increase in total number of staff at the Schilling Lodge is expected on winter weekdays; two additional staff are assumed on winter weekends.
- An average vehicle occupancy rate of 1.1 staff per vehicle is assumed, based on a review of employee occupancy rates assumed for other similar facilities (such as the Tahoe Donner Cross-Country Ski Center and the Tahoe City Golf Course).

For additional details related to the winter trip generation estimates for the proposed Project see Appendix D.

As shown in the middle portion of Table 3.5-2, the proposed Project would generate a total of approximately 272 daily vehicle trips on a winter weekday and 489 daily trips on a winter weekend day. During the p.m. peak hours, 92 vehicle trips (75 arriving and 17 departing) would occur during the weekday p.m. peak hour and 106 (64 arriving and 42 departing) vehicle trips would occur during the weekend p.m. peak hour.

Net Impact on Winter Trip Generation

As shown in Table 3.5-2, by adding the Project net impact at the Existing Lodge site to the trip generation at the proposed Project site yields an overall net increase of 126 daily vehicle trip ends (DVTE) on weekdays and 149 DVTEs on weekends/holidays associated with the proposed Project. The net increase in trips on regional roads during the winter weekday p.m. peak hour would be approximately 55 one-way vehicle trips, and the net increase during a winter weekend p.m. peak hour would be 58 vehicle trips.

Winter Trip Generation Associated with Alternative A

The winter trip generation associated with Alternative A, which would reconstruct and expand the lodge at the Existing Lodge site, is summarized in the upper portion of Table 3.5-3. As the Schilling Lodge implemented under Alternative A would have the same size and layout as the lodge associated with the proposed Project, the assumptions regarding activities at the Schilling Lodge at the Alternative A site are the same as for the proposed Project site. However, unlike the proposed Project, under Alternative A the Existing Lodge would not continue to be operated as a community center by TCPUD.

Table 3.5-3 Winter Trip Generation: Alternative A

Description	Quantity	Vehicle Occupancy	Project Generated Vehicle Trips at Site Access - Weekday				Project Generated Vehicle Trips at Site Access - Weekend			
				p.m. Peak Hour				p.m. Peak Hour		
			Daily	In	Out	Total	Daily	In	Out	Total
Alternative A Site										
Skier Activity - Schilling Lodge										
Existing Uses Relocated to Schilling Lodge			178	34	15	49	372	24	36	60
10% Increase in Visitation			18	3	2	5	37	2	4	6
Skier Activity Subtotal			*196*	*37*	*17*	*54*	*409*	*26*	*40*	*66*
Gatherings at Schilling Lodge										
Attendees	65	1.8	72	36	0	36	72	36	0	36
Staff/Services/Deliveries	2	1.1	4	2	0	2	4	2	0	2
Gatherings at Schilling Lodge Subtotal			*76*	*38*	*0*	*38*	*76*	*38*	*0*	*38*
Additional Employees at Schilling Lodge (Weekends Only)										
Staff	2	1.1	0	0	0	0	4	0	2	2
Total Alternative A Trip Generation			**272**	**75**	**17**	**92**	**489**	**64**	**42**	**106**
ALTERNATIVE A NET IMPACT – WINTER TRIP GENERATION			***94***	***41***	***2***	***43***	***117***	***40***	***6***	***46***

Source: Transportation Impact Analysis in Appendix D

As shown in the lower row of Table 3.5-3, Alternative A would result in a net increase of approximately 94 daily vehicle trips on a winter weekday and 117 daily trips on a winter weekend day. A net increase of 43 vehicle trips would occur during the weekday p.m. peak hour and 46 vehicle trips would occur during the weekend p.m. peak hour.

Summer Trip Generation

Summer Trip Generation Associated with the Proposed Project

Existing Site

With the proposed Project, the Existing Lodge site would continue to operate as a community center. The trip generation assumptions for the Community Center during the summer are different than in winter. On a typical busy summer day, a gathering of about 15 people may occur at the Community Center. For purposes of the traffic generation, this gathering is assumed to let out during the p.m. peak hour. Additionally, approximately 2 persons are assumed to be on the site over the course of the day, such as staff, service, and/or delivery trips. As with winter months, some existing trailhead users would continue to use the Existing Lodge to access the trails during the summer, and some would shift to the new location. However, for purposes of this analysis, all existing users are assumed to relocate to the new site, resulting in conservatively high traffic volume impacts at the new site and along Polaris Road and Old Mill Road. As shown in Table 3.5-4, the proposed Project would result in a net reduction of approximately 354 daily one-way vehicle trips at the Existing Lodge site driveways over the course of a summer day, including a reduction of approximately 31 p.m. peak-hour trips (46 entering and 14 exiting).

Table 3.5-4 Summer Trip Generation: Proposed Project

Description	Quantity	Vehicle Occupancy	Project Generated Vehicle Trips at Site Access			
			Daily	p.m. Peak Hour		
				In	Out	Total
Proposed Project Site						
Summer Visitation						
Existing Lodge Use	—	—	370	17	20	37
Gatherings at Schilling Lodge						
Attendees	65	1.8	72	36	0	36
Early Day Meeting	15	1.8	17	0	0	0
Gatherings at Schilling Lodge Subtotal			*89*	*36*	*0*	*36*
Bike Rental Customers	5	2.5	4	0	0	0
Lodge/Café/Rental Staff Employees	3	1.1	5	0	1	1
Youth Camp						
Participants	15	1.5	40	10	10	20
Staff	3	1.1	5	0	3	3
Youth Camp Subtotal			*45*	*10*	*13*	*23*
Total Proposed Project Trip Generation			**513**	**63**	**34**	**97**
Existing Site						
Existing Uses Relocated to Schilling Lodge			-370	-17	-20	-37
Potential Existing Lodge Use						
Attendees	15	2.5	12	0	6	6
Staff/Services/Deliveries	2	1.0	4	0	0	0
Existing Lodge Subtotal			*16*	*0*	*6*	*6*
Net Impact at Existing Lodge			**-354**	**-46**	**-14**	**-31**
PROPOSED PROJECT NET IMPACT – SUMMER TRIP GENERATION			***159***	***46***	***20***	***66***

Source: Transportation Impact Analysis in Appendix D

Proposed Project Site

With the proposed Project, the summer trip generation at the proposed Project site is summarized in the upper portion of Table 3.5-4, and is estimated based on the following assumptions (Appendix D):

- It is not specified whether the Project generates more traffic on summer weekends or weekdays. Rather, the "design day" for estimating the Tahoe XC site-generated traffic is assumed to coincide with a busy traffic day on adjacent roadways (such as a Friday in August) to yield conservatively high traffic volumes.
- No expansion of the trail system is proposed. There are other trailhead access locations nearby, such as the recently constructed trailhead parking lot on SR 28 opposite Dollar Drive. General visitation levels to the trailheads in summer are not expected to increase as a result of the Schilling Lodge.
- Some existing trailhead users would continue to use the Existing Lodge site, and some would shift to the new location. However, for purposes of this analysis, all existing users are assumed to relocate to the new site, which results in conservatively high traffic volume impacts at the new site and along Polaris Road and Old Mill Road. Additionally, a 65-person gathering is assumed to occur at the proposed lodge on a busy summer day (either weekend or weekday). This gathering event has the same trip generation assumptions in summer and winter.
- A 15-person meeting/gathering is also assumed to occur at the proposed lodge, earlier in the day.
- Trips associated with the bike rental operations are reflected in the "existing use" trips relocated from the Existing Lodge site. However, the Project proponent indicates that they expect bike rental operations at the Schilling Lodge to generate about five additional customers over the course of a busy day. Bike rental customers are assumed to have an average vehicle occupancy of 2.5 persons per vehicle.
- Three additional summer lodge/café/rental staff are assumed at the new site, above and beyond the existing staff that would be relocated from the Existing Lodge site.
- Junior mountain biking sessions and/or summer DEVO/Nordic dryland training activities are reflected in the existing use trips. The Project proponent confirmed that a junior mountain biking session did occur during the week of August 9-13, 2018 when the summer traffic counts were conducted. With the proposed lodge, these activities are not expected to occur on the same day.
- Summer youth camps could potentially occur at the proposed lodge; these camps are assumed to include 15 children and three staff on a typical busy day.
- Youth camp participants are assumed to have an average vehicle occupancy rate of 1.5 participants per vehicle, consistent with rates used for youth activities in other recent studies.

For additional details related to the summer trip generation estimates for the proposed Project see Appendix D.

As shown in Table 3.5-4, the proposed Project is estimated to generate approximately 513 daily vehicle trips at the proposed Project site driveway on a summer day, including 97 p.m. peak-hour trips (63 arriving and 34 departing).

Net Impact on Summer Trip Generation

As shown in Table 3.5-4, by adding the proposed Project net impact at the Existing Lodge site to the trip generation at the proposed lodge site yields an overall net increase of 159 daily one-way vehicle trips. The net increase in trips on regional roads during the summer p.m. peak hour would be approximately 66 one-way vehicle trips.

Summer Trip Generation Associated with Alternative A

The summer trip generation associated with Alternative A is summarized in the upper portion of Table 3.5-5. The assumptions regarding activities at the Schilling Lodge under Alternative A are the same as for the proposed Project. As the reconstructed lodge would have the same size, layout, and functions as the Schilling Lodge associated with the proposed Project, the assumptions regarding activities at the Schilling Lodge at the Alternative A site are the same as for the proposed Project site. As shown in the lower row of Table 3.5-5, Alternative A would result in a net increase of approximately 143 daily vehicle trips on a summer day, with a net increase of 60 vehicle trips (46 arriving and 14 departing) during the p.m. peak hour.

Table 3.5-5 Summer Trip Generation: Alternative A

Description	Quantity	Vehicle Occupancy	Project Generated Vehicle Trips at Site Access			
			Daily	p.m. Peak Hour		
				In	Out	Total
Alternative A Site						
Summer Visitation						
Existing Lodge Use	—	—	370	17	20	37
Gatherings at Schilling Lodge						
Attendees	65	1.8	72	36	0	36
Early Day Meeting	15	1.8	17	0	0	0
Gatherings at Schilling Lodge Subtotal			*89*	*36*	*0*	*36*
Bike Rental Customers	5	2.5	4	0	0	0
Lodge/Café/Rental Staff Employees	3	1.1	5	0	1	1
Youth Camp						
Participants	15	1.5	40	10	10	20
Staff	3	1.1	5	0	3	3
Youth Camp Subtotal			*45*	*10*	*13*	*23*
Total Alternative A Trip Generation			**513**	**63**	**34**	**97**
ALTERNATIVE A NET IMPACT- SUMMER TRIP GENERATION			***143***	***46***	***14***	***60***

Source: Transportation Impact Analysis in Appendix D

Trip Distribution and Assignment

The distribution of traffic arriving and departing from the proposed Project site and Alternative A site is based on existing traffic patterns, regional access patterns, and the location of the sites relative to SR 28 and commercial and residential properties. To be conservative, the analysis assumed that none of the trips generated by the Project included travel to/from homes within the Highlands area. The analysis assumes that 55 percent of the trips to and from the proposed Project site would access the site via SR 28 from the west and 45 percent of the trips would be from the east (see Appendix D).

The analysis assumes that the relocation of the lodge to the proposed Project site would cause a shift in travel patterns. Rather than using Fabian Way, Village Road, and County Club Drive, traffic traveling west on SR 28 would use Fabian Way, Village Road, and Polaris Road. The majority of traffic traveling east on SR 28 would likely use Old Mill Road to access the site. See Appendix D for additional details pertaining to the trip distribution and assignment.

Intersection Level of Service

Project impacts on intersection LOS for the study intersections were evaluated using the methodologies documented in the Highway Capacity Manual (HCM 6), as applied in the Highway Capacity Software (HCS 7). All study intersections were evaluated to determine existing and future cumulative operational conditions for the winter weekday p.m., winter weekend/holiday p.m. and summer p.m. peak hours. Note that the summer p.m. peak-hour volumes reflect a Friday in August, consistent with Placer County's standard design period. In addition, this study assumes the p.m. peak hour of the Existing Lodge-generated traffic coincides with the p.m. peak hour of adjacent street traffic, to yield conservatively high traffic volumes. Detailed LOS outputs can be found in Appendix D.

Parking Demand

The parking analysis evaluates the current demand of the Existing Lodge and determines the capacity needed at the proposed lodge. The peak parking demand is compared to the proposed parking supply for the proposed Project and Alternative A to determine the overall parking balance. The winter parking demand analysis is based on hourly parking lot volume counts conducted at the Existing Lodge site on December 31, 2015 and Friday, January 15, 2016. Parking counts at North Tahoe High School and North Tahoe Middle School were also conducted on January 15, 2016. Hourly parking lot volume counts for summer conditions were conducted at the Existing Lodge site and high school and middle school on August 18 and August 26, 2018. Additional details regarding the parking demand analysis are included in Section 6 of Appendix D.

Vehicle Miles Traveled Analysis

The updated State CEQA Guidelines have been formally adopted and indicate that VMT shall be the primary metric used to identify transportation impacts; however, local agencies have an opt-in period until July 1, 2020 to implement the updated guidelines. TRPA, Placer County, and TCPUD have yet to adopt VMT policies or thresholds addressing the intent of SB 743. TRPA is also in the process of updating and validating its transportation model and updating its VMT Threshold Standard, which is anticipated to be complete by late 2020.Therefore, the VMT analysis herein is included for TRPA analysis purposes only and is not meant to comply with State CEQA Guidelines Section 15064.3, Subdivision (b).

The VMT analysis is based on current TRPA interim guidance for assessing VMT impacts. TRPA's interim guidance recognizes that "while **the stated purpose for the VMT threshold has been achieved many times over through vehicle tailpipe nitrogen emission reduction, VMT remains an important performance measure in efforts to reduce greenhouse gases and effectuate TRPA and state policies."** Accordingly, when evaluating VMT impacts of a project, TRPA also considers the corresponding GHG emissions.

VMT Quantification

OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) states that lead agencies should not truncate any VMT analysis because of jurisdictional or other boundaries, for example, by failing to count the portion of a trip that falls outside the jurisdiction or by discounting the VMT from a trip that crosses a jurisdictional boundary (OPR 2018). Because TRPA's model, which includes accounting for travel to and from locations outside of the basin, is still being refined and validated, TRPA recommends that the model approach not be the sole method for evaluating Project effects on VMT (TRPA 2019:12).

Therefore, consistent with TRPA's current guidance, this analysis uses a calculation-based off model approach based on trip generation and trip distribution to various locations throughout the Tahoe Basin, including external access points. Project-generated VMT is estimated based upon the net increase in regional vehicle trips generated by the Project over the course of a busy summer day multiplied by the average trip distance.

SIGNIFICANCE CRITERIA

CEQA Criteria

Based on Appendix G of the State CEQA Guidelines, the Project would result in a potentially significant impact to transportation if it would:

- conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities; or
- substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

TRPA Criteria

"Transportation/Circulation" criteria from the TRPA Initial Environmental Checklist were used to evaluate the transportation impacts of the Project. Although TRPA does not require a detailed traffic analysis (other than an

analysis of VMT impacts) for projects, such as the proposed Project, that generate fewer than 200 trips per day (see the discussion under the header "2019 Guidance for Assessment of Vehicle Miles Traveled Impacts of Projects in the Tahoe Basin"), the analysis is included above under the header "Vehicle Miles Traveled Analysis" for the purposes of disclosing impacts and informing decisionmakers about the effects of the Project. Checklist items that are relevant to the Project have been included in the environmental analysis below. Impacts to transportation would be significant if the Project would:

- substantially impact existing highway systems or alter present patterns of circulations, defined here as:
  - cause a study intersection controlled by signal or roundabout to worsen from LOS A through D or less than 5 hours per day of LOS E to LOS F or to LOS E for 5 or more hours per day;
  - cause a study intersection not controlled by signal or roundabout to worsen from LOS A through E to LOS F, or to increase delay where LOS F currently exists; or
  - cause daily traffic levels along residential roadways to exceed 2,500 vehicles per day or exacerbate no-project levels exceeding this value.
- result in inadequate parking conditions;
- substantially increase traffic hazards to bicyclists and pedestrians, or substantially impact existing bicycle/pedestrian facilities;
- substantially increase hazards due to a design feature or incompatible uses; or
- result in an unmitigated increase in daily VMT.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.5-1: Potential to Cause Intersection Level of Service to Substantially Worsen

The proposed Project and Alternative A would add new trips to the roadway network and would incrementally increase traffic volumes at study intersections that provide access to Tahoe XC. Because the study intersections are anticipated to continue to operate at an acceptable LOS under existing plus project conditions with the increase in Project-related trips, the proposed Project and Alternative A would not substantially worsen the LOS of an intersection. Therefore, the proposed Project and Alternative A would have a **less-than-significant** impact on LOS.

Proposed Project

As described in Tables 3.5-2 and 3.5-4, the proposed Project would add an additional 126 daily trips to the roadway network during a typical busy day in the winter, and an additional 159 daily trips on a typical busy day in the summer. These additional trips on the roadway network would incrementally increase traffic volumes at study intersections that provide access to Tahoe XC.

As shown in Tables 3.5-6 and 3.5-7, the study intersections would continue to operate at an acceptable LOS with implementation of the proposed Project during winter and summer periods. Although implementation of the proposed Project could result in a slight increase in average delays during peak periods relative to existing conditions, all intersections would continue to operate at LOS A or B. The greatest increase in delay would occur at the SR 28/Fabian Way intersection, where Project-related traffic would increase the average delay on the southbound left-turn movement from Fabian Way onto SR 28 by up to 1.7 seconds per vehicle during peak periods. However, no LOS deficiencies are identified. Because the study intersections would continue to operate at an acceptable LOS under existing plus Project conditions with the increase in Project-related trips, the proposed Project would not substantially worsen the LOS of an intersection. Therefore, the proposed Project would have a **less-than-significant** impact on LOS.

Alternative A

As described in Tables 3.5-3 and 3.5-5, Alternative A would add an additional 94 daily trips to the roadway network during a typical busy day in the winter, and an additional 143 daily trips on a typical busy day in the summer. These additional trips would incrementally increase traffic volumes at study intersections that provide access to Tahoe XC.

As shown in Tables 3.5-6 and 3.5-7, the study intersections would continue to operate at an acceptable LOS with implementation of Alternative A during winter and summer periods. As with the proposed Project, implementation of Alternative A could result in a slight increase in average delays during peak periods relative to existing conditions. However, because the study intersections would continue to operate at an acceptable LOS under existing plus project conditions with the increase in trips associated with Alternative A, this alternative would not substantially worsen the LOS of an intersection. Therefore, Alternative A would have a **less-than-significant** impact on LOS.

Table 3.5-6 Winter Intersection Level of Service

Intersection	Analysis Period	Existing Conditions		Winter with Proposed Project		Winter with Alternative A	
		LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Existing Conditions							
SR 28/Fabian Way	Weekday p.m.	A	9.7	A	9.5	A	10.0
SR 28/Old Mill Road	Weekday p.m.	A	9.8	A	9.9	A	9.8
Polaris Road/Old Mill Rd	Weekday p.m.	A	8.1	A	8.5	A	8.1
Polaris Road/Village Drive	Weekday p.m.	A	8.9	A	9.0	A	8.9
SR 28/Fabian Way	Weekend/Holiday p.m.	A	9.9	A	9.6	B	10.2
SR 28/Old Mill Road	Weekend/Holiday p.m.	B	10.1	A	10.7	B	10.1

Note: LOS = level of service

Source: Transportation Impact Analysis in Appendix D

Table 3.5-7 Summer Intersection Level of Service

Intersection	Analysis Period	Existing Conditions		Summer with Proposed Project		Summer with Alternative A	
		LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Existing Conditions							
SR 28/Fabian Way	p.m.	A	9.3	B	11.0	A	9.7
SR 28/Old Mill Road	p.m.	B	10.1	B	10.7	B	10.2
Polaris Road/Old Mill Road	p.m.	A	7.1	A	7.7	A	7.1
Polaris Road/Village Drive	p.m.	A	8.9	A	9.5	A	9.5

Note: LOS = level of service

Source: Transportation Impact Analysis in Appendix D

Mitigation Measures

No mitigation is required for this impact.

Impact 3.5-2: Cause Traffic Volumes on a Residential Roadway to Exceed 2,500 Vehicles per Day

The proposed Project and Alternative A would not alter travel patterns or increase traffic volumes to the extent that the capacity of a residential roadway would be exceeded. Because Project-related traffic would not cause traffic volumes on residential roadways to exceed Placer County's 2,500 vehicles per day standard for residential roadways, this impact would be **less than significant** for the proposed Project and Alternative A.

LSC evaluated daily roadway volumes on residential roadways providing access to the Existing Lodge and proposed Project site to determine whether the Project would cause a residential roadway to exceed its design capacity and warrant implementation of traffic calming measures. Placer County Department of Public Works uses a standard of 2,500 vehicles per day (average daily traffic [ADT]) for residential streets when considering whether to implement traffic-calming devices and driveway treatments to lessen the impact (see Appendix D).

LSC evaluated traffic impacts on the following residential roadway segments:

- Village Road, near the Existing Lodge
- Old Mill Road, north of SR 28
- Polaris Road, between Village Road and Old Mill Road
- Polaris Road, just east of the high school

The existing and existing plus project winter and summer daily traffic volumes on these roadway segments are shown in Tables 3.5-8 and 3.5-9, respectively.

Proposed Project

The maximum traffic volumes associated with the proposed Project on a residential roadway would occur along the segment of Polaris Road just east of the high school on a winter weekday when school is in session. The estimated ADT at this location would be up to 1,642 ADT considering existing plus proposed Project traffic. Because proposed Project-related traffic would not cause traffic volumes on residential roadways to exceed Placer County's 2,500 vehicles per day standard for residential roadways, this impact would be **less than significant**.

Alternative A

Tables 3.5-8 and 3.5-9 show the winter and summer daily traffic volumes associated with Alternative A. As with the proposed Project, the maximum traffic volumes on a residential roadway would occur along the segment of Polaris Road just east of the high school on a winter weekday when school is in session. The estimated ADT at this location would be up to 1,370 ADT, consistent with existing conditions.

As described for the proposed Project above, because Project-related traffic associated with Alternative A would not cause traffic volumes on residential roadways to exceed Placer County's 2,500 vehicles per day standard for residential roadways, this impact would be **less than significant**.

Table 3.5-8 Daily Winter Roadway Volumes

Segment	Existing (ADT)	Winter with Project (ADT)		Net Change in Traffic Volumes from Existing Conditions (ADT)		Project Impact (Percent Change from Existing)	
		Proposed Project	Alternative A	Proposed Project	Alternative A	Proposed Project	Alternative A
Weekday							
Village Drive, near the Existing Lodge	499	353	593	-146	94	-29%	19%
Old Mill Road, north of SR 28	431	536	431	105	0	24%	0%
Polaris Road, Village Drive to Old Mill Road	728	895	728	167	0	23%	0%
Polaris Road, just east of school	1,370	1,642	1,370	272	0	20%	0%
Weekend/Holiday							
Village Drive, near the Existing Lodge	815	475	932	-340	117	-42%	14%
Old Mill Road, north of SR 28	91	279	91	188	0	207%	0%
Polaris Road, Village Drive to Old Mill Road	97	398	97	301	0	310%	0%
Polaris Road, just east of school	183	672	183	489	0	267%	0%

Note: ADT = Average Daily Traffic

Source: Transportation Impact Analysis in Appendix D

Table 3.5-9 Daily Summer Roadway Volumes

Segment	Existing (ADT)	Summer with Project (ADT)		Net Change in Traffic Volumes from Existing Conditions (ADT)		Project Impact (Percent Change from Existing)	
		Proposed Project	Alternative A	Proposed Project	Alternative A	Proposed Project	Alternative A
Weekday							
Village Drive, near the Existing Lodge	414	60	557	-354	143	-86%	35%
Old Mill Road, north of SR 28	580	862	580	282	0	49%	0%
Polaris Road, Village Drive to Old Mill Road	198	429	198	231	0	117%	0%
Polaris Road, just east of school	183	696	183	513	0	280%	0%

Note: ADT = Average Daily Traffic

Source: Transportation Impact Analysis in Appendix D

Mitigation Measures

No mitigation is required for this impact.

Impact 3.5-3: Substantially Increase Hazards Due to a Design Feature or Incompatible Uses

All Project-related transportation infrastructure (i.e., Project driveway) connecting to existing Placer County roadways would be constructed in accordance with applicable Placer County design and safety standards. Additionally, the Project design and improvement plans are subject to the Placer County design review and plan check processes, respectively. Thus, the Placer County design review and plan check procedures would ensure that that the Project design would comply with the Placer County design and safety standards. Therefore, this impact would be **less than significant** for the proposed Project and Alternative A.

Proposed Project

As shown in Figure 2-8 in Chapter 2, "Description of Proposed Project and Alternative Evaluated in Detail," the proposed Project site access driveway is proposed to be located on the north side of Polaris Road approximately 70 feet east of the high school driveway. Thus, as detailed in Appendix D, the access driveway location as proposed in Figure 2-8 would meet the Placer County minimum driveway spacing requirements.

Based on the sight distance analysis included in the Transportation Impact Assessment (see Appendix D), the following sight distances were measured at the proposed new driveway located on Polaris Road:

- Proposed driveway (proposed Project site) on Polaris Road, looking east – 250 feet
- Proposed driveway (proposed Project site) on Polaris Road, looking west – at least 330 feet

Stopping sight distance is the distance an oncoming driver on the major roadway needs to perceive an object in the travel lane (such as a turning vehicle), react to the object, and come to a safe stop. The stopping sight distance requirement for drivers approaching the proposed Project site along residential neighborhood streets is 150 feet if traveling the 25 mph design speed, or 200 feet if traveling 30 mph. Assuming that traffic along Polaris Road would be traveling at a speed of 30 mph (see discussion under the header "Existing Vehicle Speeds" earlier in this section), the minimum stopping sight distance for approaching vehicles is 200 feet. As detailed in the Transportation Impact Assessment (Appendix D) and listed above, the stopping sight distance for drivers approaching the proposed driveway on Polaris Road is at least 200 feet in either direction; thus, the proposed Project driveway meets the minimum stopping sight distance requirements.

The corner sight distance requirements are based on the Caltrans Highway Design Manual as referenced in Placer County Standard Drawing Plate 116 (Placer County 2016), which specifies corner sight distances of 275 feet based upon a design speed of 25 mph, and 330 feet based upon a design speed of 30 mph. Based on the assumed speed of traffic along Polaris Road (i.e., 30 mph), the minimum corner sight distance is 330 feet. As shown in the analysis presented in the Transportation Impact Assessment (Appendix D) and the sight distances listed above, the driveway corner sight distance looking west would meet the minimum corner sight distance requirement of 330 feet. However, due to the horizontal curvature and existing embankments on the northern side of Polaris Road, the sight distance looking east would be approximately 250 feet; and thus, would not meet the minimum corner sight distance standard. However, the Placer County corner sight distance standards indicate that where restrictive conditions do not allow compliance with the specified sight distance requirements, a reduction of the corner sight distance to no less than the minimum stopping sight distance as outlined in the Caltrans Highway Design Manual may be approved by Placer County (Placer County 2016). If such a reduction in corner sight distance were approved by the county, the stopping sight distance requirement of 200 feet for the driveway looking east would be met.

At this time, the proposed Project site design is conceptual in nature and more detailed engineering and design has not yet been completed. The proposed Project, as shown in Figure 2-8, or any future iteration of the site plan and the associated engineering and design would be subject to the Placer County design review and plan check processes; and thus, would be required to demonstrate compliance with all applicable Placer County design and safety standards for Project-related roadway improvements or changes to existing Placer County roadways. Therefore, this impact would be **less than significant**.

Alternative A

As shown in Figure 2-9, the Alternative A access driveways are proposed to remain in the same locations as the existing access driveways for the Existing Lodge. As detailed in Appendix D, the locations of the access driveways as shown in Figure 2-9 would meet the Placer County minimum driveway spacing requirements.

Based on the sight distance analysis included in the Transportation Impact Assessment (Appendix D), the following sight distances were measured at the Existing Lodge driveways located on Country Club Drive:

- Existing northern driveway on Country Club Drive, looking north – at least 330 feet,
- Existing northern driveway on Country Club Drive, looking south – at least 330 feet,
- Existing southern driveway on Country Club Drive, looking north – 250 feet, and
- Existing southern driveway on Country Club Drive, looking south – 190 feet.

The stopping sight distance for drivers approaching the Existing Lodge driveways on Country Club Drive is at least 200 feet from either direction. Assuming that traffic along Country Club Drive would be traveling at a speed of 25 mph, the minimum stopping sight distance value for approaching vehicles is 150 feet. Therefore, the minimum requirement is met at both driveways and in both directions and adequate stopping sight distance is provided.

The stopping sight distance requirement for drivers approaching the site along residential neighborhood streets is 150 feet assuming a 25 mph design speed, or 200 feet assuming 30 mph. Assuming the traffic speed of 25 mph along Country Club Drive, the minimum corner sight distance requirement is 275 feet. The corner sight distance at the northern driveway meets the minimum corner sight distance requirement in either direction. However, as listed above the corner sight distance at the southern driveway does not meet the minimum corner sight distance requirement of 275 feet in either direction. The Transportation Impact Assessment determined that the corner sight distance in both directions is limited by existing trees and vegetation.

However, as detailed above for the proposed Project, Placer County may approve a reduced corner sight distance requirement. Additionally, at this time the site design for Alternative A is conceptual in nature and detailed engineering and design has not been completed. Alternative A, as shown in Figure 2-9 or any future iteration of the site plan and the associated engineering and design is subject to the Placer County design review and plan check processes; and thus, would be required to demonstrate compliance with all applicable Placer County design and safety standards for Project-related roadway improvements or changes to existing Placer County roadways. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.5-4: Potential to Result in Inadequate Parking Conditions

Implementation of the proposed Project or Alternative A would result in the potential for a maximum of seven peak winter days on which residential street parking may need to be utilized by lodge patrons. Additionally, residential overflow parking may be required on as many as nine additional days per year on which large special events or premier events would be held. However, provisions to minimize the use of residential parking, such as carpooling, would be incorporated into event planning and implemented. Given that overflow residential parking already occurs during large events at the Highlands Community Center, and that the existing parking lot cannot accommodate current demand on peak winter days, which already totals more than seven days per year, implementation of the proposed Project and Alternative A would result in an improvement relative to existing conditions in the neighborhood as a whole. Therefore, this impact would be **beneficial** for the proposed Project and Alternative A.

Proposed Project

The proposed Project proposes to accommodate parking needs on site for regular recreation use, including needs for patrons, staff, and school groups, without the need for overflow parking on neighborhood streets that is typical under current busy winter conditions at the existing Highlands Community Center site. With implementation of the

proposed Project, the Schilling Lodge would include a 100-space parking lot, which would include four disabled access spaces and two bus parking spaces (Table 3.5-10). Given that there are 46 marked parking spaces in the existing parking lot at the Highlands Community Center, the proposed Project would create 54 additional parking spaces relative to existing conditions for lodge and skiing-related uses, and would thereby reduce the potential for conflicts with neighborhood parking and potential user confusion associated with wintertime parking along roadways, and would improve visitor safety and quality of experience. The 46 spaces at the existing Highlands Community Center would continue to be used for Community Center-only uses and some trail access.

Table 3.5-10 Parking Infrastructure

Item	Description	Existing Conditions	Proposed Project[2]	Alternative A
Parking	Proposed parking would meet the typical need and avoid overflow street parking in the neighborhood	46 total spaces (approx. 16,820 sq. ft.)[1]	100 total parking spaces (59,799 sq. ft.)	100 total parking spaces (49,446 sq. ft.)
		2 disabled parking spaces	4 disabled parking spaces	4 disabled parking spaces
		0	2 bus parking spaces	2 bus parking spaces

Notes: sq. ft. = square feet

[1] During the parking surveys conducted for the Transportation Impact Analysis, 51 cars were observed to be parked in the parking lot.

[2] Under the proposed Project, because the 46 parking spaces at the Highlands Community Center would be retained, the total amount of parking spaces that would be available at the Schilling Lodge and the Highlands Community Center would be 146 parking spaces.

Source: Compiled by TCCSEA in 2018

The applicant is in the process of pursuing a shared-parking agreement with the Tahoe Truckee Unified School district to allow Tahoe XC and North Tahoe High School to share their respective parking areas during high-use events, consistent with Policy T-P-13 of the Area Plan. The parking lot at North Tahoe High School has a total of 215 parking spaces. To accommodate the shared parking arrangement between the two sites, a connection between the school property and the proposed Project site would be constructed, replete with a locking gate for safety during school hours. Under the agreement, visitors to Tahoe XC would only use school parking areas outside of school hours (for example during weekend events such as the Great Ski Race or the Great Trail Race).

Event Parking Impacts

Tahoe XC hosts numerous events throughout the year, which can be categorized into three different types, based on attendance (and associated parking needs). Implementation of the proposed Project would allow for continuation of these events, which include premier or other large special events, community events, and private events (details about these different types of events are included in the "Special Events" discussion in Section 2.5.1, "Project Characteristics"). Large and premier events would continue in the same annual number and with the same frequency as under existing conditions, while more community and private events would be encouraged through implementation of the proposed Project, as described below.

Tahoe XC hosts to several large annual athletic events, which are generally limited to two or three per season and not more than seven per year. These events can draw an attendance of up to approximately 250 people, including participants, organizers, volunteers, and spectators. In addition to these large athletic events, up to two premier events (e.g., the Great Ski Race) would occur at the site each year, which can draw an attendance of up to about 500 people. The premier events already occur at the Existing Lodge, and no new premiere events would occur as a result of Project implementation.

Parking for both large and premier events would be within the Schilling Lodge parking lot and at the school under the specific agreement described above. Event planning for Tahoe XC must make provisions to avoid substantial overflow parking into the surrounding neighborhood. To this end, carpooling incentives would be incorporated into special event planning and operation and overflow parking on nearby residential streets would not occur during such events.

Community events and activities include small group activities (e.g., community potluck, non-profit fundraiser, Boy Scout pinewood derby), small meetings, and community gatherings. These smaller group activities could occur either in the Schilling Lodge or in the nearby outdoor spaces that serve to foster community interactions. Up to two small meetings could occur per month (up to 24 per year) with an estimated 15–20 people in attendance at each meeting. Currently, 12 of these types of small meetings take place per year at the Highlands Community Center. Up to 33 community gatherings could occur per year with an estimated 50–80 people in attendance. Currently, five of these types of community gatherings already occur. These activities would not be expected to generate parking needs in excess of onsite availability.

Facilities at the Schilling Lodge could be rented for private meetings (up to 12 per year) and private events or gatherings (up to 34 per year). Private meetings could have up to 15–20 people in attendance and private gatherings could have up to 50–80 people in attendance. Up to three other private events that could occur each year at the lodge include running and biking day camps. These other private events could accommodate up to 50 attendees. Parking demand would not exceed what could be provided onsite, and carpooling would be encouraged as part of the rental agreement for private events.

Winter Parking Impacts

To establish parking demand, parking lot volume counts were conducted at the Existing Lodge parking lot and at the North Tahoe High School parking lot on two occasions during the 2015/16 winter, reflecting a peak day and a normal weekday. Based on the data collected, and incorporating a 10 percent increase in visitation associated with the proposed Project, the maximum parking demand associated with proposed Project implementation would be 139 cars on the busiest day of the winter season (Appendix D).

The proposed Project parking lot would accommodate parking demand on 94 percent of the days during the winter season, which translates to only seven days per year on which offsite parking would be required (Appendix D). The maximum number of cars that would need to park off site on overflow days is estimated to be 39 (139 cars on the busiest day minus the 100 available spaces in the proposed parking lot). Under a shared-used agreement with the Tahoe Truckee Unified School, the high school parking lot would provide more than adequate overflow parking on non-school days, provided that there would be no special events at the high school on the seven days on which overflow parking would be required. If special events at the high school (e.g., a basketball tournament) coincide with peak skiing days, there would be the potential for overflow parking from the proposed Project to spillover onto nearby residential streets. Therefore, there would be a maximum of seven days per year on which overflow parking may occur on residential streets as a result of the proposed Project. Affected streets would be different from the current pattern of residential street overflow parking as a result of the new lodge location. Nevertheless, overflow parking from cross-country ski activities and events already takes place on local residential streets under existing conditions on more than seven days per year; therefore, implementation of the proposed Project would result in an improvement over existing conditions in the neighborhood as a whole.

Notwithstanding the fact that the high school parking lot would not be used as overflow parking during school hours, there would be no demand for high school parking spaces by Schilling Lodge patrons on the busiest weekday ski day. Adequate parking would be available in the Schilling Lodge parking lot on school days without the potential for spill-over parking on nearby residential streets, provided that special events would not be held during school hours at the Schilling Lodge. Additionally, if special events were to be held at the high school during the school day, the parking demand generated by Schilling Lodge patrons would be satisfied by the onsite Schilling Lodge parking lot.

Summer Parking Impacts

To establish summertime parking demand, parking lot volume counts were conducted at the Existing Lodge parking lot and at the North Tahoe High School parking lot on two occasions during the 2015/16 summer season, reflecting a typical weekend day and an event day at the high school.

Based on the data collected from the parking lot volume counts, the proposed Project parking lot would yield an excess of 38 parking spaces on a typical summer weekend day (Appendix D). On a summer day during a single large event, during which normal lodge uses would simultaneously take place, there would be a parking shortfall between the North Tahoe High School and Schilling Lodge parking lots of 13 spaces. This scenario reasonably assumes that

there would not be large events held at the high school and Schilling Lodge simultaneously. As described above, during large events, planning must make provisions to avoid substantial overflow parking into the surrounding neighborhood. To this end, carpooling incentives would be incorporated into special event planning and operation to curb the amount of overflow parking required on local neighborhood streets.

Highlands Community Center Parking Impacts

Absent cross-country ski uses, continuing use of the Highlands Community Center would result in a surplus of approximately 30 parking spaces at the Community Center during peak use (Appendix D). As such, there would be no impact related to parking at the Highlands Community Center.

Impact Summary

Implementation of the proposed Project would result in the potential for a maximum of seven peak winter days during which residential street parking may need to be utilized. Additionally, residential overflow parking may be required on as many as nine additional days per year during which large special events or premier events would be held. However, provisions to minimize the use of residential parking, such as carpooling, would be incorporated into event planning and implemented. Given that overflow residential parking already occurs during large events at the Highlands Community Center, and that the existing parking lot cannot accommodate existing demand on peak skier days, which already total more than seven per year, implementation of the proposed Project would result in an improvement to existing conditions in the neighborhood as a whole, and therefore result in a **beneficial** impact related to parking.

Alternative A

Winter Parking Impacts

If the Schilling Lodge is constructed at the existing site under Alternative A, the parking supply would accommodate the parking demand on 95 percent of the winter days, with seven winter days per season of off-site parking along local residential streets. The maximum number of cars that would need to park off site on a peak day is estimated to be 39. Under existing conditions, overflow parking from cross-country ski activities and events already takes place on local residential streets on more than seven days per year; therefore, Alternative A would result in an improvement over existing conditions.

Summer Parking Impacts

With implementation of Alternative A, there would be an excess of a minimum of 21 spaces on a typical summer weekend day, during which peak use occurs in the late afternoon (Appendix D). This reflects the maximum potential use of the parking lot at the Alternative A site during the summer on non-event days.

Impact Summary

Implementation of Alternative A would result in the potential for a maximum of seven peak winter days during which residential street parking may need to be utilized. Additionally, residential overflow parking may be required on as many as nine additional days per year during which large special events or premier events would be held. However, provisions to minimize the use of residential parking, such as carpooling, would be incorporated into event planning and implemented. Given that overflow residential parking already occurs during large events at the Highlands Community Center, and that the existing parking lot cannot accommodate existing demand on peak skier days, which already total more than seven per year, implementation of Alternative A would result in an improvement to existing conditions in the neighborhood as a whole, and therefore result in a **beneficial** impact related to parking.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.5-5: Construction-Related Impacts on Traffic

Construction of the proposed Project or Alternative A may require restricting or redirecting pedestrian, bicycle, and vehicular movements on local roadways to accommodate construction activities and modifications to existing infrastructure. Such restrictions could include lane closures, lane narrowing, and detours; and therefore, could result in temporarily degraded roadways operations. Additionally, the addition of heavy vehicles to the local roadway network in the surrounding residential neighborhood devoid of onstreet bicycle and pedestrian facilities could potentially lead to a short-term temporary increase in traffic hazards. For these reasons, construction traffic impacts would be **potentially significant**.

Proposed Project

The duration of construction, number of trucks, truck routing, number of employees, truck idling, lane closures, and a variety of other construction-related activities are unknown at this time. Construction may include disruptions to the transportation network near the site, including the possibility of temporary lane closures, street closures, and the restriction and/or redirection of pedestrian, bicycle, and vehicular movements at locations around the site. Access to all nearby parcels will be maintained; however, the aforementioned effect of Project construction of the study area roadway network could result in degraded roadway operating conditions.

Heavy vehicles would access the site using the surrounding residential roadways network and may need to be staged for construction. The local roadways providing access to the proposed Project site do not include sidewalks or bicycle lanes; thus, the addition of an unknown number of heavy vehicles to the roadway could potentially result in a substantial increase in conflict points and traffic hazards to bicycles and pedestrians traveling along these roadways.

Construction traffic impacts would be localized and temporary; however, during construction of the Project, traffic operations could be degraded and the use of the local roadway network in the residential area surrounding the proposed Project site by heavy vehicles could result in a short-term temporary increase in traffic hazards. Therefore, construction traffic impacts are considered **potentially significant**.

Alternative A

Construction details and impacts related to the Schilling Lodge under Alternative A would be similar to that of the proposed Project. Construction of Alternative A may include disruptions to the transportation network near the site, including the possibility of temporary lane closures, street closures, and the restriction and/or redirection of pedestrian, bicycle, and vehicular movements at locations around the site. Additionally, heavy vehicles would access the site using the surrounding residential roadways network; and thus, due to the lack of bicycle and pedestrian facilities the addition of heavy vehicles to the roadway could potentially result in a substantial increase in traffic hazards. Therefore, although construction traffic impacts would be localized and temporary, impacts related to construction traffic are considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-5: Prepare and Implement a Temporary Traffic Control Plan

This mitigation measure would apply to the proposed Project and Alternative A.

Before the beginning of construction or issuance of a building permit, the applicant and/or its construction contractor shall prepare a temporary traffic control (TTC) plan to the satisfaction of the Placer County Public Works Department.

At a minimum, the plan shall include and/or show:

- a vicinity map including all streets within the work zone properly labeled with names, posted speed limits, and a north arrow;
- a description of construction work hours and work days;
- a description of the proposed work zone;

- a description of detours and/or lane closures (pedestrians, bicyclists, vehicular), no parking zones, and parking restrictions;
- a description of signalized and non-signalized intersections impacted by the work;
- a description of construction phasing and staging;
- a description of anticipated construction truck activity, including: number and size of trucks per day, expected arrival/departure times, truck circulation patterns;
- a restriction on the operation of heavy vehicles along the roadway network in the residential neighborhood surrounding the Project site to hours that do not conflict with the primary arrival and departures times of the students of the nearby high school;
- a description of maximum speed limits for heavy vehicles; and
- a description of signage and notification procedures.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-5 would require the applicant or its construction contractor to prepare and implement a TTC plan to the satisfaction of the Placer County Public Works Department that minimizes construction-related traffic impacts. Thus, Mitigation Measure 3.5-5 would reduce the temporary impact to the degree feasible. Additionally, construction traffic impacts would be localized and temporary. For these reasons, construction traffic impacts of the Project would be reduced to a **less-than-significant** level.

Impact 3.5-6: Result in an Unmitigated Increase in Daily VMT

The proposed Project and Alternative A would both result in increases in daily VMT. Therefore, implementation of the proposed Project or Alternative A would result in a VMT impact, which would be **significant**.

The effect of the proposed Project and Alternative A on VMT depends on the origin and destination of vehicles traveling to and from the respective sites. Project-generated VMT within the Tahoe Basin was determined based on Project trip generation and distribution to and from the various portions of the Tahoe Basin. The change in VMT resulting from implementation of the Project is estimated based upon the net increase in regional vehicle trips generated by the Project multiplied by the average trip distance to each area. The calculated VMT are presented in Table 3.5-11.

As shown in Table 3.5-11, the proposed Project and Alternative A are estimated to generate an increase of approximately 1,140 VMT and 973 VMT, respectively, over the course of a peak summer day relative to existing conditions.

Proposed Project

The proposed Project is estimated to generate approximately 1,140 VMT over the course of a peak day relative to existing conditions. Unmitigated operational emissions of GHGs generated by automobile travel to and from the proposed Project site were modeled and shown in Section 3.7, "Greenhouse Gas Emissions and Climate Change," to demonstrate the net difference in operational activity between baseline conditions and the proposed Project. The Project would result in an increase in daily VMT to the proposed Project site; and thus, as detailed in Section 3.7, "Greenhouse Gas Emissions and Climate Change," would not be consistent with the regional goal of reducing VMT. Therefore, implementation of the proposed Project would result in an increase in VMT; and thus, this impact would be **significant**.

Table 3.5-11 Vehicle Miles Traveled – Summary

Origin/Destination	Trip Distribution		Daily One-Way Vehicle Trips			
			Proposed Project			Alternative A
	Existing Site	Proposed Project Site	Net Impact at Existing Site	Impact at Proposed Project Site	Overall Project Net Impact	Net Impact
Homewood/Tahoma	17%	17%	-60	87	27	24
Sunnyside	11%	11%	-39	56	17	16
Eastern Tahoe City	11%	11%	-39	56	17	16
Dollar Point/Lake Forest	8%	8%	-28	41	13	11
Carnelian Bay	11%	11%	-39	56	17	16
Tahoe Vista	18%	18%	-64	94	30	26
Kings Beach/Crystal Bay	7%	7%	-25	36	11	10
Incline Village/East Shore	9%	9%	-32	46	14	13
Squaw/Alpine	8%	8%	-28	41	13	11
Total	**100%**	**100%**	**-354**	**513**	**159**	**143**
Origin/Destination	**Trip Length (Miles)**		**Impact on Daily Vehicles Miles Traveled**			
	Existing Site	Proposed Project Site	Existing Site	Proposed Project Site	Overall Project Net Impact	Alternative A
Homewood/Tahoma	11.7	11.5	-702	1,001	299	281
Sunnyside	5.3	5.5	-207	308	101	85
Eastern Tahoe City	2.9	2.7	-113	151	38	46
Dollar Point/Lake Forest	1.3	1.1	-36	45	9	14
Carnelian Bay	3.9	4.3	-152	241	89	62
Tahoe Vista	5.7	6.1	-365	573	209	148
Kings Beach/Crystal Bay	8.2	8.6	-205	310	105	82
Incline Village/East Shore	14.4	14.8	-461	681	220	187
Squaw/Alpine[1]	6.1	5.9	-171	242	71	67
Total			**-2,412**	**3,551**	**1,140**	**973**
PROJECT NET IMPACT ON VMT					**1,140**	**973**

[1] Distances shown represent the distance traveled in the Tahoe Basin.

Source: Transportation Impact Analysis in Appendix D

Alternative A

As shown in Table 3.5-11, Alternative A is estimated to generate approximately 973 VMT over the course of a peak day relative to existing conditions. As detailed in Section 3.7, "Greenhouse Gas Emissions and Climate Change," Alternative A would result in an increase in VMT less than that of the proposed Project; thus, unmitigated operational emissions of GHGs generated by automobile travel to and from the Alternative A site were not modeled. However, Alternative A would still result in an increase in VMT; thus, as detailed in Section 3.7, "Greenhouse Gas Emissions and Climate Change," would not be consistent with the regional goal of reducing VMT. Therefore, implementation of the Alternative A would result in an increase in VMT and this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-6a: Prepare and Implement a Transportation Demand Management Plan

This mitigation measure would apply to the proposed Project and Alternative A.

The applicant shall submit to Placer County a Transportation Demand Management Plan (TDM) as part of the development review process. A menu of measures that could be included in TDM plans is provided in TRPA Code Section 65.5.3 and Placer County Code Section 10.20. These measures include:

- Preferential carpool/vanpool parking;
- Shuttle bus program;
- Transit pass subsidies;
- Paid parking; and
- Direct contributions to transit service.

Mitigation Measure 3.5-6b: Incorporate Design Features and Purchase and Retire Carbon Offsets to Reduce Project-Related Greenhouse Gas Emissions to Zero

This mitigation measure would apply to the proposed Project and Alternative A.

The applicant shall implement Mitigation Measure 3.7-1 identified in Section 3.7, "Greenhouse Gas Emissions and Climate Change." The applicant shall implement measures to reduce all GHG emissions associated with construction and operation of the Project to zero. More detail about measures to reduce construction-related GHGs, operational GHGs, and the purchase of carbon offsets are provided in Section 3.7.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-6a would require the applicant to prepare and implement a TDM plan to reduce project-generated daily VMT to the maximum degree feasible. Additionally, implementation of Mitigation Measure 3.5-6b requires the applicant to implement Mitigation Measure 3.7-1 detailed in Section 3.7, "Greenhouse Gas Emissions and Climate Change," which requires the proposed Project and Alternative A to fully mitigate GHG emissions. Therefore, the TDM plan would reduce VMT to the extent feasible and all remaining GHG emissions would be reduced to zero. For these reasons, the proposed Project and Alternative A would not result in an unmitigated increase in daily VMT and this impact would be reduced to **less than significant**.

CUMULATIVE IMPACTS

The transportation study considers potential future developments and forecasted changes in traffic on major roadways in the community around the proposed Project site and Alternative A site. The future cumulative background traffic volumes used in the transportation analysis were adjusted based on the following considerations:

- Increased through traffic on SR 28 in the winter is based on the projected growth in traffic included in the Draft EIR/EIS for the Squaw Valley/Alpine Meadows Base-to-Base Gondola Project (Placer County and U.S. Forest Service 2018). The estimated increase in through traffic volumes on SR 28 in Tahoe City is approximately 19.3 percent in the winter p.m. peak hour. This growth is applied to the existing winter through volumes on SR 28 in the site vicinity.
- Increased through traffic on SR 28 in the summer is based on the growth in traffic indicated in the Area Plan EIR/EIS. The estimated increase in through traffic volumes on SR 28 in the site vicinity is approximately 13.8 percent in summer.
- The potential Dollar Creek Crossing project is located in the northeast corner of the SR 28/Fabian Way intersection. As this project is in the early planning stages, the specific details regarding the proposed land uses and site access were not available at the time of completion of the traffic modeling. Thus, a preliminary estimate

of 169 new multi-family residential units was assumed to be constructed, with 50 percent of the vehicle trips to and from the site accessing the property via a driveway on SR 28 and the other 50 percent assumed to access the site via a potential new driveway on Fabian Way. Standard Institute of Transportation Engineers (ITE) trip generation rates were used to estimate the trip generation for the 169 units. As of May 2019, the Dollar Creek Crossing project proponents indicated that the project could include up to 214 residential units, which would almost entirely be multi-family residential units and a few single-family residential units. The difference between the modeled number of residential units and the most recent available greater number of residential units presented in May 2019, is not anticipated to result in a substantial change in the cumulative traffic analysis such that there would be a change in the impact conclusions discussed below.

- To estimate growth in traffic on the side streets in the study area, the growth in land use at buildout of the Area Plan (based on TRPA TransCAD Travel Demand Model land use files) was reviewed. Based on this review, the following future development is assumed:
  - Development of four additional homes in the Highlands neighborhood (on the north side of SR 28, between Old Mill Road and Village Road).
  - Development of seven additional homes in the Lake Forest neighborhood (on the south side of SR 28, accessed via Lake Forest Road).
  - Development of 18 additional homes in Dollar Point (on the south side of SR 28, with access assumed via Dollar Drive and Lakewood Drive). The trip generation of the additional homes is estimated using standard ITE trip rates for single-family homes.
- The approved Dollar Creek Forest Health and Biomass Project is expected to occur in 2019 and 2020. As the traffic associated with this project would be temporary, no additional traffic is assumed under future cumulative conditions.
- Finally, the North Tahoe Middle School/North Tahoe High School Facilities Program (i.e., plans to expand the band room, construct a greenhouse, and implement other improvements to the outdoor quad areas) is in the early planning stages. However, based on the nature of the potential improvements, this project would not be expected to generate a notable change in traffic levels or parking demand, once constructed.

The growth in traffic volumes associated with the items listed above was applied to the winter and summer volumes for the existing year scenarios to determine future cumulative scenario volumes (with and without the Project for the proposed Project and Alternative A). (Note: The cumulative scenario winter volumes are presented in Figures 7 through 9 in Appendix D).

As shown in Tables 3.5-12 and 3.5-13, the study intersections would continue to operate at an acceptable LOS with implementation of the proposed Project and Alternative A during winter and summer periods under cumulative plus Project conditions. Although implementation of the proposed Project and Alternative A could result in a slight increase in average delays during peak periods relative to cumulative no project conditions, all intersections would continue to operate at LOS A or B. Because the study intersections would continue to operate at an acceptable LOS under cumulative plus project conditions with the increase in Project-related trips from the proposed Project and Alternative A, the proposed Project and Alternative A **would not have a considerable contribution** to any significant cumulative impact related to traffic operations.

Table 3.5-12 Cumulative Winter Intersection Level of Service

Intersection	Analysis Period	Cumulative No Project Conditions		Winter with Proposed Project		Winter with Alternative A	
		LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Cumulative Conditions							
SR 28/Fabian Way	Weekday p.m.	B	10.4	B	10.1	B	10.8
SR 28/Old Mill Road	Weekday p.m.	B	10.3	B	10.4	B	10.3
Polaris Road/Old Mill Road	Weekday p.m.	A	8.1	A	8.5	A	8.1
Polaris Road/Village Drive	Weekday p.m.	A	8.9	A	9.0	A	8.9
SR 28/Fabian Way	Weekend/Holiday p.m.	B	11.2	B	10.8	B	11.7
SR 28/Old Mill Road	Weekend/Holiday p.m.	B	10.8	B	11.5	B	10.9

Note: LOS = level of service

Source: Transportation Impact Analysis in Appendix D

Table 3.5-13 Cumulative Summer Intersection Level of Service

Intersection	Analysis Period[1]	Cumulative No Project Conditions		Summer with Proposed Project		Summer with Alternative A	
		LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Cumulative Conditions							
SR 28/Fabian Way	p.m.	B	10.3	B	12.0	B	10.9
SR 28/Old Mill Road	p.m.	B	10.6	B	11.3	B	10.8
Polaris Road/Old Mill Road	p.m.	A	7.1	A	7.7	A	7.1
Polaris Road/Village Drive	p.m.	A	8.9	A	9.5	A	9.5

Note: LOS = level of service

[1] The summer PM peak-hour volumes reflect a Friday in August, consistent with Placer County's standard design period.

Source: Transportation Impact Analysis in Appendix D

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3.6 AIR QUALITY

This section includes a discussion of existing air quality conditions, a summary of applicable policies and regulations, and an analysis of potential impacts to air quality associated with construction and operation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. During the NOP scoping process, staff from the Placer County Air Pollution Control District (PCAPCD) suggested that the EIR should compare the Project's emissions to the PCAPCD's recommended CEQA significance criteria.

The proposed Project and Alternative A would not introduce sources of objectionable odors (i.e., wastewater treatment plants, sanitary landfills, compositing facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting operations, rendering plants, and food-packaging plants). None of these odorous land uses are within proximity to the proposed Project or Alternative A sites. Thus, impacts related to odor are not discussed further.

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact on air quality. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

3.6.1 Regulatory Setting

Air quality in the Tahoe Basin is regulated through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, planning, policy making, education, and a variety of programs. The agencies responsible for improving the air quality within the air basin are discussed below.

FEDERAL

U.S. Environmental Protection Agency

Clean Air Act

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates draw primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress in 1990. EPA's air quality efforts address both criteria air pollutants and hazardous air pollutants (HAPs). EPA regulations concerning criteria air pollutants and HAPs are presented in greater detail below.

Criteria Air Pollutants

The CAA required EPA to establish national ambient air quality standards (NAAQS) for six common air pollutants found all over the U.S. referred to as criteria air pollutants. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with aerodynamic diameter of 10 micrometers or less (PM_{10}) and fine particulate matter with aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The NAAQS are shown in Table 3.6-1. The primary standards protect public health and the secondary standards protect public welfare. The CAA also requires each state to prepare a State Implementation Plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. California's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that

imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Table 3.6-1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[1,2]	NAAQS[3]	
			Primary[2,4]	Secondary[2,5]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	–[e]	Same as primary standard
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as primary standard
	8-hour	6 ppm[4, 6] (10 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	—
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	—	—
	3-hour	—	—	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	—	Same as primary standard
	24-hour	50 µg/m^3	150 µg/m^3	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
	24-hour	—	35 µg/m^3	Same as primary standard
Lead	Calendar quarter	—	1.5 µg/m^3	Same as primary standard
	30-Day average	1.5 µg/m^3	—	—
	Rolling 3-Month Average	–	0.15 µg/m^3	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	No national standards	
Sulfates	24-hour	25 µg/m^3		
Vinyl chloride[7]	24-hour	0.01 ppm (26 µg/m^3)		
Visibility reducing particulate matter	8-hour	Extinction of 0.23 per km		

Notes: CAAQS = California ambient air quality standards, NAAQS = national ambient air quality standards, µg/m^3 = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million

1 California standards for ozone, carbon monoxide, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°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 standards (other than ozone, particulate matter, 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 three years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency for further clarification and current federal policies.

4 National primary standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

5 National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

6 The California ambient air quality standards are 9 parts per million; however, in the Lake Tahoe Air Basin, this standard is 6 parts per million. CARB established this more stringent standard in 1976 based on the Lake Tahoe Basin's elevation and associated thinner air.

7 The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB 2016

Hazardous Air Pollutants and Toxic Air Contaminants

Toxic air contaminants (TACs), or in federal parlance, HAPs, are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.6-1). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

EPA regulates HAPs through the National Emission Standards for Hazardous Air Pollutants. The standards for a particular source category require the maximum degree of emission reduction that EPA determines to be achievable, which is known as the Maximum Achievable Control Technology—MACT standards. These standards are authorized by Section 112 of the CAA and the regulations are published in 40 Code of Federal Regulations (CFR) Parts 61 and 63.

In California, the California Air Resources Board (CARB) regulates TACs through statutes and regulations that generally require the use of the best available control technology (BACT) for air toxics to limit emissions.

TAHOE REGIONAL PLANNING AGENCY

Thresholds

The Tahoe Regional Planning Agency (TRPA) has established thresholds that address CO, ozone, regional and sub-regional visibility, and nitrate deposition. Numerical standards have been established for each of these parameters, and management standards have been developed that are intended to assist in attaining the thresholds. The management standards include reducing PM, maintaining concentrations of oxides of nitrogen (NO_X), reducing traffic volumes on US 50, and reducing vehicle miles traveled (VMT). In addition, the TRPA Compact between California and Nevada 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 Lake Tahoe Region (Region) in which the standards apply. The TRPA threshold related to VMT and traffic volumes on US 50 are addressed further in Section 3.5, "Transportation," of this EIR.

Lake Tahoe Regional Plan

Goals and Policies

The Goals and Policies of the Lake Tahoe Regional Plan are designed to achieve and maintain adopted environmental thresholds carrying capacities and are implemented through TRPA's Code, Environmental Improvement Program, and 2017 Regional Transportation Plan (in coordination with the Tahoe Metropolitan Planning Organization). The Land Use Element of the Goals and Policies document consists of seven sub-elements, including the Air Quality Sub-element.

TRPA has jurisdiction within the Lake Tahoe Area Basin (LTAB)-portion of Placer and El Dorado Counties in regard to air quality. Therefore, the Air Quality Sub-element of the Goals and Policies document focuses on achieving the NAAQS and California ambient air quality standards (CAAQS), as well as special TRPA-adopted regional and sub-regional visibility standards, and on reducing the deposition of nitrate from NO_X emitted by vehicles. The TRPA Code and the Regional Transportation Plan contain specific measures designed to monitor and achieve the air quality objectives of the Regional Plan. PCAPCD rules and regulations (discussed below) also have certain applications in the LTAB.

Code of Ordinances

Applicable provisions of the TRPA Code are described below.

Chapter 33—Grading and Construction

Chapter 33 includes requirements about grading and construction activity, which include limiting grading and earth disturbance activity to the portion of the calendar year between May 1 and October 15, unless approval is granted by TRPA and appropriate dust control measures are implemented. TRPA may approve grading after October 15 if TRPA finds either that an emergency exists and that grading is necessary for the protection of public health or safety, or that the grading is for erosion control purposes or protection of water quality. Appropriate dust control measures include watering exposed surfaces and covering loose materials.

Section 65.1—Air Quality Control

The provisions of Section 65.1 apply to direct sources of air pollution in the Region, including certain motor vehicles registered in the Region, combustion heaters installed in the Region, open burning and stationary sources of air pollution, and idling combustion engines. Provisions potentially applicable to the Project are provided below.

- Section 65.1.3, Vehicle Inspection and Maintenance Program, states that to avoid duplication of effort in implementation of an inspection/maintenance program for certain vehicles registered in the CO nonattainment area, TRPA shall work with the affected state agencies to plan for applying state inspection/maintenance programs to the Region.
- Section 65.1.4, Combustion Appliances, establishes emissions standards for wood heaters, as well as natural gas- or propane-fired water heaters and central furnaces.
- Section 65.1.8, Idling Restrictions, states that no person shall cause a combustion engine in a parked auto, truck, bus, or boat to idle for more than 30 consecutive minutes in the designated plan areas (with limited exemptions).

Section 65.2—Traffic and Air Quality Mitigation Program

The requirements of the traffic and air quality mitigation program are applicable to all additional development or transferred development and all changes in operation. Section 65.2.3 defines a change in operation as any modification, change, or expansion of an existing or previous use resulting in additional vehicle trip generation, including expansion of gross floor area. As provided in TRPA Code Section 65.2.5.C, TRPA shall assess an air quality mitigation fee, based on data from the Trip Table or other competent technical information, according to the fee schedule in Subsection 10.8.5 of the TRPA Rules of Procedure.

TRPA Best Construction Practices Policy for Construction Emissions

TRPA is committed to continue to monitor and adaptively manage construction emissions through existing permit compliance programs. Pre-grade inspections occur for every permitted project before any ground-disturbing activities. These inspections verify that all required permit conditions, such as the location of staging areas and the use of approved power sources are in place before intensive construction activities. In addition, compliance inspections occur throughout the period of construction activity to verify compliance with all permit requirements. These compliance inspections are a core function of TRPA and local jurisdiction building departments, and will continue into the future. If an inspection determines that a project is not in compliance with permit conditions, then enforcement actions are taken, which can include stopping activity at the construction site and monetary fines.

In addition to existing permit limits, TRPA developed a Best Construction Practices Policy for Construction Emissions, pursuant to the requirements of the 2012 Regional Plan Update Environmental Impact Statement (RPU EIS) mitigation measures adopted by the TRPA Governing Board. This policy addresses potentially significant construction-generated emissions of greenhouse gases (GHGs) associated with development under the RPU. The following items from TRPA's Best Construction Practices Policy for Construction Emissions are relevant to the Project:

- TRPA Code Section 65.8.1 was revised to, among other things, limit idling for diesel engines exceeding 10,000 pounds gross vehicle weight or off-road self-propelled equipment exceeding 25 horsepower to no longer than 5 minutes in California and 15 minutes in Nevada.

- TRPA's Standard Conditions of Approval for projects involving grading (Attachment Q, Standard Conditions of Approval for Construction Projects) was revised to:
  - limit idling time for diesel-powered vehicles exceeding 10,000 pounds in Gross Vehicle Weight and self-propelled equipment exceeding 25 horsepower (hp) to no more than 15 minutes in Nevada and 5 minutes in California, or as otherwise required by state or local permits;
  - utilize existing power sources (e.g., power poles) or clean-fuel generators rather than temporary diesel power generators, wherever feasible; and
  - locate construction staging areas as far as feasible from sensitive air pollution receptors (e.g., schools or hospitals).
- The standard conditions of approval for grading projects also include a requirement for inclusion of dust control measures where earth-moving activities would occur.
- Implementation of a Contractor Recognition Program to incentivize exceedance of regulatory requirements related to emissions-reducing construction practices.

The overall effectiveness of these measures and other efforts to attain and maintain air quality standards will continue to be monitored through a comprehensive multi-agency air quality program. The existing air quality monitoring program is being expanded to ensure adequate data continues to be available to assess the status and trends of a variety of constituents. In 2011, TRPA established additional ozone and PM monitoring at the Stateline Monitoring Site. Working under a cooperative agreement with TRPA, PCAPCD installed additional ozone and PM_{10} monitors in Tahoe City and Kings Beach in 2011 (though the monitor at Kings Beach is no longer operated). In 2013, TRPA installed an additional Visibility Monitoring Station and an ozone monitor in South Lake Tahoe.

If ongoing monitoring determines that these measures and other efforts to achieve adopted air quality standards have not been successful, then TRPA will develop and implement additional compliance measures as required by Chapter 16 of the TRPA Code. Additional compliance measures could include additional required construction best practices, an expanded rebate program to replace non-conforming woodstoves or other emission-producing appliances, or restrictions on other emission sources such as off-highway vehicles or boats.

Linking Tahoe: Regional Transportation Plan and Sustainable Communities Strategy

In 2017, TRPA adopted the *Linking Tahoe: Regional Transportation Plan and Sustainable Communities Strategy* (RTP/SCS) which seeks to improve mobility and safety for the commuting public while at the same time delivering environmental improvements throughout the transportation network in the Region. The RTP/SCS offers strategies to address the travel demands of residents, commuters, and the millions of people who visit the Region each year. Important directions of the plan are to reduce the overall environmental impact of transportation in the Region, create walkable, vibrant communities, and provide real alternatives to driving. The goals and policies in the RTP/SCS were developed to serve as the Transportation Element of the Regional Plan (TRPA 2017).

Placer County Tahoe Basin Area Plan

The following policies from the Placer County Tahoe Basin Area Plan (Area Plan) apply to air quality and are relevant to the project.

- **Policy AQ-P-4:** Prioritize projects and services that reduce VMT and support alternative modes of transportation.
- **Policy AQ-P-6:** Continue to implement the mPOWER incentive program to reduce GHG emissions from buildings and other site improvements.
- **Policy AQ-P-7:** Implement building design standards and design capital improvements to reduce energy consumption and where feasible to incorporate alternative energy production.
- **Policy AQ-P-8:** All TRPA policies, ordinances and programs related to air quality will remain in effect.

The environmental document prepared for the Area Plan (i.e., the Placer County Tahoe Basin Area Plan and Tahoe City Lodge Project EIR/EIS [Area Plan EIR/EIS]) determined that air pollution associated with construction and operation of land uses under the Area Plan would have an adverse impact on air quality within the LTAB (Placer

County and TRPA 2016:11-13 through 11-42). The Area Plan EIR/EIS identified plan-level mitigation that would apply to all new construction located within the Area Plan boundaries. Placer County and TRPA developed Mitigation Measures 11-2a, 11-2b, and 11-5 to ensure that new land use projects constructed under the Area Plan would not generate levels of criteria air pollutants and precursors that could affect the attainment designation of the LTAB for the NAAQS and CAAQS or expose sensitive receptors to harmful levels of TACs. Mitigation Measures 11-2a and 11-5 are shown below and would apply to the project (Placer County and TRPA 2016:11-21 through 11-39):

> Mitigation Measure 11-2a: Reduce Short-term Construction-Generated Emissions of ROG, NO_X, and PM_{10}
>
> Proponents of individual land use development projects in the Plan area subject to TRPA and/or CEQA environmental review shall be required to demonstrate that construction-related emissions of ROG, NO_X, and PM_{10} for each project would be less than PCAPCD's significance criteria of 82 lb/day. Every project applicant shall require its prime construction contractor to implement the following measures:
>
> - Submit to PCAPCD a comprehensive inventory (e.g., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that would be used for 40 or more hours, in aggregate, during a construction season. If any new equipment is added after submission of the inventory, the prime contractor shall contact PCAPCD before the new equipment is used. At least three business days before the use of subject heavy-duty off-road equipment, the project representative shall provide PCAPCD with the anticipated construction timeline including start date, name, and phone number of the property owner, project manager, and onsite foreman;
> - Before approval of Grading or Improvement Plans, whichever occurs first, the prime contractor shall submit for PCAPCD approval, a written calculation demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20 percent reduction in NO_X emissions as compared to CARB statewide fleet average emissions. Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The calculation shall be provided using PCAPCD's Construction Mitigation Calculator;
> - Use existing power sources (e.g., power poles) or clean fuel (e.g., gasoline, biodiesel, natural gas) generators during construction rather than temporary diesel power generators to the extent feasible;
> - During construction, minimize idling time to a maximum of 5 minutes for all diesel-powered equipment; and/or
> - Post signs in the designated queuing areas of the construction site to remind off-road equipment operators that idling is limited to a maximum of 5 minutes.
>
> Every project applicant shall require additional measures, as necessary, to ensure that construction-related emissions would not exceed PCAPCD's significance criteria for of ROG, NO_X, and PM_{10} of 82 lb/day. These additional measures may include, but are not limited to, the following:
>
> - Use of Tier 3 or better engines for construction equipment,
> - Use of no- or low-solids content (i.e., no- or low-volatile organic compound [VOC]) architectural coatings that meet or exceed the VOC-requirements of PCAPCD Rule 218. Implementation of this measure would reduce ROG emissions from architectural coating by 90 percent, and/or
> - Participate in PCAPCD's offsite mitigation program, the Land Use Air Quality Mitigation Fund, by paying the equivalent amount of fees for the project's contribution of ROG or NO_X that exceeds the 82 lb/day significance criteria, or the equivalent as approved by PCAPCD. The applicable fee rates of the program change over time. The actual amount to be paid shall be determined, and satisfied per current guidelines, at the time of approval of the Grading or Improvement Plans.

Mitigation Measure 11-5: Reduce Short-Term Construction-Generated TAC Emissions

TRPA shall require proponents of every individual land use development project proposed in the Plan area to demonstrate that its construction activities would follow PCAPCD's recommended best management practices (BMPs). To ensure sensitive receptors are not exposed to substantial TAC concentrations, every project applicant shall require its prime construction contractor to implement the following measures prior to project approval:

- Work with PCAPCD staff to determine if project construction would result in release of diesel emissions in areas with potential for human exposure, even if overall emissions would be low. Factors considered by PCAPCD when determining significance of a project include the expected emissions from diesel equipment including operation time, location of the project, and distance to sensitive receptors. (PCAPCD 2012:2-6).
- Use PCAPCD's guidance to determine whether construction of an individual project would require detailed evaluation with a health risk assessment (HRA) (PCAPCD 2012:Appendix E). If an HRA is required, model emissions, determine exposures, and calculate risk associated with health impacts, per PCAPCD guidance. Coordinate with PCAPCD to determine the significance of the estimated health risks.

STATE

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish CAAQS (Table 3.6-1).

Criteria Air Pollutants

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility reducing particulate matter, and the above-mentioned national criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to attain and maintain the CAAQS by the earliest date practical. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources. The CCAA also provides air districts with the authority to regulate indirect sources.

Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. Most recently, PM exhaust from diesel engines (diesel PM) was added to CARB's list of TACs.

After a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate BACT for toxics to minimize emissions.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

CARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., low emission vehicle/clean fuels and reformulated gasoline regulations) and control technologies. With implementation of CARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be 85 percent less in 2020 in comparison to year 2000 (CARB 2000). Adopted regulations are also expected to continue to reduce formaldehyde emissions emitted by cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

LOCAL

Placer County Air Pollution Control District

Criteria Air Pollutants

PCAPCD attains and maintains air quality conditions in Placer 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 PCAPCD includes preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, and issuing permits for stationary sources of air pollution. PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAA Amendments, and CCAA.

All projects in Placer County are subject to PCAPCD's adopted rules and regulations. Specific rules applicable to the project may include but are not limited to the following:

- PCAPCD Rule 218—Application of Architectural Coatings. This rule limits the quantity of VOCs in architectural coatings used in PCAPCD's jurisdiction. Subsection 301 lists VOC content limits for a variety of architectural coatings.
- PCAPCD Rule 228—Fugitive Dust. To regulate fugitive dust emissions, this rule prescribes limits and BMPs to be applied during construction and project operation.

Toxic Air Contaminants

At the local level, PCAPCD may adopt and enforce CARB's airborne toxic control measures. Under PCAPCD Rule 501 ("Permit Requirements"), PCAPCD Rule 502 ("New Source Review"), and PCAPCD Rule 507 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from PCAPCD. PCAPCD may grant permits to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. PCAPCD limits emissions and public exposure to TACs through a number of programs.

Sources that require a permit are analyzed by PCAPCD (e.g., HRA) based on their potential to emit TACs that would expose receptors to substantial health risk. If it is determined that a source would emit TACs in excess of PCAPCD's standard of significance for TACs (identified below), then the source would have to implement the BACT for TACs to reduce emissions. If a source cannot reduce the risk below the standard of significance even after the BACT has been implemented, PCAPCD will deny issuing a permit to the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new TAC-reduction technology when being retrofitted.

3.6.2 Environmental Setting

The project is located in the LTAB and in Placer County, California. The ambient concentrations of air pollutant emissions are determined by the amount of criteria pollutants and precursors emitted by the 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 sunlight. Therefore, existing air quality conditions in the LTAB are determined by such natural factors as topography, meteorology, and climate.

CLIMATE, METEOROLOGY, AND TOPOGRAPHY

The Region is located in the LTAB that comprises portions of Placer and El Dorado counties in California, and Washoe and Douglas counties and the Carson City Rural District in Nevada. Lake Tahoe lies in a depression between the crests of the Sierra Nevada and Carson ranges at a surface elevation of 6,260 feet above sea level. The mountains surrounding Lake Tahoe are approximately 8,000 to 9,000 feet high, with some reaching beyond 10,000 feet.

According to documents from the Tahoe Integrated Information Management System, the bowl shape of the LTAB has significant air quality implications. There are two meteorological regimes that affect air quality in the basin.

First, thermal inversions occur when a warm layer of air traps a cold layer of air at the surface of the land and lake. Locally generated air pollutants are often trapped in the "bowl" by frequent inversions that limit the amount of air mixing, which allows pollutants to accumulate. Inversions most frequently occur during the winter in the LTAB, however are common throughout the year. Often, wintertime inversions result in a layer of wood smoke, mostly from residential heating, which can be seen over the Lake.

The second meteorological regime affecting air quality in the LTAB is the atmospheric transportation of pollutants from the Sacramento Valley and San Francisco Bay Area. Lake Tahoe's location directly to the east of the crest of the Sierra Nevada mountain range allows prevailing easterly winds, combined with local mountain upslope winds, to bring air from populated regions west of the Sierra to the LTAB. The strength of this pattern depends on the amount of heat, usually strongest in summer beginning in April and ending in late October.

The local meteorology of the proposed Project and Alternative A sites and surrounding area is represented by measurements recorded at the Western Regional Climate Center (WRCC) Tahoe City Station. Based on historic data from 1903 to 2016, the normal annual precipitation is approximately 31.5 inches and average total snowfall is 190.7 inches. Based on the most recent data available, January temperatures range from a normal minimum of 19.1°F to a normal maximum of 38.6°F. July temperatures range from a normal minimum of 44.4°F to a normal maximum of 77.9°F (WRCC 2016). The prevailing wind direction is from the south (WRCC 2002).

CRITERIA AIR POLLUTANTS

Concentrations of criteria air pollutants are used to indicate the quality of the ambient air. A brief description of key criteria air pollutants in the LTAB is provided below. Emission source types and health effects are summarized in Table 3.6-2. Placer County's attainment status for the CAAQS and the NAAQS are shown in Table 3.6-3.

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 ROG and NO_X in the presence of sunlight. ROG are VOCs 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 result from the combustion of fuels.

Emissions of the ozone precursors ROG and NO_X have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Emissions of ROG and NO_X decreased from 2000 to 2010 and are projected to continue decreasing from 2010 to 2035 (CARB 2013).

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all 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. The combined emissions of NO and NO_2 are referred to as NO_X and 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 sources of NO_X emissions (EPA 2012).

Particulate Matter

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 PM formed in the atmosphere by reaction of gaseous precursors (CARB 2013). $PM_{2.5}$ includes a subgroup of smaller particles. PM_{10} emissions in the LTAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} are projected to remain relatively constant through 2035. Direct emissions of $PM_{2.5}$ have steadily declined in the LTAB between 2000 and 2010 and then are projected to increase slightly through 2035. Emissions of $PM_{2.5}$ in the LTAB are dominated by the same sources as emissions of PM_{10} (CARB 2013). Particulate emissions can also negatively affect visibility in the LTAB.

Table 3.6-2 Sources and Health Effects of Criteria Air Pollutants

Pollutant	Sources	Acute[1] Health Effects	Chronic[2] Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	Increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	Permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	Headache, dizziness, fatigue, nausea, vomiting, death	Permanent heart and brain damage
Nitrogen dioxide (NO_2)	Combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	Coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	Chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	Coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}), Fine particulate matter ($PM_{2.5}$)	Fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO_2 and ROG	Breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	Alterations to the immune system, carcinogenesis
Lead	Metal processing	Reproductive/ developmental effects (fetuses and children)	Numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases

[1] Acute health effects refer to immediate illnesses caused by short-term exposures to criteria air pollutants at fairly high concentrations. An example of an acute health effect includes fatality resulting from short-term exposure to carbon monoxide levels in excess of 1,200 parts per million.

[2] Chronic health effects refer to cumulative effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations. An example of a chronic health effect includes the development of cancer from prolonged exposure to particulate matter at concentrations above the national ambient air quality standards.

Source: EPA 2018

Attainment Area Designations

PCAPCD and CARB operate a regional monitoring network that measures the ambient concentrations of the six criteria air pollutants within the LTAB. Existing and probable future levels of air quality in the north eastern Placer County can generally be inferred from ambient air quality measurements conducted by PCAPCD at its nearby monitoring stations. These monitoring stations measure maximum daily concentrations and the number of days during which CAAQS or NAAQS for a given pollutant were exceeded and are available through CARB's website. The Tahoe City Monitoring Station located at 221 Fairway Drive measures concentrations of ozone and $PM_{2.5}$ and informs the attainment status of the Tahoe Basin portion of Placer County under the NAAQS and CAAQS. Based on the findings of other monitoring stations in Placer County, the Sacramento Valley Air Basin and Mountain Counties Air Basin portions of Placer County are in nonattainment for several of the NAAQS and CAAQS.

Both CARB and EPA use ambient air quality monitoring data to designate the attainment status of an area relative to the CAAQS and NAAQS for each criteria air pollutant. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are "nonattainment," "attainment," and "unclassified." "Unclassified" is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called "nonattainment-transitional." The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment. Attainment designations in the LTAB are shown in Table 3.6-3 for each criteria air pollutant.

Table 3.6-3 Attainment Status Designations for Placer County

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Ozone	–	Attainment (1-hour)
	Unclassified/Attainment (8-hour)[1]	Attainment (8-hour)
	Nonattainment (8-hour)[2]	
Respirable particulate matter (PM_{10})	Attainment (24-hour)	Nonattainment (24-hour)
		Nonattainment (Annual)
Fine particulate matter ($PM_{2.5}$)	Attainment (24-hour)	–
	Attainment (Annual)	Attainment (Annual)
Carbon monoxide (CO)	Attainment (1-hour)	Attainment (1-hour)
	Attainment (8-hour)	Attainment (8-hour)
Nitrogen dioxide (NO_2)	Attainment (1-hour)	Attainment (1-hour)
	Attainment (Annual)	Attainment (Annual)
Sulfur dioxide (SO_2)[3]	Unclassified/Attainment (1-Hour)	Attainment (1-hour)
		Attainment (24-hour)
Lead (Particulate)	Attainment (3-month rolling avg.)	Attainment (30 day average)
Hydrogen Sulfide	No Federal Standard	Unclassified (1-hour)
Sulfates		Attainment (24-hour)
Visibly Reducing Particles		Unclassified (8-hour)
Vinyl Chloride		Unclassified (24-hour)

Notes:

[1] 1997 – Standard

[2] 2008 – Standard

[3] 2010 – Standard

Source: CARB 2018

TOXIC AIR CONTAMINANTS

According to the *California Almanac of Emissions and Air Quality*, the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM (CARB 2013). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. Diesel PM poses the greatest health risk among these 10 TACs mentioned. Overall, levels of most TACs, except para-dichlorobenzene and formaldehyde, have decreased since 1990 (CARB 2013).

SENSITIVE RECEPTORS

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals who may be particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants. Sensitive receptors near the proposed Project and Alternative A sites include students at the North Tahoe High School and North Tahoe Middle School and residences along project roadways (such as Polaris Road and Country Club Drive). Based on data from the 2019/2020 school year, 398 and 446 students were enrolled in North Tahoe High School and North Tahoe Middle School, respectively (Public School Review 2019a and 2019b). There are no other sensitive receptors within the vicinity of the proposed Project and Alternative A.

3.6.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

Regional and local criteria air pollutant emissions and associated impacts, as well as impacts from TACs, and CO concentrations were assessed in accordance with PCAPCD-recommended methods. The Project's emissions are compared to PCAPCD-adopted significance criteria.

Construction and operational emissions of criteria air pollutants and precursors were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 computer program, as recommended by PCAPCD and other air districts in California. Modeling was based on project-specific information (e.g., size, area to be graded, area to be paved) where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type. Emissions of criteria pollutants and precursors would be generated from the combustion of diesel fuels to power heavy-duty equipment and the release of fugitive particulates from the movement of materials and ground disturbance (i.e., grading and excavation). Construction would begin as early as Spring 2021. Early in the planning stages for the Project, construction activities were anticipated to occur over up to four construction seasons, which is reflected in Tables 3.6-4 and 3.6-5, below, but could be completed in as few as 2 years. Consistent with Chapter 65 of the TRPA Code of Ordinances, construction-related ground disturbance was assumed to be limited to May 1 through October 15. Specific model assumptions and inputs for these calculations are provided in Appendix D.

CO impacts were assessed qualitatively, using the screening criteria set forth by PCAPCD and results from the project-specific traffic study. The level of health risk from exposure to construction- and operation-related TAC emissions was assessed qualitatively. This assessment was based on the proximity of TAC-generating construction

activity to offsite sensitive receptors, the number and types of diesel-powered construction equipment being used, and the duration of potential TAC exposure.

SIGNIFICANCE CRITERIA

CEQA Criteria

Per Appendix G of the State CEQA Guidelines and PCAPCD recommendations, the impact from the Project on local and regional air quality is considered significant if it would:

- generate construction-related emissions of criteria air pollutant or precursors that exceed PCAPCD-recommended significance criteria of 82 pounds per day (lb/day) for ROG, NO_X, or PM_{10};
- result in long-term operational emissions of criteria air pollutant or precursors that exceed PCAPCD-recommended significance criteria of 55 lb/day for ROG and NO_X, or 82 lb/day for PM_{10};
- long-term operational mobile-source CO emissions that would result in, or contribute to, an exceedance of the CAAQS or NAAQS for CO; and/or
- expose sensitive receptors to TAC concentrations that result in an incremental increase in cancer risk greater than 10 in one million and/or a noncarcinogenic hazard index of 1.0 or greater.

TRPA Criteria

Based on the TRPA Initial Environmental Checklist, impacts to air quality would be significant if the Project would:

- generate substantial air pollutant emissions;
- deteriorate ambient (existing) air quality;
- create objectionable odors;
- alter air movement, moisture or temperature, or change climate, either locally or regionally; or
- substantially increase use of diesel fuel.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.6-1: Short-Term Construction-Generated Emissions of ROG, NO_X, and PM_{10}

The proposed Project and Alternative A would result in short-term construction-related emissions of ROG, NO_X, and PM_{10}; however, levels of emissions would be lower than PCAPCD's significance criteria of emission for these pollutants. Thus, construction-generated emission of criteria pollutant and ozone precursors would be **less than significant** from the proposed Project and Alternative A.

Proposed Project

The proposed Project would involve the construction of a 10,154-square foot (sq. ft.) reconstructed lodge that reuses the historic Schilling Residence. This would involve earth-disturbance activities and the use of heavy-duty equipment. Construction-related activities would result in emissions of ROG, NO_X, and PM_{10} from site preparation (e.g., grading and clearing), off-road equipment, material delivery, worker commute exhaust emissions, vehicle travel, and other miscellaneous activities (e.g., building construction, asphalt paving, application of architectural coatings). Fugitive dust emissions would be associated primarily with site preparation and would vary as a function of soil silt content, soil moisture, wind speed, and area of disturbance. Other PM emissions would result from a combination of fuels and from tire and brake wear. Emissions of ozone precursors (i.e., ROG and NO_X) would be associated primarily with exhaust from construction equipment, haul truck trips, and worker trips. Off-gas emissions of ROG would also be emitted during any asphalt paving in the parking lot and the application of architectural coatings on the new buildings.

Maximum daily construction emissions for the project are summarized in Table 3.6-4. The table presents maximum daily emissions of ROG, NO_X, and PM_{10} for each construction year (i.e., 2020–2023). As mentioned above under "Methods and Assumptions," and in Section 2.5.3, "Construction Schedule and Activities," the Project was initially anticipated to be constructed over an up to 4 year period and was anticipated to begin in 2020, which is reflected in Table 3.6-4 below. In the event that construction activities are completed faster than presented here, beginning in 2021 instead of 2020 and completed in 2 years rather than 4 years, the air quality emissions shown in separate years in the table would be combined over fewer years. However, the emissions would still not exceed the PCAPCD significance criteria for each of the criteria pollutants. Refer to Appendix D for a detailed summary of the modeling assumptions, inputs, and outputs.

No construction activities are proposed for retaining the Highlands Community Center.

Table 3.6-4 Maximum Daily Emissions of Criteria Pollutants and Precursors Associated with Construction of the Proposed Project

Year	ROG (lb/day)	NO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
2020	2.2	18.4	6.3	3.6
2021	2.0	15.0	0.7	0.8
2022	1.8	13.8	1.1	0.7
2023	3.0	6.3	0.5	0.3
PCAPCD Significance Criteria	82	82	82	NA[1]

Notes: ROG = reactive organic gases, NO_X = oxides of nitrogen, PM_{10} = respirable particulate matter, lb/day = pounds per day, PCAPCD = Placer County Air Pollution Control District, NA = not applicable

[1] PCAPCD does not recommend a mass emission significance criterion for evaluating $PM_{2.5}$.

Source: Modeling conducted by Ascent Environmental in 2019 using CalEEMod v. 2016.3.2

Based on the modeling conducted, mass emissions of ROG, NO_X, and PM_{10} would be less than the applicable daily construction significance criteria recommended by PCAPCD. Notably, PCAPCD does not have an adopted mass emissions significance criterion for $PM_{2.5}$; however, because construction-generated PM_{10} emissions would be less than the applicable threshold of 82 lb/day, and because $PM_{2.5}$ is a subset of PM_{10}, it is not anticipated that construction activity would result in concentrations of $PM_{2.5}$ that would violate or substantially contribute to a violation of the ambient air quality standards for $PM_{2.5}$. The proposed Project would also be subject to PCAPCD Rule 228 Fugitive Dust, which would require the project to reduce fugitive PM emissions through preparation and implementation of a Dust Control Plan that contains dust control practices such as wetting of the construction site and limiting heavy-duty vehicle speeds. The proposed Project would also be required to implement applicable dust control measures identified in the TRPA Standard Conditions of Approval (TRPA 2019). Therefore, the proposed Project would not result in short-term, construction-related emissions that violate any air quality standard or contribute substantially to an existing or projected air quality violation. This impact would be **less than significant**.

Alternative A

The same types of construction activities would occur under Alternative A as described above for the proposed Project; however, under Alternative A, demolition of the Existing Lodge would occur before construction of the Schilling Lodge. Table 3.6-5 summarizes the projected emissions associated with construction of the project (2020–2023). As described above for the proposed Project, in the event that construction activities are completed faster than presented here, in 2 years rather than 4 years, the air quality emissions shown in separate years in the table could be combined over fewer years. However, the emissions would still not exceed the PCAPCD significance criteria for each of the criteria pollutants. See Appendix D for detailed input parameters and modeling results.

Table 3.6-5 Maximum Daily Emissions of Criteria Pollutants and Precursors Associated with Construction for Alternative A

Year	ROG (lb/day)	NO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
2020	2.2	21.0	6.3	3.6
2021	2.0	15.0	1.2	0.8
2022	1.8	13.8	1.0	0.7
2023	3.0	12.7	1.0	0.6
PCAPCD Significance Criteria	82	82	82	NA[1]

Notes: ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; lb/day = pounds per day; PCAPCD = Placer County Air Pollution Control District, NA = not applicable

[1] PCAPCD does not recommend a mass emission significance criterion for evaluating $PM_{2.5}$.

Source: Modeling conducted by Ascent Environmental in 2019 using CalEEMod v. 2016.3.2

As shown in Table 3.6-5, construction emissions associated with Alternative A would not exceed PCAPCD significance criteria. For this reason and the reasons described above for the proposed Project, this impact would be **less than significant** for Alternative A.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.6-2: Long-Term Operational Emissions of Criteria Air Pollutants and Precursors

Implementation of the proposed Project and Alternative A would not result in long-term operational emissions of ROG, NO_X, and PM_{10} that exceed applicable significance criteria or substantially contribute to concentrations that would result in, or contribute to, an exceedance of the NAAQS or CAAQS. Therefore, long-term operational related emissions of criteria pollutants and precursors would be **less than significant**.

Proposed Project

Operation of the proposed Project would generate emissions of ROG, NO_X, and PM_{10} from vehicle trips to and from the proposed Project site, natural gas combustion associated with space and water heating, operation of landscaping and maintenance equipment, and period routine application of architectural coatings on the interior and exterior of the lodge. The analysis of air quality emissions also includes operation of the Existing Lodge with some community meetings and recreation classes. Maximum daily operational emissions for the project are summarized in Table 3.6-6.

Table 3.6-6 Maximum Daily Operational Emissions of Criteria Pollutants and Precursors for the Proposed Project

Source	ROG (lb/day)	NO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Area-Source Emissions	0.3	0	0	0
Natural-Gas Emissions	0	0	0	0
Mobile-Source Emissions	0.5	2.6	1.2	0.3
Total	**0.8**	**2.6**	**1.2**	**0.3**
PCAPCD Significance Criteria[1]	55	55	82	NA[1]

Notes: ROG = reactive organic gases; NO^X = oxides of nitrogen; PM_{10} = respirable particulate matter; lb/day = pounds per day; PCAPCD = Placer County Air Pollution Control District, NA = not applicable

[1] PCAPCD does not recommend a mass emission significance criterion for evaluating $PM_{2.5}$.

Source: Modeling conducted by Ascent Environmental in 2019 using CalEEMod v. 2016.3.2

As shown in Table 3.6-6, maximum daily operational emissions would be 0.8 lb/day of ROG, 2.6 lb/day of NO_X, and 1.2 lb/day of PM_{10}. As stated under Impact 3.6-1 above, PCAPCD does not have an adopted mass emissions significance criterion for $PM_{2.5}$; however, as PM_{10} emissions would be less than the applied significance criterion, $PM_{2.5}$ emissions would be expected to be minimal as well. These minor increases in emissions would not exceed the applicable significance criteria and would not contribute to the exceedance of the NAAQS or CAAQS. Consequently, the proposed Project would not result in long-term operational emissions that violate any air quality standard or contribute substantially to an existing or projected air quality violation. The proposed Project would also be subject to TRPA requirements for payment of an air quality mitigation fee consistent with Code Section 65.2. The air quality mitigation funds are used for air quality mitigation projects that offset the air quality of impacts throughout the Basin. Therefore, this impact would be **less than significant**.

Alternative A

Operational emissions associated with Alternative A would be incrementally less than those of the proposed Project because, with Alternative A, the Existing Lodge (i.e., Highlands Community Center) would be demolished and replaced with the Schilling Lodge, whereas the proposed Project would involve continued operation of the Highlands Community Center in addition to the Schilling Lodge. For example, the extent of electricity use and natural gas combustion associated with the Alternative A would be less than that of the proposed Project. Therefore, operational emissions associated with Alternative A also would not exceed the mass emissions criteria recommended by PCAPCD these emissions would not violate any CAAQS or NAAQS or contribute substantially to an existing or projected air quality violation. Similar to the proposed Project, Alternative A would also be subject to payment of the TRPA air quality mitigation fee. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.6-3: Localized Exposure to Mobile-Source Emissions of Carbon Monoxide

The increase in vehicle trips associated with operation of the proposed Project would not result in, or contribute to, concentrations of CO at sensitive receptors that exceed unhealthy levels. Due to the demolition of the Existing Lodge, additional trips under Alternative A would be even less than that of the proposed Project. This impact would be **less than significant**.

Proposed Project

Implementation of the proposed Project is not expected result in an increase in the general skier visitation to the Tahoe Cross-Country Center (Tahoe XC), but the analysis in this EIR assumes that general visitation could increase by 10 percent in winter (in addition to the additional events and gatherings held at the Schilling Lodge). Visitation to Tahoe XC in the summer assumes a small increase in visitation over existing conditions associated with events at the Schilling Lodge, a youth camp, employees, and bike rental customers. The analysis of air quality emissions also includes operation of the Existing Lodge with some community meetings and recreation classes.

Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. CO disperses rapidly with distance from the source under normal meteorological conditions; however, under certain specific meteorological conditions, CO concentrations near roadways and/or intersections may exceed the applicable CAAQS and NAAQS at nearby sensitive land uses, such as residential units and schools.

PCAPCD recommends the CO impacts of a project be evaluated based on the following screening criteria:

- A traffic study for the project indicates that the peak-hour level of service (LOS) on one or more streets or at one or more intersections (both signalized and non-signalized) in the project vicinity will be degraded from an acceptable LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., LOS E or F); or

- A traffic study indicates that the project will substantially worsen an already existing unacceptable peak-hour LOS on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where delay would increase by 10 seconds or more when project-generated traffic is included.

Based on the traffic analysis that was conducted in support of this EIR (see Section 3.5, "Transportation"), the proposed Project would generate a net increase of up to 159 daily trips on a peak summer day (see Table 3.5-4). Based on PCAPCD's significance criteria for emissions of CO, the project would generate substantial localized CO emissions if project-generated vehicle trips would degrade an intersection from an acceptable LOS to an unacceptable LOS. As summarized in Section 3.5, "Transportation," proposed Project-related vehicle trips would not degrade affected intersections near the proposed Project side from an acceptable LOS to an unacceptable LOS (see Tables 3.5-6 and 3.5-7). Consequently, vehicle activity associated with the proposed Project would not result in, or contribute to, an exceedance of the CAAQS or NAAQS for CO. This impact would be **less than significant**.

Alternative A

With implementation of Alternative A, the Existing Lodge would be demolished and replaced with the Schilling Lodge. Thus, additional daily trips under Alternative A (a net increase of 143 in daily trips; see Table 3.5-5) would be less than the proposed Project, where both the Schilling Lodge and the existing Highlands Community Center would operate. As discussed above for the proposed Project, Alternative A would not produce additional trips that would cause an intersection to be degraded from an acceptable LOS to an unacceptable LOS and have the potential to result in, or contribute to, an exceedance of the CAAQS or NAAQS for CO. As a result, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.6-4: Expose Sensitive Receptors to Toxic Air Contaminants

Implementation of either the proposed Project or Alternative A would not introduce any new long-term operational sources of TACs. Construction-related emissions of TACs associated with the proposed Project or Alternative A would not result in an incremental increase in cancer risk greater than 10 in one million or a hazard index of 1.0 or greater at existing or future planned sensitive receptors. Therefore, this impact would be **less than significant**.

Proposed Project

Construction-related activities would result in temporary, intermittent emissions of diesel PM from the exhaust of heavy-duty off-road diesel equipment used for reconstruction of the Schilling Residence, construction of new parking and driveway areas, and applying architectural coatings. On-road, diesel-powered haul trucks traveling to and from the project site during construction to deliver materials and equipment are less of a concern because they do not operate at a single location for extended periods and therefore would not expose a single receptor to excessive diesel PM emissions. This analysis focuses primarily on heavy duty construction equipment used onsite that may affect nearby offsite land uses.

No construction activities are proposed for retaining the Highlands Community Center.

Particulate exhaust emissions from diesel-fueled engines (i.e., diesel PM) were identified as a TAC by CARB in 1998. The potential cancer risk from inhaling diesel PM outweighs the potential for all other diesel PM-related health impacts (i.e., noncancer chronic risk, short-term acute risk) and health impacts from other TACs (CARB 2003:K-1). Chronic and acute exposure to noncarcinogens is expressed as a hazard index, which is the ratio of expected exposure levels to an acceptable reference exposure level. As shown in Table 3.6-4 above, maximum daily exhaust emissions of PM_{10}, which is considered a surrogate for diesel PM, could reach up to 6.3 lb/day during construction.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC levels that exceed applicable standards). Dose is a function of the concentration of a substance in the environment and the duration of exposure to the substance. It is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for

an exposed individual are higher if the exposure occurs over a longer period. According to the Office of Environmental Health Hazard Assessment (OEHHA), HRAs, which determine the exposure of sensitive receptors to TACs, should be based on a 70- or 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015:5-23, 5-24). For this reason, it is important to consider that the use of heavy duty off-road diesel equipment would be limited to a four-year construction period and would only occur between May 1 through October 15 consistent with TRPA guidance.

In addition, studies show that diesel PM is highly dispersive and that concentrations of diesel PM decline with distance from the source (e.g., 500 feet from a freeway, the concentration of diesel PM decreases by 70 percent) (Roorda-Knape et al. 1999; Zhu et al. 2002, cited in CARB 2005:9).

The nearest offsite sensitive receptors include the 398 students attending North Tahoe High School, the 446 students attending North Tahoe Middle School (adjacent to the proposed Project site) and residences along Polaris Road. The North Tahoe High School and North Tahoe Middle School are located approximately 300 feet from the nearest point of construction. While the 70 percent reduction in diesel PM identified previously would not be fully realized, it would be expected that this distance would allow for some reductions to occur.

Also, research of diesel PM generated by roadway traffic (i.e., on-road vehicles) indicates that vegetation, particularly fine-needle tree species, remove particulate from the air (Tong et al. 2016; Breathe California of Sacramento-Emigrant Trails Health Effects Task Force 2008), further reducing potential exposure of sensitive receptors to diesel PM. Thus, additional reduction in diesel PM concentrations would be provided by the conifer trees located between the project site and nearby sensitive receptors. Although some trees would be removed as part of the proposed Project (see Table 2-2 in Chapter 2, "Description of Proposed Project and Alternative Evaluated in Detail," and Impact 3.3-2 in Section 3.3, "Biological Resources"), they would be limited to the footprint of the proposed improvements and trees that provide screening between the proposed lodge and nearby sensitive receptors would be retained as shown in Figure 2-8.

Therefore, considering the highly dispersive properties of diesel PM, the relatively low mass of diesel PM emissions that would be generated during project construction, the relatively short period during which diesel PM-emitting construction activity would take place in the same location near the same receptors, and the presence of fine-needle conifer trees between the proposed Project site and the nearest offsite sensitive receptors, construction-related TACs would not expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in one million or a hazard index of 1.0 or greater. Furthermore, the proposed Project would be subject to TRPA Code Section 65.8.1, which limits idling for diesel engines exceeding 10,000 pounds gross vehicle weight or off-road self-propelled equipment exceeding 25 horsepower to no longer than 5 minutes in California. Compliance with this guidance would further reduce construction-related emissions of TACs. This impact would be **less than significant**.

Alternative A

Generation of TACs would occur from the same sources as those identified for the proposed Project (e.g., construction equipment, vehicle trips). Construction emissions would be incrementally greater under Alternative A (as shown in Table 3.6-5) than the proposed Project due to the demolition of the Existing Lodge under this alternative. However, as demonstrated in Table 3.6-5, PM_{10} emissions would not be generated above 6.3 lb/day (similar to the proposed Project) and would be well below PCAPCD's mass emissions threshold. As a result, diesel PM emissions, which is a surrogate of PM, could not be produced above this number. Construction would similarly occur over four years and would not occur over a timescale to warrant conducting an HRA (i.e., 30- to 70-year timescale) as recommended by OEHHA. Moreover, Alternative A's proximity to nearby sensitive receptors is greater than the proposed Project allowing for greater dispersal of diesel PM from sources of construction emissions.

As a result, Alternative A construction-related TACs would not expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in one million or a hazard index of 1.0 or greater. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

The LTAB is currently designated as nonattainment for the 1-hour and 8-hour CAAQS for ozone and PM10; unclassified for the CAAQS for hydrogen sulfide and visibility reducing PM; and listed as unclassified for the NAAQS for ozone, CO, NO_x, PM_{10}, $PM_{2.5}$, and lead. Construction- and operation-related emissions of criteria air pollutants and precursors from other projects in the LTAB could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations. Additionally, because the LTAB is currently designated as nonattainment with respect to the CAAQS for ozone, construction- and operation-generated emissions of ROG and NO_x, which are ozone precursors, could contribute on a cumulative basis to pollutant concentrations that exceed the CAAQS and NAAQS because of growth in the area. Construction- and operation-related emissions of ROG and NO_x from proposed Project and Alternative A implementation were determined to be less than significant because project emissions would not exceed the applicable mass emissions significance criteria recommended by PCAPCD. According to PCAPCD, a project would have a cumulative contribution to an air quality violation if:

- operational phase cumulative-levels of ROG and NO_X exceed 55 lb/day, and/or
- operational phase cumulative-levels of PM_{10} exceed 82 lb/day.

These significance criteria are numerically identical to the operational significance criteria used to evaluate project-level emissions above. As discussed previously, the proposed Project's and Alternative A's operational emissions would not exceed these significance criteria. Based on PCAPCD's guidance, a project that would exceed the aforementioned significance criteria would have a cumulatively considerable impact on regional air quality. The proposed Project and Alternative A would not produce emissions substantial enough to exceed these significance criteria. As such, construction- and operation-related emissions of ROG and NO_X, and other criteria air pollutants, would not have a considerable contribution to a significant cumulative-related impact with respect to ozone, PM_{10}, and $PM_{2.5}$. Moreover, as discussed under Impacts 3.6-3 and 3.6-4, CO and TACs are pollutants of local concern and such impacts were found to be less than significant. The applicant would also be required to pay the air quality mitigation fee required by TRPA Code Section 65.2 as part of the TRPA permit application for the project, which would offset the Project's contribution to cumulative air quality impacts. Thus, the proposed Project and Alternative A contribution of air pollutants (i.e., criteria air pollutants and precursors) would **not be cumulatively considerable**.

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File Contents

Appendices

Figures

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Tables

Acronyms/Abbreviations

Moved to TOC

Citations

Yellow = confusing (sequential lettering doesn't match, years don't match, misspellings, etc.)
Green = matched reference
Aqua = missing full reference
Pink = no citation in text

Breathe California of Sacramento-Emigrant Trails Health Effects Task Force 2008CARB 2000
CARB 2003
CARB 2013
CARB 2016
EPA 2012
EPA 2018
Fuller et al. 2009
OEHHA 2015
PCAPCD 2012
Placer County and TRPA 2016
Roorda-Knape et al. 1999
TRPA 2017
TRPA 2019
WRCC 2002
Zhu et al. 2002, cited in CARB 2005

3.7 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section presents a summary of regulations applicable to greenhouse gas (GHG) emissions; a summary of climate change science and GHG sources in California; quantification of GHGs generated by the Tahoe Cross-Country Lodge Replacement and Expansion Project (Project) accompanied by a discussion about its contribution to global climate change; and analysis of the Project's resiliency to climate change-related risks. During the NOP scoping process, comments were raised indicating that the EIR should evaluate these impacts against applicable thresholds of significance.

Changing the pattern of ownership of parcels as part of a larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact related to greenhouse gas emissions and climate change. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this Draft EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

3.7.1 Regulatory Setting

FEDERAL

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks and Corporate Average Fuel Economy Standards

In October 2012, EPA and the National Highway Traffic Safety Administration, on behalf of the U.S. Department of Transportation, issued final rules to further reduce GHG emissions and improve corporate average fuel economy (CAFÉ) standards for light-duty vehicles for model years 2017 and beyond (77 Federal Register [CFR] 62624). These rules would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 CFR 62630). However, on April 2, 2018, the U.S. Environmental Protection Agency (EPA) administrator announced a final determination that the current standards are not appropriate and should be revised. It is not yet known what revisions will be adopted or when they will be implemented (EPA 2018).

In January 2017, EPA Administrator Gina McCarthy signed her determination to maintain the current GHG emissions standards for model year 2022–2025 vehicles. However, on March 15, 2017, the then EPA Administrator, Scott Pruitt, and Department of Transportation Secretary Elaine Chao announced that EPA intends to reconsider the final determination. On August 12, 2018, EPA proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule which would amend CAFÉ standards. The SAFE Vehicles Rule is currently undergoing public review and comment.

Clean Power Plan

In 2015, EPA unveiled the Clean Power Plan. The purpose of the plan was to reduce CO_2 emissions from electrical power generation by 32 percent relative to 2005 levels within 25 years. EPA is proposing to repeal the Clean Power Plan because of a change to the legal interpretation of Section 111(d) of the federal Clean Air Act, on which the Clean Power Plan was based. The comment period on the proposed repeal closed April 26, 2018. A final ruling by EPA has not yet been issued.

TAHOE REGIONAL PLANNING AGENCY

The Tahoe Regional Planning Agency (TRPA) has not specifically identified any goals, policies, or Environmental Threshold Carrying Capacities (environmental threshold standards) directly related to GHG emissions or climate change. Through its Regional Plan and Code of Ordinances, however, TRPA has defined conformance requirements

for area plans relative to GHG reduction strategies. In addition, through its Regional Transportation Plan and Sustainability Action Plan, both prepared in partnership with the Tahoe Metropolitan Planning Organization (TMPO), TRPA addresses GHG reduction targets for cars and light trucks mandated by Senate Bill (SB) 375 and defines a GHG emissions target and broader GHG reduction strategies, respectively.

Regional Plan and Code of Ordinances

The Regional Plan Update Environmental Impact Statement (RPU EIS) proposed mitigation measures to address potentially significant impacts of GHG emissions from implementation of the Regional Plan. Mitigation Measure 3.5-1 of the RPU EIS required TRPA to coordinate implementation of a GHG Emission Reduction Policy through TRPA-approved plans, project permitting, or projects/programs (TRPA 2012). In accordance with that measure, Subsection 13.5.3.E, Greenhouse Gas Reduction Strategy, was added to the TRPA Code of Ordinances in November 2013. It requires area plans to include a strategy to reduce GHGs from the construction and operation of buildings. Specifically, Subsection 13.5.3.E reads:

> Greenhouse Gas Reduction Strategy. To be found in conformance with the Regional Plan, area plans shall include a strategy to reduce emissions of greenhouse gases from the operation or construction of buildings. The strategy shall include elements in addition to those included to satisfy other state requirements or requirements of this code. Additional elements included in the strategy may include but are not limited to the following:
>
> - a local green building incentive program to reduce the energy consumption of new or remodeled buildings;
> - a low interest loan or rebate program for alternative energy projects or energy efficiency retrofits;
> - modifications to the applicable building code or design standards to reduce energy consumption; or
> - capital improvements to reduce energy consumption or incorporate alternative energy production into public facilities.

The following provision of Chapter 33, Air Quality and Transportation, of the TRPA Code of Ordinances is applicable to the Project.

Chapter 33—Grading and Construction

Chapter 33 includes requirements about grading and construction activity, which include limiting grading and earth disturbance activity to the portion of the calendar year between May 1 and October 15 unless approval is granted by TRPA and TRPA-approved dust control measures are implemented.

Linking Tahoe: Regional Transportation Plan and Sustainable Communities Strategy

In 2017, TRPA adopted *Linking Tahoe: Regional Transportation Plan and Sustainable Communities Strategy* (RTP/SCS), which seeks to improve mobility and safety for the commuting public while at the same time delivering environmental improvements throughout the transportation network in the Tahoe Region. The plan's horizon year extends to 2040 (TRPA 2017a). Important directions of the plan are to reduce the overall environmental impact of transportation in the region, create walkable, vibrant communities, and provide real alternatives to driving. The reduction targets assigned by the California Air Resources Board (CARB) to TRPA for this RTP/SCS include a 7 percent reduction in GHG per capita by 2020 and a 5 percent reduction in GHG per capita by 2035, as compared to 2005 levels. In 2018, consistent with state law, CARB adopted new targets under SB 375 which include an 8 percent reduction by 2020 and a 5 percent reduction by 2035 for TRPA as compared to 2005 levels (CARB 2019).

Lake Tahoe Sustainability Action Plan

The Sustainability Action Plan (SAP) provides tools to assist local governments, agencies, businesses, residents, visitors, and community groups with prioritizing and adopting consistent sustainability actions throughout the Tahoe Region. The SAP represents an integrated approach to reducing GHG emissions and striving toward zero-impact in all aspects of sustainability. The SAP includes the revised GHG emissions inventory and reduction targets, and climate change and adaptation strategies vetted through the Lake Tahoe Sustainability Collaborative and the Tahoe Basin

Partnership for Sustainable Communities. Table 3.7-1 below summarizes major recommended actions in the SAP that have the potential to reduce GHG emissions during construction and operation of land uses and protect against the effects of climate change. Within the SAP, TMPO and TRPA established a GHG reduction goal for the Tahoe Region of 5 percent and 49 percent below the 2005–2010 average baseline by 2020 and 2035, respectively. The baseline inventory is shown in Table 3.7-3 under Section 3.7.3, "Environmental Setting."

Table 3.7-1 Summary of Recommended Sustainability Actions with GHG Reduction Potential

Sustainability Benefit	Sustainability Action
Construction-Related GHG Reduction Actions	Local Construction Materials Procurement in New Development
	Best Construction Practices
	Enforce Idling Time Limitations
	Construction and Demolition Debris Diversion
	Alternative Fueled Vehicle Fleet
Operation-Related GHG Reduction Actions	Green Building Ordinance
	Property Assessed Clean Energy Financing Program
	Energy Efficient Lighting Development Standards
	Energy Star Appliances
	Community Choice Aggregation
	Renewable Energy Standards or Incentives for New Development
	Innovative Approaches to Energy Generation and Distribution
	Complete Neighborhoods
	Expand Bicycle and Pedestrian Network
	Improve Transit Services
	Streetscape and Bicycle Amenities
	Electric Vehicle Changing Network
	Alternative Fueled Vehicle Fleet
	Solid Waste Diversion
	Water Efficiency Measures/Water Conservation
	Replace Wood Stoves and Wood Fireplaces
	Local Food Production & Farmers Markets
	Urban Forestry
Climate Change Impacts	Vulnerability Assessment and Outreach
	Wildfire Emergency Response
	Emergency and Disaster Preparedness Training
	100-year Storm Event Planning
	Prohibit Development in 100-Year Flood Plain
	Evacuation Access
	Coordinated Hazard Mitigation Planning

Notes: GHG = greenhouse gas

Source: Lake Tahoe Sustainable Communities Program 2013:Table 1.1

TRPA Best Construction Practices Policy for Construction Emissions

TRPA is committed to continue to monitor and adaptively manage construction emissions through existing permit compliance programs. Pre-grade inspections occur for every permitted project prior to any ground-disturbing activities. These inspections verify that all required permit conditions, such as the location of staging areas and the use of approved power sources are in place prior to intensive construction activities. In addition, compliance inspections occur throughout the period of construction activity to verify compliance with all permit requirements. These compliance inspections are a core function of TRPA and local jurisdiction building departments, and will continue into the future. If an inspection determines that a project is not in compliance with permit conditions, then enforcement actions are taken, which can include stopping activity at the construction site and monetary fines.

In addition to existing permit limits, TRPA developed a Best Construction Practices Policy for Construction Emissions, pursuant to the requirements of RPU EIS mitigation measures adopted by the TRPA Governing Board. This policy addresses potentially significant construction-generated emissions of GHGs associated with development under the RPU, including development within the project area. The following items constitute TRPA's development of its Best Construction Practices Policy for Construction Emissions:

- TRPA Code Section 65.1.8, Idling Restrictions, was revised to, among other things, limit idling for certain diesel engines to no longer than 5 minutes in California and 15 minutes in Nevada.
- TRPA's Standard Conditions of Approval for projects involving grading (Attachment Q, Standard Conditions of Approval for Construction Projects) and residential projects (Attachment R, Standard Conditions of Approval for Residential Projects) were revised to:
  - limit idling time for diesel powered vehicles exceeding 10,000 pounds in Gross Vehicle Weight and self-propelled equipment exceeding 25 horsepower to no more than 15 minutes in Nevada and 5 minutes in California, or as otherwise required by state or local permits (TRPA Code Section 65.1.8); and
  - utilize existing power sources (e.g., power poles) or clean-fuel generators rather than temporary diesel power generators, wherever feasible.

These changes were approved at the November 20, 2013 meeting of the TRPA Governing Board and became effective at that time.

The overall efficacy of these measures and other efforts to attain and maintain air quality standards will continue to be monitored through a comprehensive multi-agency air quality program. The existing air quality monitoring program is being expanded to ensure adequate data continues to be available to assess the status and trends of a variety of constituents. In 2011, TRPA established additional ozone and particulate monitoring at the Stateline Monitoring Site. Working under a cooperative agreement with the TRPA, the Placer County Air Pollution Control District (PCAPCD) installed additional ozone and PM_{10} monitors in Tahoe City and Kings Beach in 2011. In 2013, TRPA installed an additional Visibility Monitoring Station and an ozone monitor in South Lake Tahoe.

If ongoing monitoring determines that these measures and other efforts to achieve adopted air quality standards have not been successful, then TRPA will develop and implement additional compliance measures as required by Chapter 16 of the TRPA Code. Additional compliance measures could include additional required construction best practices, an expanded rebate program to replace non-conforming woodstoves or other emission-producing appliances, or restrictions on other emission sources such as off-highway vehicles or boats.

STATE

Plans, policies, regulations, and laws established by state agencies are generally presented in the order they were established.

Statewide GHG Emission Targets and the Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately two decades (State of California 2018). GHG emission targets established by the state legislature include reducing statewide GHG

emissions to 1990 levels by 2020 (Assembly Bill [AB] 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (SB 32 of 2016). Executive Order S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. Executive Order B-55-18 calls for California to achieve carbon neutrality by 2045 and achieve and maintain net negative GHG emissions thereafter. These targets are in line with the scientifically established levels needed in the U.S. to limit the rise in global temperature to no more than 2 degrees Celsius, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius (United Nations 2015:3).

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals" (CARB 2017:1, 3, 5, 20, 25–26). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste). CARB and other state agencies are currently developing a Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal of Executive Order B-55-18.

The state has also passed more detailed legislation addressing GHG emissions associated with industrial sources, transportation, electricity generation, and energy consumption, as summarized below.

Cap-and-Trade Program

CARB administers the state's cap-and-trade program, which covers GHG emission sources that emit more than 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year), such as refineries, power plants, and industrial facilities. This market-based approach to reducing GHG emissions provides economic incentives for achieving GHG emission reductions.

Transportation-Related Standards and Regulations

As part of its Advanced Clean Cars program, CARB established more stringent GHG emission standards and fuel efficiency standards for fossil fuel powered on-road vehicles. In addition, the program's zero-emission vehicle (ZEV) regulation requires battery, fuel cell, and plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025 (CARB 2016a:15). By 2025, when the rules will be fully implemented, GHG emissions from the statewide fleet of new cars and light-duty trucks will be reduced by 34 percent and cars will emit 75 percent less smog-forming pollution than the statewide fleet in 2016 (CARB 2016b:1).

Executive Order B-48-18, signed into law in January 2018, requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as 200 hydrogen fueling stations and 250,000 electric vehicle–charging stations installed by 2025. It specifies that 10,000 of these charging stations must be direct–current fast chargers.

CARB adopted the Low Carbon Fuel Standard (LCFS) in 2007 to reduce the carbon intensity of California's transportation fuels. The LCFS applies to fuels used by on-road motor vehicles and by off-road vehicles, including construction equipment (Wade, pers. comm., 2017).

In addition to regulations that address tailpipe emissions and transportation fuels, the state legislature has passed regulations to address the amount of driving by on-road vehicles. Since passage of SB 375 in 2008, CARB requires metropolitan planning organizations to adopt plans showing reductions in GHG emissions from passenger cars and light trucks in their respective regions for 2020 and 2035 (CARB 2018a:1). These plans link land use and housing allocation to transportation planning and related mobile-source emissions. Under SB 3754, TMPO adopted their RTP in 2012. See the discussion under the heading "Mobility 2035: Lake Tahoe Regional Transportation Plan" for additional detail regarding TMPO's requirements under SB 375.

Under SB 743 of 2013, the Governor's Office of Planning and Research (OPR) amended the State CEQA Guidelines, including the addition of Section 15064.3, which requires that CEQA transportation analysis move away from focusing on vehicle delay and level of service (LOS) to analyzing vehicle miles traveled (VMT), which refers to the amount and distance of automobile travel associated with a project (OPR 2017a:77–90). In support of these changes, OPR

published its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which recommends that the transportation impact of a project be based on whether the project would generate a level of VMT per capita (or VMT per employee) that is 15 percent lower than that of existing development in the region (OPR 2017b:12–13). OPR's technical advisory explains that this criterion is consistent with Section 21099 of the California Public Resources Code, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions" (OPR 2017b:18). This metric is intended to replace the use of delay and level of service to measure transportation-related impacts. More detail about SB 743 is provided in the "Regulatory Setting" section of Section 3.5, "Transportation."

Legislation Associated with Electricity Generation

The state has passed legislation requiring the increasing use of renewables to produce electricity for consumers. California utilities are required to generate 33 percent of their electricity from renewables by 2020 (SB X1-2 of 2011); 52 percent by 2027 (SB 100 of 2018); 60 percent by 2030 (also SB 100 of 2018); and 100 percent by 2045 (also SB 100 of 2018).

Building Energy Efficiency Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Commission (CEC) updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code (2016) is scheduled to be replaced by the 2019 standards on January 1, 2020. The 2019 California Energy Code will require builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use. Additionally, new residential units will be required to include solar panels, sized to offset the estimated electrical requirements of each unit (California Code of Regulations Title 24, Part 6, Section 150.1[c]14). CEC estimates that the combination of required energy-efficiency features and mandatory solar panels in the 2019 California Energy Code will result in new residential buildings that use 53 percent less energy than those designed to meet the 2016 California Energy Code. The CEC also estimates that the 2019 California Energy Code will result in new commercial buildings that use 30 percent less energy than those designed to meet the 2016 standards, primarily through the transition to high-efficacy lighting (CEC 2018).

LOCAL

PLACER COUNTY AIR POLLUTION CONTROL DISTRICT

PCAPCD has quantitative significance criteria for evaluating GHG emissions associated with land use development projects. In the justification report that supplemented PCAPCD's guidance, PCAPCD indicates that application of these significance criteria would be sufficient for projects to do their fair share of reducing emissions such that the state will meet its 2030 GHG reduction targets as mandated by SB 32 (discussed above). However, the Project is located within the boundaries of the Placer County Tahoe Basin Area Plan (Area Plan), which, during its environmental review, identified program-level mitigation measures that would be applied to new projects built within in the plan area. This mitigation is discussed in greater detail below.

PLACER COUNTY AREA PLAN POLICIES AND PROGRAMS

The following policies from the Area Plan pertain to GHG emissions and climate change.

- **Policy AQ-P-4:** Prioritize projects and services that reduce vehicle miles traveled (VMT) and support alternative modes of transportation.
- **Policy AQ-P-6:** Continue to implement the mPOWER incentive program to reduce greenhouse gas emissions from buildings and other site improvements.

- **Policy AQ-P-7:** Implement building design standards and design capital improvements to reduce energy consumption and where feasible to incorporate alternative energy production.

The following projects related to GHG reduction are being pursued to implement the Area Plan (Part 8, Implementation Plan).

- **Evaluation of GHG Reduction Strategies**: This project began in 2011 and completes science-based evaluations of the effectiveness of alternative strategies to control and reduce GHG throughout the region. The program includes annual monitoring and evaluation of the effectiveness of specific actions and strategies implemented to reduce GHG at achieving regional Reduction Targets as directed in the Climate Sustainability Plan. (Lead Agency: Pacific Southwest Research Station-Southern Nevada Public Land Management Act, CA)
- **Placer County mPOWER (Money for Property Owner Water and Energy Efficiency Retrofitting) Program**: This program was launched in 2010 and provides residential and non-residential property owners with financing opportunities to retrofit existing buildings with energy efficiency and water conservation improvements and renewable energy systems. The program promotes energy and water efficiency, reduces reliance on fossil fuels, and reduces GHG emissions. (Lead Agency: Placer County)

The Placer County Tahoe Basin Area Plan and Tahoe City Lodge Project EIR/EIS (Area Plan EIR/EIS) determined that GHG emissions associated with construction and operation of land uses under the Area Plan would have a cumulatively considerable contribution to global climate change. The Area Plan EIR/EIS identified plan-level mitigation that would apply to all new construction located within the Area Plan boundaries. Placer County and TRPA developed Mitigation Measure 12-1 to ensure that new land use projects constructed under the Area Plan would not generate levels of GHG emissions that could conflict with statewide GHG targets for 2030 and beyond. The language of Mitigation Measure 12-1 is shown below and would apply to the proposed Project and Alternative A:

> **Mitigation Measure 12-1:** Implement all feasible greenhouse gas reduction measures to achieve no net increase in emissions.
>
> Require new construction (both redevelopment and greenfield) to implement energy, water, transportation, and vegetation measures to achieve a no net increases in GHG emissions as stated by ARB in the 2017 Climate Change Scoping Plan to the extent feasible. Such measures may include those recommended by PCAPCD available in Appendix F-1 of the District's CEQA Handbook and other feasible measures contained in Appendix B of ARB's Scoping Plan Update dated January 20, 2017. This would apply to new construction occurring under the Area Plan, including the proposed Project and Alternative A. Also, Placer County will initiate a funding program to apply these measures to existing facilities, as feasible, within the Plan area (PCAPCD 2012).
>
> These recommended measures include, but are not limited to:
>
> - Install tank-less or energy-efficiency water heaters (E5). This would result in less emissions than water heaters powered with propane or natural gas.
> - Install solar water heaters (E3)
> - Install energy-efficient roofing (E4)
> - Require Energy Star-rated appliances in new construction (E9)
> - Pre-Plumb new construction for Solar Energy and design for load (E12)
> - Install low-flow water fixtures (W1)
> - Use reclaimed water for irrigation (W3)
> - Provide bus shelters and lanes and provide bike parking (T1, T2, and T3)
> - Plant drought tolerant plants (V2)
> - Prohibit gas-powered landscaping equipment (V3)

- Achieve Zero Net Energy (ZNE) or equivalent level of energy efficiency, renewable energy generation, or GHG emission savings
- Require new developments to demonstrate that each new residence be equipped with a minimum of one single-port electric vehicle charging station that achieves similar or better functionality as a Level 2 charging station (referring to the voltage that the electric vehicle charger uses)
- Require residential projects to contribute to a fund to subsidize purchase of zero emission vehicles
- Require applicants for commercial projects to demonstrate that parking areas will be equipped with electric vehicle charging stations for an appropriate percentage of parking spaces
- Adopt a program of parking fees to generate funding for sustainable transportation modes
- Install ground source heat pumps (GSHPs) to reduce the need for natural gas in winter
- Require purchase of carbon credits from the CAPCOA GHG Reduction Exchange Program, American Carbon Registry (ACR), Climate Action Reserve (CAR) or other similar carbon credit registry determined to be acceptable by the local air district to offset emissions over the operational life of the project
- Applicant shall consider generating or purchasing local and California-only carbon credits as the preferred mechanism to implement its offsite mitigation measure for GHG emissions and that will facilitate the state's efforts in achieving the GHG emission reduction goal
- Additional Reduction Measures to Help Individual Projects Achieve a Net Zero Increase in Greenhouse Gas Emissions

As stated above, Appendix B of [C]ARB's Scoping Plan Update includes additional examples of GHG reduction measures that could be considered for individual projects. This list of reduction measures includes items that address GHG emissions generated by construction activity, transportation, onsite electricity generation, electricity consumption, and water consumption ([C]ARB 2017:B-7 to B-9). The reductions achieved by these measures would vary according to many factors including the climate in the Tahoe Region and the nature and number of new or redevelopment projects. However, a project applicant may be able to provide the site-specific information necessary to quantify a reduction. The following additional project-level measures will be applicable to new projects and redevelopment projects developed under the Area Plan unless determined to be infeasible. Also included is some information about the effectiveness of each measure:

<u>Construction-Related Reduction Measures</u>

- Enforce idling time restrictions for construction vehicles. *Reducing the time construction equipment is operating will reduce GHG emissions.*
- Require diesel equipment fleets to be lower emitting than any current emission standard. This can be implemented by requiring construction equipment to operate with the highest tier engines commercially available. *Higher tier engines generate lower levels of GHG emissions than lower tier engines.*
- Increase use of electric-powered construction equipment including use of existing grid power for electric energy rather than operating temporary gasoline/diesel powered generators. *Electric powered equipment generates lower levels of indirect GHG emissions than diesel- and gasoline-powered equipment.*
- Require diesel-powered construction equipment to be fueled with renewable diesel fuel. The renewable diesel product that is used shall comply with California's Low Carbon Fuel Standards and be certified by the California Air Resources Board Executive Officer. *Use of renewable diesel fuel instead of conventional diesel fuel can result in a 40 to 70 percent reduction in CO_2e emissions generated by construction equipment (SMAQMD 2015:3).*
- Divert and recycle construction and demolition waste, and use locally-sourced building materials with a high recycled material content to the greatest extent feasible. *This measure would reduce upstream emissions associated with the manufacture of building materials.*

Design- and Operation-Related Reduction Measures

- Allow for new construction to install fewer onsite parking spaces than required by local municipal building code, while still maintaining requirements of the Americans with Disabilities Act (ADA) and any dedicated spaces for the charging of electric vehicles. *This measure would incentivize people to use other modes of transportation, including biking, walking, and transit, thereby reducing mobile-source GHG emissions. Exact reductions would vary according to many factors, including the local viability of these alternative modes of transportation.*
- Dedicate onsite parking for shared vehicles. *This measure would discourage the use of single occupancy vehicles, thereby reducing mobile-source GHG emissions.*
- Provide adequate, safe, convenient, and secure onsite bicycle parking and storage in multi-family residential projects and in non-residential projects. *This measure would encourage and support bicycling as a viable mode of transportation, thereby reducing mobile-source GHG emissions.*
- Provide onsite and offsite safety improvements for bike, pedestrian, and transit connections, and/or implement relevant improvements identified in an applicable bicycle and/or pedestrian master plan. *This measure would incentivize people to use other modes of transportation, including biking, walking, and transit, thereby reducing mobile-source GHG emissions.*
- Require onsite renewable energy generation. *This measure would reduce the indirect GHG emissions associated with the consumption of electricity from the grid.*
- Require solar panels on all roof area with adequate solar exposure. *This measure would reduce the indirect GHG emissions associated with the consumption of electricity from the grid.*
- Require organics collection in new developments. *This measure would reduce the level of GHG emissions associated with the decomposition of organic waste in landfills.*
- Require low-water landscaping in new developments and redevelopment sites. Require water efficient landscape maintenance to conserve water and reduce landscape waste. *This measure would reduce the level of indirect GHGs associated with the consumption of water.*
- Require new construction, including municipal building construction, to achieve third-party green building certifications, such as the GreenPoint Rated program or the LEED rating system. *This measures would reduce the GHGs associated with the consumption of water and the consumption of electricity from the grid, natural gas, and propane for the heating and cooling of buildings and for water heating.*
- Require the design of bike lanes to connect to the regional bicycle network. *This measure would encourage and support bicycling as a viable mode of transportation, thereby reducing mobile-source GHG emissions.*
- Require preferential parking spaces for park-and-ride to incentivize carpooling, vanpooling, commuter bus, and electric vehicles. *This measure would discourage the use of single occupancy fossil fuel-powered vehicles, thereby reducing mobile-source GHG emissions.*
- Develop a rideshare program targeting commuters to major employment centers. *This measure would discourage the use of single occupancy vehicles for work commute trips, thereby reducing mobile-source GHG emissions.*
- Require the design of bus stops/shelters/express lanes in new developments to promote the usage of mass-transit. *This measure would incentivize people to mass transit, thereby reducing mobile-source GHG emissions.*
- Require gas or propane outlets in private outdoor areas of residential land uses for use with outdoor cooking appliances such as grills if natural gas service or propane service is available. *By providing a fuel source other than charcoal This measure would reduce GHG emissions from outdoor cooking.*
- Require the installation of electrical outlets on the exterior walls of both the front and back of residential and non-residential buildings to support the use of electric landscape maintenance equipment. *This measure would reduce GHG emission generated by fossil fuel-powered outdoor maintenance equipment.*

- Require the installation of whole-house fans instead of air conditioning units for cooling during the summer season. *Whole-house fans consume less electricity than air conditioners, resulting in a reduction in indirect GHG emissions from electricity consumption.*
- Require each residential and commercial building to be equipped with programmable thermostats/timers. *This allows for more energy-efficient operation of heating and cooling systems, resulting in less consumption of natural gas, propane, and electricity and associated GHG emissions.*
- Require the use of energy-efficient lighting for all street, parking, and area lighting. *This reduces the amount of electricity consumed for outdoor lighting.*

3.7.2 Environmental Setting

THE PHYSICAL SCIENTIFIC BASIS OF GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (IPCC 2014:5).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remain stored in the atmosphere (IPCC 2013:467).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

GREENHOUSE GAS EMISSION SOURCES

As discussed previously, GHG emissions are attributable in large part to human activities. The total GHG inventory for California in 2016 was 429 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) (CARB 2018b). This is less than the 2020 target of 431 $MMTCO_2e$ (CARB 2018c:1). Table 3.7-2 summarizes the statewide GHG inventory for California by percentage.

Table 3.7-2 Statewide GHG Emissions by Economic Sector

Sector	Percent
Transportation	41
Industrial	23
Electricity generation (in state)	10
Electricity generation (imports)	6
Agriculture	8
Residential	7
Commercial	5
Not specified	<1

Source: CARB 2018b

As shown in Table 3.7-2, transportation, industry, and electricity generation are the largest GHG emission sectors.

Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing CO_2 from the atmosphere.

A GHG inventory for the Tahoe Region is provided in the SAP and summarized in Table 3.7-3. These emissions are averaged over 5 years from 2005 to 2010 to account for non-linear factors and other sources of variation.

Table 3.7-3 Baseline Average Region-Wide Greenhouse Gas Emissions from 2005 to 2010 ($MTCO_2e$/year)

Emissions Sector	2005 to 2010 Average Emissions per Year
Electricity Consumption	498,682
On-Road Transportation	314,815
Natural Gas Consumption	239,654
Wood Combustion	100,999
Solid Waste	68,608
Off-Road Transportation	56,306
Wildfires and Prescribed Burns	47,968
Water Consumption	26,366
Recreational Boats	19,199
Livestock	12,734
Other Combustion	6,010
Aircraft	4,935
Wastewater Treatment	2,279
Total	**1,398,554**

Notes: Totals may not equal the sum of the numbers because of independent rounding.
$MTCO_2e$/year = metric tons of carbon dioxide equivalent per year.
Source: Lake Tahoe Sustainable Communities Program 2013:3-1

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

According to the Intergovernmental Panel on Climate Change (IPCC), which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature will increase by 3.7 to 4.8 degrees Celsius (°C) (6.7 to 8.6 degrees Fahrenheit [°F]) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014:10). According to CEC, temperatures in California will warm by approximately 2.7°F above 2000 averages by 2050 and by 4.1°F to 8.6°F by 2100, depending on emission levels (CEC 2012:2).

According to *California's Fourth Climate Change Assessment*, with global GHGs reduced at a moderate rate California will experience average daily high temperatures that are warmer than the historic average by 2.5°F from 2006 to 2039, by 4.4°F from 2040 to 2069, and by 5.6°F from 2070 to 2100; and if GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historic average by 2.7°F from 2006 to 2039, by 5.8°F from 2040 to 2069, and by 8.8°F from 2070 to 2100 (OPR, CEC, and CNRA 2018:5).

Since its previous climate change assessment in 2012, California has experienced several of the most extreme natural events in its recorded history: a severe drought from 2012-2016, an almost non-existent Sierra Nevada winter snowpack in 2014-2015, increasingly large and severe wildfires, and back-to-back years of the warmest average temperatures (OPR, CEC, and CNRA 2018:3). According to CNRA's *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018:55). In contrast, the northern Sierra Nevada experienced one of its wettest full year on record during the 2016-2017 water year (CNRA 2018:64). The changes in precipitation exacerbate wildfires throughout California through a cycle of high vegetative growth coupled with dry, hot periods which lowers the moisture content of fuel loads. As a result, the frequency, size, and devastation of forest fires increases. In November 2018, the Camp Fire completely destroyed the town of Paradise in Butte County and caused 85 fatalities, becoming the state's deadliest fire in recorded history. Moreover, changes in the intensity of precipitation events following wildfires can also result in devastating landslides. In January 2018, following the Thomas Fire, 0.5 inches of rain fell in 5 minutes in Santa Barbara causing destructive mudslides formed from the debris and loose soil left behind by the fire. These mudslides resulted in 21 deaths.

As temperatures increase, the amount of precipitation falling as rain rather than snow also increases, which could lead to increased flooding because water that would normally be held in the snowpack of the Sierra Nevada and Cascade Range until spring would flow into the Central Valley during winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2018:190–192). Furthermore, in the extreme scenario involving the rapid loss of the Antarctic ice sheet and the glaciers atop Greenland, the sea level along California's coastline is expected to rise 54 inches by 2100 if GHG emissions continue at current rates (OPR, CEC, and CNRA 2018:6).

Temperature increases and changes to historical precipitation patterns will likely affect ecological productivity. Existing habitats may migrate from climatic changes where possible, and those habitats and species that lack the ability to retreat will be severely threatened. Altered climatic conditions dramatically endanger the survival of arthropods (e.g., insects, spiders) which could have cascading effects throughout ecosystems (Lister and Garcia 2018). Conversely, a warming climate may support the populations of other insects such as ticks and mosquitos, which transmit diseases harmful to human health such as the Zika virus, West Nile virus, and Lyme disease (European Commission Joint Research Centre 2018).

Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea-level rise have the potential to threaten transportation and energy infrastructure, crop production, forests and rangelands, and public health (CNRA 2018:64, 116–117, 127; OPR, CEC, and CNRA 2018:7–14). The effects of climate change will also have an indirect adverse impact on the economy as more severe natural disasters cause expensive, physical damage to communities and the state.

Additionally, adjusting to the physical changes associated with climate change can produce mental health impacts such as depression and anxiety.

Cal-Adapt is a climate change scenario planning tool developed by CEC that downscales global climate model data to local and regional resolution under two emissions scenarios. The Representative Concentration Pathway (RCP) 8.5 scenario represents a business-as-usual future emissions scenario, and the RCP 4.5 scenario represents a future with reduced GHG emissions. According to Cal-Adapt, annual average minimum temperatures in the Project area are projected to rise by 5.5°F to 10.7°F by 2099 under the RCP 4.5 and RCP 8.5 scenarios, respectively. Annual average maximum temperatures in the Project vicinity are expected to increase by 5.8°F to 11°F by 2099 under each scenario, respectively (CEC 2019).

The Project area experienced an average precipitation of 38.0 inches per year between 1961 and 1990. Under the RCP 4.5 scenario, the Project area is projected to experience an increase of 5 inches per year by 2099 (CEC 2019). Under the RCP 8.5 scenario, the Project area is projected to experience an increase of 6.8 inches per year by 2099 (CEC 2019). It should be noted, however, that such increases in precipitation would likely occur in the form or rain rather than snow, which is inconsistent with historical climate trends in the Tahoe Region (CEC 2019).

3.7.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

GHG emissions associated with the Project would be generated during Project construction and during operation after the Project is built. Estimated levels of construction- and operation-related GHGs are presented below. The Project is evaluated for its consistency with adopted regulations, plans, and policies aimed at reducing GHG emissions, including the 2017 Scoping Plan and the 2016 RTP/SCS. TRPA does not have adopted Environmental Threshold Carrying Capacities specific to climate change. Estimation of project-related GHG emissions is consistent with guidance in PCAPCD's 2017 CEQA Handbook and accompanying Thresholds of Significance Justification Report (PCAPCD 2016).

Construction-Related Greenhouse Gas Emissions

Short-term construction-generated GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (CAPCOA 2016) for the proposed Project and Alternative A sites, as recommended by PCAPCD and other air districts in California. Modeling was based on Project-specific information (e.g., building size, area to be graded, area to be paved, energy information) where available; assumptions based on anticipated construction activities; and default values in CalEEMod that are based on the Project's location and land use type. Consistent with Chapter 65 of the TRPA Code of Ordinances, construction of the Project was assumed to be limited to May 1 through October 15. Based on assumptions developed in the initial planning stages for the Project, construction was assumed to commence on May 1, 2020 and end in June 2023, when the Project would become operational. However, as described under Section 2.5.3, "Construction Schedule and Activities," Project construction activities may be completed faster, beginning in 2021 instead of 2020 and completed in 2 years rather than 4 years. Construction would be limited to Monday through Friday within exempt hours.

Operational Greenhouse Gas Emissions

GHG emissions associated with operation of either the proposed Project or Alternative A were estimated for the following sources: area sources (e.g., landscape maintenance equipment), energy use (i.e., electricity and natural gas consumption), water use, solid waste generated, and mobile sources. Operation-related mobile-source GHG emissions were modeled based on the estimated level of VMT by employees and recreational visitors to the proposed Project site. VMT estimates were derived from data generated during the traffic impact analysis conducted for the Project (see Section 3.5, "Transportation"). Mobile-source emissions were calculated using CalEEMod. Indirect emissions associated with consumption of electricity and natural gas supplied by Liberty Utilities were estimated using non-baseload intensity values for the WECC California (CAMX) region in EPA's eGRID 2014v2 (EPA 2014). The Project's electricity usage was based on default consumption rates provided in CalEEMod for similar land use types; however, CalEEMod Version 2016.3.2 does not account for reductions made from the application of the mandatory and prescriptive requirements under the 2019 California Energy Code. Thus, as the Project would be constructed following the official adoption of the 2019 California Energy Code, the Project's level of electricity and natural gas use were adjusted to reflect related improvements in energy efficiency. Detailed model assumptions and inputs for these calculations are presented in Appendix D.

SIGNIFICANCE CRITERIA

State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. Under Appendix G of the State CEQA Guidelines, implementation of the Project would result in a cumulatively considerable contribution to climate change if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and/or
- conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

On October 13, 2016, PCAPCD adopted new thresholds of significance for GHG emissions. Development of the new thresholds included evaluation of existing thresholds from other air districts such as the Sacramento Metropolitan Air Quality Management District, San Luis Obispo Air Pollution Control District, and Bay Area Air Quality Management District. The thresholds consider (1) existing GHG significance thresholds adopted by other districts, (2) PCAPCD's historical CEQA review data, (3) the statewide GHG emissions reduction target and regulation requirement beyond 2020, and (4) the special geographic features in Placer County (PCAPCD 2016). Based on Appendix G of the State CEQA Guidelines and PCAPCD thresholds of significance for construction- and operational-related emissions of GHGs, impacts to global climate change would be significant if the project would:

- generate construction emissions exceeding 10,000 metric tons of carbon dioxide equivalent per year (MT CO_2e/year),
- generate operational emissions that would exceed the Efficiency Matrix of 27.3 metric tons of CO_2e per capita (applicable to non-residential in rural areas) which exceed the De Minimis level, and
- generate operational emissions of the De Minimis level of 1,100 MT CO_2e/year.

The 1,100 MT CO_2e De Minimis Level significance threshold was developed to encompass the operational emissions of smaller land use projects that may be proposed in rural areas but are subject to CEQA review. The 1,100 MT CO_2e threshold is derived from consideration of other air districts and the goal of achieving 1990 levels of GHGs by 2020; PCAPCD uses this threshold as a measure of compliance with post-2020 GHG reduction goals (40 percent of 1990 levels by 2030). However, as explained in Section 3.7.1, "Regulatory Setting," the proposed Project and Alternative A sites are located in the plan area of the Area Plan. The GHG impact analysis in the Area Plan EIR/EIS determined that the increase in GHG emissions associated with development of the land uses under the Area Plan would result in a significant and cumulatively considerable contribution to climate change (TRPA 2017b). As explained in Section 3.7.1, "Regulatory Setting," the EIR/EIS prepared for the Area Plan includes a mitigation measure that requires individual projects developed in the plan area to reduce their GHGs to zero. (See Section 3.7.1, "Regulatory Setting," for the full text of Mitigation Measure 12-1 from the Area Plan EIR/EIS.) Therefore, a net zero significance criterion is used to determine whether the proposed Project or Alternative A would result in a significant and cumulatively considerable contribution to climate change.

This "net zero" approach is consistent with direction provided by CARB in the 2017 Scoping Plan, which states (CARB 2017:101-102):

> Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development. There are recent examples of land use development projects in California that have demonstrated that it is feasible to design projects that achieve zero net additional GHG emissions. Several projects have received certification from the Governor under AB 900, the Jobs and Economic Improvement through Environmental Leadership Act (Buchanan, Chapter 354, Statutes of 2011), demonstrating an ability to design economically viable projects that create jobs while contributing no net additional GHG emissions. Another example is the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan, in which the applicant, Newhall Land and Farming Company, proposed a commitment to achieve net zero GHG emissions for a very large-scale residential and commercial specific planned development in Santa Clarita Valley.

Achieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA.

With no increase in GHG emissions compared to existing conditions, any potential inconsistencies with relevant GHG reduction plans would be avoided. Therefore, if a project demonstrates that it may be implemented and operated without resulting in a net increase in GHG emissions the project's contribution to global climate change would be less than cumulatively considerable and less than significant.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.7-1: Project-Generated Emissions of GHGs

The proposed Project would result in construction-related GHG emissions totaling 841 $MTCO_2e$/year over a period of up to 4 years and would generate operational emissions of 316 $MTCO_2e$/year. Alternative A would result in construction-related GHG emissions totaling 922 $MTCO_2e$/year over a period of up to 4 years and would generate operational emissions slightly less than what is emitted for the proposed Project. These levels of emissions would not be consistent with Mitigation Measure 12-1 identified in the Area Plan EIR/EIS, which indicates that projects should achieve a no net increase in GHG emissions to demonstrate consistency with statewide GHG reduction goals. Proposed Project- and Alternative A-generated GHG emissions would be **potentially significant**.

Proposed Project

Proposed Project construction activities would result in the generation of GHG emissions. Heavy-duty off-road construction equipment, materials transport, and worker commute during construction of the Project would result in exhaust emissions of GHGs. There would be no construction associated with the Highlands Community Center. Table 3.7-4 summarizes the projected emissions associated with construction of the Project by year (2020-2023). As mentioned above under "Methods and Assumptions," and in Section 2.5.3, "Construction Schedule and Activities," the Project was initially anticipated to be constructed over an up to 4 year period and was anticipated to begin in 2020, which is reflected in Table 3.7-4 below. In the event that construction activities are completed faster than presented here, beginning in 2021 instead of 2020 and completed in as few as 2 years rather than 4 years, the GHG emissions shown in separate years in the table would be combined over fewer years. The emissions generated over a shorter timeframe would not change the impact conclusion provided below. See Appendix D for detailed input parameters and modeling results.

Table 3.7-4 Summary of Unmitigated Maximum Construction-Generated Emissions of GHGs by Year for the Proposed Project

Year	$MTCO_2e$/year
2020	202
2021	318
2022	303
2023	18
Total	**841**

Notes: GHGs = greenhouse gases, $MTCO_2e$/year = metric tons of carbon dioxide equivalent per year, PCAPCD = Placer County Air Pollution Control District

Source: Modeling conducted by Ascent Environmental in 2019 using CalEEMod v. 2016.3.2

As shown above, construction-generated GHG emissions would total 841 $MTCO_2e$ if construction were to occur over 4 years.

The Existing Lodge currently supports the Tahoe Cross-Country facility. With implementation of the proposed Project, operations at the Highlands Community Center would continue at a lower rate as compared to existing conditions as these activities would be redirected to the proposed Project site. As such, operational emissions of GHGs were modeled to demonstrate the net difference in operational activity between baseline conditions and the proposed Project. Operational emissions of GHGs would be generated by automobile travel to and from the proposed Project site, electricity usage, natural gas combustion, water usage, wastewater and solid waste generation, and area sources such as landscaping equipment. The analysis of GHG emissions also includes operation of the Existing Lodge with some community meetings and recreation classes. These emissions associated with the proposed Project are summarized in Table 3.7-5 for 2023, the first year of proposed Project operation.

Table 3.7-5 Summary of Unmitigated Maximum Operational-Related Emissions of GHGs by Source for Proposed Project

Source	$MTCO_2e$/year
Mobile-Source Emissions	229
Energy-Related Emissions	54
Solid Waste-Related Emissions	29
Water Consumption-Related Emissions	3
Area-Source Emissions	0
Total Operational Emissions	**316**

Notes: GHGs = greenhouse gases, $MTCO_2e$/year = metric tons of carbon dioxide equivalent per year, PCAPCD = Placer County Air Pollution Control District

Source: Modeling conducted by Ascent Environmental in 2019 using CalEEMod v. 2016.3.2

As shown in Table 3.7-5, operational-related GHG emissions for the year 2023 would total 316 $MTCO_2e$/year.

Proposed Project construction would generate an approximate total of 841 $MTCO_2e$ and operation of the proposed Project would generate approximately 316 $MTCO_2e$/year. The Project would also result in an increase in VMT to the proposed Project site, which would not be consistent with the regional goal of reducing VMT. (See Section 3.5, "Transportation," for an additional discussion of VMT.) Because the proposed Project would not be consistent with the Tahoe Basin Area Plan goal of achieving zero net emissions or the goal of reducing VMT within the region, the proposed Project's GHG emissions would contribute to climate change. This would be a **potentially significant** impact.

Alternative A

The same construction activities would occur under Alternative A as the proposed Project; however, under Alternative A, demolition of the Existing Lodge would occur prior to building construction. Table 3.7-6 summarizes the projected emissions associated with construction of Alternative A by year (2020-2023). See Appendix D for detailed input parameters and modeling results.

As shown in Table 3.7-6, construction emissions would total 922 $MTCO_2e$. Construction emissions under Alternative A would be greater in total as compared to the proposed Project due to the demolition of the Existing Lodge, which would require the use of additional heavy-duty equipment. As mentioned above under "Methods and Assumptions," and in Section 2.5.3, "Construction Schedule and Activities," the Project was initially anticipated to be constructed over an up to 4 year period and was anticipated to begin in 2020, which is reflected in Table 3.7-6 below. In the event that construction activities are completed faster than presented here, beginning in 2021 instead of 2020 and completed in 2 years rather than 4 years, the GHG emissions shown in separate years in the table would be combined over fewer years. The emissions generated over a shorter timeframe would not change the impact conclusion provided below.

Operational emissions under Alternative A would be expected to be less than that under the proposed Project due to the demolition of the Existing Lodge. Thus, electricity usage and natural gas combustion to heat and power the

Existing Lodge (i.e., Community Center) would not occur. Moreover, visitor- and employee-related vehicle trips under Alternative A would only be made to the Schilling Lodge instead of vehicle trips to the Schilling Lodge and the Community Center that would occur with the proposed Project. Thus, operational emissions generated from operation of Alternative A are not presented.

Because construction emissions would be greater under Alternative A and operational emissions would be less under Alternative A as compared to the proposed Project, the impact would be similar. However, similar to the proposed Project, these emissions would result in a contribution to climate change. This would be a **potentially significant** impact.

Table 3.7-6 Summary of Unmitigated Maximum Construction-Generated Emissions of GHGs by Year for Alternative A

Year	$MTCO_2e$/year
2020	194
2021	319
2022	306
2023	103
Total	**922**

Notes: GHGs = greenhouse gases, $MTCO_2e$/year = metric tons of carbon dioxide equivalent per year, PCAPCD = Placer County Air Pollution Control District

Source: Modeling conducted by Ascent Environmental in 2019 using CalEEMod v. 2016.3.2

Mitigation Measure 3.7-1: Incorporate Design Features and Purchase and Retire Carbon Offsets to Reduce Project-Related Greenhouse Gas Emissions to Zero

This mitigation measure would apply to the proposed Project and Alternative A.

The applicant shall implement measures to reduce all GHG emissions associated with construction and operation of the Project to zero. More detail about measures to reduce construction-related GHGs, operational GHGs, and the purchase of carbon offsets is provided below.

Construction-Related Greenhouse Gas Emissions

The applicant shall implement all onsite feasible measures to reduce GHGs associated with Project construction. Such measures shall include, but are not limited, to the measures in the list below. Many of these measures are identical to, or consistent with, the measures listed in Appendix B of the 2017 Scoping Plan (CARB 2017:B-7 to B-8), Appendix F-1 of PCAPCD's CEQA Thresholds of Significance Justification Report (PCDAPCD 2016), and measures listed in Mitigation Measure 12-1 of the Placer County Tahoe Basin Area Plan (TRPA 2017b). The effort to quantify the GHG reductions shall be fully funded by the applicant.

- The applicant shall enforce idling time restrictions for construction vehicles.
- The applicant shall increase use of electric-powered construction equipment including use of existing grid power for electric energy rather than operating temporary gasoline/diesel powered generators.
- The applicant shall require diesel-powered construction equipment to be fueled with renewable diesel fuel. The renewable diesel product that is used shall comply with California's Low Carbon Fuel Standards and be certified by the California Air Resources Board Executive Officer.
- The applicant shall require that all diesel-powered, off-road construction equipment shall meet EPA's Tier 4 emissions standards as defined in 40 Code of Federal Regulation (CFR) 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068.

- The applicant shall implement waste, disposal, and recycling strategies in accordance with Sections 4.408 and 5.408 of the 2016 California Green Building Standards Code (CALGreen Code), or in accordance with any update to these requirements in future iterations of the CALGreen Code in place at the time of Project construction.
- Project construction shall achieve or exceed the enhanced Tier 2 targets for recycling or reusing construction waste of 65 percent for nonresidential land uses as contained in Sections A5.408 of the CALGreen Code.

Operational Greenhouse Gas Emissions

The applicant shall implement all onsite feasible measures to reduce GHGs associated with operation of the Project. Such measures shall include, but are not limited to, the measures in the list below. Many of these measures are identical to, or consistent with, the measures listed in Appendix B of the 2017 Scoping Plan (CARB 2017:B-7 to B-8), Appendix F-1 of PCAPCD's Thresholds of Significance Justification Report (PCDAPCD 2016), and measures listed in Mitigation Measure 12-1 of the Placer County Tahoe Basin Area Plan (TRPA 2017b). The effort to quantify the GHG reductions shall be fully funded by the applicant.

- The applicant shall achieve zero net energy (ZNE) if feasible. Prior to the issuance of building permits the Project developer or its designee shall submit a Zero Net Energy Confirmation Report (ZNE Report) prepared by a qualified building energy efficiency and design consultant to the county for review and approval. The ZNE Report shall demonstrate that development within the Project area subject to application of the California Energy Code has been designed and shall be constructed to achieve ZNE, as defined by CEC in its 2015 Integrated Energy Policy Report, or otherwise achieve an equivalent level of energy efficiency, renewable energy generation, or GHG emissions savings. This measure would differ from the achievement of zero net electricity because ZNE also concerns onsite consumption of natural gas.
- The applicant shall consult with Liberty Utilities to assess the feasibility of onsite solar. If it is determined that onsite solar is feasible, the building shall include rooftop solar photovoltaic systems to supply electricity to the building.
- If onsite solar is determined to be feasible, the applicant shall install rooftop solar water heaters if room is available after installing photovoltaic panels.
- Any household appliances required to operate the building shall be electric and certified Energy Star-certified (including dish washers, fans, and refrigerators, but not including tankless water heaters).
- All buildings shall be designed to comply with requirements for water efficiency and conservation as established in the CALGreen Code.
- The applicant shall also provide Level 2 electric vehicle charging stations at a minimum of 10 percent of parking spaces that the Project.
- The applicant shall dedicate onsite parking for shared vehicles.
- The applicant shall require gas or propane outlets in private outdoor areas of residential land uses for use with outdoor cooking appliances such as grills if natural gas service or propane service is available.
- The applicant shall require the installation of electrical outlets on the exterior walls of both the front and back of proposed lodge to support the use of electric landscape maintenance equipment.
- The applicant shall require the use of energy-efficient lighting for all area lighting.

Notably, the California Air Pollution Officers Associations (CAPCOA) identifies parking restrictions as a feasible measure to reduce GHG emissions; however, parking restrictions have not been dismissed as infeasible onsite mitigation due to existing and projected community impacts associated with spillover parking into nearby residential neighborhoods during peak seasonal periods. Nonetheless, even without limitations on parking availability, a no net increase in GHG emissions can be achieved.

Carbon Offsets

In addition to implementing all feasible onsite measures to reduction GHGs associated with construction and operation of the Project, the applicant shall offset the remaining levels of GHG emissions to zero by funding activities that directly reduce or sequester GHG emissions or by purchasing and retiring carbon credits from any of the following recognized and reputable voluntary carbon registries:

(A) American Carbon Registry;

(B) Climate Action Reserve; and/or

(C) Verra (formally named Verified Carbon Standard).

The applicant shall demonstrate that it has purchased and retired a sufficient quantity of carbon offsets prior to receipt of building permits from Placer County. The applicant shall purchase and retire a quantity of carbon credits sufficient to fully offset the Project's remaining operational emissions multiplied by the number of years of operation between commencement of operation and 2045, which is the target year of Executive Order B-55-18.

Significance after Mitigation

TCPUD notes that the list of recommended measures includes limiting the number of parking spaces as a means of reducing GHG emissions. This item has not been included in Mitigation Measure 3.7-1, because the community has expressed concern regarding the intrusion of spillover parking into residential neighborhoods. TCPUD would like to minimize spillover parking. For this reason, sufficient parking has been provided to avoid significant spillover parking problems. TCPUD notes that, even without limiting the supply of onsite parking, the threshold – no net increase of GHG emissions – can be achieved.

Implementation of Mitigation Measure 3.7-1 would ensure that the proposed Project or Alternative A would not result in a net increase in GHG emissions and, thus, would not conflict with CARB's 2017 Scoping Plan or any established statewide GHG reduction targets (i.e., SB 32 of 2016 and Executive Order B-55-18). Thus, the proposed Project's or Alternative A's contribution to climate change would be reduced to **less than significant**.

CUMULATIVE IMPACTS

As noted previously, climate change is global phenomenon and the result of cumulative emissions of greenhouse gases from emissions sources across the globe. Therefore, climate change impacts are inherently cumulative in nature and discussed above under Impact 3.7-1.

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File Contents

Appendices

Figures

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Tables

Acronyms/Abbreviations

Moved to TOC

Citations

Yellow = confusing (sequential lettering doesn't match, years don't match, misspellings, etc.)
Green = matched reference
Aqua = missing full reference
Pink = no citation in text

CAPCOA 2016
CARB 2016a
CARB 2016b
CARB 2017
CARB 2018a
CARB 2018b
CARB 2018c
CARB 2019
CEC 2012
CEC 2018
CEC 2019
CNRA 2018
EPA 2014
EPA 2018

European Commission Joint Research Centre 2018
IPCC 2013
IPCC 2014
Lake Tahoe Sustainable Communities Program 2013
Lister and Garcia 2018
OPR 2017a
OPR 2017b
OPR, CEC, and CNRA 2018
PCAPCD 2012
PCAPCD 2016
State of California 2018
TRPA 2012
TRPA 2017a
TRPA 2017b
United Nations 2015
Wade, pers. comm., 2017

References

3.8 NOISE

This section includes a summary of applicable regulations related to noise and vibration, a description of ambient-noise conditions, and an analysis of potential short-term construction and long-term operational-source noise impacts associated with the project. Mitigation measures are recommended as necessary to reduce significant noise impacts. Additional data is provided in Appendix E, Noise Measurement Data and Noise Modeling Calculations.

The Truckee-Tahoe Airport is the closest airport to the Project, located over 8 miles north of the proposed Project and Alternative A sites. The project boundary is not located in the Plan Area of the Truckee-Tahoe Airport Land Use Compatibility Plan (Foothill Airport Land Use Commission 2004), the land use plan of any other airport, or within the vicinity of an active private airstrip where people would be exposed to excessive aircraft-generated noise levels.

The proposed Project and Alternative A would not affect the type or number of aircraft operations at the Truckee-Tahoe Airport. Similarly, no changes to levels of activity by recreational watercraft, motorcycles, off-road vehicles, and over-snow vehicles are anticipated with implementation of the proposed Project or the Alternative A because they are not expected to result in additional recreational boating facilities, trails, or recreation areas for these types of vehicles. Furthermore, the types of recreational watercraft, motorcycles, off-road vehicles, and over-snow vehicles, as well as on-road vehicles, would not change. Thus, single-event noise thresholds associated with these sources would not change as a result of the project and are not evaluated.

The project would not result in new residential or tourist accommodation uses, and therefore, compatibility with existing noise levels on new receptors is not evaluated further. In addition, no operational vibration sources (e.g., railroads, transit stations) are proposed so operational vibration impacts are not discussed further.

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no noise impacts. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

Before discussing the noise setting for the project, background information on sound, noise, vibration, and common noise descriptors is needed to provide context and a better understanding of the technical terms and regulations referenced throughout this section. The following are the noise descriptors used throughout this section.

- **Equivalent Continuous Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013a:2-48).
- **Percentile-Exceeded Sound Level (L_X):** L_X represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time) (Caltrans 2013a:2-16).
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period (Caltrans 2013a:2-48; FTA 2006:2-16).
- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB "penalty" applied to sound levels occurring during nighttime hours between 10 p.m. and 7 a.m. (Caltrans 2013a:2-48; FTA 2006:2-22).
- **Community Noise Equivalent Level (CNEL):** CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m. and a 5-dB penalty applied to the sound levels occurring during evening hours between 7 p.m. and 10 p.m. (Caltrans 2013a:2-48). Many agencies and local jurisdictions in California often have established noise standards using the CNEL metric. The CNEL metric is not used by federal agencies and not commonly used in standards established by local communities outside of California.

3.8.1 Acoustic Fundamentals

Before discussing the noise setting for the project, background information about sound, noise, vibration, and common noise descriptors is needed to provide context and a better understanding of the technical terms referenced throughout this section.

SOUND, NOISE, AND ACOUSTICS

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium to the human ear. In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

SOUND PRESSURE LEVELS AND DECIBELS

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels.

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. That is, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one automobile generates 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB.

A-WEIGHTED DECIBELS

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 hertz (Hz) and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Thus, noise levels are typically reported in terms of A-weighted decibels, or dBA. Table 3.8-1 describes typical A-weighted noise levels for various noise sources.

Table 3.8-1 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 miles per hour	— 80 —	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, daytime, Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office, Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library, Bedroom at night
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013a:Table 2-5

HUMAN RESPONSE TO CHANGES IN NOISE LEVELS

As discussed above, the doubling of sound energy results in a 3-dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured. Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. 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 2007).

In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable.

VIBRATION

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings [Federal Transit Agency (FTA) 2006:7-5, Caltrans 2013a:6].

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 2006:7-4; Caltrans 2013b:7). This is based on a reference value of 1 micro inch per second.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground 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 2006:7-8; Caltrans 2013b:27).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground 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 to fragile buildings. Construction activities can generate sufficient ground vibrations to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006:7-5).

Vibrations generated by construction activity can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations are generated by vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment.

Table 3.8-2 summarizes the general human response to different ground vibration-velocity levels.

Table 3.8-2 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude.

Source: FTA 2006:7-8

3.8.2 Regulatory Setting

FEDERAL

Federal Transit Administration

To address the human response to ground vibration, the Federal Transit Administration (FTA) has established the Ground-Borne Vibration (GBV) Impact Criteria for General Assessment that is used for evaluating human response to ground-borne vibration, based on land use type and frequency of events. These guidelines are presented in Table 3.8-3.

Table 3.8-3 Ground-Borne Vibration (GBV) Impact Criteria for General Assessment

Land Use Category	GVB Impact Levels (VdB re 1 micro-inch/second)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65[4]	65[4]	65[4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Notes: VdB = vibration decibels referenced to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude.

1 "Frequent Events" is defined as more than 70 vibration events of the same source per day.

2 "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

3 "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

4 This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

Source: FTA 2006

TAHOE REGIONAL PLANNING AGENCY

Thresholds

TRPA has established environmental thresholds for nine resources, including noise. There are two noise threshold indicators: single noise events and cumulative noise events. The Tahoe Basin's status in 2015 was Somewhat Worse Than Target for single noise events and for cumulative noise. However TRPA's 2015 *Threshold Evaluation Report* (TRPA 2016) indicates that for the indicators, there is either little or no change, as compared to the previous Threshold Evaluation, or insufficient evidence to determine a trend. Individual thresholds are discussed separately below.

Single Noise Events

A noise event can be defined as an unexpected increase in acoustic energy. Single Noise Event Threshold Standards adopted by TRPA are based on the numerical value associated with the maximum measured level in acoustical energy during an event. This threshold establishes maximum noise levels for aircraft, watercraft, motor vehicles, motorcycles, off-road vehicles, and snowmobiles. As discussed above, these thresholds would not apply to the project and are therefore not discussed in further detail.

Cumulative Noise Events

TRPA adopted CNEL standards for different zones within the region to account for expected levels of serenity. The standards, established in the Goals and Policies, apply to the entire Lake Tahoe region. Noise standard included in the relevant plan area are discussed below under the Placer County Tahoe Basin Area Plan (Area Plan) discussion.

The noise limitations established in Chapter 68 of the TRPA Code, including the noise standards of individual plan area statements, community plans, and area plans, do not apply to noise from TRPA-approved construction or maintenance projects, or the demolition of structures, provided that such activities are limited to the hours between 8:00 a.m. and 6:30 p.m. Further, the noise limitations of Chapter 68 shall not apply to emergency work to protect life or property.

Transportation Corridor Noise Standards

TRPA has also adopted maximum allowable CNEL noise standards for major transportation corridors in the basin. The established thresholds for U.S. 50 are 65 dBA CNEL and 55 dBA CNEL for State Routes [SR] 89, 207, 28, 267, and 431.

Goals and Policies

The Regional Plan Noise Subelement of the Goals and Policies includes a goal to attain and maintain CNEL standards that is relevant to the project (Goal N-2) (TRPA 2012:2-26 through 2-28). The underlying policy intended to help achieve that goal includes: establishing specific site design criteria for projects to reduce noise from transportation corridors and which may include using earthen berms, and barriers (Policy N-2.1). The transportation corridor CNEL values override land use-based CNELs within 300 feet of the applicable roadway (TRPA 2012:2-26).

Code of Ordinances

Chapter 68, Noise Limitations, of the TRPA Code is intended to implement the Noise Subelement of the Goals and Policies document and to attain and maintain the TRPA Environmental Threshold Carrying Capacities (shown below).

TRPA Code Section 68.4, "Community Noise Levels," states that TRPA shall use CNELs to measure community noise levels and that Area Plans, PASs, and community plans, as appropriate, shall set forth CNELs that shall not be exceeded by any one activity or combination of activities. The CNELs set forth in the planning documents are based on the land use classification, the presence of transportation corridors, and the applicable threshold standard.

Placer County Tahoe Basin Area Plan

The Area Plan established maximum allowable community noise equivalent levels of 55 dBA CNEL for the North Tahoe High School Subdistrict, the area where the proposed Project and Alternative A are located.

STATE

California General Plan Guidelines

The State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (2017), provides guidance for the compatibility of projects within areas of specific noise exposure. Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used to derive local noise standards and guidance. Citing EPA materials and the State Sound Transmissions Control Standards, the State's general plan guidelines recommend interior and exterior CNEL of 45 and 60 decibels (dB) for residential units, respectively (OPR 2017:378).

California Department of Transportation

In 2013, Caltrans published the Transportation and Construction Vibration Manual (Caltrans 2013b). The manual provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage. Table 3.8-4 presents recommendations for levels of vibration that could result in damage to structures exposed to continuous vibration.

Table 3.8-4 Caltrans Recommendations Regarding Levels of Vibration Exposure

PPV (in/sec)	Effect on Buildings
0.4-0.6	Architectural damage and possible minor structural damage
0.2	Risk of architectural damage to normal dwelling houses
0.1	Virtually no risk of architectural damage to normal buildings
0.08	Recommended upper limit of vibration to which ruins and ancient monuments should be subjected
0.006-0.019	Vibration unlikely to cause damage of any type

Notes: PPV = Peak Particle Velocity; in/sec = inches per second

Source: Caltrans 2013b

LOCAL

Policies and ordinances of local agencies applicable to the project are described in this section.

Placer County

The Placer County General Plan Noise Element contains noise policies and standards (e.g., exterior and interior noise-level performance standards for new projects affected by or including non-transportation noise sources, and maximum allowable noise exposure levels for transportation noise sources) (Placer County 2013). The Placer County Noise Ordinance (Placer County Code Article 9.36) contains noise limits for sensitive receptors (Placer County 2004). The applicable policies and standards contained in the General Plan and Ordinance are summarized below. Placer County land use noise standards are shown in Table 3.8-5.

Placer County General Plan

Policies from the Placer County General Plan that are relevant to the project are described below.

- **Policy 9.A.2:** The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards [as shown below in Table 3.8-6] as measured immediately within the property line of lands designated for noise-sensitive uses.
- **Policy 9.A.5:** Where proposed non-residential land uses are likely to produce noise levels exceeding performance standards [as shown in Table 3.8-5] at existing or planned noise-sensitive uses, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design.

The maximum allowable noise exposure limits for transportation noise sources in Placer County are summarized in Table 3.8-5.

Placer County Noise Ordinance

Article 9.36, Noise, of the Placer County Code defines sound level performance standards for sensitive receptors. Relevant standards are listed below.

Article 9.36 Noise

Noise level standards for sensitive receptors from Placer County Code Article 9.36 are shown in Table 3.8-7 below. The ordinance states that it is unlawful for any person at any location to create any sound, or to allow the creation of any sound, on property owned, leased, occupied, or otherwise controlled by such a person that causes the exterior sound level, when measured at the property line of any affected sensitive receptor, to exceed the ambient sound level by 5 dB or exceed the sound level standards (as set forth in Table 3.8-7), whichever is greater.

Table 3.8-5 Placer County Allowable L_{dn} Noise Levels Within Specified Zone Districts[1] Applicable to New Projects Affected by or Including Non-Transportation Noise Sources

Zone District of Receptor	L_{dn} (dB) at Property Line of Receiving Use	Interior Spaces (dB)[2]
Residential Adjacent to Industrial[3]	60	45
Other Residential[4]	50	45
Office/Professional	70	45
Transient Lodging	65	45
Neighborhood/General Commercial/Shopping Center	70	45
Heavy Commercial/Limited Industrial/Highway Service	75	45
Industrial	-	45
Industrial Park	75	45
Industrial Reserve	-	-
Airport	-	45

Table 3.8-5 Placer County Allowable L_{dn} Noise Levels Within Specified Zone Districts[1] Applicable to New Projects Affected by or Including Non-Transportation Noise Sources

Zone District of Receptor	L_{dn} (dB) at Property Line of Receiving Use	Interior Spaces (dB)[2]
Unclassified	-	-
Farm/Agriculture Exclusive[6]	-	-
Recreation and Forestry	70	-

Notes: L_{dn}= Day-Night Noise Level; dB= decibels

Except where noted otherwise, noise exposures will be those which occur at the property line of the receiving use.

Where existing transportation noise levels exceed the standards of this table, the allowable L_{dn} shall be raised to the same level as that of the ambient level.

If the noise source generated by, or affecting, the uses shown above consists primarily of speech or music, or if the noise source is impulsive in nature, the noise standards shown above shall be decreased by 5 dB.

Where a use permit has established noise level standards for an existing use, those standards shall supersede the levels specified in this table. Similarly, where an existing use which is not subject to a use permit causes noise in excess of the allowable levels in this Table, said excess noise shall be considered the allowable level. If a new development is proposed which will be affected by noise from such an existing use, it will ordinarily be assumed that the noise levels already existing or those levels allowed by the existing use permit, whichever are greater, are those levels actually produced by the existing use.

Existing industry located in industrial zones will be given the benefit of the doubt in being allowed to emit increased noise consistent with the state of the art[5] at the time of expansion. In no case will expansion of an existing industrial operation because to decrease allowable noise emission limits. Increase emissions above those normally allowable should be limited to a one-time 5 dB increase at the discretion of the decision-making body.

The noise level standards applicable to land uses containing incidental residential uses, such as caretaker dwellings at industrial facilities and homes on agriculturally-zoned land, shall be the standards applicable to the zone district, not those applicable to residential uses.

Where no noise level standards have been provided for a specific zone district, it is assumed that the interior and/or exterior spaces of these uses are effectively insensitive to noise.

[1] Overriding policy on interpretation of allowable noise levels: Industrial-zoned properties are confined to unique areas of the County, and are irreplaceable. Industries which provide primary wage-earner jobs in the County, if forced to relocate, will likely be forced to leave the County. For this reason, industries operating upon industrial zoned properties must be afforded reasonable opportunity to exercise the rights/privileges conferred upon them be their zoning. Whenever the allowable noise levels herein fall subject to interpretation relative to industrial activities, the benefit of the doubt shall be afforded to the industrial use.

Where an industrial use is subject to infrequent and unplanned upset or breakdown of operations resulting in increased noise emissions, where such upsets and breakdowns are reasonable considering the type of industry, and where the industrial use exercises due diligence in preventing as well as correcting such upsets and breakdowns, noise generated during such upsets and breakdowns shall not be included in calculations to determine conformance with allowable noise levels.

[2] Interior spaces are defined as any locations where some degree of noise-sensitivity exists. Examples include all habitable rooms of residences, and areas where communication and speech intelligibility are essential, such as classrooms and offices.

[3] Noise from industrial operations may be difficult to mitigate in a cost-effective manner. In recognition of this fact, the exterior noise standards for residential zone districts immediately adjacent to industrial, limited industrial, industrial park, and industrial reserve zone districts have been increased by 10 dB as compared to residential districts adjacent to other land uses.

For purposes of the Noise Element, residential zone districts are defined to include the following zoning classifications:
AR, R-1, R-2, R-3, FR, RP, TR-1, TR-2, TR-3, and TR-4.

[4] Where a residential zone district is located within an -SP combining district, the exterior noise level standards are applied at the outer boundary of the -SP district. If an existing industrial operation within an -SP district is expanded or modified, the noise level standards at the outer boundary of the -SP district may be increased as described above in these standards.

Where a new residential use is proposed in an -SP zone, an Administrative Review Permit is required, which may require mitigation measures at the residence for noise levels existing and/or allowed by use permit as described under "Notes," above, in these standards.

[5] State of the art should include the use of modern equipment with lower noise emissions, site design, and plant orientation to mitigate offsite noise impacts, and similar methodology.

[6] Normally, agricultural uses are noise insensitive and will be treated in this way. However, conflicts with agricultural noise emissions can occur where single-family residences exist within agricultural zone districts. Therefore, where effects of agricultural noise upon residences located in these agricultural zones are a concern, an L_{dn} of 70 dB will be considered acceptable outdoor exposure at a residence.

Source: Placer County 2013

Table 3.8-6 Placer County Maximum Allowable Noise Exposure for Transportation Noise Sources

Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL	L_{dn}/CNEL	L_{eq}, dB[2]
Residential	60[3]	45	
Transient Lodging	60[3]	45	
Hospitals, Nursing Homes	60[3]	45	
Theaters, Auditoriums, Music Halls			35
Churches, Meeting Halls	60[3]		40
Office Buildings			45
Schools, Libraries, Museums			45
Playgrounds, Neighborhood Parks	70		

Notes: CNEL = community noise equivalent level

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: Placer County General Plan 2013

Table 3.8-7 Placer County Noise Ordinance Noise Level Standards for Sensitive Receptors[1, 2]

Sound Level Descriptor (dB)	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly L_{eq}	55	45
L_{max}	70	65

Notes: dB = decibel

[1] Each of the sound level standards specified in this table shall be reduced by five dB for simple tone noises, consisting of speech and music. However, in no case shall the sound level standard be lower than the ambient sound level plus five dB.

[2] If the intruding sound source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient sound level can be measured, the sound level measured while the source is in operation shall be compared directly to the sound level standards in this table.

Source: Placer County 2004

Each of the sound level standards specified in Table 13-7 shall be reduced by 5 dB for simple tone noises, consisting of speech and music. However, in no case shall the sound level standard be lower than the ambient sound level plus 5 dB.

Section 9.36.030 Exemptions

According to Section 9.36.030, "Exemptions," some noise-generating activities are exempt from the above noise ordinance standards. These are listed below.

- Construction that is performed between 6:00 a.m. and 8:00 p.m., Monday through Friday, and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday, provided that all construction equipment is fitted with factory-installed muffler devices and maintained in good working order.

- Emergencies involving the execution of the duties of duly authorized governmental personnel and others providing emergency response to the general public, including but not limited to sworn peace officers, emergency personnel, utility personnel, and the operation of emergency response vehicles and equipment.

17.02.050 Interpretation

According to Section 17.02.050, "Interpretation," when conflicts occur between county standards and standards adopted by ordinance in any applicable community plans, including those areas within the jurisdiction of TRPA, the provisions of the community plans shall apply.

3.8.3 Environmental Setting

EXISTING NOISE ENVIRONMENT

Existing Noise- and Vibration-Sensitive Land Uses

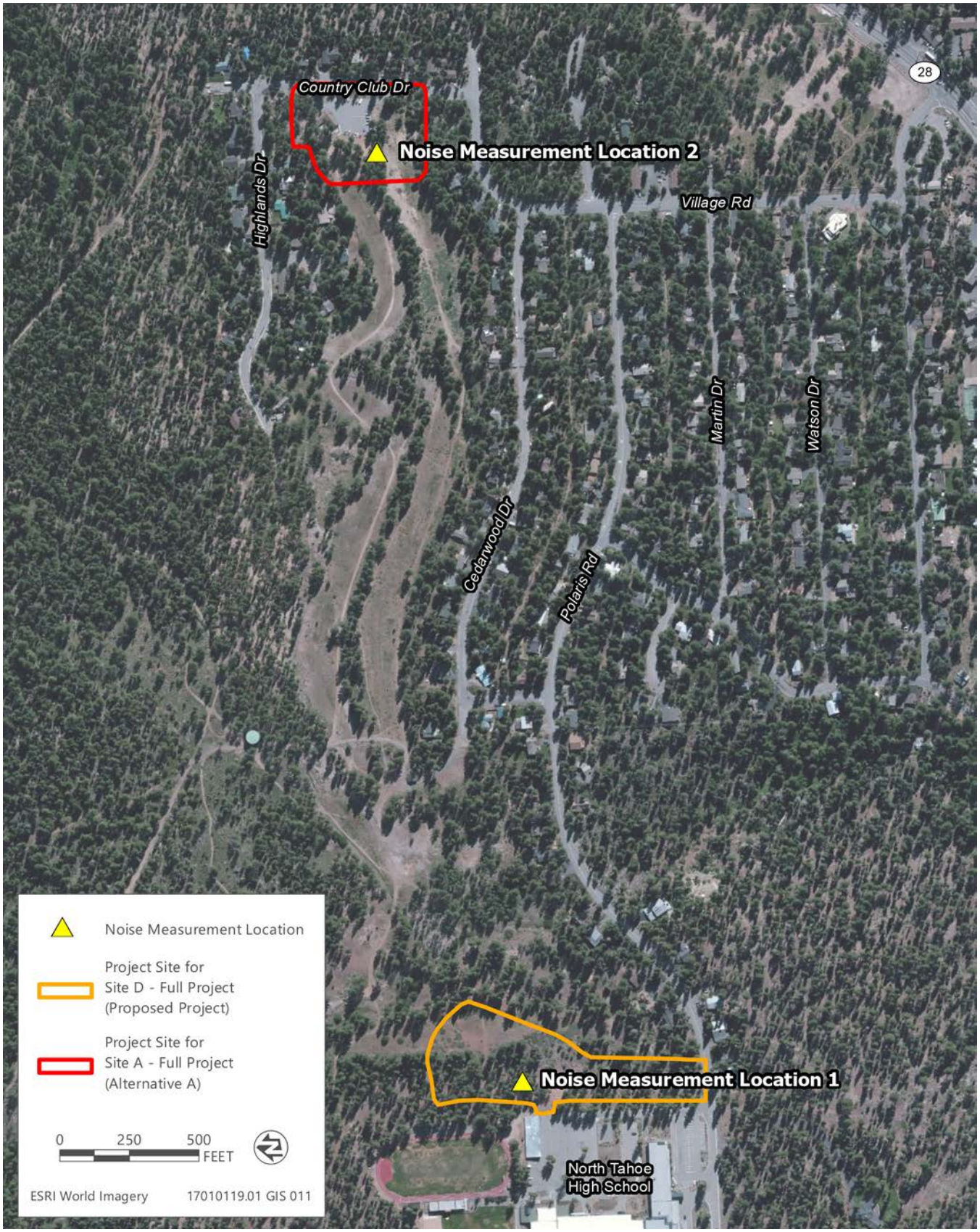
Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Additional land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels. These land use types are also considered vibration-sensitive land uses in addition to commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

Existing noise sensitive receptors nearest to the proposed Project site include a residence located 370 feet south of the Schilling Lodge and parking lot, along Polaris Road, the North Tahoe High School located approximately 335 feet to the west, and the North Middle School located approximately 480 feet to the west. The access driveway to the proposed Project site is an estimated 200 feet of the closest residence. The nearest sensitive receptors to the Alternative A site include residences located approximately 120 feet north of this site and 120 feet east of this site, across Country Club Drive.

Existing Noise Sources and Ambient Levels

To characterize the existing ambient noise environment at the project site, long-term, multiple-day, ambient noise level measurements were conducted at the proposed Project site and the Alternative A site locations in the project area between August 23, 2018 and August 31, 2018. The locations of the noise monitoring sites are shown in Figure 3.8-1. A Larson Davis Laboratories LXT precision integrating sound level meter was used for the ambient noise level measurement surveys. The meter was calibrated before use with Larson Davis Laboratories Model CAL200 acoustical calibrator to ensure measurement accuracy. The measurement equipment meets all pertinent specifications of the American National Standards Institute. The results of the ambient noise measurement survey are summarized in Table 3.8-8.

The predominant noise source in the project area is vehicle traffic on the surrounding roadway network (e.g., State Route [SR] 28, Polaris Road, Village Drive, and Old Mill Road). Existing traffic noise levels on roadway segments in the project area were modeled using calculation methods consistent with FHWA Traffic Noise Model, Version 2.5 (FHWA 2004) and using average daily traffic (ADT) volumes provided in the traffic analysis conducted by LSC Transportation Consultants, Inc (see Appendix C). Table 3.8-9 summarizes the modeled existing traffic noise levels at 100 feet from the centerline of each area roadway segments, and lists distances from each roadway centerline to the 65, 60, and 55 CNEL traffic noise contours. For further details on traffic-noise modeling inputs and parameters, refer to Appendix E.



Source: Adapted by Ascent Environmental in 2019

Figure 3.8-1 Noise Measurement Locations

Table 3.8-8 Summary of Existing Ambient Noise Measurements

Location[1]	Date and Time	A-Weighted Sound Level (dB)		
		CNEL	L_{eq} Range	Average L_{eq}
1 (Proposed Project Site)	Started on August 23, 2018 at 12:49 p.m. and ended on August 28, 2018 at 6:58 a.m.	Day 1: 42.1 Day 2: 44.6 Day 3: 42.0 Day 4: 43.1	22.0 to 36.4	36.4
2 (Alternative A Site)	Started on August 28, 2018 at 1:34 p.m. and ended on August 31, 2018 at 9:35 a.m.	Day 1: 42.5 Day 2: 41.5	23.0 to 46.0	36.5

[1] Refer to Figure 3.8-1 for ambient noise level measurement locations

Source: Data collected by Ascent Environmental in 2018

Table 3.8-9 Summary of Modeled Existing Traffic Noise Levels

Roadway Segment/Segment Description	CNEL at 100 feet from Roadway Centerline	Distance (feet) from Roadway Centerline to CNEL Contour		
		65	60	55
Winter Weekday				
Village Road, between Polaris Road and Country Club Drive	45.1	5	10	22
Old Mill Road, North of SR 28	44.4	4	9	20
Polaris Road from Village Drive to Old Mill Road	46.7	6	13	28
Polaris Road, East of North Tahoe High School	49.5	9	20	43
Winter Weekend/Holiday				
Village Road, between Polaris Road and Country Club Drive	47.2	7	14	30
Old Mill Road, North of SR 28	37.7	2	3	7
Polaris Road from Village Drive to Old Mill Road	38.0	2	3	7
Polaris Road, East of North Tahoe High School	40.7	2	5	11
Summer Daily				
Village Road, between Polaris Road and Country Club Drive	44.3	4	9	19
Old Mill Road, North of SR 28	45.7	5	11	24
Polaris Road from Village Drive to Old Mill Road	41.1	3	5	12
Polaris Road, East of North Tahoe High School	40.7	2	5	11
State Route 28 (east/west of site)	59.7	44	96	206

Notes: CNEL = Community Noise Equivalent Level

All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow, and does not account for shielding of any type or finite roadway adjustments. All noise levels are reported as A-weighted noise levels. For additional details, refer to Appendix E for detailed traffic data, and traffic-noise modeling input data and output results.

Source: Data modeled by Ascent Environmental in 2019

3.8.4 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

Construction Noise and Vibration

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposure were identified. Project-generated construction source noise and vibration levels were determined based on methodologies, reference emission levels, and usage factors from FTA's *Guide on Transit Noise and Vibration Impact Assessment* methodology (FTA 2006) and FHWA's *Roadway Construction Noise Model User's Guide* (FHWA 2006). Reference levels for noise and vibration emissions for specific equipment or activity types are well documented and the usage thereof common practice in the field of acoustics.

Operational Noise

With respect to non-transportation noise sources (e.g., stationary) associated with project implementation, the assessment of long-term (operational-related) impacts was based on reconnaissance data, reference noise emission levels, and measured noise levels for activities associated with project operation (e.g., outdoor events, amplified sound), and standard attenuation rates and modeling techniques.

To assess potential long-term (operation-related) noise impacts resulting from project-generated increases in traffic, noise levels were estimated using calculations consistent with the Federal Highway Administration's Traffic Noise Model Version 2.5 (FHWA 2004) and project-specific traffic data (Appendix C). The analysis is based on the reference noise emission levels for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and ground attenuation factors. Note that the modeling conducted does not account for any natural or human-made shielding (e.g., the presence of walls or buildings) or reflection off building surfaces.

SIGNIFICANCE CRITERIA

CEQA Criteria

In accordance with Appendix G of the State CEQA Guidelines, the Project would result in a significant impact if it would:

- generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards; or
- generate excessive groundborne vibration or groundborne noise levels.

TRPA Criteria

Based on the TRPA Initial Environmental Checklist, impacts from the Project would be significant if it would:

- result in an increase in existing CNEL beyond those permitted in the applicable Plan Area Statement, Community Plan, or Master Plan;
- result in the exposure of people to severe noise levels;
- result in the placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses; or
- result in exposure of existing structures to levels of ground vibration that could result in structural damage.

Considering the CEQA and TRPA Checklist described above, both established for the purpose of identifying potential noise impacts, the following significance criteria will be used to evaluate noise impacts from the project. Therefore, a noise impact is considered significant if implementation of the project would result in any of the following:

- **Construction noise:** a substantial temporary increase in ambient noise levels in the project vicinity above levels existing without the project (i.e., construction noise levels that impact noise-sensitive receptors during non-daylight hours, for which construction noise is not exempt from TRPA's noise standards);
- **Construction vibration:** vibration levels exceeding Caltrans's recommended standards, shown in Table 3.8-4, with respect to the prevention of structural building damage (0.2 in/sec PPV for normal) or FTA's GBV Impact Criteria for General Assessment (Table 3.8-3) for evaluating human response (80 VdB for residential uses) at nearby existing vibration-sensitive land uses;
- **Operational stationary noise:** increase existing noise levels beyond those permitted in the Area Plan of 55 dBA CNEL; or
- **Operational traffic noise:** a substantial permanent increase in ambient noise levels in the project vicinity of the project in excess of TRPA roadway corridor standards of 55 dBA CNEL for SR 28 or Area Plan standard of 55 dBA CNEL. For roadways that currently exceed applicable standards, project-generated increases in noise would be considered substantial if they exceed 3 dB.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.8-1: Construction Noise

The proposed Project and Alternative A would result temporary construction-related noise. However, the project would comply with TRPA-required conditions of approval, limiting construction activities from 8:00 a.m. and 6:30 p.m., daily. Therefore, existing nearby sensitive receptors would not be substantially affected by construction noise and the proposed Project and Alternative A would have a **less-than-significant** impact related to temporary increases in noise.

Proposed Project

Construction activities for the proposed Project would result in short-term noise during grading and site preparation, paving activities, and building construction, all of which require the use of heavy-duty equipment that generate varying noise levels. Construction-generated noise levels would fluctuate depending on the type, number, and duration of equipment used. The effects of construction noise largely depend on the type of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment at nearby receptors. Construction equipment would vary by phase, but the entire construction process would include operation of dozers, excavators, loaders/backhoes, paving equipment, forklifts, and haul trucks. Noise generated from these pieces of equipment would be intermittent and short as typical use is characterized by periods of full-power operation followed by extended periods of operation at lower power, idling, or powered-off conditions.

The grading and site preparation phase typically generates the most substantial noise levels because the onsite equipment associated with grading, compacting, and excavation are the noisiest. Site preparation equipment and activities include graders, dozers, and excavators. Because this is typically the loudest phase, it was assumed that one grader, one dozer, and one excavator could be operating simultaneously, generating the loudest anticipated noise levels for the overall construction activities. Noise emission levels from these types of construction equipment are shown in Table 3.8-10.

Table 3.8-10 Noise Levels Generated by Typical Construction Equipment

Equipment Type	Maximum Noise Level (dB L_{max}) at 50 feet[1]	Hourly Noise Level (dB L_{eq}) at 50 feet[1,2]
Grader	85	81
Dozer	85	81
Loader	80	76
Combined Noise Level at 50 feet	88.6	84.7

Notes: dB = decibels; L_{max} = maximum sound level; L_{eq} = equivalent continuous sound level

[1] Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacturer-specified noise levels for each piece of heavy construction equipment.

[2] Assumes typical usage factors.

Source: Federal Transit Administration 2006; data modeled by Ascent Environmental 2019

Based on the reference noise levels listed in Table 3.8-10 and accounting for typical usage factors for each piece of equipment, onsite construction activities could generate a combined average noise level of approximately 85 dB L_{eq} and 89 dB L_{max} at 50 feet from the Schilling Lodge and parking areas.

The daytime noise exposure level was estimated for the closest noise-sensitive receptor that could be adversely affected by construction noise. The attenuated noise levels at existing noise sensitive receptors (i.e., North Tahoe High School located 335 feet from the proposed Project site and a residence located 370 feet south of the Schilling Lodge and parking lot, along Polaris Road), would be approximately 63 dBA L_{eq}/67 dBA L_{max} and 62 dBA L_{eq}/66 dBA $L_{max,}$ respectively. Construction noise at the residence closest to construction of the proposed Project site driveway (about 200 feet) would be approximately 69 L_{eq}/73 dBA L_{max}. These estimates are conservative because the modeling assumes that the noise-generating equipment would operate simultaneously in proximity to each other, combining to affect the same receptor location. Detailed inputs and parameters for the estimated construction noise attenuation calculations are provided in Appendix E.

Note that the aforementioned estimated noise levels at the North Tahoe Middle School and North Tahoe High School would exceed Placer County daily L_{eq} noise standards of 55 dba, but not their L_{max} standards of 70 dBA. Construction noise at the closest residence could exceed the Placer County L_{max} standard briefly during construction of the access driveway. Nonetheless, and as discussed in Section 2.5.3, "Construction Schedule and Activities" under Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail," construction activities would be limited to the less noise-sensitive hours (e.g., daytime) of 8:00 a.m. to 6:30 p.m., daily, consistent with TRPA standard conditions of approval. In addition, these time limits would be within the daytime hours identified by Placer County, and therefore would not conflict with applicable local standards.

When evaluating potential noise impacts, temporary short-term noise occurring during the less sensitive times of the day, when people are active, out of their homes, or otherwise not sleeping, are generally considered less of a nuisance and less likely to disrupt sleep, or otherwise result in significant noise exposure. Thus, considering that construction activities would occur during the daytime hours, in accordance with typical TRPA-required conditions of approval limiting construction activities from 8:00 a.m. and 6:30 p.m., overall construction activities would be temporary, construction noise would fluctuate, and the loudest levels would occur for a shorter duration than the overall construction duration, and therefore, existing nearby sensitive receptors would not be substantially affected by construction noise. The proposed Project would not result in a substantial temporary increase in noise that exceeds a local (i.e., TRPA, Placer County) noise standard and this impact would be **less than significant**.

Alternative A

The Alternative A would include construction of a new lodge and parking lot similar to that described for the proposed Project, with the addition of some demolition activities associated with removal of the existing Highlands Community Center. Nonetheless, the equipment types and anticipated loudest construction activity would be the

same as described above for the proposed Project. Therefore, reference noise levels for construction activities shown above in Table 3.8-10 are used for this analysis as well.

Based on the reference noise levels listed in Table 3.8-10 and accounting for typical usage factors for each piece of equipment, onsite construction activities for the Alternative A could generate a combined average noise level of approximately 85 dB L_{eq} and 89 dB L_{max} at 50 feet from the Schilling Lodge and parking areas. The nearest sensitive receptors to the Alternative A site include residences located approximately 120 feet north of the site and 120 feet east of the site, across Country Club Drive. The daytime noise exposure level was estimated for these receptor locations (i.e., a residence located 120 feet from the site), and the attenuated noise would be approximately 75 dBA L_{eq} and 79 dBA L_{max}. These estimates are conservative because the modeling assumes that the noise-generating equipment would operate simultaneously in proximity to each other, combining to affect the same receptor location. Detailed inputs and parameters for the estimated construction noise attenuation calculations are provided in Appendix E.

Similar to the discussion above for the proposed Project, construction activity for Alternative A would be limited from 8:00 a.m. and 6:30 p.m. daily, overall construction activities would be temporary, construction noise would fluctuate, and the loudest levels would occur for a shorter duration than the overall construction duration, and therefore, existing nearby sensitive receptors would not be substantially affected by construction noise.

Alternative A would not result in a substantial temporary increase in noise that exceeds a local (i.e., TRPA, Placer County) noise standard and this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.8-2: Construction Vibration

The proposed Project and Alternative A would result in temporary construction-related vibration. However, sensitive receptors and structures are located beyond distances that could result in disturbance or structural damage. Further, construction activities would be limited to the less sensitive times of the day. Therefore, existing nearby sensitive receptors would not be substantially affected by construction vibration and the proposed Project and Alternative A would have a **less-than-significant** impact from temporary increases in vibration.

Proposed Project

Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, result in low rumbling sounds and detectable vibrations at moderate levels, and, at high-levels, can cause annoyance and sleep disturbance.

Proposed project construction would include various types of equipment including, excavators, dozers, cranes, loaders, trucks, and others. Primary sources of vibration during construction activities is generally associated with pile driving and blasting, none of which are proposed for this project. Therefore, this analysis focusses on other large equipment such as dozers.

According to FTA, vibration levels associated with typical dozers are 0.089 in/sec PPV and 87 VdB at 25 feet. Based on FTA's recommended procedure for applying a propagation adjustment to these reference levels, vibration levels from grading equipment could exceed Caltrans recommended level of 0.2 in/sec PPV with respect to the structural damage within 15 feet of construction activities and could exceed FTA's maximum acceptable level of 80 VdB with respect to human response within 45 feet of construction activities. The closest existing residences and schools are located between 200 and 480 feet from proposed construction activity, and therefore, would not be exposed to vibration levels that could cause structural damage or disturb people. Further, as discussed above in Impact 3.8-1, construction activity would take place during the less sensitive daytime hours. This impact would be **less than significant**.

Alternative A

The Alternative A would include construction of a new lodge and parking lot similar to that described for the proposed Project, with the addition of some demolition activities associated with removal of the existing Highlands Community Center. Nonetheless, the equipment types and anticipated greatest source of vibration would be the same as described above for the proposed Project.

According to FTA, vibration levels associated with typical dozers are 0.089 in/sec PPV and 87 VdB at 25 feet. Based on FTA's recommended procedure for applying a propagation adjustment to these reference levels, vibration levels from grading equipment could exceed Caltrans recommended level of 0.2 in/sec PPV with respect to the structural damage within 15 feet of construction activities and could exceed FTA's maximum acceptable level of 80 VdB with respect to human response within 45 feet of construction activities. Existing residences are located approximately 120 feet from proposed construction activity at the Alternative A site, and therefore, would not be exposed to vibration levels that could cause structural damage or disturb people. Further, as discussed above in Impact 3.8-1, construction activity would take place during the less sensitive daytime hours. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.8-3: Operational Event Noise

The proposed Project and Alternative A would be similar to what occurs in the project vicinity now. long-term increases in noise associated with outdoor recreational and sporting events at the Schilling Lodge. The increases in noise would not exceed applicable Area Plan noise standards (i.e., 55 dBA CNEL). Use of amplified sound would be required to comply with TCPUD rules and regulations and Placer County noise ordinance for operating hours; however, the use of amplified sound at the Schilling Lodge could result in exposure of sensitive receptors to noise levels that exceed the Placer County daytime (7:00 a.m. to 10:00 p.m.) noise standard of 50 dBA L_{eq} for amplified sound sources. This impact would be **significant** for the proposed Project and Alternative A.

Proposed Project

The Schilling Lodge would provide internal and external space for a variety of uses and events. Regarding long-term increases in operational noise, the primary (i.e., loudest) noise sources would be associated with community, private, and special events occurring at the Schilling Lodge. Events that could occur at the Schilling Lodge would be similar in nature to events that currently occur at the existing Highlands Community Center, located at the Alternative A site. The Schilling Lodge location would be adjacent to the North Tahoe High School and associated outdoor sporting facilities that currently host regular outdoor sporting events.

Of all types of events that could occur at the Schilling Lodge, premier events such as ski races, bike races, and other recreational events would generate the most people and associated noise. Noise sources would generally include people talking, cheering, and children playing. Other smaller events include meetings of various local private groups (e.g., Boy Scouts, homeowners' association meetings, business meetings, private gatherings, weddings), but these events would typically take place indoor and would not generate noise that could disturb nearby residents. Outdoor events could include the use of amplified sound as well. The focus of this analysis is noise associated with large, occasional sporting/recreational events and the use of amplified speakers.

As discussed above, noise measurements were conducted at the proposed Project site and vicinity. During the duration of the measurements conducted at the proposed Project site, the first day of school at the North Tahoe High School was captured. Measurements conducted at the Alternative A site captured noise associated with a big mountain bike event and an adult softball game in the evening. Based on the measurements conducted, for these temporary events, hourly noise levels ranged from approximately 22 dBA L_{eq} to 44 dBA L_{eq} and CNEL noise levels ranged from 42.0 dBA CNEL to 44.6 dBA CNEL. Considering that the measurement location was approximately in the center of the proposed Project site, recorded noise levels would be representative of the loudest noise generated during these types of events.

Future, similar events that could occur at the proposed Project site would not result in noise levels that exceed 55 dBA CNEL, the applicable maximum allowable noise standard set by the Area Plan. Nonetheless, it is important to note that these noise-generating activities would be temporary in nature, having minimal effect on existing CNEL levels. In addition, noise associated with the recreational facilities would be similar to what occurs in the project vicinity now. Further, the TRPA Code of Ordinances exempts certain outdoor events (e.g., concerts, races), provided they comply with daytime (8:00 a.m. to 10:00 p.m.) and event duration requirements. Therefore, exempt activities would not be subject to compliance with adopted CNEL noise levels or be included in ambient noise measurements to establish CNEL attainment. All events would be required to comply with TCPUD rental agreement rules and regulations to hold an event at the Schilling Lodge. Consistent with standard TCPUD rules and regulations, events would be required to take place during normal operating hours (i.e., 8:00 a.m. to 10:00 p.m.).

In addition to event noise described above, amplified sound could be used during certain events. Similar to the discussion above for special events, use of the speaker would comply with TCPUD rules and regulations, thus operating during the daytime hours (i.e., 8:00 a.m. to 10:00 p.m.), and within Placer County daytime hours of 7:00 a.m. to 10:00 p.m. Thus, this analysis only considers Placer County's daytime standards for sensitive receptors.

Reference noise levels for an outdoor speaker at a similar land use were used in this analysis. A loud speaker facing away from the receiving land use was measured at 60.6 dBA at 75 feet and when directed toward the receiving land use, measured at 76.0 dBA L_{eq} at 75 feet (WJV Acoustics 2016). Considering these reference noise levels, noise from the outdoor speaker would attenuate, from distance alone, to 59.1 dBA L_{eq} at the North Tahoe High School (i.e., 335 feet from the proposed Project site) and 58.0 dBA L_{eq} at the nearest residential receptor (i.e., 370 feet from the proposed Project site), exceeding the Placer County daytime noise standard of 50 dBA L_{eq} (adjusted down 5 dB for amplified sound sources).

With implementation of the proposed Project, TCPUD would continue to operate the existing community center, which could include small events and meetings similar to those that occur today. The proposed Project would not result in an increase in the number or types of events that could occur at the existing community center; thus, there would be no operational noise impacts at the existing community center.

Project-generated long-term noise associated with amplified sound at the Schilling Lodge could result in exposure of sensitive receptors to noise levels that exceed the Placer County daytime (7:00 a.m. to 10:00 p.m.) noise standard of 50 dBA L_{eq} for amplified sound sources. This impact would be **significant**.

Alternative A

With the Alternative A, existing activities occurring at the Highlands Community Center would continue to occur but would increase in frequency compared to existing conditions. The events and associated noise sources that would occur at the Alternative A site would be the same as those described above for the proposed Project, and therefore, reference noise levels discussed above would be the same. Because noise levels associated with existing events do not exceed applicable standards (i.e., 55 dBA CNEL), and future events would be similar to existing events, project-generated increases in noise would not be anticipated to result in a substantial increase in noise such that applicable standards would be exceeded. However, the use of amplified sound attenuated to the nearest receptor from the Highlands Community Center site (i.e., 120 feet away) would result in noise levels of 70.6 dBA L_{eq}, exceeding Placer County's daytime (7:00 a.m. to 10:00 p.m.) standard for sensitive receptors. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.8-3 Minimize Amplified Sound

This mitigation measure would apply to the proposed Project.

- Building design and layout shall be such that any outdoor amplified speakers face away from offsite sensitive land uses and oriented/located such that the building structure is between the receiving land use and the attached speaker. Building design, layout, and final speaker location shall be identified in final site plans and approved by Placer County before issuance of building permits.

- To ensure receiving land uses are not exposed to noise levels that exceed Placer County daytime noise standards of 50 dBA L_{eq}, outdoor speakers shall be tuned such that combined noise levels from all proposed speakers do not exceed 71 dBA L_{eq} at 50 feet from the source. Sound levels shall be measured in accordance with Placer County Code Chapter 9.36.040 and proof of acceptable noise levels shall be provided to Placer County at the time of final building inspection.

This mitigation measure would apply to Alternative A.

- Building design and layout shall be such that any outdoor amplified speakers face away from offsite sensitive land uses and oriented/located such that the building structure is between the receiving land use and the attached speaker. Building design, layout, and final speaker location shall be identified in final site plans and approved by Placer County before issuance of building permits.
- To ensure receiving land uses are not exposed to noise levels that exceed Placer County daytime noise standards of 50 dBA L_{eq}, outdoor speakers shall be tuned such that combined noise levels from all proposed speakers do not exceed 59 dBA L_{eq} at 50 feet from the source. Sound levels shall be measured in accordance with Placer County Code Chapter 9.36.040 and proof of acceptable noise levels shall be provided to Placer County at the time of final building inspection.

Significance after Mitigation

Implementation of Mitigation Measure 3.8-3 would require building design to act as a barrier between amplified sound sources and receiving land uses, reducing the noise levels at receiving land uses. Further, additional requirements for speakers to meet performance standards (i.e., 71 dBA L_{eq} for the proposed Project and 59 dBA L_{eq} for Alternative A) would ensure that noise levels would attenuate to below Placer County noise standards at receiving land uses. Impacts would be reduced to **less than significant**.

Impact 3.8-4: Operational Traffic Noise

The proposed Project and Alternative A would result in traffic, and associated noise, increases along local roads and SR 28, with the greatest increase occurring during the summer months of the year. However, traffic noise increases would not result in an increase that exceeds applicable Area Plan noise standards (i.e., 55 dBA CNEL) and no increase in noise would occur on SR 28. Therefore, the proposed Project and Alternative A would have a **less-than-significant** impact from long-term increases in traffic noise.

Proposed Project

The Area Plan establishes a 55 dBA CNEL noise standard as the maximum allowable noise exposure level, to preserve the serene environment and protect the health of people and wildlife. In addition, TRPA has established maximum allowable noise levels for major roadways in the basin, including a 55 dBA CNEL standard for SR 28. Because these standards are designed to protect and enhance the character of the project area, projects that do not result in noise levels that exceed these standards would not result in negative impacts to residences, visitors, or the overall ambient character of the project vicinity. Thus, traffic-noise increases, perceptible or not, that remain below these standards would not result in exposure of people to severe noise levels and are the basis for this analysis.

The proposed Project would result in increases in traffic and associated traffic noise as a result of events taking place at the new lodge. Visitation at the lodge is and would continue to be driven by the cross-country ski trails, use of the trails in the summer, special and other events at the lodge and would not be driven by the lodge itself. Thus, the traffic analysis assumes a conservative 10 percent increase in the daily visitation at the lodge over existing conditions. Traffic noise modeling was conducted for existing and existing plus project conditions during the winter and summer months. Existing, existing plus project, and the net change as a result of the proposed Project are shown below in Table 3.8-11.

Based on the modeling conducted, in all cases, with the exception of SR 28, traffic noise levels would not exceed 55 dBA CNEL. Regarding SR 28, traffic increases would be so minimal that traffic noise would not increase from existing conditions. Thus, based on the modeling conducted, project-generated increases in long-term traffic noise would not result in an increase in noise levels that exceed any applicable local standard or expose people to severe noise levels. This impact would be **less than significant**.

Table 3.8-11 Summary of Modeled Existing and Existing Plus Proposed Project Traffic Noise Levels

Roadway Segment/Segment Description	CNEL at 100 Feet from Roadway Centerline		
	Existing	Existing Plus Proposed Project	Change
Winter Weekday			
Village Road, between Polaris Road and Country Club Drive	45.1	43.6	-1.5
Old Mill Road, North of SR 28	44.4	45.4	+0.9
Polaris Road from Village Drive to Old Mill Road	46.7	47.6	+0.9
Polaris Road, East of North Tahoe High School	49.5	50.3	+0.8
Winter Weekend/Holiday			
Village Road, between Polaris Road and Country Club Drive	47.2	44.9	-2.3
Old Mill Road, North of SR 28	37.7	42.6	+4.9
Polaris Road from Village Drive to Old Mill Road	38.0	44.1	+6.1
Polaris Road, East of North Tahoe High School	40.7	46.4	+5.6
Summer Daily			
Village Road, between Polaris Road and Country Club Drive	44.3	36.9	-7.4
Old Mill Road, North of SR 28	45.7	44.6	-1.2
Polaris Road from Village Drive to Old Mill Road	41.1	43.8	+2.6
Polaris Road, East of North Tahoe High School	40.7	47.2	+6.4
State Route 28 (East/West of the proposed Project site)	59.7	59.7	0.0

Notes: CNEL = Community Noise Equivalent Level

All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow, and does not account for shielding of any type or finite roadway adjustments. All noise levels are reported as A-weighted noise levels. For additional details, refer to Appendix E for detailed traffic data, and traffic-noise modeling input data and output results.

Source: Data modeled by Ascent Environmental in 2019

Alternative A

Similar to the discussion above for the proposed Project, Alternative A would also result in slight increases in traffic. However, because there is an existing similar use at the Alternative A site, increases under this alternative would be less in comparison to the proposed Project. Traffic noise modeling was also conducted for this alternative and is shown below in Table 3.8-12.

Based on the modeling conducted, on all roadway segments, with the exception of SR 28, traffic noise levels would not exceed 55 dBA CNEL. Regarding SR 28, traffic increases would be so minimal that traffic noise would not increase from existing conditions. Thus, based on the modeling conducted, project-generated increases in long-term traffic noise would not result in an increase in noise levels that exceed any applicable local standard or expose people to severe noise levels. This impact would be **less than significant**.

Table 3.8-12 Summary of Modeled Existing and Existing Plus Alternative A Traffic Noise Levels

Roadway Segment/Segment Description	CNEL at 100 Feet from Roadway Centerline		
	Existing	Existing Plus Alternative A Site	Change
Winter Weekday			
Village Road, between Polaris Road and Country Club Drive	45.1	45.8	0.7
Old Mill Road, North of SR 28	44.4	44.4	0.0
Polaris Road from Village Drive to Old Mill Road	46.7	46.7	0.0
Polaris Road, East of North Tahoe High School	49.5	49.5	0.0
Winter Weekend/Holiday			
Village Road, between Polaris Road and Country Club Drive	47.2	47.8	0.6
Old Mill Road, North of SR 28	37.7	37.7	0.0
Polaris Road from Village Drive to Old Mill Road	38.0	38.0	0.0
Polaris Road, East of North Tahoe High School	40.7	40.7	0.0
Summer Daily			
Village Road, between Polaris Road and Country Club Drive	44.3	46.4	2.1
Old Mill Road, North of SR 28	45.7	45.7	0.0
Polaris Road from Village Drive to Old Mill Road	41.1	41.7	0.0
Polaris Road, East of North Tahoe High School	40.7	40.7	0.0
State Route 28 (East/West of the Alternative A site)	59.7	59.7	0.0

Notes: CNEL = Community Noise Equivalent Level

All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow, and does not account for shielding of any type or finite roadway adjustments. All noise levels are reported as A-weighted noise levels. For additional details, refer to Appendix E for detailed traffic data, and traffic-noise modeling input data and output results.

Source: Data modeled by Ascent Environmental in 2019

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

Construction Noise and Vibration Levels

Impacts related to short-term project-related construction noise and vibration levels are localized in nature, based on audibility and distance to sensitive receptors. The proposed Project and Alternative A potential construction noise and vibration impacts are discussed in Impacts 3.8-1 and 3.8-2, above. The construction noise and vibration sources from construction of the proposed Project in conjunction with other cumulative projects would not accumulate to cause broader environmental impacts, so by their nature, cumulative impacts would not occur. Therefore, the contribution of construction noise and vibration from the proposed Project or Alternative A **would not be cumulatively considerable**.

Operational Event Noise

Noise generated by outdoor events and gatherings at the Schilling Lodge would primarily influence the immediate project vicinity, as noise levels would diminish at increasing distances from the source. Further, anticipated noise levels from the events would not exceed applicable standards, and therefore, noise levels at increasing distance from the proposed Project site and Alternative A site would be even lower, thus would not combine with other area sources. Further, events at the Schilling Lodge would be infrequent and temporary and would implement Mitigation Measure 3.8-3 that would require amplified noise at events to meet performance standards to ensure that noise levels would be below Placer County noise standards and reduce the impact to a less-than-significant level. Considering the anticipated low noise volumes described in Impact 3.8-3, above, and the temporary and infrequent nature of the events, noise would not combine with noise sources from cumulative projects to result in substantial increases in noise. Therefore, the contribution from the proposed Project or Alternative A **would not be cumulatively considerable**.

Operational Traffic Noise

Operation of the project would result in additional traffic on local roads associated with events taking place at the Schilling Lodge as described in Impact 3.8-4, above. In the future cumulative scenario, additional growth and development is anticipated associated with the cumulative projects in Table 3.1-2 that would likely also result in additional traffic on local and regional roadways. However, traffic increases associated with the proposed Project are directly associated with the anticipated size of the events being held at the lodge, which would not change in the cumulative scenario. Visitation at the lodge is and would continue to be driven by the cross-country ski trails, use of the trails in the summer, special and other events at the lodge and would not be driven by the lodge itself. Thus, the traffic analysis assumes a conservative 10 percent increase in the daily visitation at the lodge over existing conditions. Additionally, for the proposed Project, there would be a minor change in travel routes for accessing the Schilling Lodge instead of the Existing Lodge, which would redistribute some of the vehicle trips in the Highlands neighborhood. Thus, similar to the project-level noise analysis for the proposed Project and Alternative A in Impact 3.8-4, project-generated traffic increases in the future cumulative scenario would not result in traffic noise that exceeds established local standards. Therefore, the contribution from the proposed Project or Alternative A **would not be cumulatively considerable.**

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File Contents

Appendices

Figures

Tables

Acronyms/Abbreviations

moved to TOC

Citations

Yellow = confusing (sequential lettering doesn't match, years don't match, misspellings, etc.)
Green = matched reference
Aqua = missing full reference
Pink = no citation in text

Caltrans 2013a
Caltrans 2013b
Egan 2007
FHWA 2004
FHWA 2006
Foothill Airport Land Use Commission 2004
FTA 2006
OPR 2017
Placer County 2004
Placer County 2013

TRPA 2012a
TRPA 2016
WJV Acoustics 2016

3.9 GEOLOGY, SOILS, LAND CAPABILITY, AND COVERAGE

This section contains an evaluation of the potential impacts to geology, soils, land capability, and coverage associated with the implementation of the Project. The analysis includes a description of existing conditions and an analysis of changes to geologic conditions, relevant soil properties, and associated elements of land capability and coverage. Comments received in response to the Notice of Preparation related to geology, soils, land capability, and coverage requested that the document include an analysis of impacts related to soils and the potential effects of an increase in land coverage.

Regulations and guidelines established by the Tahoe Regional Planning Agency (TRPA) and local jurisdictions, along with the California Environmental Quality Act (CEQA) statute and guidelines, provide the regulatory background that guides the assessment of potential environmental effects to these resources. Other sources of information used in the preparation of this section include the California Geological Survey (CGS) and U.S. Geological Survey (USGS) technical guides, the Natural Resources Conservation Service (NRCS) 2007 Soil Survey, TRPA's 2010 aerial LIDAR data, TRPA regulations and planning documents, background reports prepared for plans and projects in the vicinity, and other published geologic literature.

Because the extraction of mineral resources or the use of septic tanks is not permitted within the Tahoe Basin, this analysis does not address potential impacts related to these issues. Similarly, the proposed Project site and Alternative A site are not located near the backshore or shorezone of Lake Tahoe; therefore, the analysis does not evaluate changes to natural littoral processes or evaluate risks associated with seiche or tsunami. Additionally, because the Project site (for both the proposed Project and Alternative A) does not contain expansive soils or soils that are susceptible to lateral spreading, subsidence, or liquefaction (NRCS 2007), these issues are dismissed from further discussion.

The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Marine invertebrates are generally common; the fossil record is well developed and well documented, and generally they would not be considered a unique paleontological resource. Identified vertebrate marine and terrestrial fossils are generally considered scientifically important because they are relatively rare. Some invertebrate fossils have been found on the south shore of Lake Tahoe; however, there are no documented occurrences of vertebrate fossils within the Lake Tahoe Basin (U.C. Berkeley Museum of Paleontology [UCMP] 2016). Additionally, the Project vicinity has been heavily influenced by the Pleistocene era glaciations, which scoured the mountain slopes; mixing, and transported granitic and volcanic debris, and further minimizing the potential for fossils to be present in these locations. Isolated remnants of ancient, metamorphosed sedimentary deposits exist within the Lake Tahoe Basin, but do not occur within the Project area (Sylvester et al. 2012). The metamorphosed remnant located closest to the Project area is found approximately 12.5 miles to the north west near Mount Lincoln and Sugar Bowl resort. For these reasons, impacts to unique paleontological resources are dismissed from further discussion.

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact on geology, soils, land capability, and coverage. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

Water quality and stormwater issues are addressed in Section 3.10, "Hydrology and Water Quality."

3.9.1 Regulatory Setting

Regulations protecting the soil resources in the Tahoe Region are enforced by TRPA, the Lahontan Regional Water Quality Control Board (RWQCB) (through water quality regulations), and Placer County. Other regulations aid in the establishment of safe structures to ensure minimal, if any, impact on earth resources. The following discussion provides the background for applicable earth resource requirements in the Tahoe Region.

FEDERAL

National Earthquake Hazards Reduction Act

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities.

TAHOE REGIONAL PLANNING AGENCY

Thresholds

TRPA has established threshold carrying capacity standards and indicators for soil conservation. TRPA threshold standards are minimum standards of environmental quality to be achieved in the Tahoe Region. Every 4 years, TRPA evaluates the attainment status of all TRPA threshold standards. The 2015 Threshold Evaluation contains the most current information on the status of the threshold standards (TRPA 2016a).

TRPA has two soil conservation threshold standard indicator reporting categories, as follows:

- Land Coverage (impervious cover) Threshold Standard to comply with allowable land coverage limitations established in the Land Capability Classification of the Tahoe Basin. This threshold standard indicator reporting category consists of nine different standards for the nine separate land capability districts (LCDs). All soils within the region have been assigned an LCD based on their ability to tolerate disturbance and development while retaining their natural function. LCDs 1a to 3 are considered sensitive and LCD 7 is considered the most tolerant. Additional discussion of land coverage and LCDs is included in Section 3.9.2, "Environmental Setting."
- Stream Environmental Zone (SEZ) Threshold Standard to restore 25 percent of the SEZ lands that have been identified as disturbed, developed or subdivided to attain a 5 percent increase in the area of naturally functioning SEZ lands.

See Table 3.9-1 for the 2015 status of the soil conservation threshold standards.

Table 3.9-1 2011 Status of the Soil Conservation Threshold Standards

Threshold Standard	Status and Trend
Land Coverage	
Land Capability District 1a	Considerably Better than Target, Little to No Change
Land Capability District 1b	Considerably Worse than Target, Moderate Improvement
Land Capability District 1c	Somewhat Better than Target, Little to No Change
Land Capability District 2	Somewhat Better than Target, Little to No Change
Land Capability District 3	Considerably Better than Target, Little to No Change
Land Capability District 4	Considerably Better than Target, Little to No Change
Land Capability District 5	Considerably Better than Target, Little to No Change
Land Capability District 6	Considerably Better than Target, Little to No Change
Land Capability District 7	Somewhat Better than Target, Little to No Change
Stream Environment Zone Restoration	Considerably Worse than Target, Moderate Improvement

Source: TRPA 2016a

Goals and Policies

Goals and policies applicable to geology, soils, land capability, and coverage are included in several elements and subelements of the Goals and Policies document of the Regional Plan. The Natural Hazards Subelement addresses risks from natural hazards (e.g., flood, fire, avalanche, and earthquake). Specifically, Goal 1, Policy 2 prohibits new construction on, or disturbance of land within, the 100-year floodplain and in the area of wave run-up except as necessary to implement the goals and policies of the Regional Plan; and requires all public utilities, transportation facilities, and other necessary public uses located in the 100-year floodplain and area of wave run-up to be constructed or maintained to prevent damage from flooding and to not cause flooding. The Water Quality Subelement includes goals to 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 percent of the disturbed lands and specifies that the implementation of best management practices (BMPs) shall be required as a condition of approval for all projects. The Soils Subelement addresses soil erosion and loss of soil productivity through policies pertaining to coverage, including allowable coverage for categories of land uses in specific LCDs. This subelement also addresses special regulations regarding construction and soil disturbing activities occurring between October 15 and May 1.

Goals and policies of the Regional Plan that are related to erosion and coverage are located in the Conservation Element. Relevant excerpts are included below.

GOAL S-1: Minimize soil erosion and the loss of soil productivity.

- **Policy S-1.1:** Allowable impervious land coverage shall be consistent with the Threshold Standard for impervious land coverage.
- **Policy S-1.2:** No new land coverage or other permanent disturbance shall be permitted in LCDs 1-3 (exceptions provided for some single-family dwellings, public outdoor recreation, and public service uses).
- **Policy S-1.6:** Maintain seasonal limitations on ground-disturbing activities during the wet season (October 15 to May 1) and identify limited exceptions for activities that are necessary to preserve public health and safety or for erosion control.
- **Policy S-1.7**: All existing natural functioning SEZs shall be retained as such and disturbed SEZs shall be restored whenever possible and may be treated to reduce the risk of catastrophic wildfires.

Code of Ordinances

The TRPA Code of Ordinances (Code) implements the Regional Plan Goals and Policies. The following TRPA Code provisions are most relevant to the geology, soils, land capability, and coverage aspects of the Project.

Chapter 30 - Land Coverage Standards

Since the late 1970s, TRPA has 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 guide land use planning, policy formulation related to the impacts of development on soil erosion and permitting of development. The Bailey System was developed as a threat assessment and planning tool to identify and mitigate adverse impacts to water quality and stream systems that occur from surface runoff and erosion related to development. The Bailey System is the basis of the land coverage standards and limitations set forth in Chapter 30 of the TRPA Code.

Coverage is defined by TRPA as a human-built structure or other impervious surface that prevents normal precipitation from directly reaching the surface of the land underlying the structure, therefore precluding or slowing the natural infiltration of water into the soil (Chapter 90 of the Code). TRPA further defines coverage as impervious surface (hard coverage) or compacted soil (soft coverage). Research has established the connection between impervious surfaces and water quality. Specifically, coverage may affect water quality as it reduces the amount of soil available to infiltrate water and has the potential to result in surface runoff, erosion, and delivery of pollutants to receiving waters.

To determine the level of coverage that would be appropriate in the Region, TRPA adopted the Bailey Land Classification system (Bailey 1974). The system assigns LCDs based primarily on soil characteristics and slope. The LCDs reflect the amount of development the site can support without experiencing soil or water quality degradation. The LCDs range from 1 to 7, with 1 being the most environmentally sensitive and 7 being most suitable for supporting development (see Table 3.9-2). Under this system, TRPA allows landowners to cover 1, 5, 20, 25, or 30 percent of their parcel with impervious surfaces depending on its environmental sensitivity as defined by the Bailey classification system. Higher amounts of land coverage are allowed in town centers, where an area plan has been adopted.

Table 3.9-2 Land Capability Districts for Lake Tahoe Region

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

Source: Bailey 1974

In general, for a parcel of up to 20 acres the area used to determine the amount of allowable coverage (referred to as the "Project site") is based on the parcel size. However, as described in TRPA Code Section 30.4.1.C.b, highways, streets, roads, and the easements or rights-of-way allowing potential land coverage for linear public facilities, highways streets, and roads is not included within a project site.

Property owners who have used less than their allotted amount of coverage (or none at all) may sell that "potential" coverage to other property owners. In some instances, coverage in excess of the allowable coverage amount can be

verified as legally existing, thereby becoming a marketable right. In other words, such coverage is "grandfathered in" because it was established before the existence of TRPA. Property owners who have already exceeded their allocated amount (i.e., base allowable coverage) and seek new permits from TRPA are said to have "excess coverage" and are required to remove a portion of the excess coverage, retire coverage off site, or pay an excess coverage mitigation fee.

Chapter 60 – Water Quality

Chapter 60 of the TRPA Code sets forth requirements for installation of BMPs for the protection or restoration of water quality and attainment of minimum discharge standards. Projects shall comply with temporary and permanent BMP programs as a condition of project approval.

Chapter 33 – Grading and Construction

Chapter 33 of the TRPA Code describes the various standards and regulations that protect the environment against significant adverse effects from excavation, filling, and clearing, because of such conditions as exposed soils, unstable earthworks, or groundwater interference.

Placer County Tahoe Basin Area Plan

The Placer County Tahoe Basin Area Plan, a joint TRPA/Placer County plan, was adopted in 2016. The plan incorporates TRPA goals and regulations but also includes the following additional goal related to land coverage:

- **Policy S-P-4:** Update parking standards to more efficiently utilize parking lots and minimize land coverage.

STATE

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (Public Resources Code [PRC] Section 2621-2630) intends to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors, and by prohibiting the location of most types of structures intended for human occupancy across the traces of active faults. The act defines criteria for identifying active faults, giving legal support to terms such as active and inactive, and establishes a process for reviewing building proposals in Earthquake Fault Zones. Under the Alquist-Priolo Act, faults are zoned and construction along or across these zones is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the act as within the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Bryant and Hart 2007). Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The intention of the Seismic Hazards Mapping Act of 1990 (PRC Section 2690–2699.6) is to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including ground shaking, liquefaction, and seismically induced landslides. The act's provisions are similar in concept to those of the Alquist-Priolo Act. The State is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development.

California Building Code

The California Building Code (CBC) (California Code of Regulations, Title 24) is based on the International Building Code. The CBC has been modified from the International Building Code for California conditions, with more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth

in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, while Chapter 18A regulates construction on unstable soils, such as expansive soils and areas subject to liquefaction. Appendix J of the CBC regulates grading activities, including drainage and erosion control. The CBC contains a provision that provides for a preliminary soils report to be prepared to identify "…the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects." (CBC Chapter 18, Section 1803.1.1.1).

Lahontan Regional Water Quality Control Board

The nine regional water quality control boards within California provide regional specific water quality standards and control measures to implement the federal Clean Water Act. Lahontan RWQCB is responsible to surface and ground water quality within the Project site. The water quality control plan for the Lahontan region (LRWQCB 2015) establishes water quality objectives enforced through federal National Pollutant Discharge Elimination System (NPDES) permits. NPDES permits are intended to address land uses and activities that could create erosion or sediment transportation and potentially degrade water quality. Compliance with these permits requires implementation of erosion control BMPs and preparation of a storm water pollution prevention plan (SWPPP) to minimize erosion and sediment transport adjacent to waterbodies. Refer to Section 3.10, "Hydrology and Water Quality," for a more detailed discussion.

California Tahoe Conservancy

The mission of the California Tahoe Conservancy (Conservancy) is to preserve, protect, restore, enhance and sustain the unique and significant natural resources and recreational opportunities of the Tahoe Region (California Government Code - Title 7.42, Sections 66905.0 to 66908.3). The Conservancy's jurisdiction extends throughout the California side of the Lake Tahoe Region, as defined in California Government Code Section 66905.5. In 1987, the Conservancy authorized staff to develop and implement a Land Coverage (Land Bank) Program. Through this program, the Conservancy acquires properties eligible for purchase through willing sellers. The development potential on these properties is retired. All rights and credits acquired by the Conservancy are stored in a Land Bank. Through a Memorandum of Understanding (MOU) with TRPA, the Conservancy is authorized to receive disbursements of TRPA excess coverage mitigation fees to perform coverage reduction through its Land Bank. The MOU also authorizes the Conservancy to sell coverage rights on the open market and conduct SEZ restoration or mitigation for private or public service projects through the Land Bank.

The benefits of the Conservancy's Land Coverage Program include: acquisition and restoration of developed areas that have become degraded and that to contribute, or have the potential to contribute to water quality problems; protecting land before development activity generates the need for mitigation; ongoing management to ensure that resource benefits are sustained; assisting property owners in complying with Regional land coverage policies so they may construct or rehabilitate homes and businesses; and simplifying and expediting public and private projects.

LOCAL

Placer County General Plan

The Natural Resources Element and Health and Safety Element of the Placer County General Plan include a number of goals and policies intended to reduce soil erosion and to minimize injury to people and damage to property from exposure to seismic and geologic hazards. Specific policies require that development projects near stream environments do not cause or worsen erosion or sedimentation (Policies 6.A.4 and 6.A.10). The Placer County General Plan also requires projects to include a variety of technical reports and plans that demonstrate that the project will minimize the risk of exposure of people or property to seismic hazards, unstable soils, landslides, and avalanche (Policies 8.A.1, 8.A.2, 8.A.4, 8.A.5, 8.A.6, 8.A.9, 8.A.10, 8.A.11, 8.A.12, and 8.H.2).

Placer County Grading Ordinance

Placer County Code Article 15.48, "Grading, Erosion and Sediment Control," contains ordinances enacted for the purpose of regulating grading on property within the unincorporated area of Placer County to safeguard life, limb,

health, property and public welfare; to avoid pollution of watercourses with hazardous materials, nutrients, sediments, or other earthen materials generated on or caused by surface runoff on or across the permit area; and to ensure that the intended use of a graded site is consistent with the Placer County General Plan, any specific plans, and applicable Placer County ordinances. The most common activities requiring a grading permit within the Placer County portion of the Tahoe Basin include the following: fill or excavation greater than three cubic yards, and cuts exceeding four feet in depth; fills exceeding three feet in depth; cuts or fills exceeding 200 square feet (sq. ft.) in area; structural retaining walls exceeding four feet in total height, as measured from the bottom footing to the top of the wall and/or supporting a surcharge; soil or vegetation disturbances exceeding 1,000 sq. ft.; grading within or adjacent to a drainage course or wetland; or grading within a floodplain.

3.9.2 Environmental Setting

REGIONAL GEOLOGY

The Tahoe Basin is located in the northern Sierra Nevada geomorphic province, between the Sierra crest to the west and the Carson Range to the east and is one of the most prominent mountain ranges in California. Faulting and volcanism created the Tahoe Basin over 2 million years ago, and as a result, the basin contains granitic, metamorphic, and volcanic rock (Saucedo 2005). The predominant bedrock in the Tahoe Basin is Cretaceous granodiorite of the Sierra Nevada batholith. Cretaceous rock formed during the later 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.

Over the past 1.5 million years, the 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. Lakebed sediments were deposited in the bays and canyons around the lake as a result of the rising lake levels. 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 related to the prevalence of resistant granitic bedrock in the Tahoe Basin and the unusually small drainage basin relative to the size of Lake Tahoe.

LOCAL GEOLOGY, TOPOGRAPHY, AND DRAINAGE

The Project is located near Dollar Point on a terrace roughly 400 feet above Lake Tahoe. The terrace was formed by the deposition of ancient volcanic mudflows and more recent stream and lake deposits (Saucedo 2005; Sylvester et al. 2012). Overall, the proposed Project site and Alternative A site each slope gently (2-10 percent slopes) to the north and west, steepening to the south and east at the edge of the terrace. Drainage varies between the proposed Project and Alternative A sites due to their location on the point. The Alternative A site drains to the east toward Dollar Creek and the west shoreline of Dollar Point. The proposed Project site drains to the south and east toward Lake Forest Creek and the south shoreline of Dollar Point.

SOIL PROPERTIES

The Project is located in the Tahoe Very Cobble Sandy Loam map unit, as identified by the 2007 Soil Survey of the Lake Tahoe Basin (NRCS 2007). The Tahoma soil formed in colluvium (material that has been moved downhill by gravity) weathered from volcanic rock. Typical vegetation includes mixed conifer forest overstory with an understory of greenleaf manzanita, western serviceberry, creeping snowberry. These soils are described as well drained with a surface runoff class of "low." Their coarse texture and high rock content also makes these soils resistant to compaction. Additionally, because of their low clay content, Tahoma soils have low shrink-swell potential and are considered non-expansive.

Erosion is the process by which surface soils are detached and transported by water and/or wind. Erosion has a detrimental effect on soil productivity because erosion begins with the upper horizons of a soil profile, which contain organic matter and microbial communities vital to supporting plant growth. Factors that influence the erosion potential of a soil include: vegetative cover; soil properties such as soil texture, structure, rock fragments and depth; steepness and slope length; and climatic factors such as the amount and intensity of precipitation. The NRCS soil surveys provide a rating of erosion hazard resulting from disturbance of non-road areas. The Tahoma soils are assigned an erosion hazard rating of "slight," which indicates that erosion is unlikely under ordinary conditions (NRCS 2007).

LAND CAPABILITY AND COVERAGE

Since the late 1970s, TRPA has used a land capability classification system based on the ability of areas of soil to tolerate use without resulting in environmental damage (Bailey 1974). As explained above, this system assigns LCDs based primarily on soil characteristics and slope. The LCDs reflect the amount of development a site can support without experiencing soil or water quality degradation. The LCDs range from 1 to 7, with 1 being the most environmentally sensitive and 7 being most suitable for supporting development. LCD 1b is applied to land that is influenced by surface water or high groundwater and is also referred to as SEZ. The amount of compacted or impervious surface, known as Coverage, allowed with a given parcel is limited by its LCD. TRPA manages land coverage at the parcel level.

The proposed Project and Alternative A sites each contain portions of three different parcels (Table 3.9-3). These parcels are predominately mapped as LCD 5 (which allows up to 25 percent coverage) and LCD 6 (which allows up to 30 percent land coverage); however, the Alternative A site contains approximately 6,021 sq. ft. of LCD 1b (allowing only 1 percent land coverage). On the proposed Project site, land capability has been verified for the Project development portion on two of the parcels, but no verification has been completed for the third parcel. Land capability verifications have been completed for the entirety of two of the Alternative A site parcels, while land capability on the third parcel has only been completed for the Project development area. (TRPA 2011a, TRPA 2011b, TRPA 2016b, TRPA 2019).

Table 3.9-3 Land Capability and Existing Coverage

Land Capability District	Total Area (sq. ft.)	Base Allowable Coverage	Allowable Coverage (sq. ft.)	Existing Coverage[1] (sq. ft.)	Available Coverage (sq. ft.)
Proposed Project (APNs 093-164-036[5], 093-160-064[5], and 093-600-001[4])					
5	600,324	25%	150,081	30,435	119,646
6	756,221	30%	226,866	12,334[3]	214,532
Alternative A (APNs 093-160-040[5], 093-260-001[6], and 093-350-010[6])					
1b	6,021	1%	60	0	60
6	974,344	30%	292,303	76,455	215,848

[1] Existing coverage includes compacted soil areas on trails and impervious surfaces as shown by the 2010 TRPA LiDAR data.

[2] Coverage has not been verified by TRPA.

[3] Includes approximately 1,831 sq. ft. of natural surface trails through the Lake Forest Creek drainage, which is currently mapped as LCD 6. It is expected that a portion of the drainage would be mapped as LCD 1b through the TRPA LCD verification process.

[4] No existing land capability verification.

[5] Land capability verification completed for Project portion of parcel.

[6] Land capability verification completed for entire parcel.

Source: Prepared by Ascent Environmental in 2019

Land coverage has not been determined by TRPA for the Project parcels; however, existing land coverage for the Alternative A site was estimated using TRPA's 2010 high resolution LiDAR data set. Coverage in this dataset includes compacted soil areas such as trails and staging areas as well as areas covered with impervious materials such as

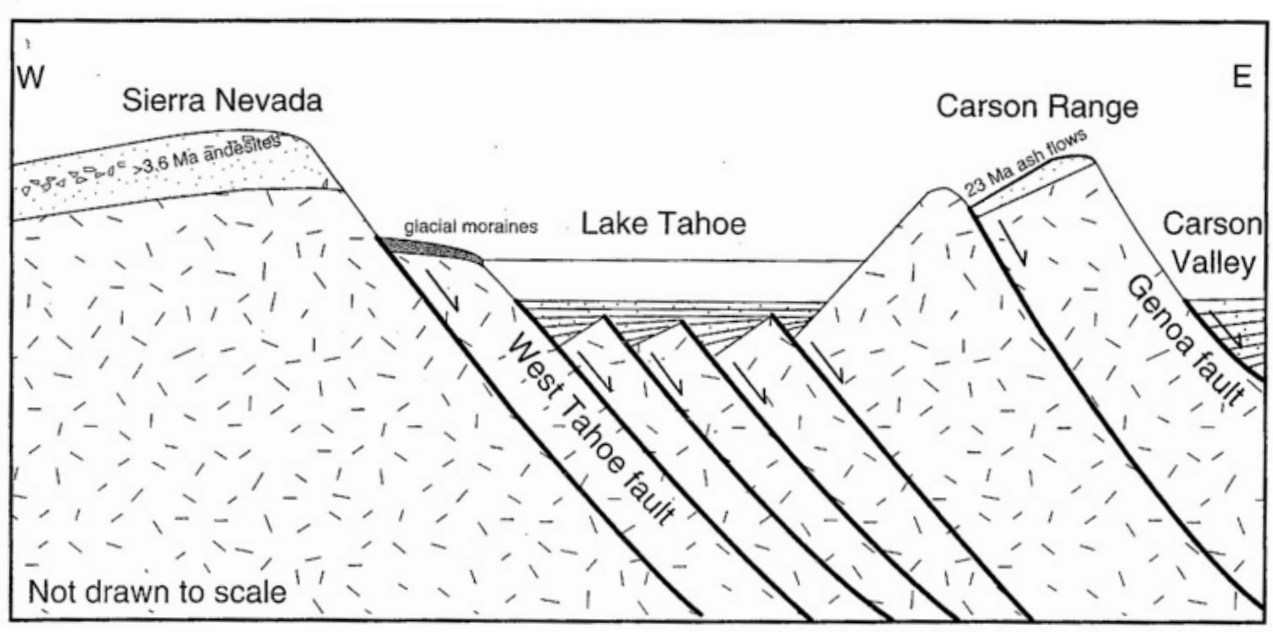
paving or roofs. Based on this data, the three proposed Project site parcels contain 30,435 sq. ft. of coverage in LCD 5 (5 percent of the LCD 5 land area) and 12,334 sq. ft. of coverage in LCD 6 (2 percent of the LCD 6 land area). Land coverage estimates for proposed Project and Alternative A parcels are shown in Table 3.9-3. The Alternative A site parcels contain approximately 76,455 sq. ft. of existing land coverage (8 percent of the parcel area), all of which is located in LCD 6.

SEISMICITY

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale. Recently, seismologists have begun using a moment magnitude (M) scale because it provides a more accurate measurement of the size of large earthquakes. For earthquakes of less than M 7.0, the moment and Richter magnitude scales are nearly identical. For earthquakes greater than M 7.0, readings on the moment magnitude scale are slightly higher than the corresponding Richter magnitude.

The intensity of seismic shaking, or strong ground motion, during an earthquake is dependent on the distance and direction from the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions of the surrounding area. Ground shaking could potentially result in the damage or collapse of buildings and other structures. Most earthquakes occur along faults, which are fractures or geological areas of weakness, along which rocks on one side have been displaced with respect to those on the other side. Most faults are the result of repeated displacement that may have taken place suddenly and/or by slow creep (Bryant and Hart 2007: 3).

Faulting was a key element in the formation of Lake Tahoe. The Tahoe Basin lies in a graben (a trench between two faults) between the Sierra Nevada and the Carson Range (as shown in Figure 3.9-1). The outlet of the Tahoe Basin was repeatedly dammed by volcanic eruptions and glacial ice dams (Schweickert et al. 2000).



Source: Schweickert et al. 2000

Figure 3.9-1 Model of Lake Tahoe Basin Half-Graben

The nature of the seismic hazard in the Tahoe Region was not appreciated for many years because the active faults within the Tahoe Basin are covered by the lake itself. The portions of the Tahoe Basin faults that show the greatest activity and strain are underwater, with activity diminishing as they move on-shore (Seitz and Kent 2004). Additionally, recent work analyzing sediment cores from the bottom of Lake Tahoe show that local earthquakes trigger landslides in the Lake (Seitz 2013). It is likely that many of the landslides evident with the Tahoe Basin (including the ancient, catastrophic, 5-mile wide landslide that formed McKinney Bay) were triggered by earthquakes (Dingler 2007).

The State Mining and Geology Board defines an active fault as one that has had surface displacement within the last 11,000 years (California Geological Survey [CGS] 2008). Three active faults occur within the Tahoe Basin: The West Tahoe-Dollar Point Fault (the longest at 45 kilometers long); the Stateline-North Tahoe Fault; and the Incline Village Fault (Brothers et al. 2009). Recent studies indicate that all three of these faults have experienced large rupture events within recent geologic time (Dingler 2007; Seitz and Kent 2004). Of the three faults, the West Tahoe-Dollar Point Fault has the fastest slip rate (the rate at which two faults pass each other or build tension) and its most recent confirmed rupture event was approximately 4,000 years ago (Brothers et al. 2009). The high slip rate, the height of scarps (earthquake generated breaks in topography) and the length of time since the last event indicate that the West Tahoe-Dollar Point Fault could generate an earthquake with a magnitude greater than 7.0 (Brothers et al. 2009). The height of scarps along the Incline Village fault show that this fault has experienced several magnitude 7.0 events and that it last ruptured approximately 575 years ago. (Schweickert et al. 2000; Seitz et al. 2005)

The main West Tahoe-Dollar Point Fault line passes approximately 1,800 feet east of the Alternative A site and approximately 1 mile east of the proposed Project site. A smaller finger of the fault passes between the two sites, approximately 500 feet east of the proposed Project.

East of the Tahoe Basin, the Carson Range fault system, one of the Region's largest, runs for 60 miles along the east face of the Carson Range from Reno to Markleeville. The probability of at least one magnitude ≥6.0 event occurring in the Reno-Carson City urban corridor over a 50-year period is estimated to be between 34 percent and 98 percent, the probability of a magnitude ≥6.6 event between 9 percent and 64 percent, and the probability of a magnitude ≥7.0 event between 4 percent and 50 percent. These probabilities are relatively high and are similar to many parts of California (dePolo et al. 1997: 3).

The nearest mapped Alquist-Piolo Earthquake Fault Zone is located in the Minden-Gardnerville, NV area, approximately 30 miles south-east of both the proposed Project and Alternative A sites (CGS 2010).

3.9.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

The evaluation of coverage changes and potential geologic and soil impacts is based on a review of documents pertaining to the Project study area, including CGS and U.S. Geological Survey (USGS) technical guides, the NRCS 2007 Soil Survey, TRPA regulations and planning documents, environmental impact reports, background reports prepared for plans and projects in the vicinity, and published and unpublished geologic literature. The information obtained from these sources was reviewed and summarized to understand existing conditions and to identify potential environmental effects, based on the thresholds of significance. In determining the level of significance, the analysis assumes that the proposed Project and Alternative A would comply with relevant, federal, state, and local laws, regulations, and ordinances.

SIGNIFICANCE CRITERIA

CEQA Criteria

In accordance with Appendix G of the State CEQA Guidelines, a geology and soils impact would be considered significant if implementation of the Project would do any of the following:

- directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic shaking, or seismic-related ground failure; or
- result in substantial soil erosion or the loss of topsoil.

TRPA Criteria

The "Land" criteria from the TRPA Initial Environmental Checklist were used to develop significance criteria to evaluate the geology, soils, land capability, and coverage impacts of the Project. Impacts would be significant if the Project would:

- substantially increase exposure of people or property earthquake hazards;
- change the topography or ground relief features in a manner inconsistent with the natural surrounding conditions, substantially change undisturbed soil or native geologic substructures, or increase wind or water erosion of soils; or
- compact or cover soil with impervious surfaces beyond that limits allowed by the land capability districts.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.9-1: Potential for Substantial Erosion, Loss of Topsoil, or Modifications to Natural Topography

Implementation of the proposed Project and Alternative A could expose soils to adverse effects from soil erosion during construction activities related to construction of the Schilling Lodge. Grading and earthmoving activities would be required to obtain grading and excavation permits and approvals in accordance with TRPA Code Chapter 33 and the Placer County grading ordinance. Adherence to existing, standard regulations and permit requirements would maintain the potential for substantial soil erosion or loss of topsoil for the proposed Project and Alternative A at a **less-than-significant** level.

Proposed Project

The proposed Project would require grading and excavation to prepare the site for new construction. The proposed Project site is currently undeveloped but has previously been disturbed through use as a snow-storage area and during forest fuel reduction activities. Implementation of the proposed Project would result in 152,243 sq. ft. (3.50 acres) of ground disturbance, including clearing, excavating, filling, grading, and temporary stockpiling of soils, all of which could expose soils to wind and water erosion, particularly during a storm event. Rain of sufficient intensity and duration could dislodge soil particles, generate runoff, and cause localized erosion. Soil disturbance during the summer months could result in loss of topsoil because of wind erosion and runoff from thunderstorm events. No construction or ground-disturbing activities are proposed at the Highlands Community Center as part of the proposed Project.

As discussed above, the NRCS erosion hazard rating for the soils of the proposed Project site is "slight." This means that substantial erosion would be unlikely under normal conditions. In addition, the BMPs required by TRPA and Lahontan RWQCB as conditions of construction permits would control soil erosion and protect adjacent SEZ areas. One condition in the Lahontan RWQCB NPDES permit is a SWPPP, prepared by a qualified SWPPP practitioner. This plan would detail the BMPs that would be implemented to minimize erosion, reduce sediment transport, and control stormwater flow from the proposed Project site and includes a site-specific construction site monitoring and reporting plan. In addition, the SWPPP would address grading and slope stabilization methods, as well as construction waste disposal methods. Typical temporary BMPs include properly installed silt fences, sediment logs, detention basins, and inlet protection. Temporary BMPs would be installed before beginning site grading and would be maintained throughout construction until permanent erosion control features are functioning. The required elements of a SWPPP are discussed in greater detail under "National Pollutant Discharge Elimination System Permits" and Impact 3.10-1 in Section 3.10, "Hydrology and Water Quality." After construction is completed, temporarily disturbed areas would be stabilized and revegetated in accordance with TRPA Code Section 61.4.

Because the proposed Project site is nearly level, the Project would not require alteration of topography that is inconsistent with the surrounding area. However, excavation would be required for utilities, drainage systems, and the Schilling Lodge basement and foundation. The TRPA Code prohibits excavation deeper than 5 feet below ground surface or where there exists a reasonable possibility of interference or interception of a water table except in limited

circumstances (see Section 33.3.6.B of the TRPA Code). Where an exception is allowed, and where excavation beyond 5 feet is necessary, TRPA requires the following:

1. A Soils/Hydrologic report prepared by a qualified professional that demonstrates that no interference or interception of groundwater will occur.
2. The excavation must be designed such that no damage occurs to mature trees except where tree removal is allowed.
3. Excavation material is disposed of properly and the area's natural topography is maintained.

Because construction of the Schilling Lodge requires excavation deeper than 5 feet, a Soils/Hydrology report would be prepared demonstrating that excavation would not intercept or interfere with groundwater (in the manner described in Section 33.3.6.A of the TRPA Code) and submitted to TRPA for review and approval before TRPA permit acknowledgement. If the Soils/Hydrology report indicates that interception of the seasonal groundwater table cannot be avoided, TRPA may approve an exception provided that the circumstances authorizing such an exemption are present (see Section 33.3.6.A.2). In addition, the Project would be required to meet the other conditions of TRPA Code Section 33.3.6.B, including protection of mature trees, proper disposal of excavated material, and maintenance of groundwater flows to avoid adverse impacts to SEZ vegetation and to prevent any groundwater or subsurface water flow from leaving the proposed Project site as surface flow.

Because (1) the soils of the proposed Project site are not highly susceptible to erosion, (2) temporary and permanent BMPs would be installed as requirements of the necessary TRPA and LRWQCB permits, (3) excavation greater than 5 feet in depth would take place in accordance with the TRPA Code, and (4) areas of temporary disturbance would be revegetated and regraded to match the natural topography of the site, the potential for the proposed Project to increase erosion or adversely affect the topography of the area would be **less than significant**.

Alternative A

Alternative A would result in 125,811 sq. ft. (2.89 acres) of ground disturbance, including demolition of the Existing Lodge, clearing, excavating, filling, grading, and temporary stockpiling of soils, all of which could expose soils to wind and water erosion, particularly during a storm event. Of the total disturbance area, approximately 28,700 sq. ft. is currently developed (the site of the Highlands Parks and Community Center) and the entire Alternative A site has experienced moderate to high levels of disturbance. The topography of the Alternative A site is gentle, and the Project would not alter the topography of the site in a way that is inconsistent with the surrounding area. As discussed above, the NRCS erosion hazard rating for the Alternative A site is "slight," indicating that substantial erosion is unlikely. Alternative A would be subject to the same permit conditions and TRPA, Lahontan RWQCB, and Placer County regulations as described for the proposed Project. For the same reasons discussed in the proposed Project analysis, Alternative A would have a **less-than-significant** impact relative to erosion and topography.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.9-2: Risk to People and Structures from Strong Seismic Shaking

The proposed Project and Alternative A sites are located in a seismically active area and could experience strong shaking in the event of a nearby earthquake. However, the rehabilitation and reuse of the historic Schilling residence would comply with the seismic design and retrofit requirements of the CBC. These measures would reduce the potential threat to life and property from strong seismic ground shaking resulting from implementation of the proposed Project and Alternative A to a **less-than-significant** level.

Proposed Project

The proposed Project site abuts the West Tahoe-Dollar Point Fault which is capable of generating earthquakes with a magnitude greater than 7.0 (Brothers et al. 2009). The Schilling Lodge would be located in a seismically active area which could experience strong ground shaking in the event of a large earthquake. The Schilling residence was constructed in the 1930s before modern earthquake-resistant building provisions were included in building codes and

could be damaged by an earthquake. However, rehabilitation and reuse of the historic building would be completed in accordance with the CBC. This would require a full seismic analysis and design in accordance with CBC Chapter 34, Existing Structures, Section 3417, "Earthquake Evaluation and Design for Retrofit of Existing Buildings." As required by state law, the Schilling Lodge would be designed to resist stresses produced by lateral forces caused by earthquakes and would meet the minimum seismic safety and structural design requirements described in Chapter 16 of the California Building Standards Code. As described in Impact 3.4-1, in Section 3.4, "Archeological, Historical, and Tribal Cultural Resources," the proposed reuse of the structure and associated retrofit requirements would comply with the preservation measures recommended by the State Historical Preservation Officer (SHPO). No changes are proposed at the Highlands Community Center as part of the proposed Project that would increase the risk to people and structures from strong seismic shaking. For these reasons, the potential seismic threats to life and property from the implementation of the proposed Project would be a **less-than-significant** impact.

Alternative A

Alternative A is located adjacent to the West Tahoe-Dollar Point Fault and the site could experience strong ground shaking the event of an earthquake. As discussed above in relation to the proposed Project, Alternative A would include the reconstruction and expansion of the historic Schilling residence, which was constructed before the adoption of modern seismic building codes. However, rehabilitation and reuse of the historic building would be completed in accordance with the CBC so that the Schilling Lodge would resist stresses produced by lateral forces caused by earthquakes and would meet the minimum seismic safety and structural design requirements described in Chapter 16 of the California Building Standards Code. These measures would reduce the potential seismic threats to life and property from the implementation of Alternative A to a **less-than-significant** level.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.9-3: Potential for Compaction or Land Coverage Beyond TRPA Limits

The proposed Project and Alternative A would result in an increase in land coverage relative to existing conditions. However, the proposed Project and Alternative A would be required to comply with TRPA land coverage regulations as a condition of permit approval. Therefore, the implementation of the proposed Project and Alternative A would have a **less-than-significant** impact relative to compaction and land coverage

Proposed Project

Implementation of the proposed Project would create new land coverage in accordance with TRPA land coverage regulations within LCD 6. Table 3.9-4 provides a summary of preliminary coverage increases for lodge site associated with the proposed Project. The preliminary coverage numbers would be refined as the design process progresses and before TRPA permit acknowledgement. The information presented here, although preliminary, is an accurate representation of the nature of the land coverage changes associated with the proposed Project and is sufficient for environmental impact analysis. No changes in the coverage are proposed at the Highlands Community Center. Based on preliminary design, the proposed Project would create an additional 81,593 sq. ft. of land coverage.

Table 3.9-4 Project Proposed Land Coverage

Proposed Land Coverage	Coverage (sq. ft.)
Asphalt	61,379
Building Footprint	5,457
Walkways/Concrete	13,178
Miscellaneous Utilities	1,579
Total	**81,593**

Source: Prepared by Ogilvy Consulting in 2019

As shown in Table 3.9-3, the available land coverage within the three proposed Project parcels is approximately 334,178 sq. ft. for LCDs 5 and 6 and the total allowable land coverage is 376,947 sq. ft. Existing coverage within LCD 5 is created by natural surface trails and is estimated at 30,435 sq. ft. (approximately 5 percent of the LCD 5 land area). All land coverage associated with the proposed Project would be placed in LCD 6. Currently, coverage within LCD 6 on the proposed Project site is created by natural surface trails and is estimated at 12,334 sq. ft. (approximately 2 percent of the LCD 6 land area). Implementation of the proposed Project would bring the total LCD 6 coverage to 93,927 sq. ft. (approximately 12 percent), which is well within TRPA coverage limits. The proposed Project site parcels can accommodate an additional 119,646 sq. ft. of additional land coverage in LCD 5. In addition to these coverage changes, the proposed Project would retain the existing 76,455 sq. ft. associated with the Highlands Community Center. The total coverage for the proposed Project, including existing coverage on the proposed Project site, new coverage associated with the Schilling Lodge, and retaining the Highlands Community Center, would be 200,817 sq. ft., within the TRPA coverage limits.

As described above, the proposed Project would result in an increase in land coverage relative to existing conditions. Because the Project would comply with TRPA land coverage regulations, implementation of the proposed Project would have a **less-than-significant** impact relative to compaction and land coverage.

Alternative A

Alternative A would create new land coverage in accordance with TRPA land coverage regulations within LCD 6. Table 3.9-5 provides a summary of preliminary coverage increases for Alternative A. Based on preliminary design, this alternative would create an additional 67,619 sq. ft. of land coverage.

Table 3.9-5 Alternative A Proposed Land Coverage

Proposed Land Coverage	Coverage (sq. ft.)
Asphalt	49,446
Building Footprint	5,457
Walkways/Concrete	11,128
Miscellaneous Utilities	1,588
Total	**67,619**

Source: Prepared by Ogilvy Consulting in 2019

As shown in Table 3.9-3, the available land coverage within the three Alternative A parcels is approximately 215,908 sq. ft. for LCDs 1b and 6. All land coverage associated with Alternative A would be placed in LCD 6. The Existing Lodge and the natural surface trail network create the existing coverage on Alternative A parcels, all of which is located in LCD 6. Existing coverage is estimated at 76,455 sq. ft. (approximately 8 percent of the LCD 6 land area). Implementation of Alternative A would bring the total LCD 6 coverage to 144,074 sq. ft. (approximately 15 percent), which is well within TRPA coverage limits.

As described above, the Project would result in an increase in land coverage relative to existing conditions. Because the Project would comply with TRPA land coverage regulation, implementation of Alternative A would have a **less-than-significant** impact relative to compaction and land coverage.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

Cumulative impacts to soil compaction and land capability are considered in the geographic context of the Lake Tahoe Basin. Impacts related to seismic and other geologic hazards (Impact 3.9-2) are localized in nature; they do not accumulate to cause broader environmental consequences and cumulative impacts would not occur. Therefore, these issues are not discussed further.

The proposed Project, Alternative A, and many of the cumulative projects would create additional land coverage within the cumulative analysis area. However, all projects within the Tahoe Basin would be required to comply with TRPA land coverage regulations. In cases where excess coverage is permitted (such as within Town Centers or for linear public facilities, public health and safety facilities, or water quality control facilities), all coverage exceeding the base allowable would be purchased and transferred from within hydrologically connected areas or retired from sensitive lands. In addition, all land coverage within LCD 1b must be mitigated at a ratio of 1.5 acres of restoration for every 1 acre of disturbance (TRPA Code Section 30.5.3).

The proposed Project, Alternative A, and the cumulative projects would result in grading and excavation, and soil disturbances that could cause erosion. However, all construction projects in the Tahoe Region must meet requirements and regulations of the TRPA, Lahontan RWQCB, Placer County, and federal, other state, and local agencies. The TRPA Code restricts grading, excavation, and alteration of natural topography (TRPA Code Chapter 33). In addition, all construction projects located in California with greater than one acre of disturbance are required, by Lahontan RWQCB, to submit an NPDES permit which includes the preparation of a SWPPP that includes site-specific construction site monitoring and reporting. Project SWPPPs are required to describe the site, construction activities, proposed erosion and sediment controls, means of waste disposal, maintenance requirements for temporary BMPs, and management controls unrelated to stormwater. Temporary BMPs to prevent erosion and protect water quality would be required during all site development activities, must be consistent with TRPA requirements, and would be required to ensure that runoff quality meets or surpasses TRPA, state, and federal water quality objectives and discharge limits.

The robust regulatory requirements of TRPA and other federal, state, and local agencies ensure that the proposed Project, Alternative A, and the cumulative projects would meet land coverage limitations and would implement erosion and sediment controls such that site preparation and construction of individual projects would not create grading or excavation that conflicts with TRPA policies or contribute to a significant increase in soil erosion. Cumulative impacts are less than significant. Therefore, the contribution by the proposed Project or Alternative A related to geology, soils, land capability, and coverage would not be cumulatively considerable.

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3.10 HYDROLOGY AND WATER QUALITY

This section includes a discussion of existing hydrologic conditions, a summary of applicable hydrology and water quality regulations, and an analysis of potential short-term and long-term hydrologic or water quality impacts that could result from implementation of the Tahoe City Cross-Country Lodge Replacement and Expansion Project. The primary topics raised during scoping that pertain to hydrology and water quality included:

- Potential for changes in runoff volume;
- Effects to floodplains and wetlands; and
- Potential effects on water quality.

Mitigation measures are recommended for any significant or potentially significant impacts to important natural hydrologic processes or conditions, or to water quality. A discussion of effects related to land coverage and potential erosion, and potential effects of a seismically induced seiche or tsunami are provided in Section 3.9, "Geology, Soils, Land Capability, and Coverage." A discussion of effects to stream environment zone (SEZ) habitat is found in Section 3.3, "Biological Resources," and is also discussed below in relation to water quality. Information sources used in the preparation of this analysis include previous studies conducted for the watersheds within the vicinity of the proposed Project and Alternative A sites, environmental impact reports and background reports prepared for plans and projects in the vicinity, and published and unpublished hydrologic literature.

The proposed Project site and Alternative A site do not contain stream or water bodies and are not in the 100-year flood hazard zone for any stream or water body. Therefore, issues related to water currents, stream volumes, or flood hazards are not evaluated further.

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact on hydrology and water quality. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

3.10.1 Regulatory Setting

FEDERAL

Clean Water Act (Public Law 92-500)

Section 404

The Clean Water Act (CWA) consists of the Federal Water Pollution Control Act of 1972 and subsequent amendments. The CWA provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. Section 404 of the act prohibits the discharge of fill material into waters of the United States, including wetlands, except as permitted under separate regulations by the U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA). To discharge dredged or fill material into waters of the United States, including wetlands, Section 404 requires projects to receive authorization from the Secretary of the Army, acting through the USACE. Waters of the U.S. are generally defined as "…waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; territorial seas and tributaries to such waters."

Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification for the discharge. The certification must be obtained from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over the affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. Water quality certification requires evaluation of potential impacts in light of water quality standards and CWA Section 404 criteria governing discharge of dredged and fill materials into waters of the United States. The federal government delegates water pollution control authority under CWA Section 401 to the states (and in California, ultimately to the Regional Water Quality Control Boards).

Section 402

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate discharges of pollutants into waters of the United States. A NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities, and the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the discussion of state regulations below).

Section 303

Section 303(d) of the CWA requires states to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still be in compliance with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. EPA must either approve a TMDL prepared by the state or disapprove the state's TMDL and issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

Lake Tahoe TMDL

The Lake Tahoe TMDL was developed as a partnership between the Lahontan Regional Water Quality Control Board (Lahontan RWQCB) and the Nevada Division of Environmental Protection (NDEP), and approved by the EPA in 2011. The TMDL addresses the declining clarity and transparency of Lake Tahoe. Each TMDL represents a goal that may be implemented by adjusting pollutant discharge requirements in individual NPDES permits or establishing nonpoint source controls. Because California and Nevada must comply with, administer, and enforce their own state laws and policies, each state has developed its own Lake Tahoe TMDL to address the impairment of Lake Tahoe as addressed in each state's Section 303(d) filings with EPA.

California's Lake Tahoe TMDL (dated November 2010 and approved by EPA in 2011) requires attainment of the California transparency objective for Lake Tahoe over a 65-year implementation period. Based on California law, Lahontan RWQCB has the obligation to implement and enforce the California Lake Tahoe TMDL through NPDES discharge permits (over which EPA has jurisdiction) issued to California government entities (City of South Lake Tahoe, Placer County, El Dorado County, and the California Department of Transportation).

Federal Antidegradation Policy

The Federal Antidegradation Policy was enacted to provide protection to high-quality water resources of national importance. It directs states to develop and adopt statewide antidegradation policies that include protecting existing instream water uses and maintaining a level of water quality necessary to protect those existing uses and the water

quality of high-quality waters. In EPA's CWA regulations regarding water quality standards (40 CFR Chapter 1, Section 131.12[a][3]), the criteria for requiring an antidegradation standard includes: "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." The EPA has designated Lake Tahoe an Outstanding National Resource Water (ONRW). ONRWs are provided the highest level of protection under EPA's Antidegradation Policy, stipulating that states may allow some limited activities that result in temporary and short-term changes to water quality, but such changes should not adversely affect existing uses or degrade the essential character or special uses for which the water was designated an ONRW. The EPA interprets this provision to prohibit new or increased discharges to ONRWs that would degrade water quality.

TAHOE REGIONAL PLANNING AGENCY

Thresholds

Water quality standards adopted by TRPA set a target to return the lake to the transparency observed in the late 1960s. Six major indicator themes are currently used by TRPA to assess the water quality of Lake Tahoe and its tributaries. Table 3.10-1 lists each threshold category, indicator reporting category (indicator theme), and generalized characterization of current status, trend, and confidence (TRPA 2016).

Table 3.10-1 TRPA Summary of Findings by Threshold Category (Water Quality)

Threshold Category	Indicator Reporting Category (Indicator Theme)	Generalized Characterization of Current Status, Trend and Confidence[1]
Water Quality	Pelagic Lake Tahoe (open waters of Lake Tahoe)	Indicators range from somewhat worse than target to somewhat better than target, trending toward little or no change[1]. The exception to this is the indicator for Phytoplankton Primary Productivity, which is described as considerably worse than target with a trend toward rapid decline.
	Littoral Lake Tahoe (nearshore waters of Lake Tahoe)	Indicators are at or somewhat better than target with insufficient data to determine trend. There is insufficient data to determine the status or trend for Attached Algae or Aquatic Invasive Species.
	Tributaries	Suspended sediment concentrations in tributaries are considerably better than target; however, phosphorus and nitrogen concentrations are still worse than target for most tributary streams. There is insufficient data to determine the status of sediment and nutrient loading in tributaries, however these indicators are trending toward no change or moderate improvement.
	Surface Runoff (stormwater runoff to surface waters)	There is insufficient data to determine status or trend of Surface Runoff indicators.
	Groundwater (stormwater runoff to soil)	There is insufficient data to determine status or trend of Groundwater indicators.
	Other Lakes (Fallen Leaf Lake)	There is insufficient data to determine status or trend of indicators for Other Lakes.

[1] Range of Qualifiers from best to worst:

Possible Status Categories: Considerably better than, at or somewhat better than, somewhat worse than, considerably worse than, and insufficient data to determine status or no target established.

Possible Trend Categories: Rapid movement, moderate improvement, little or no change, moderate decline, rapid decline, and insufficient data to determine trend.

Source: TRPA 2016

Nearshore Water Quality

The quality of water in the nearshore area, the primary point of contact for most residents and visitors to the lake, is tracked by measuring turbidity, which is an indication of the cloudiness of water expressed in Nephelometric Turbidity Units (NTU). Higher turbidity measurements indicate cloudier water. TRPA maintains standards for

nearshore turbidity, <3 NTU in areas influenced by stream discharge, and <1 NTU in areas not influenced by stream discharge. Elevated turbidity measurements in the nearshore area of the lake, defined as levels exceeding 0.25 NTU, appear to be influenced by surface runoff from developed areas. While measures exceeding 0.25 NTU may be higher relative to other areas of the lake, they do not represent exceedance of the standard. Nearshore turbidity monitoring completed between November 2014 and November 2015 did not result in a single value that exceeded the <1 NTU standard (TRPA 2016).

Deep Water (Pelagic) Transparency and Clarity

Long-term changes to the transparency and clarity of Lake Tahoe are influenced by the amount of particulate material in the water, which includes inorganic particles that scatter light (e.g., fine sediment suspended in the water column) and organic particles that absorb light (e.g., suspended algae). Tahoe's transparency is currently 22 feet worse than 1968 values, based on average annual Secchi disk measurement (TERC 2018). In 2017 the average annual Secchi disk visibility depth measured from the surface of the lake was 59.7 feet, which is a 9.5-foot decrease from the previous year and the lowest value ever recorded (TERC 2018). The record low clarity was due to unusually poor winter clarity, which may be the result of high sediment loads from high and sustained stream flows in winter 2017 (TERC 2018).

Deep Water Primary Productivity

Primary productivity measures the rate at which algae grow. Measurements of primary productivity are expressed in grams of carbon per square meter (gC/m^2). Average annual measurements of primary productivity in the lake have trended upwards since 1968 at a rate of approximately eight percent per year (TRPA 2016). The interim target for this threshold indicator is a reduction in the rate of increase.

Other Thresholds

In addition to water quality thresholds and standards that specifically measure the water quality of Lake Tahoe, additional thresholds are used by TRPA to assess the quality of water in tributary streams to Lake Tahoe or other waters directly discharged to Lake Tahoe. These thresholds include standards that define: maximum allowable pollutant concentrations for various constituents in tributaries to Lake Tahoe; surface runoff concentrations discharged to surface waters; aquatic invasive species, periphyton (attached algae), surface runoff concentrations and discharged to land surfaces for infiltration; stormwater runoff to soil (affecting groundwater); and the quality of other lakes in the Tahoe Basin. Table 3.10-1, above, provides the current status for these additional Water Quality Indicator Reporting Categories.

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 requirements for development projects to mitigate water quality impacts, collection of mitigation fees to fund restoration projects that help offset development impacts, and the requirement for all landowners to install and maintain water quality best management practices (BMPs).

Code of Ordinances

The TRPA Code contains the requirements and standards intended to achieve water quality thresholds, goals, and policies. Sections 60.1 and 60.2 of the TRPA Code are directed specifically at water quality, but a number of other chapters and sections contain provisions related to design and installation of BMPs and standards for grading and excavation (Table 3.10-2).

Table 3.10-2 Water Quality Code Requirements Related to the Project

TRPA Code Provision	Requirement
Section 33.3	Standards for grading and excavation. Grading is permitted only between May 1 and October 15.
Section 33.4	Requirements for special investigations, reports, and plans, determined to be necessary by TRPA to protect the environment against significant adverse effects from grading projects.
Section 33.5	Requirements for grading and construction schedules when grading or construction is to occur pursuant to a TRPA permit.
Chapter 35	Regulations pertaining to recognition of natural hazards, including floodplains, prevention of damage to property, and protection of public health relating to such natural hazards. The TRPA Code prohibits development, grading or filling of lands within 100-year floodplains with certain exceptions, including specific public outdoor recreation facilities, public health or safety facilities, access to buildable sites across a floodplain, and erosion control projects or water quality control facilities when it can be proven there are no viable alternatives and all potential impacts can be minimized (TRPA 2012).
Section 60.1	Discharge standards for runoff and discharge to surface and groundwater.
Section 60.2	For projects that result in increased impervious coverage, implementation of offsite water quality control or stream environment zone mitigation projects is required; or payments into the Water Quality Mitigation Fund.
Section 60.4	Runoff shall be controlled with implementation of BMPs. Alternative BMPs may be allowed where special circumstances exist.

Source: TRPA 2012

Numerical discharge standard limitations are specified in the TRPA Code for nitrogen, phosphorus, iron, turbidity, suspended sediments, and grease and oil. Pollutant concentrations in surface runoff may not exceed the concentrations listed in Table 3.10-3 at the 90th percentile for discharge to surface waters. Surface runoff infiltrated into soils may not exceed the concentrations listed in Table 3.10-3 for discharge to groundwater. In addition to numerical discharge limits, the TRPA Code also restricts the discharge of wastewater and toxic substances, and sets requirements for snow removal, salt and abrasive use, and pesticide use and fertilizer control.

Table 3.10-3 TRPA Discharge Limits for Surface Runoff and Discharge to Groundwater

Constituent	Maximum Concentration
Surface Runoff	
Dissolved Inorganic Nitrogen as N	0.5 mg/l
Dissolved Phosphorus as P	0.1 mg/l
Dissolved Iron as Fe	0.5 mg/l
Grease and Oil	2.0 mg/l
Suspended Sediment	250 mg/l
Discharge to Groundwater	
Total Nitrogen as N	5 mg/l
Total Phosphate as P	1 mg/l
Iron as FE	4 mg/l
Turbidity	200 NTU
Grease and Oil	40 mg/l

Source: TRPA 2012

Placer County Tahoe Basin Area Plan

The Implementing Regulations of the Placer County Tahoe Basin Area Plan incorporates Chapter 60, Water Quality, of the TRPA Code in its entirety.

CALIFORNIA

State Water Resources Control Board

In California, the State Water Resources Control Board (SWRCB) has broad authority over water quality control issues for the state. SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other state agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (DHS) (for drinking water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Wildlife, and the Office of Environmental Health and Hazard Assessment. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. RWQCBs are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. Lahontan RWQCB is responsible for the water bodies in the project vicinity.

Water Quality Control Plan for the Lahontan Basin

Water quality standards and control measures for surface and ground waters of the Lahontan Region are contained in the Water Quality Control Plan for the Lahontan Region (Basin Plan). The Basin Plan designates beneficial uses for water bodies. It establishes water quality objectives, waste discharge prohibitions, and other implementation measures to protect those beneficial uses. Chapter 5 of the Basin Plan, Water Quality Standards and Control Measures for the Lake Tahoe Basin, summarizes a variety of control measures for the protection and enhancement of Lake Tahoe.

The Basin Plan was first adopted in 1975, and most recently updated in 2014. The Basin Plan contains both narrative and numeric water quality objectives for the region. The Basin Plan amendments include additional language related to: "mixing zones" for dilution of discharged water, compliance schedules for NPDES permits, discharge prohibition exemptions for low threat discharges such as incidental runoff from landscape irrigation or construction dewatering, simplification of existing prohibition exemptions, and the removal of language describing programs administered by TRPA (Lahontan RWQCB 2014).

Waste Discharge Prohibition for the Lake Tahoe Hydrologic Unit

The Basin Plan prohibits the discharge of any waste or deleterious material to the surface waters of Lake Tahoe, the 100-year floodplain of any tributary to Lake Tahoe, or any SEZ within the Lake Tahoe hydrologic unit. Lahontan RWQCB may grant an exception for public service facilities provided that the following findings can be made:

- the project is necessary for public health, safety, or environmental protection;
- there is no reasonable alternative, including spans that avoids or reduces the extent of encroachment;
- the impacts are fully mitigated;
- SEZ lands are restored in an amount of 1.5 times the area of SEZ developed or disturbed by the project; and
- wetlands are restored in an amount at least 1.5 times the area of wetland disturbed or developed. Certain wetlands may require restoration of greater than 1.5 times the area developed or disturbed.

National Pollutant Discharge Elimination System Permits

SWRCB and Lahontan RWQCB have required specific NPDES permits for a variety of activities that have potential to discharge pollutants to waters of the state and adversely affect water quality. To receive an NPDES permit a Notice of Intent to discharge must be submitted to Lahontan RWQCB and design and operational BMPs must be implemented to reduce the level of contaminated runoff. BMPs can include the development and implementation of various practices, including educational measures (workshops informing public of what impacts result when household chemicals are dumped into storm drains), regulatory measures (local authority of drainage facility design), public policy measures (label storm drain inlets as to impacts of dumping on receiving waters), and structural measures (filter strips, grass swales, and retention basins). All NPDES permits also have inspection, monitoring, and reporting requirements.

General Permit for Stormwater Discharges Associated with Construction Activity in the Lake Tahoe Basin

Lahontan RWQCB adopted the NPDES Construction Stormwater General Permit for the Lake Tahoe Basin in March 2016 (Order No. R6T-2016-0010). Projects disturbing more than 1 acre of land during construction must file a Notice of Intent with Lahontan RWQCB to be covered under this permit. Construction activities subject to the Lake Tahoe Construction Stormwater Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include BMPs designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving offsite into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control. BMPs would conform to Chapter 4.5 of the Tahoe BMP Handbook.

State Nondegradation Policy

In 1968, as required under the federal antidegradation policy described previously, SWRCB adopted a nondegradation policy aimed at maintaining high quality for waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy states:

a) Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.

b) Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements.

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs. EPA has delegated to the DHS the responsibility for California's drinking water program. DHS is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA. Title 22 of the California Administrative Code (Article 16, Section 64449) defines secondary drinking water standards, which are established primarily for reasons of consumer acceptance (i.e., taste) rather than for health issues.

LOCAL

Placer County Code

The Placer County Code is the implementing mechanism for the goals and policies of the General Plan. Portions of the County Code dealing with a specific issue are referred to as ordinances. Specific ordinances relevant to hydrology and water quality include the Stormwater Ordinance (Section 8.28 of the Placer County Code) and the Flood Damage and Prevention Ordinance (Section 15.52 of the Placer County Code). The Stormwater Ordinance includes discharge prohibitions, requirements for BMP installation and reduction of stormwater flows, and enforcement mechanisms. The Flood Damage and Prevention Ordinance includes standards for construction in or near flood areas and prohibits actions that would raise flood elevations or increase the risk of flood damage to existing structures.

3.10.2 Environmental Setting

HYDROLOGY

Regional Hydrology

The Lake Tahoe Basin was formed approximately 2 to 3 million years ago by geologic faulting and volcanic activity. Geologic faults running in a north-south direction allowed the formation of a valley between the uplifting Sierra Nevada and the Carson Range. The northeastern portion of the valley was blocked and dammed by volcanic activity to create the 506 square mile basin that lies along the California-Nevada border. Precipitation and runoff eventually filled a portion of the basin to create Lake Tahoe, which has a water surface area covering nearly two-fifths of the total basin area (191 square miles).

Lake Tahoe is fed by 63 tributary streams and 52 intervening zones that drain directly to the lake. The Truckee River at the northwest end of the Tahoe Basin is the lake's only outlet, flowing to Pyramid Lake in Nevada. A dam constructed at Tahoe City in the early 1900s regulates water flow to the Truckee River from the natural rim (6,223 feet above sea level) to the maximum legal Lake level of 6,229.1 feet. The Lake is 12 miles wide and 22 miles long, with 72 miles of shoreline.

Average precipitation, measured at almost 34 inches a year at Tahoe City (U.S. Climate Data 2019), generally falls as snow in the higher elevations and as snow and rain in the lower elevations, including the lake shore from October to May. Peak stream runoff in the watersheds of interest is typically triggered by spring snowmelt in May and June. The snowpack near the lakeshore predominantly melts before the peak in snowmelt and runoff from the higher elevations.

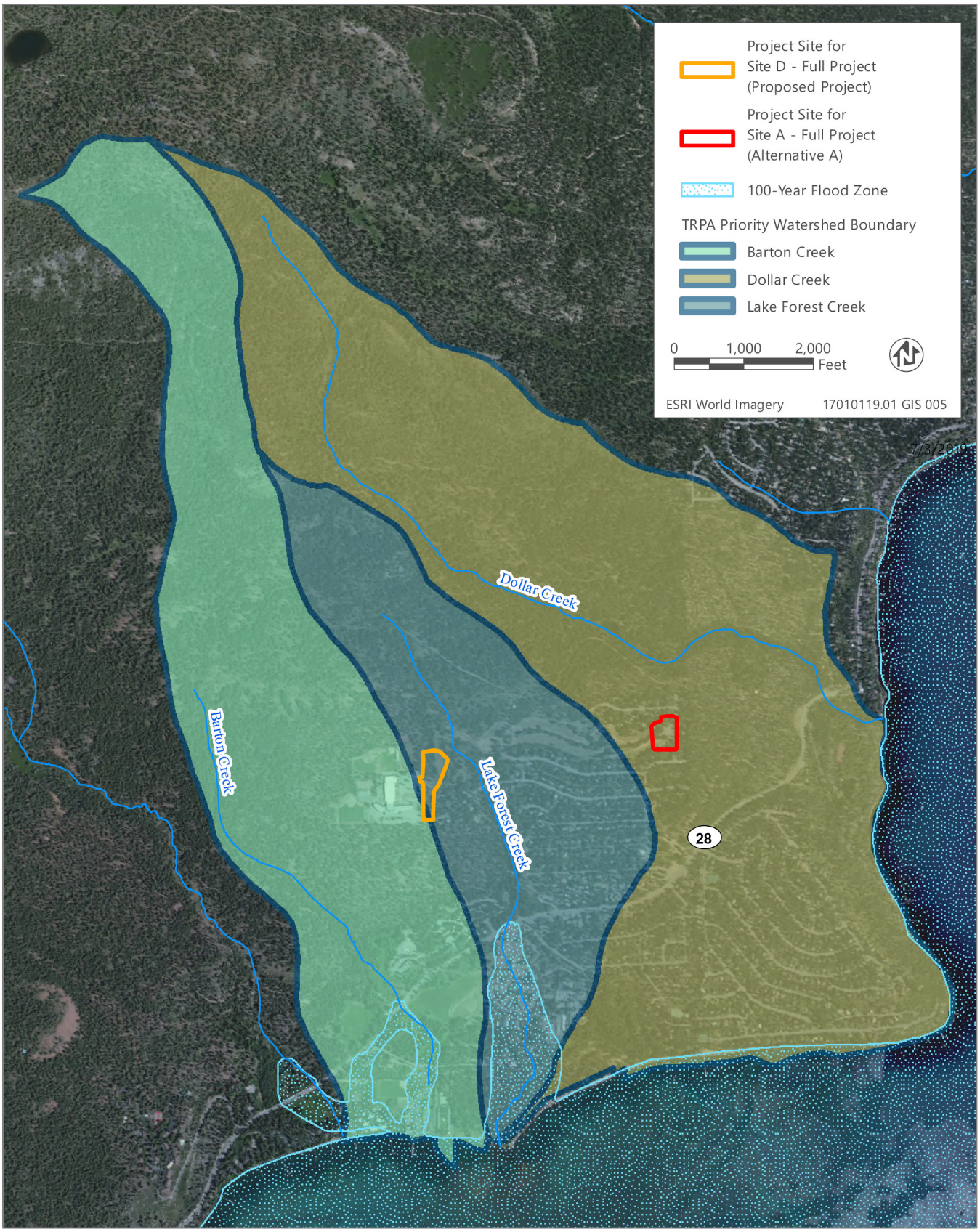
Land cover within the Lake Tahoe Basin is primarily forest, with areas of granitic outcrops and meadows. Regional topography is characterized by steep mountain slopes at higher elevations, transitioning to more moderately sloped terrain near the lakeshore.

Local Hydrology

The Project area includes portions of three TRPA delineated sub-watersheds (see Figure 3.10-1). Alternative A is located approximately 700 feet south of the perennial Dollar Creek, in the 1,166-acre Dollar Creek watershed. The proposed Project is located predominately within the Lake Forest Creek watershed, although approximately 0.25 acre of the site crosses over into the Barton Creek watershed. Lake Forest Creek is an intermittent stream in the reach that passes approximately 200 feet to the east of the proposed Project. The Lake Forest Creek Watershed is approximately 447 acres.

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) provides mapping showing areas that would be inundated by a 100-year flood. The 100-year floodplain refers to the area that would be inundated by a flood that has a one percent chance of occurring in any given year. The 100-year flood is the national minimum standard to which communities regulate their floodplains. There are no mapped 100-year floodplains within the area containing the proposed Project site and Alternative A site.



Source: Data downloaded from FEMA in 2014, received from TRPA in 2011 and adapted by Ascent Environmental in 2019

Figure 3.10-1 Watershed and Flood Zone Map

SURFACE WATER QUALITY

Lake Tahoe

Lake Tahoe is classified by limnologists as an oligotrophic lake, which means the lake has very low concentrations of nutrients that can support algal growth, leading to clear water and high levels of dissolved oxygen (TERC 2011:6.15). The exceptional transparency of Lake Tahoe results from naturally low inputs of nutrients and sediment from the surrounding watersheds. The most recent scientific research points to inorganic fine sediment particles (particles defined as less than 16 micrometers in diameter) as the primary pollutant of concern impairing Lake Tahoe's transparency. This finding is based on the ability of inorganic fine sediment particles to efficiently scatter light and decrease observed transparency. Swift et al. (2006) determined that light scattering by inorganic particles for the period between 1999 and 2002 was responsible for approximately 55 to 60 percent of measured light attenuation in the lake. Additional pollutants of concern include phosphorus and nitrogen, which stimulate algal growth in the lake contributing to declines in transparency and quality of the near-shore environment.

Research during the development of the Lake Tahoe TMDL included an analysis of pollutant sources to identify the magnitude of pollutant loads to Lake Tahoe from specific source categories. These categories were defined as: surface runoff from developed lands (urban watershed); atmospheric deposition; forested runoff (non-urban watershed); stream channel erosion; groundwater; and shoreline erosion. The Lake Tahoe TMDL identifies surface runoff from developed lands as the most significant source of pollutant loading for fine sediment particles and phosphorus. For example, developed lands are estimated to deliver over 70 percent of the average annual fine sediment particle load and approximately 40 percent of the average annual phosphorus load to the lake. For nitrogen, atmospheric deposition is identified as the most significant source of loading to the lake, contributing 55 percent of the average annual load. (Lahontan RWQCB and NDEP 2010)

The Lake Tahoe TMDL established the goal of restoring Lake Tahoe's historic deep water transparency to 29.7 meters (97.4 feet) annual average Secchi depth (Lahontan RWQCB and NDEP 2010). The deep-water transparency water quality objective for Lake Tahoe has not been met since its adoption. To achieve the transparency standard, estimated fine sediment particle, phosphorus, and nitrogen loads must be reduced by 65 percent, 35 percent, and 10 percent, respectively. It is anticipated that attainment of these load reduction standards will take 65 years from implementation (Lahontan RWQCB and NDEP 2010).

A 20-year interim transparency goal, known as the Clarity Challenge requires Tahoe Basin-wide pollutant load reductions to be achieved within 15 years, followed by 5 years of monitoring to confirm that 24 meters of Secchi depth transparency has been reached. To attain the goals of the Clarity Challenge, implementation efforts must reduce Tahoe Basin-wide fine sediment particle, phosphorus, and nitrogen loads by 32 percent, 14 percent, and 4 percent, respectively, over the 15-year period.

Streams

Traditional development activities increase impervious and disturbed areas within watersheds and result in an increase in the amount of flow and sediment that a stream must transport. Sediment entering streams may come from floodplains, upland slopes, urban runoff, or stream bank erosion. Stream systems influenced by watershed disturbance typically show stream channel degradation and increased bank erosion (Lahontan RWQCB and NDEP 2010). Additionally, pollutants such as phosphorus and nitrogen are often attached to sediment particles, further degrading water quality. In 2006, an analysis of sediment loading was completed for all 63 streams that flow into Lake Tahoe (Simon 2006). This study showed that one percent or less of the fine sediment contributed by Lake Forest and Dollar Creeks was generated by stream bank erosion, indicating that the watersheds are relatively stable and not greatly disturbed. Little additional water quality data is available for these streams; however, it is likely that they are affected by runoff from adjacent neighborhoods and roadways. While no portion of these streams are designated as impaired under Section 303 of the CWA, the steams are tributaries to Lake Tahoe and are included in the Lake Tahoe TMDL.

Two restoration projects have been completed on the lower reaches of Lake Forest Creek to remove fill and reconnect historic stream channels and meadows. Dollar Creek is impounded approximately 1,500 feet upstream from the proposed Project site. Dollar Reservoir is roughly one acre in size and sits behind a dam that is 14 feet in height and 400 feet in length. The dam and reservoir currently serve only as a recreational destination.

GROUNDWATER

The most extensive and productive groundwater reservoirs (aquifers) in the Lake Tahoe Basin are composed of course textured alluvial deposits and deposits of glacial till and outwash. Five aquifers have been defined around the Lake Tahoe Basin, generally based on surface contact between basin fill and bedrock. The proposed Project site and Alternative A site are located within the Tahoe City/West Shore aquifer (USGS 2007).

The Tahoe City/West Shore aquifer extends from Dollar Point to Rubicon Bay with a shoreline distance of 18 miles. In the area around the lake outlet at Tahoe City, the aquifer consists of a complex series of sediment layers including silt and clay lake sediments layered with sand, overlying volcanic flows, which are then underlain by ancient, water-bearing sand and gravel deposits, extending from approximately 60 feet to 590 feet (USGS 2007). South of Tahoe City, the West shore is drained by a series of glacially cut watersheds separated by moraines (glacial till ridges). In general, each watershed is underlain by glacial outwash and stream deposits (mostly sands and gravels) with fill depths between 50 and 450 feet.

Groundwater recharge within the area containing the proposed Project site and Alternative A site occurs via infiltration into faults and fractures in the bedrock, into the soil and decomposed granite that overlies much of the bedrock, and into unconsolidated basin-fill deposits. Groundwater quality is good, with no contamination reported (Tahoe City Public Utility District [TCPUD] 2014, California Department of Water Resources [DWR] 2003).

3.10.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

The evaluation of potential hydrology and water quality impacts is based on a review of documents pertaining to the Project area, including previous studies conducted for local watersheds, environmental impact reports, background reports prepared for plans and projects in the vicinity, and published and unpublished hydrologic literature. The information obtained from these sources was reviewed and summarized to understand existing conditions and to identify potential environmental effects, based on the thresholds of significance. In determining the level of significance, the analysis assumes that the proposed Project would comply with relevant federal, state, and local laws, regulations, and ordinances.

SIGNIFICANCE CRITERIA

CEQA Criteria

Based on Appendix G of the State CEQA Guidelines, the Project would result in a potentially significant impact to hydrology and water quality if it would:

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream of river or through the addition of impervious surfaces, in a manner which would:
    - result in substantial erosion or siltation on or off site;

  - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site; or
  - create or contribute runoff water which would exceed the capacity of exiting or planned stormwater drainage system or provide substantial additional sources of polluted runoff;
- conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

TRPA Criteria

The "Water Quality" criteria from the TRPA Initial Environmental Checklist were used to evaluate the hydrology and water quality impacts of the project. Checklist items that are relevant to the Project have been included in the environmental analysis below. Impacts to hydrology and water quality would be significant if it would:

- discharge into surface waters, or alter surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity;
- cause the potential discharge of contaminants to the groundwater or alter groundwater quality; or
- change absorption rates, drainage patterns, or the rate and amount of surface water runoff so that the 20-year, 1-hour storm runoff (approximately 1 inch per hour) cannot be contained on the site.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.10-1: Potential for Project Construction to Degrade Surface or Groundwater Quality

The proposed Project and Alternative A would create Project specific construction-related disturbance, which would have the potential to degrade water quality. However, existing TRPA, Lahontan RWQCB, and Placer County regulations and standard permit conditions would substantially reduce the risk of construction-related stormwater quality impacts by controlling construction site contaminants (such as sediment-laden runoff and construction chemicals), and by proper management of hazardous materials onsite. Because stringent regulatory protections are in place, construction activities from the implementation of the proposed Project and Alternative A would have a **less-than-significant** impact on water quality.

Proposed Project

Implementation of the proposed Project would result in soil-disturbing activities, including clearing, excavating, filling, grading, and temporary stockpiling of soils associated with construction of the Schilling Lodge. No construction is proposed at the Highlands Community Center. These activities could expose soils to wind and water erosion and potentially transport pollutants to surface water bodies, particularly during storm events. In addition, the demolition of existing structures would generate debris. Soil and small pieces of debris exposed during construction activities could be carried offsite through construction vehicle traffic or washed off the exposed areas and transported to adjacent SEZ areas or Lake Tahoe. Finally, there would be onsite construction staging of equipment and vehicles, as well as construction-related vehicle trips. Fuels and other construction-related chemicals could be accidentally spilled or leaked or could otherwise be discarded into nearby stormdrains or drainages. If pollutants reach drainages, they could ultimately be discharged to Lake Tahoe.

Although construction activities have the potential to adversely affect surface and groundwater quality, the proposed Project would be required to comply with stringent TRPA, Lahontan RWQCB, and Placer County water quality protections. Temporary construction BMPs that would be required through existing regulations, such as Chapter 33 of the TRPA Code summarized under "Code of Ordinances" in Section 3.10.1, "Regulatory Setting," would include but not be limited to:

- Temporary erosion control BMPs (e.g., silt fencing, fiber rolls, drain inlet protection) installed and maintained to prevent the transport of earthen materials and other waste from a construction site.
- Tree protection fencing installed around trees that are to remain in place throughout construction.

- Mandatory pre-grading inspections by regulatory agencies at the construction site to ensure proper installation of the temporary construction BMPs before the initiation of construction activities.
- Requirements to limit the area and extent of all excavation to avoid unnecessary soil disturbance.
- Requirements to winterize construction sites by October 15 to reduce the water quality impacts associated with winter weather. Winterization typically includes installation of erosion controls, vegetation protection, removal of construction debris, site stabilization, and other measures.
- Dust control measures to prevent transport of materials from a project site into any surface water or drainage course. Dust control measures typically include sweeping, watering, covering of disturbed soils and stockpiles, vehicle washing, and other measures.
- Requirements to remove surplus or waste earthen materials from a project site, as well as requirements to stabilize and protect stockpiled material.
- Stabilization of drainage swales disturbed by construction activities with appropriate soil stabilization measures (e.g., revegetation, rock armoring) to prevent erosion.
- Temporary BMPs to capture and contain pollutants from fueling operations, fuel storage areas, and other areas used for the storage of hydrocarbon based materials. These may include spill prevention plans and other measures.
- Temporary BMPs to prevent the tracking of earthen materials and other waste materials from a project site to offsite locations, including stabilized points of entry/exit for construction vehicles/equipment, designated vehicle/equipment rinse stations, and sweeping operations.
- Regular inspection and maintenance of temporary BMPs.

All construction projects in California with greater than 1 acre of disturbance must, in advance of the construction, prepare a SWPPP pursuant to the NPDES Phase II Stormwater Program and in support of a Construction Stormwater General Permit. A project-specific SWPPP describes the site, construction activities, proposed erosion and sediment controls, means of waste disposal, maintenance requirements for temporary BMPs, and management controls for potential pollutant sources other than stormwater runoff. The SWPPP also includes a site-specific construction site monitoring and reporting plan. In addition, the SWPPP would require the implementation of a hazardous materials spill response plan, which would reduce the potential of directly and indirectly effecting water quality through construction-related hazardous material spills. Water quality controls outlined in a SWPPP must be consistent with TRPA requirements (including Chapter 4.5 of the TRPA BMP Handbook), the federal antidegradation policy, and maintain designated beneficial uses of Lake Tahoe.

In addition to TRPA and Lahontan RWQCB permit enforcement, it is the accepted practice of the Placer County Engineering and Surveying Division to require inclusion of pertinent regulatory compliance measures as conditions of grading permits for projects within the county. This practice creates an additional layer of regulatory oversight and review, and facilitates communication between Placer County and the regulatory agencies.

The proposed Project would be subject to existing laws and regulations requiring erosion and sediment controls required by TRPA, Lahontan RWQCB, and Placer County, as described above and, in compliance with those laws and regulations would implement and maintain temporary construction BMPs to capture, detain, and infiltrate or otherwise control and properly manage site runoff; implement waste control measures to prevent leakage or spill of hazardous materials into soil and surface waters; and manage controls for stormwater runoff to prevent erosion and offsite transport of earth materials. Because the applicant would implement the measures described herein and regulatory protections are in place to minimize erosion and transport of sediment and other pollutants, construction-related impacts would be effectively controlled. Therefore, this impact would be **less than significant**.

Alternative A

Implementation of Alternative A would include the demolition of the Existing Lodge and the reconstruction of the Schilling Lodge of the same size and layout as the proposed Project. The demolition process would generate construction debris that could be carried offsite via construction vehicle traffic or washed off the exposed areas and transported to adjacent storm drains or drainages. The construction-related vehicle staging and use of fuel and related chemicals would be the same as described for the proposed Project.

As described for the proposed Project, Alternative A would be subject to existing laws and regulations requiring erosion and sediment controls required by TRPA, Lahontan RWQCB, and Placer County, as described above and, in compliance with those laws and regulations would implement and maintain temporary construction BMPs to capture, detain, and infiltrate or otherwise control and properly manage site runoff; implement waste control measures to prevent leakage or spill of hazardous materials into soil and surface waters; and manage controls for stormwater runoff to prevent erosion and offsite transport of earth materials. Because the applicant would implement the measures described herein and stringent regulatory protections are in place to reduce erosion and transport of sediment and other pollutants, construction-related impacts would be effectively controlled. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.10-2: Potential for Changes in Land Use or Facility Operation to Degrade Surface or Groundwater Quality

The proposed Project would result in the development of the Schilling Lodge on forested lands designated for recreation. Similarly, Alternative A would include the redevelopment and expansion of an existing building. The proposed Project and Alternative A have the potential to generate pollutants that could be carried in stormwater runoff to surface waters. However, TRPA and Lahontan RWQCB regulations require the installation and maintenance of water quality BMPs, which would reduce the potential water quality effects the proposed development. Also, TRPA Code provisions would require fertilizer management and snow storage BMPs to prevent potential adverse effects from these activities. Because these stringent protections are in place, the potential for operation of the facilities associated with the proposed Project and Alternative A to degrade water quality would be a **less-than-significant** impact.

Proposed Project

Implementation of the proposed Project would result in construction of new development on a relatively undisturbed site. Additionally, the existing community center would continue to serve community needs and would require continued maintenance and upkeep. The use of these facilities could result in the accidental discharge of household and commercial products or improper use of pesticides and fertilizers, which could be carried in runoff or infiltrated into the soil reaching surface and groundwater resources. Additionally, urban stormwater runoff and snow melt from the proposed Project site could contain oil and roadway residue, fine sediment, and other pollutants.

The potential for water quality degradation from use of pesticides and fertilizers is addressed in the TRPA Code. All projects that require revegetation must submit a revegetation plan that specifies the use of approved plant species and a schedule of the amount and method of application of any necessary fertilizers in accordance with TRPA Code Section 61.4.5. TRPA Code Section 36.7 and the TRPA BMP Handbook (TRPA 2014) require that landscaped areas use native or adapted plant species that require little water and fertilizer and are appropriate for the site conditions.

Melt water from snow storage areas carries concentrated amounts of nutrients, fine sediments, salt, sand pollutants from vehicles such as petroleum hydrocarbons, oil, or heavy metals and materials from road and tire wear. All potential snow storage areas included in the proposed Project would be designed to drain to BMP facilities capable of treating large sediment loads. In accordance with TRPA Code Section 60.1.4, all snow storage areas would meet the site criteria and management standards in the TRPA Handbook of Best Management Practices (TRPA 2014). In addition, snow storage areas may not be located within SEZs.

As required by TRPA, Lahontan RWQCB, and Placer County, permanent BMPs are proposed for the proposed Project site. TRPA Code Chapter 60 requires that all projects be designed to accommodate the volume of surface water generated by a site during a 20-year, 1-hour storm. This can be accomplished through use of low impact development (LID) techniques to infiltrate stormwater as close to its source as possible, construction of infiltration basins, and strategic placement of landscaped areas to capture runoff. LID practices and proposed permanent BMPs for this Project include detention basins, dripline infiltration trenches, roadside infiltration trenches, rain gardens, underground infiltration chambers, and pervious paver units. These elements would be incorporated into the proposed landscape plan, which would also provide source control to reduce stormwater impacts to the watershed. All permanent BMPs would be designed to ensure compliance with the TRPA Code.

The potential for the operation of the proposed Project to degrade surface and groundwaters would be controlled through compliance with the surface and groundwater discharge standards found in Chapter 60 of the TRPA Code. In addition to the water quality protections in the required NPDES permits, TRPA has established numeric water quality standards for discharges to surface and ground waters. Section 61.1 of the TRPA Code specifies that water discharged to surface waters or infiltrated into soils should not contain excessive amounts of nutrients, sediment, or oil and grease. The TRPA numeric discharge limits are shown in Table 3.10-3 above. Where there is a direct hydrologic connection between ground and surface waters, discharge to groundwater must meet surface water discharge standards. The existence of a direct hydrologic connection is assumed to exist when, due to proximity to surface water, slope, or soil characteristics, the discharged water does not remain in the soil long enough to remove pollutants.

TRPA and Lahontan RWQCB regulations require the installation and maintenance of water quality BMPs, which would reduce the potential water quality effects the proposed development. Also, TRPA Code provisions would require fertilizer management and snow storage BMPs to prevent potential adverse effects from these activities. The applicant would be required to demonstrate to the permitting agencies that the Project design would comply with applicable regulatory requirements as part of the permit application and approval process. Because these protections are in place, the potential for operation of the facilities associated with the proposed Project to degrade water quality would be a **less-than-significant** impact.

Alternative A

Implementation of Alternative A would include the demolition of the Existing Lodge and the reconstruction of the Schilling Lodge of the same size and layout as the proposed Project. The Schilling Lodge would support an increased number of events. Operational contaminants could be carried in concentrated stormwater runoff and reach surface waters or be infiltrated into groundwater. However, as described above, TRPA and Lahontan RWQCB regulations require the installation and maintenance of water quality BMPs, which would reduce the potential water quality effects the proposed development. Also, TRPA Code provisions would require fertilizer management and snow storage BMPs to prevent potential adverse effects from these activities. The applicant would be required to demonstrate to the permitting agencies that the Project design would comply with applicable regulatory requirements as part of the permit application and approval process. Because these protections are in place, the potential for operation of the facilities associated with Alternative A to degrade water quality would be a **less-than-significant** impact.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.10-3: Potential for Increase in Stormwater Runoff, Impacts to Existing Drainage Systems, or Alteration of Drainage Patterns

The proposed Project and Alternative A would include new development, which would create increased impervious surfaces and increased runoff. However, the Project would be required to meet stormwater BMP standards and to demonstrate through subsequent drainage planning that each of the sites for the proposed Project and Alternative A would be able to capture and treat stormwater during peak flows, as required by TRPA and Placer County regulations. For these reasons, the potential for the proposed Project and Alternative A to create substantial adverse effects on stormwater runoff volumes and existing drainage systems would be **less-than-significant**.

Proposed Project

The peak flow and volume of stormwater runoff generated from an area is affected by development through conversion of vegetated and otherwise pervious surfaces to impervious surfaces (e.g., roads, roofs, driveways, walkways) and by the development of drainage systems that connect these impervious surfaces to streams or other water bodies. In this way, development can increase the rate and volume of runoff and eliminate storage and infiltration that would naturally occur along drainage paths.

The proposed Project involves the development of the Schilling Lodge and associated parking improvements in an undeveloped lot, which would increase the amount of impervious surfaces (known as land coverage) on the proposed Project site by 81,593 sq. ft. (See Impact 3.9-3, "Potential for Compaction or Land Coverage Beyond TRPA Limits," in Section 3.9, "Geology, Soils, Land Capability, and Coverage," for a more detailed discussion of existing and proposed coverage.) No construction is proposed at the Highlands Community Center that would result in potential impacts related to stormwater runoff and drainage. This would create a corresponding increase in the volume of stormwater runoff generated by the proposed Project site. However, the proposed increase in coverage would occur on high capability lands and would be required to meet existing BMP standards (Section 60.4.6 of the TRPA Code) to control potential increases in stormwater runoff and pollutant loading. As discussed above, TRPA Code Chapter 60 requires that all projects be designed to accommodate the volume of surface water generated by a site during a 20-year, 1-hour storm. Additionally, Placer County requires that peak stormwater flows from the proposed Project site be attenuated to at or below pre-Project peak flow rates utilizing stormwater detention basins, bioswales, rain gardens, infiltration chambers, dripline infiltration trenches, and roadside infiltration trenches. In support of required permits, a drainage report would be prepared by the Project applicant and submitted to Placer County and TRPA with stormwater calculations demonstrating the ability of the stormwater elements to control peak flows. The report would be prepared by a Registered Civil Engineer and, at a minimum, would include: written text addressing existing conditions, the effects of the proposed improvements, all appropriate calculations, watershed maps, changes in flows and patterns, and proposed onsite and offsite improvements and drainage easements to accommodate flows from the Project. The proposed Project's stormwater management systems would need to be maintained over time and the proposed devices would be selected by location and ease of maintenance.

The proposed Project would include new development that would create increase impervious surfaces and increased runoff. However, the proposed Project would be required to meet stormwater BMP standards and to demonstrate through subsequent drainage planning that the proposed Project site is able to capture and treat stormwater during peak flows, as required by TRPA and Placer County regulations as described herein and under Impact 3.9-3. Therefore, the potential for the proposed Project to increase runoff or adversely affect drainage systems would be **less than significant**.

Alternative A

Implementation of Alternative A would include the demolition of the Existing Lodge and the reconstruction of the Schilling Lodge of the same size and layout as the proposed Project. Because implementation of Alternative A would redevelop an existing facility, the net increase in coverage and associated stormwater runoff would be less than is expected for the proposed Project (when considering that the proposed Project would retain the existing Community Center), with 67,619 sq. ft. of new coverage. (See Impact 3.9-3, "Potential for Compaction or Land Coverage Beyond TRPA Limits," in Section 3.9, "Geology, Soils, Land Capability, and Coverage," for a more detailed discussion of

existing and proposed coverage.) The Alternative A would be subject to the same stormwater BMP standards and drainage planning and permitting requirements discussed above for the proposed Project. Because existing TRPA and Placer County regulations are in place to ensure that implementation of Alternative A would appropriately manage stormwater runoff and drainage, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

Cumulative impacts to water quality are considered in the context of the Lake Tahoe Basin. Rapid development during the 1960s is believed to be the cause of the lake's decline in clarity (Lahontan RWQCB and NDEP 2010) and the existing adverse cumulative condition. The lake was listed as an impaired water under Section 303(d) of the CWA and a TMDL was established to reverse the downward trend in water quality and bring lake clarity back to levels seen in 1967–1971. Regulatory agencies have recognized the threats to water quality in the Tahoe Region and have adapted their policies to reflect the TDML requirements and protect this unique natural resource. As described previously in this section, development and construction activities that could result in erosion, release of pollutants, or encroachment within floodplain or sensitive habitats are highly regulated by TRPA, Lahontan RWQCB, NDEP, and federal and local agencies.

The proposed Project, Alternative A, and the cumulative projects, through construction-related disturbance and increases in land coverage, have the potential to increase the volume of stormwater runoff, thereby increasing the concentrations of fine sediment particles, nutrients, and other pollutants in the surface and groundwaters of the Lake Tahoe Basin. Improper use of fertilizers and snow storage in unprotected areas or in close proximity to SEZs can also introduce pollutants into surface and groundwaters. These potential effects are controlled through compliance with a suite of protective regulations. Any project exceeding one acre in size is required to develop a SWPPP that identifies water quality controls that are consistent with Lahontan RWQCB and TRPA regulations. The SWPPP must include construction site BMPs, a spill prevention plan, and daily inspection and maintenance of temporary BMPs, and post construction BMPs to protect water quality during the life of the Project. In addition, TRPA requires all projects to include permanent water quality BMPs that control sources of sediment and urban pollutants. Any project with a landscape or vegetation component must develop a fertilizer management plan and snow storage areas must be located away from SEZs and equipped with any necessary BMPs. Additionally, because retrofitting existing development with water quality BMPs has been difficult to enforce, water quality improvements are often seen through new development or redevelopment processes where these BMPs are required as a condition of permit approval. TRPA also requires that each project be designed to infiltrate the 20-year, 1-hour design storm event. In special circumstances where this is not feasible, the Project must provide documentation that its stormwater is fully infiltrated by an offsite facility (TRPA Code Section 60.4). Because of the strong protective water quality regulations within the Tahoe region, the potential effects of the proposed Project, Alternative A, and other cumulative projects would be reduced such that the proposed Project and Alternative A **would not contribute** to the existing adverse cumulative water quality condition.

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3.11 UTILITIES

This section evaluates the availability of existing utility and infrastructure systems (water, wastewater, electricity, natural gas, and telecommunications) to serve the Tahoe Cross-Country Lodge Replacement and Expansion Project and the impact of the Project on these systems. The primary issues raised during scoping that pertain to utilities include:

- capacity of the utility service systems to serve the Project, including in the TCPUD wastewater collection system;
- Tahoe-Truckee Sanitation Agency (T-TSA) capacity allocations; and
- general comments about potential impacts on utilities.

The evaluation is based information obtained from a number of utility providers, including TCPUD, Tahoe-Truckee Sanitation Agency, T-TSA, and Tahoe Truckee Sierra Disposal (TTSD).

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact on utilities. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

The Existing Lodge receives internet and telephone services from Spectrum Business. The Project would continue to receive services from this provider. The Project would not result in a substantial increase in demand for telecommunications services. With implementation of the proposed Project, potential new connections to existing, nearby telecommunications lines that are located in Polaris Road from the Project site could be required. Although it is possible that implementation of Alternative A could result in upgrading existing telecommunications lines, the Existing Lodge site already has existing telecommunications service and connections. Any potential site-specific construction-related impacts from installing utility lines, such as telecommunications lines, are assessed in the applicable resource sections of this EIR. No impacts related to telecommunications beyond those that could be associated with installation of telecommunications lines on the Project site would occur and impacts related to telecommunications services are not evaluated further in this EIR/EIS.

Water quality and stormwater issues are addressed in Section 3.10, "Hydrology and Water Quality."

3.11.1 Regulatory Setting

FEDERAL

Clean Water Act

The Clean Water Act (CWA) employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The U.S. Environmental Protection Agency (EPA) established national waste discharge standards in Section 304 of the CWA. The CWA employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. Those portions of the CWA that relate to wastewater discharges are discussed below.

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (42 US Code Section 300f et seq.; 40 Code of Federal Regulations, Parts 141, 142, 143; SDWA), passed in 1974, the U.S. Environmental Protection Agency (EPA) regulates contaminants of

concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed every 3 years. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs. EPA has delegated responsibility for California's drinking water program to the State Water Resources Control Board-Division of Drinking Water (SWRCB-DDW). SWRCB-DDW is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

TAHOE REGIONAL PLANNING AGENCY

In 1987, TRPA adopted the first Regional Plan for the Lake Tahoe Region to address growth and development and provide a policy guide for decision making. Several components of the Regional Plan address policies and regulations pertaining to public services and utilities: Goals and Policies and Code of Ordinances (Code). TRPA has not established any environmental threshold carrying capacities related to public services and utilities.

Goals and Policies

The Public Services and Facilities Element and Air Quality Element of the TRPA Regional Plan includes the following goals and policies related to the water supply, wastewater and solid waste collection and disposal, and energy:

- **Policy PS-1.3:** 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.
- **Policy PS-2.1:** 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.
- **Policy PS-2.3:** No additional development requiring water shall be allowed in any area unless there exists adequate storage and distribution systems to deliver an adequate quantity and quality of water for domestic consumption and fire protection.
- **Policy PS-3.1:** The discharge of municipal or industrial wastewaters to the surface and groundwaters of the Tahoe Region is prohibited, except for Existing development discharging wastewaters under a state- or TRPA-approved disposal plan.
- **Policy PS-3.3:** Garbage pick-up service shall be mandatory throughout the region, and will be so structured as to encourage clean-ups and recycling.
- **Policy AQ-1.5:** Encourage the reduction of emissions through building efficiency.

Code of Ordinances

The TRPA Code of Ordinances (Code) includes requirements for basic water, wastewater, and electrical services in Chapter 32.

Water Service

Section 32.4 of the Code contains a basic water service requirement for projects proposing a new structure, reconstruction, or expansion of an existing structure, designed or intended for human occupancy, specifically directing that such projects shall have adequate water rights and water supply systems.

If the local fire district has not adopted fire flow standards, Section 32.4.2 of the Code identifies minimum adequate fire flows based on land use type within the Tahoe Basin.

Wastewater Service

Section 32.5 of the Code specifically directs that such projects that would generate wastewater shall be served by facilities for the treatment and export of wastewater from the Tahoe Basin. To be considered served, a service connection shall be required to transport wastewater from the parcel to a treatment plant.

Electrical Service

Section 32.6 of the Code requires that adequate electrical supply shall be served to structures intended for human occupancy.

Placer County Tahoe Basin Area Plan

The Placer County Tahoe Basin Area Plan (Area Plan) is a joint TRPA/Placer County plan that incorporates TRPA goals and regulations but also includes the following additional policies related to utilities that would be relevant to the Project.

- **Policy PS-P-1:** Continue to manage public services and facilities in accordance with the Regional Plan.
- **Policy PS-P-7:** Ensure that all proposed developments are reviewed for fire safety standards by local fire agencies responsible for its protection, including providing adequate water supplies and ingress and egress.
- **Policy PS-P-8:** Encourage all water systems address fire suppression water needs.

STATE

Urban Water Management Plan

The Urban Water Management Planning Act (Water Code Sections 10610 through 10656) requires that every urban water supplier with a water supply system that provides water to 3,000 or more customers or that provides over 3,000 acre-feet of water annually prepare and adopt an urban water management plan. The act states that urban water suppliers should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The act also states that the management of urban water demands and the efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

The TCPUD 2015 Urban Water Management Plan (UWMP), adopted in June 2016, incorporated planning information from the Lake Tahoe Regional Plan Update completed in 2012, which includes assumptions about growth in the region based on development rights (previously known as commodities). The growth assumptions used in the UWMP are adequate to include a project at the scale of the Tahoe Cross-Country Lodge Replacement and Expansion Project.

California Safe Drinking Water Act

The SWRCB-DDW is responsible for implementing the federal SDWA and its updates, as well as California statutes and regulations related to drinking water. State primary and secondary drinking-water standards are promulgated in Title 22 of the California Code of Regulations (CCR), Sections 64431–64501.

The California Safe Drinking Water Act (CA SDWA) was passed in 1976 to build on and strengthen the federal SDWA. The CA SDWA authorizes DHS to protect the public from contaminants in drinking water by establishing maximum contaminant levels (MCLs) that are at least as stringent as those developed by EPA, as required by the federal SDWA.

Porter-Cologne Water Quality Control Act of 1970

The Porter-Cologne Water Quality Control Act of 1970 prohibits the use of reclaimed wastewater within the Lake Tahoe Basin. For the TCPUD service area, which includes the proposed Project and Alternative A sites, wastewater is transported out of the Basin in a sewer line along SR 89 to Truckee where it is treated at the T-TSA Water Reclamation Plant (WRP).

California Building Standards Code (Title 24)

Energy consumption of new buildings in California is regulated by State Building Energy Efficiency Standards contained in Title 24 of the CCR, Part 2, Chapter 2-53. Title 24 applies to all new construction of both residential and nonresidential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. The 2016 Building Energy Efficiency Standards have improved efficiency requirements from previous codes and the updated standards are expected to result in a statewide energy consumption reduction.

The 2016 California Green Building Standards Code (CALGreen; Title 24, Part 11, of the California Code of Regulations [CCR]) became effective January 1, 2017. CALGreen establishes mandatory minimum green building standards as well as more stringent voluntary measures, which are known as Tier 1 and Tier 2 measures, respectively. Cities and counties, at their discretion, may adopt Tier 1 or Tier 2 as mandatory, or adopt and enforce other standards that are more stringent than the CALGreen Code. Division 5.3 of CALGreen includes requirements for conserving water used indoors, outdoors, and in wastewater conveyance. Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code) is discussed under Section 3.12.1, "Regulatory Setting," in Section 3.12, "Energy."

Where a local jurisdiction has not adopted a more stringent construction and demolition (C&D) ordinance, construction activities are required to implement Section 5.408 of the CALGreen Code. Under Section 5.408, construction activities are required to recycle and/or salvage for reuse a minimum of 65 percent of their nonhazardous C&D waste as of January 1, 2017. Applicable projects are required to prepare and implement a Construction Waste Management Plan, which is submitted to the local jurisdiction before issuance of building permits. The City of South Lake Tahoe does not currently have an adopted C&D waste management ordinance.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of in landfills, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995 and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's AB 939 plan will be integrated with the county plan. In order of priority, the plans must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. In unincorporated Placer County, including the location of the Project, the One Big Bin program collects commingled garbage and recycling. Recyclable materials are separated from the garbage at the Eastern Regional Materials Recovery Facility (One Big Bin 2019). Additionally, as of the last reporting year, Placer County is meeting its mandated diversion targets pursuant to AB 939. The per capita disposal targets for unincorporated Placer County required to meet and sustain the 50 percent diversion requirement is 6.3 pounds per person per day (lb/person/day); in 2017 per capita disposal for the county was measured at 5.2 lb/person/day (CalRecycle 2019a).

In 2011, AB 341 modified the California Integrated Waste Management Act, established a statewide recycling goal of 75 percent, and directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. The resulting Mandatory Commercial Recycling Regulation (CalRecycle 2019b) requires that on and after July 1, 2012, certain businesses that generate four cubic yards or more of commercial solid waste per week shall arrange for recycling services. To comply with this requirement, businesses may either separate recyclables and self-haul them or subscribe to recycling service, or subscribe to a recycling service that includes mixed waste processing. The Eastern Regional MRF is a mixed waste processing facility.

AB 1826 (Chapter 727, Statutes of 2014 [Chesbro, AB 1826]; Mandatory Commercial Organics Recycling) requires businesses and multifamily residential dwellings of five or more units that generate a specified amount of organic waste per week to arrange for recycling services for that waste, requires jurisdictions to implement recycling programs to divert organic waste from businesses subject to the law, and requires periodic reporting to CalRecycle by jurisdictions on their progress in implementing the program. Organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste. Effective April 1, 2016, businesses that generate 8 cubic yards of organic waste per week shall arrange for organic waste recycling services. Effective January 1, 2017, businesses that generate 4 cubic yards of organic waste per week shall arrange for organic waste recycling services. Placer County has established a mandatory commercial organics recycling program for the county.

Local

Tahoe City Public Utility District Code

In the Tahoe City Public Utility District (TCPUD) Code, the Water Ordinance provides standards for water system design, development, repair, and construction, including extension of water system facilities. The Water Ordinance also establishes charges for services and outlines the approval process for adding new service connections. The Water Conservation Requirements Ordinance requires the use of approved water-saving devices in all new and existing structures within the district, including hotels. The TCPUD Sewer Ordinance provides the public with an accessible document that identifies requirements and guidelines applicable to all sanitary sewer facility construction and maintenance within the TCPUD boundaries. The Sewer Ordinance also establishes charges for services and provides a method for their collection.

North Tahoe Fire Protection District Fire Code

The North Tahoe Fire Protection District (NTFPD) Fire Code (Ordinance No. 03-2016) incorporates by reference the 2016 California Fire Code. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to the premises upon which facilities or buildings are constructed or moved into the NTFPD jurisdiction (Fire Code Section 507). Project applicants are required to submit to NTFPD for review a set of water improvement plans showing that the development with be provided with a water system for firefighting and proper fire flows (Fire Code Section 507.5.7[6]). The NTFPD Fire Code Section B105 includes fire flow minimum standards for all buildings. The Project would be required to install automatic sprinklers in the building (Conradson, pers. comm., 2019).

3.11.2 Environmental Setting

Public utilities in the Project area are provided by various entities, as identified in Table 3.11-1 and discussed in detail below.

Table 3.11-1 Utilities Providers for the Project Area

Utility	Agency/Provider
Water Supply	Tahoe City Public Utility District
Wastewater Collection and Conveyance	Tahoe City Public Utility District, Tahoe-Truckee Sanitation Agency
Wastewater Treatment	Tahoe-Truckee Sanitation Agency
Solid Waste Collection	Tahoe Truckee Sierra Disposal
Electrical Service	Liberty Utilities
Natural Gas	Southwest Gas

Source: Data compiled by Ascent Environmental in 2019

WATER

TCPUD relies almost entirely on groundwater sources for its drinking water supply, and throughout its 31 square mile service boundary, the TCPUD owns and operates seven distinct and separately licensed water service areas serving over 5,700 municipal water connections. The TCPUD service area extends from Dollar Point to Alpine Meadows Road on the north shore and from Tahoe City to Emerald Bay along the west shore. The proposed Project and Alternative A would be supplied by the TCPUD's Tahoe City Main system.

In 2015, TCPUD's gross water demand was 334 million gallons (approximately 0.9 million gallons per day [mgd]), which is projected to increase to 375 million gallons (approximately 1.0 mgd) by 2035 (TCPUD 2016). Future surface water supply development includes the West Lake Tahoe Regional Water Treatment Plant and the Tahoe City Main system. As shown in Table 3.11-2, TCPUD has existing and future water supplies to meet, and exceed, water demands in their service area.

Table 3.11-2 TCPUD Current and Planned Annual Water Demand and Sources of Supply

Water Supply Source	2015 (mg)	2020 (mg)	2025 (mg)	2030 (mg)	2035 (mg)
Groundwater	331	658	658	658	658
Surface Water[1]	0	260	780	780	780
Purchased	3	4	4	4	4
Total Water Supply by Source	**334**	**922**	**1,442**	**1,442**	**1,442**
Water Deliveries	273	275	286	298	310
Sales to Other Water Agencies[2]	23	24	25	27	28
Additional Water Uses and Losses[3]	38	38	38	38	38
Total Water Demand	**334**	**337**	**349**	**363**	**375**

Notes: mg = million gallons

[1] Based on actual and projected deliveries only. TCPUD maintains legal water rights to divert over 1,000 acre-feet per year (over 325 million gallons per year) of surface water from Lake Tahoe and surrounding areas.

[2] Includes water supplied to NTPUD.

[3] Includes system flushing, leak repair flushing, hydrant leaks, leaking valves, unmetered use, and leaking pipes.

Source: TCPUD 2016:4-22 – 4-23, 6-56, 6-63, 7-64

WASTEWATER

Wastewater Conveyance

Tahoe City Public Utility District provides wastewater collection services to approximately 7,800 connections spanning from the Dollar Point area, south to Emerald Bay. TCPUD's wastewater collection system consists of over 180 miles of gravity and forced sewer mains and 22 sewer pumping stations. All collected raw sewage is conveyed out of the Lake Tahoe Basin through a large diameter gravity pipeline known as the Truckee River Interceptor (TRI), which is owned and operated by T-TSA. The TRI conveys all raw sewage from the north and west shores of Lake Tahoe approximately 17 miles to Truckee and is treated there by the T-TSA Water Reclamation Plant (WRP). Future improvement needs have been identified to address future capacity deficiencies along the TRI.

On average, TCPUD's sewer collection service area conveys approximately 0.8 mgd of raw wastewater to the T-TSA treatment facility (TCPUD 2016:6-57). Over time the flows appear to be decreasing, particularly since 2006. The design daily flow (the allocated maximum flow to T-TSA) for TCPUD is 7.8 mgd (TCPUD 2014:8-9). According to the *TCPUD Risk-Based Sewer System Management Plan*, there are no known hydraulic capacity limitations within the collection system during dry weather or during peak wet weather events. Due to the growth limitations established by TRPA, TCPUD anticipates its collection system will not be exceeded by the current or projected buildout flows (TCPUD 2014:8-10 through 8-11).

Wastewater Treatment and Disposal

The T-TSA offices and WRP are located in Martis Valley, east of the town of Truckee in Nevada County. T-TSA plans, administers, and coordinates wastewater treatment and disposal services throughout the north shore and west shore of Lake Tahoe, as well as the Town of Truckee. T-TSA works with five-member sewage collection districts including TCPUD and NTPUD within the Placer County portion of the Tahoe Basin and Alpine Springs County Water District, Squaw Valley Public Service District, and Truckee Sanitary District outside of the Tahoe Basin.

The WRP provides tertiary level treatment which consists of influent screening, grit removal, primary sedimentation, pure oxygen activated sludge, biological phosphorus removal, chemical treatment, mixed media filtration, biological nutrient removal, ion exchange ammonia removal, and final chlorination. Organic sludge is digested anaerobically,

dewatered and transported to the Lockwood Regional Landfill and Bently Farm in Nevada. The WRP has a treatment capacity of 9.6 mgd and can accommodate between 400 to 800 new connections per year. However, the rate of new connections has not increased as originally anticipated. As a result, T-TSA anticipates the WRP treatment capacity of 9.6 mgd is sufficient to serve the participating districts through 2025. In 2017, the daily average treatment plant influent was 3.18 million gallons. The maximum instantaneous flow rate was 5.49 million gallons and the average annual flow volume was 4.0 mgd (Nevada LAFCo 2018). The estimated remaining available capacity at the treatment plant is 5.6 mgd.

ENERGY

Electricity

Electricity is provided to the Existing Lodge site and surrounding area by Liberty Utilities. There are existing electrical lines along Polaris Road and Country Club Drive.

Natural Gas

Natural gas is supplied to the Existing Lodge site and surrounding area by Southwest Gas Corporation. There are existing natural gas distribution lines in Polaris Road and Country Club Drive.

SOLID WASTE

Commercial and residential solid waste is collected and processed by TTSD. TTSD operates the Eastern Regional Landfill Material Recovery Facility (MRF) and Transfer Station, which is located approximately halfway between Truckee and Squaw Valley. TTSD collects household and commercial waste and recyclables and transports the refuse to the Eastern Regional Landfill MRF and Transfer Station where items are sorted. Non-recyclable solid waste is transported to the Lockwood Regional Landfill (Placer County 2019).

The Eastern Regional Landfill MRF and Transfer Station separates and recycles marketable materials such as paper, cardboard, plastics, metals, and glass. The facility also recycles source-separated wood waste, pine needles, and inert materials. Wood waste is chipped for mulch, woodchips, or biomass fuel, pine needles are used for slope stabilization, and inert materials are crushed for reuse as aggregate or in onsite land remediation (Placer County 2015). The Eastern Regional Landfill MRF and Transfer Station is permitted to receive 800 tons of material each day, has a processing capacity of approximately 40 tons of material per hour, and the daily processing capacity for an 8-hour period is approximately 320 tons per day (Placer County 2017, CalRecycle 2018).

The Lockwood Regional Landfill, located in Nevada, covers 856 acres and has a total waste volume of 302 million cubic yards (NDEP 2013). In 2016, the Lockwood Regional Landfill accepted an average of 2,960 tons of solid waste per day. The volume of waste conveyed to the Lockwood Regional Landfill from California communities accounts for 7.5 percent of municipal solid waste. The Lockwood Regional Landfill has a remaining capacity of 267 million cubic yards and an estimated closure date of 2150 (NDEP 2017).

3.11.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

Water Demand

Additional water demand resulting from implementation of the Project was conservatively estimated. The average annual water demand was derived from the average annual water demand at the Existing Lodge from 2014 through 2018, which was provided by the water supplier, TCPUD (Boyd, pers. comm., 2019). There is currently no irrigation at the Existing Lodge; thus, the existing water demand is associated with water consumed during operation of the facility, including restrooms, drinking water, and kitchen operations.

Table 3.11-3 Existing Water Demand at the Cross-Country Lodge (gallons)

	2014	2015[1]	2016	2017	2018	Average
January	1,376	2,732	13,605	7,744	430	5,177
February	4,342	378	11,707	9,627	1,932	5,597
March	1,704	1,509	6,569	8,038	5,261	4,616
April	208	51	1,044	4,392	4,268	1,993
May	585	163	132	134	72	217
June	8,525	1,450	1,619	825	614	2,607
July	2,992	207	1,639	1,173	5,374	2,277
August	2,968	397	1,244	1,095	2,175	1,576
September	1,978	2,655	2,064	427	2,520	1,929
October	729	143	1,280	2,258	1,056	1,093
November	936	445	650	452	415	580
December	465	4,244	799	399	2,658	1,713
Total	26,808	14,374	42,352	36,564	26,775	29,375

[1] The drop in water demand in 2015 is associated with the drought.

Source: Boyd, pers. comm., 2019

The existing annual average water demand (29,375 gallons) and the size of the Existing Lodge (2,723 square feet [sq. ft.]) were used to determine the water demand factor of 11 gallons/sq. ft. (rounded) to estimate future water demand with implementation of the Project.

Wastewater Treatment and Disposal

In general, wastewater flows are assumed to mirror water supply user because there is no assumed loss between water use and wastewater generation; thus, wastewater flows are estimated to be similar to those shown in Table 3.11-3. Because a wastewater demand factor for a project like the Tahoe Cross-Country Lodge Replacement and Expansion Project was not readily available to estimate future wastewater demand, reasonable assumptions were made about future wastewater demand based on existing facility data provided by TCPUD (see Table 3.11-3). To develop estimates of wastewater demand from the Project that can be used to assess impacts on TCPUD's and T-TSA's wastewater conveyance capacity and T-TSA's WRP treatment capacity, an estimate of the rate of wastewater flows on an average day based on the existing water demand was developed (annual average demand ÷ number of days in the year = 29,375 gallons ÷ 365 days = 80 gallons per day [gpd] on an average day). The average day wastewater flows per square foot is equal to the average wastewater generated per day divided by the size of the existing facility (80 gpd ÷ 2,723 sq. ft. = 0.03 gallons per day per square foot [gpd/sq. ft.]). Additionally, the wastewater flow rate on a peak day was developed from the month with the highest demand, which was January 2016 (total demand from the month with the highest demand ÷ the number of days in a month = 13,605 gallons ÷ 31 days = 439 gpd). The peak day wastewater flows per square foot is equal to the wastewater flow on a peak day divided by the size of the existing facility (439 gpd ÷ 2,723 sq. ft. = 0.16 gpd/sq. ft.).

Energy

The analysis of energy use for the Project is qualitative based on comparison between the increase in size and visitation at the Schilling Lodge and the size and visitation at the Existing Lodge throughout the year.

Solid Waste

The amount of solid waste that would be generated by the Project was estimated based on assumptions used in the air quality modeling conducted using California Emissions Estimator Model (CalEEMod), such as the Schilling Lodge building square footage.

SIGNIFICANCE CRITERIA

CEQA Criteria

In accordance with Appendix G of the State CEQA Guidelines, a utilities and service systems impact would be considered significant if implementation of the Project would:

- require or result in the relocation or construction of new or expanded water, wastewater treatment, electric power, or natural gas facilities, the construction or relocation of which could cause significant environmental effects;
- result in water demand that would exceed the ability of the provider to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- result in a determination by the wastewater treatment provider that it has inadequate capacity to serve projected demand, in addition to the provider's existing commitments;
- generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

TRPA Criteria

Based on the TRPA Initial Environmental Checklist, impacts related to utilities would be significant if the Project would:

- utilize additional water at an amount that would exceed the maximum permitted capacity of the service provider;
- utilize additional sewage treatment capacity at an amount that would exceed the maximum permitted capacity of the sewage treatment provider;
- result in a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy;
- result in the need for new systems or substantial alterations to power and gas utility facilities; or
- result in the need for new systems or substantial alterations to solid waste and disposal.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.11-1: Increased Demand for Water Supply and Water Conveyance

The estimated annual water demand for the proposed Project and Alternative A would be 111,694 gallons. With implementation of the proposed Project, there would also be some water demand associated with continuing operations at the Existing Lodge. TCPUD has indicated there would be adequate water supply and conveyance infrastructure to serve the Project. Because TCPUD has sufficient water supply to meet water demand for the proposed Project and water conveyance infrastructure would be adequate, this impact would be **less than significant** for the proposed Project. Although there would be sufficient water supply to meet water demand for Alternative A, TCPUD has indicated that the ability of the 6-inch water line in Country Club Drive to meet fire flow requirements for this alternative is uncertain, requiring additional analysis. This impact would be **potentially significant** for Alternative A.

Proposed Project

The water demand at the Existing Lodge is associated with year-round operations of Tahoe XC and includes demand associated with restroom facilities and water use for operations at the Free Heel Café. There is currently no irrigation at the Existing Lodge. From 2014 through 2018, the average annual water demand at the Existing Lodge was 29,375 gallons (see Table 3.11-4).

The increase in water demand at the Schilling Lodge with implementation of the proposed Project would be associated with restrooms, the café (includes service counter and kitchen), and showers. Landscape irrigation could occur for up to the first 5 years of the proposed Project operation to help with plant establishment as part of revegetation efforts; water demand for irrigation is considered to be a minor contribution to the water demand over the life of the Project because water-efficient landscaping (i.e., xeriscaping) would be used. Implementation of the proposed Project would result in an increase in the number of events at the Schilling Lodge, but would not result in an increase in size of the events compared to existing conditions. The annual water demand associated with the Schilling Lodge would be up to 111,694 gallons (see Table 3.11-4), based on the size of the facility and the methodology used to conservatively estimate projected water demand. See "Methods and Assumptions," above, for a description of how water demand was estimated. Likely, water demand would be substantially less than estimated here and closer to existing water demands. Implementation of the proposed Project would include construction of a new water service connection to the existing 12-inch water line in Polaris Road.

Water demand associated with operation of the Existing Lodge, under the proposed Project would be limited to restroom use when the building is in use for community meetings, recreation classes, and special events and would be much less than the existing water demand. For the purposes of this analysis, water demand at the Existing Lodge under the proposed Project is conservatively assumed to be similar to or less than existing water demand during the spring through fall months when the cross-country ski operations are typically closed but the facility is still in use for bike rentals, the junior mountain bike program, and community meetings (May through November). The average monthly water demand based on the 5-year averages for May through November for the Existing Lodge included in Table 3.11-3 would be 1,468 gallons per month. The annual average water demand for the Existing Lodge under the proposed Project would be up to 17,621 gallons. The total future annual average water demand associated with implementation of the proposed Project, including operation of the Schilling Lodge and the Highlands Community Center would be 129,315 gallons. This would be an increase in water demand at Tahoe XC of up to 99,940 gallons per year.

Table 3.11-4 Existing Water Demand Compared to that Estimated for the Proposed Project

	Building Size (sq. ft.)	Water Demand Factor[1] (gallons/sq. ft.)	Annual Average Water Demand (gallons/year)
Existing Conditions			
Existing Lodge	2,723	11	29,375
Proposed Project			
Schilling Lodge[2]	10,154	11	111,694
Highlands Community Center	2,723	NA[3]	17,621
Total Water Demand for the Proposed Project	--	--	129,315
Increase in Water Demand Relative to Existing Conditions	--	--	99,940

[1] As described under the header "Methods and Assumptions," above, the water demand factor was derived from the existing annual average water demand at the Existing Lodge from 2014 – 2018 and the size of the lodge building.

[2] The Schilling Lodge would be the same size and operated in the same way under the proposed Project and Alternative A.

[3] A water demand factor was not used to estimate future water demand at the Highlands Community Center because it would not be in use full time. Instead the annual average water demand is based on the existing average water use at the Existing Lodge during spring through fall months (May through November) as shown in Table 3.11-3, when the cross-country ski operations are typically closed but the facility is in use for bike rentals, the junior mountain bike program, and small community meetings.

Source: Compiled by Ascent Environmental in 2019

TCPUD has sufficient water supplies to meet current and projected water demands in their service area during normal, single dry, and multiple dry water years (TCPUD 2016:7-69 through 7-70). Additionally, TCPUD has combined estimated surface and groundwater supplies of 922 million gallons per year (mgy) in 2020 and 1,442 mgy in 2035 (see Table 3.11-2), which substantially exceeds the estimated District-wide water use of 334 mgy in 2015 and the estimated cumulative demand of 375 mgy in 2035. The increase in water demand associated with implementation of the proposed Project (99,940 gallons per year) would be a 0.03-percent increase over existing TCPUD water demand and would represent 0.01 percent of TCPUD's total water supplies in 2020 and 0.007 percent of supply in 2035. Additionally, TCPUD has indicated that the water supply infrastructure that the proposed Project would connect to would be sufficient to serve the proposed Project, including meeting fire flow requirements (Homolka, pers. comm., 2017). The proposed Project would be required to obtain authorization from TCPUD for the water connection, which would be subject to engineering analysis to determine the size of the connection that would be needed.

Because TCPUD has sufficient water supplies and sufficient water infrastructure to meet the water supply needs of the proposed Project, this impact would be **less than significant**.

Alternative A

Impacts on water demand from operation of the new lodge under Alternative A would be similar to that of the proposed Project because the size of the Schilling Lodge building and operations for Alternative A would be the same as those for the proposed Project. However, the overall water demand with implementation of Alternative A would be incrementally less than the proposed Project since the Existing Lodge would be demolished and operations there would cease under Alternative A; whereas, in addition to constructing the Schilling Lodge, the proposed Project would retain the Existing Lodge that could generate water demand associated with restroom use during community meetings, recreation classes, and special events. The total estimated water demand for the Schilling Lodge under Alternative A would be 111,694 gallons per year, which would be an increase in water demand at Tahoe XC of 82,319 gallons per year. This would be a 0.02-percent increase over existing TCPUD water demand and would represent 0.009 percent of TCPUD's total water supplies in 2020 and 0.006 percent of their water supplies in 2035.

TCPUD has indicated that the ability of the 6-inch water line in Country Club Drive to meet fire flow requirements for the Alternative A is unlikely and additional analysis to determine the extent of the improvements in the water conveyance for this alternative would be required (Homolka, pers. comm., 2017). The Project applicant would be required to provide a set of water improvement plans to NTFPD for review and approval that shows Alternative A would be provided with a water system that meets fire flow standards.

Although there would be sufficient water supply to meet the demand of Alternative A, because this alternative could require improvements in the water conveyance system to meet fire flow requirements this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.11-1: Ensure Sufficient Capacity in TCPUD Water Supply Infrastructure to Meet Fire Flow Requirements

This mitigation measure is required for Alternative A.

As part of the process for TCPUD to authorize the water connection for Alternative A and before NTFPD plan review, the Project applicant shall coordinate with TCPUD to determine any necessary water system improvements in Country Club Drive that would be required to meet current fire flow requirements for the Schilling Lodge. The Project applicant shall coordinate with TCPUD to develop plans for and fund construction of improvements that would allow for conveyance of water supply to the site that meets fire flow requirements. The types of improvements that could be required include replacement of the existing water supply line in Country Club Drive or adding a new line parallel to the existing water line. The specific types of improvements that could be required would be determined in coordination with TCPUD as part of the analysis for the water connection authorization. The Project applicant shall be responsible for covering the cost of improvements that would be needed to serve Alternative A. The improvements shall be constructed to meet fire

flow requirements identified in the NTFPD Fire Code. The improvements would be required before construction of the Schilling Lodge.

The Project applicant shall provide a will-serve letter from TCPUD that indicates their water supply infrastructure has adequate capacity to meet fire flow requirements for Alternative A and that any necessary improvements to the system have been completed before the issuance of occupancy permits by Placer County.

Significance after Mitigation

Implementation of Mitigation Measure 3.11-1 would reduce potentially significant impacts related to sufficient capacity in the TCPUD water supply system to meet fire flow requirements because the Project applicant would coordinate with TCPUD to determine the extent of water system improvements would be needed to meet those requirements for Alternative A. The applicant would pay for TCPUD or its contractors to construct the necessary improvements to provide adequate fire flows to the site prior to when the capacity would be needed for the Schilling Lodge.

Increasing water supply conveyance capacity in Country Club Drive, either through replacement and upsizing of the existing line, adding a new line, or some other improvement, would likely include trenching activities within the existing roadway, which is outside of the Alternative A site boundaries. The construction activities associated with implementing the potential water supply improvements would adhere to typical construction practices (including construction outside of noise-sensitive times of day). Construction-related impacts associated with these infrastructure improvements would be short-term in nature and similar to the types of short-term impacts associated with construction of the lodge as described in Sections 3.2 through 3.15 of this EIR. Impacts associated with trenching are summarized here:

- Biological Resources: The water system improvements would not include any above-ground components; thus, there would be no permanent effects on biological resources. Because the upgrade would occur within an existing paved roadway (i.e., Country Club Drive) and would not result in ground disturbance of any previously undisturbed areas, it would not be anticipated to result in impacts to biological resources.
- Transportation: Because the water system improvements would not result in any operational changes there would not be any long-term transportation impacts. Construction-related transportation impacts would be similar to those discussed for Alternative A under Impact 3.5-6 and construction of the water system improvements would include preparation and implementation of a traffic control plan as identified in Mitigation Measure 3.5-6, which would address maintaining access for residences and emergency vehicles. Construction of the water system improvements would result in some temporary construction vehicles accessing the construction site and working within Country Club Drive, which could result in short-term closure of one travel lane. Construction of the water system improvement would only close one lane of traffic at a time to retain residential access and emergency vehicle access in the neighborhood. Because of the short duration of construction of these improvements and implementation of a traffic control plan, transportation impacts would be less than significant.
- Archaeological, Historical, and Tribal Cultural Resources: Potential construction-related impacts on archaeological, historical, and tribal cultural resources from construction of offsite water supply infrastructure would be similar to those discussed for the proposed Project and Alternative A as discussed in Impacts 3.4-1 through 3.4-4 in Section 3.4, "Cultural, Historical, and Tribal Cultural Resources." These offsite improvements would be required to implement Mitigation Measures 3.4-2 and 3.4-3, which would reduce potentially significant impacts related to previously undiscovered archaeological and tribal cultural resources because mitigation would avoid, move, record, or otherwise treat a discovered resource appropriately, in accordance with pertinent laws and regulations.
- Air Quality: Because of the limited amount of construction activities that would be associated with construction of the water system improvements in Country Club Drive involving ground disturbance, trenching, and installation, construction-related emissions of criteria air pollutants or precursors would not be anticipated to exceed construction-related emissions of Alternative A shown in Table 3.6-5, which range between 1.8 – 3.0 lb/day ROG,

12.7 – 21.0 lb/day NO_X, and 1.0 – 6.3 lb/day PM_{10}. For this reason, and because the PCAPCD significance criteria is 82 lb/day for each of these criteria pollutants and precursors, the construction-related emissions associated with the water system improvements would not exceed this significance criteria. There would be no operational emissions of criteria air pollutants or precursors associated with the water system improvements. Construction of the water system improvements would result in less-than-significant air quality impacts.

- Greenhouse Gases and Climate Change: Construction of the water system improvements would result in emission of construction-related GHG emissions similar to that described for Alternative A under Impact 3.7-1. As identified in Impact 3.7-1, because the construction and operational GHG emissions from Alternative A would not achieve the zero net emissions goal of the Tahoe Basin Area Plan or the Linking Tahoe RTP/SCS goal of reducing VMT within the region, Alternative A would result in a potentially significant impact. Construction-related GHG emissions from the water system improvements would contribute to this impact; thus, as a component of Alternative A, the water system improvements would also be required to implement feasible measures to reduce GHGs identified in Mitigation Measure 3.7-1, which could include enforcing idling time restrictions for construction vehicles and use of electric-powered construction equipment rather than operating temporary gasoline/diesel powered generators. Also required by Mitigation Measure 3.7-1, the applicant would be required to offset the remaining levels of unmitigated GHG emissions by purchasing carbon offsets as described in the mitigation measure. Construction-related GHG emissions from construction of the water system improvements would be reduced to a less-than-significant level after implementation of Mitigation Measure 3.7-1.
- Noise: Construction of the water system improvements could result in similar noise and vibration impacts as described for Alternative A under Impacts 3.8-1 and 3.8-2. Because construction activity for the water system improvements would occur between 8:00 a.m. and 6:30 p.m. daily (during hours where construction activities are exempt from local noise standards) and be temporary in nature, existing nearby sensitive receptors would not be substantially affected by construction noise. Thus, construction of the water system improvements would not result in a substantial temporary increase in noise that exceeds a local (i.e., TRPA, Placer County) noise standard and this impact would be less than significant.

  Construction vibration impacts associated with the water supply improvements would be similar to the analysis of vibration impacts for Alternative A. Impact 3.8-2 describes that construction activities involving dozers or similar construction equipment could exceed Caltrans's recommended standards vibration levels with respect to the prevention of structural building damage (0.2 in/sec PPV for normal) for structures within 15 feet and could exceed FTA's maximum acceptable level of 80 VdB with respect to human response (i.e., would result in human disturbance) within 45 feet of construction activities. The nearest residential structures are over 30 feet from the edge of pavement (i.e., edge of where construction activities could occur for these improvements) and would not be exposed to a vibration impact that could result in structural building damage. Because construction activities would occur during daytime hours, when people are less sensitive, existing residences would not be exposed to vibration levels that would disturb people and this impact would be less than significant.
- Geology, Soils, Land Capability, and Coverage and Hydrology and Water Quality: Construction of the water supply system improvements would result in similar erosion impacts and surface water and groundwater quality impacts as those described for Alternative A as described under Impacts 3.9-3, 3.10-1, and 3.10-3. Because the water supply system improvements would occur in previously disturbed areas and would implement temporary and permanent best management practices, as required by TRPA, Lahontan Regional Water Quality Control Board, and Placer County, erosion impacts would be less than significant. Because these improvements would be located in previously disturbed and developed areas, they would not adversely affect the topography or result in compaction or land coverage beyond TRPA limits. These impacts would be less than significant.
- Utilities: Construction of water supply system improvements, if determined to be needed, would be implemented to meet fire flow demand for Alternative A. There would be no long-term demand for wastewater services or electricity and natural gas supplies associated with the fire flow upgrades. Installation of the water supply improvements would involve excavation and construction and demolition (C&D) waste associated with asphalt removed during construction. As discussed under Impact 3.11-4 for Alternative A, the water supply system improvements would comply with Section 5.408 of the CALGreen Code which requires that a minimum of

65 percent of C&D debris generated during construction be recycled and/or salvaged. For these reasons and because of the temporary nature of construction activities, the impact from implementation of this mitigation measure on solid waste collection and disposal would be less than significant.

- Energy: Construction of the water supply system improvements would result in the same types of fuel consumption, which would be a one-time energy expenditure, described for Alternative A under Impact 3.12-1. Construction equipment use and associated energy consumption would be typical of that associated with the construction of utility improvements. Implementation of Mitigation Measure 3.7-1, as summarized above, would result in the reduction of GHG emissions through implementation of measures that would also reduce construction-related consumption of fuels. Because the demand for energy for construction activities would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy and because construction of the water supply system would implement measures to reduce fuel consumption, the water supply system improvements would not result in wasteful, inefficient, or unnecessary consumption of energy. This impact would be less than significant

For the reasons described above, implementation of this mitigation measure would not result in additional or secondary environmental impacts to those of Alternative A. With implementation of Mitigation Measures 3.11-1, this impact would be reduced to a **less-than-significant** level.

Impact 3.11-2: Increased Demand for Wastewater Collection, Conveyance, and Treatment

The proposed Project would generate wastewater flows associated with operation of the Schilling Lodge and continued use of the Highlands Community Center, which would result in estimated total annual average wastewater flows of up to 129,315 gallons, an increase of up to 99,940 gallons over existing conditions. Operation of the proposed Project would increase average daily wastewater demand by 273 gpd and peak day wastewater demand by 1,625 gpd over existing conditions. Alternative A would result in the removal of the Highlands Community Center and construction and operation of the Schilling Lodge in its place, resulting in generation of annual average wastewater flows of up to 111,694 gallons, an increase of up to 82,319 gallons over existing conditions. The average day wastewater flows for Alternative A would result in an increase of 225 gpd over existing conditions and an increase of 1,189 gpd over existing peak day wastewater flows. TCPUD has indicated there would be sufficient capacity in their wastewater collection system to convey wastewater flows from the proposed Project and Alternative A to the T-TSA TRI. Additionally, T-TSA has indicated there is sufficient capacity in the T-TSA TRI and WRP to serve the proposed Project. For these reasons, the proposed Project and Alternative A would have a **less-than-significant** impact on wastewater collection, conveyance, and treatment.

Proposed Project

This analysis assumes that wastewater flows typically mirror domestic water usage without irrigation. The increase in wastewater flows from the Schilling Lodge with implementation of the proposed Project would be associated with restrooms, the café (includes service counter and kitchen), and showers. The estimated annual average wastewater flows at the Schilling Lodge with implementation of the proposed Project would be 111,694 gallons with the average daily flows estimated to be 305 gpd and peak day wastewater flows estimated at 1,625 gpd.

For the purposes of this analysis, wastewater demand at the Highlands Community Center under the proposed Project is conservatively assumed to be similar to or less than existing wastewater demands, like that described for the water demand discussed under Impact 3.11-1. The annual average wastewater flows for the Highlands Community Center would be up to 17,621 gallons, average day wastewater flows would be 48 gpd, and the peak day wastewater flows would be 436 gpd. The total future annual average wastewater flows associated with implementation of the proposed Project, including operation of the Schilling Lodge and the Highlands Community Center would be 129,315 gallons. This would be an increase in wastewater flows at Tahoe XC of 99,940 gallons per year.

Implementation of the proposed Project would result in an increase in the number of events at the Schilling Lodge, but would not result in an increase in size of the events compared to existing conditions and, thus, would not increase wastewater flows on peak visitation days compared to existing conditions. Implementation of the proposed

Project would include construction of a new connection to the existing wastewater line in Polaris Road. The wastewater flows at the Highlands Community Center under the proposed Project would be associated with use of restroom facilities when the building is in use for community meetings, recreation classes, and special events.

Table 3.11-5 Existing Wastewater Demand Compared to that Estimated for the Proposed Project

	Building Size (sq. ft.)	Average Day Wastewater Flows (gpd)	Peak Day Wastewater Flows (gpd)	Annual Average Wastewater Flows (gallons)
Existing Conditions				
Existing Lodge[1]	2,723	80	436	29,375
Proposed Project				
Schilling Lodge[2]	10,154	305	1,625	111,694
Highlands Community Center[3]	2,723	48	436	17,621
Total Wastewater Flows for the Proposed Project	—	353	2,061	129,315
Increase in Wastewater Flows from Existing Conditions	—	273	1,625	99,940

[1] The average day wastewater flows for the Existing Lodge are calculated by dividing the annual average wastewater flows derived from the annual average water flows (see Table 3.11-3) by 365 days. The peak day wastewater flow for the Existing Lodge was developed from the month with the highest demand, which was January 2016 shown in Table 3.11-3. See the discussion under the header "Wastewater Treatment and Disposal" under the header "Methods and Assumptions."

[2] The average day wastewater flows for the Schilling Lodge was determined by multiplying the average day flow rate (0.03 gpd/sq. ft.) described under the header "Methods and Assumptions," by the size of the lodge. The peak day wastewater flow was determined by multiplying the peak day wastewater flow rate (0.16 gpd/sq. ft.) by the size of the lodge.

[3] The average day wastewater flows for the Highlands Community Center was calculated by dividing the annual average wastewater flow (17,621 gallons) by 365 days. The peak day wastewater flows for the Highlands Community Center are conservatively estimated to be equal to wastewater flows for a peak day at the Existing Lodge, although the peak day flows at the Existing Lodge are based on highest use at the lodge during a winter month when Tahoe XC would be operating.

Source: Compiled by Ascent Environmental in 2019

The average daily wastewater flows associated with implementation of the proposed Project would be a 0.03-percent increase over existing wastewater flows collected by TCPUD's conveyance system and would represent 0.004 percent of the design daily flow (the allocated maximum flow to the T-TSA TRI and WRP). On a peak day, the increase in wastewater flows associated with the proposed Project would be a 0.2 percent increase over existing wastewater flows and would represent 0.02 percent of the design daily flow for TCPUD flows to T-TSA's collection system and WRP. The increase in average daily wastewater flows from the proposed Project would be 0.001 percent of the existing average treatment influent at the WRP and 0.005 percent of the remaining capacity at the WRP. On a peak day, the wastewater flows from the proposed Project would represent a 0.03-percent increase over existing maximum instantaneous flows to the WRP and the remaining capacity at the WRP. There is currently sufficient remaining capacity in the TCPUD wastewater collection system and T-TSA collection system and WRP to handle the projected increase in average day and peak day wastewater flows associated with the proposed Project.

TCPUD has indicated their wastewater collection system has capacity to convey wastewater flows from the proposed Project to the T-TSA WRP (Homolka, pers. comm., 2017). The proposed Project would be required to obtain authorization from TCPUD for the sewer connection, which would be subject to engineering analysis.

T-TSA has indicated there is sufficient capacity in the T-TSA TRI and WRP to serve the proposed Project (Pindar, pers. comm., 2019). However, T-TSA does not issue will-serve letters. All capacity allocations are made on a first-come, first-served basis for all projects within T-TSA's service area.

Because TCPUD and T-TSA have sufficient wastewater conveyance and treatment capacity to accommodate the wastewater flows from the proposed Project, this impact would be **less than significant**.

Alternative A

Impacts on wastewater conveyance and treatment from implementation of Alternative A would be the same as that described for the Schilling Lodge under the proposed Project, above, because the size of the Schilling Lodge and operations for this alternative would be the same as those for the proposed Project. However, the overall wastewater flows would be incrementally less than the proposed Project, limited to wastewater from the Schilling Lodge, since the Existing Lodge would be demolished and operations at the Highlands Community Center would cease under Alternative A. Thus, the estimated average annual wastewater flows for Alternative A would be up to 111,694 gallons, an increase of up to 82,319 gallons over existing conditions (see Table 3.11-5). The average day wastewater flows at the Schilling Lodge would be 305 gpd, an increase of 225 gpd over existing conditions, and the peak day wastewater flows would be 1,625 gpd, an increase of 1,189 gpd over existing peak day wastewater flows. For these reasons and those described above for the proposed Project, the impact from implementation of Alternative A on demand for wastewater conveyance and treatment would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.11-3: Increased Demand for Electricity and Natural Gas

Implementation of the Project, under either the proposed Project or Alternative A would increase electricity and natural gas consumption at each site relative to existing conditions. Liberty Utilities and Southwest Gas have indicated there would be adequate supplies and facilities to serve the electricity and natural gas needs of the proposed Project and Alternative A. For these reasons, the impact related to construction of new or expanded electricity or natural gas facilities would be **less than significant**.

Proposed Project

Liberty Utilities would provide electricity for the proposed Project and natural gas services would be provided by Southwest Gas Corporation.

Implementation of the proposed Project would result in an increase in electricity and natural gas use because the size of the Schilling Lodge would be larger and require additional resources to operate (e.g., heat) the additional space than the Existing Lodge (estimated to be 2,723 sq. ft.). With implementation of the proposed Project, operation of the Highlands Community Center would continue to have demands for electricity and natural gas, but those demands would be anticipated to be less than under existing conditions since the use of the facility throughout the year would be for a limited number of community events each month (e.g., recreation/special classes, community meetings; see Table 2-5 in Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail"), which would be less activity than currently occurs at the Existing Lodge. The Project would increase electricity and natural gas consumption relative to existing conditions, and would require the construction of new utility connections to existing electrical and natural gas facilities provided by Liberty Utilities and Southwest Gas, respectively.

As discussed in Impacts 3.13-1 and 3.12-2 in Section 3.12, "Energy," the proposed Project would be constructed in compliance with energy efficiency standards of Part 6 of the 2019 California Energy Code, which is 30 percent more energy efficient than the previous iteration of the California Energy Code. Thus, compliance with these regulations would minimize the Project's increase in energy demands.

Liberty Utilities and Southwest Gas have indicated there would be adequate supplies and facilities to serve the Project (Custer, pers. comm., 2019; Nelson, pers. comm., 2019). Additionally, before receiving permit approval from TRPA or Placer County, future development would be required to comply with Section 32.6 of the TRPA Code, which requires that a project applicant demonstrate that the project would be served by facilities that have adequate electrical supply. Aside from a new service connection to the new building, no other new electricity or natural gas systems or substantial alterations to energy systems would be required. The new service connections would be constructed within the footprint of the proposed Project site and, thus, the potential environmental effects associated with construction of these service connections are considered as part the analysis of this proposed Project throughout this EIR.

For the reasons described herein, the increase in demand for electricity and natural gas would not be substantial for the Schilling Lodge and Highlands Community Center such that existing sources would not be sufficient to serve the proposed Project. This impact would be **less than significant**.

Alternative A

Operations at the Schilling Lodge associated with Alternative A would have similar levels of energy demand as the proposed Project; however, overall operational energy demand of electricity and natural gas use and consumption of gasoline and diesel fuels would be incrementally less than the proposed Project because of the discontinued use of the Existing Lodge. The Existing Lodge would be removed and replaced with the Schilling Lodge under this alternative; thus, the only natural gas and electricity demand for this alternative would be associated with the Schilling Lodge.

For similar reasons described above under the discussion of the proposed Project's electricity and natural gas impacts, the impact from Alternative A related to construction of new or expanded electricity or natural gas facilities would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.11-4: Increased Demand for Solid Waste Collection and Disposal

Solid waste collection services are currently provided by TTSD. After recyclable materials are sorted by TTSD at the Eastern Regional Landfill and MRF, residual solid waste is disposed of at Lockwood Regional Landfill in Nevada. Implementation of the proposed Project and Alternative A would result in an increase in solid waste generation proportionate to the anticipated increase in visitation at the Schilling Lodge and would generate some construction and demolition debris associated with new facilities. The Eastern Regional Landfill and MRF and Lockwood Regional Landfill both have sufficient capacity to meet the additional construction and operation solid waste collection and disposal demand of the proposed Project and Alternative A. This impact would be **less than significant**.

Proposed Project

Solid waste collection for the Existing Lodge is provided by TTSD. Recyclable materials are collected as part of the solid waste collection service and sorted at the Eastern Regional Landfill and MRF in Truckee. Operations at the Schilling Lodge could generate up to an estimated 9.2 tons/year of solid waste (modeled by Ascent Environmental in 2019). Solid waste generated by special events, community events, and private events would increase with the anticipated increase in number of events that could occur with implementation of the proposed Project, but the sizes of the events would not exceed that of the existing special events at the Existing Lodge. Operation of the Highlands Community Center under the proposed Project would generate a limited amount of solid waste associated with up to 24 recreation/special classes throughout the year and up to four community gatherings throughout the year. Solid waste collection for the proposed Project would continue to be provided by TTSD.

After recyclable materials are separated from solid waste at the MRF in Truckee, the residual solid waste is hauled to Lockwood Regional Landfill for disposal. The MRF is permitted to receive 800 tons of material daily (CalRecycle 2018). The MRF receives an average of 205 tons per day and has available capacity to receive an additional 595 tons per day. The facility is achieving a near 50 percent diversion rate for commercial wastes and greater than 50 percent diversion for residential wastes (TTSD 2019a, 2019b). The Lockwood Regional Landfill has a disposal capacity of 302.5 million cubic yards with a remaining capacity of more than 267 million cubic yards (NDEP 2017). There is sufficient capacity at the MRF and Lockwood Regional Landfill to accept the anticipated incremental increase in solid waste generated by the proposed Project.

Construction and demolition (C&D) waste would be generated by construction of the Schilling Lodge. In accordance with Section 5.408 of the CALGreen Code, the Project would implement a Construction Waste Management Plan for recycling and/or salvaging for reuse of a minimum of 65 percent of C&D debris generated during Project construction. It should be noted that the Schilling Lodge would be a reconstruction of an existing building, thus, less

solid waste would be generated during construction of the Project compared to other projects involving construction of an entirely new building.

In compliance with TRPA Policy PS-3.3 requiring garbage pick-up service in the Basin, the proposed Project would continue to have solid waste collection provided by TTSD. Unincorporated Placer County is in compliance with state targets for waste diversion from landfills. Because the Project would be served by TTSD, which separates recyclable materials from solid waste at the MRF, the Project would comply with state requirements for solid waste diversion.

The increase in solid waste generation that would occur with implementation of the proposed Project would not result in an increase in solid waste that would cause the MRF or Lockwood Regional Landfill to exceed permitted capacities. The Project would also comply with all relevant regulations related to solid waste reduction and recycling. This impact would be **less than significant**.

Alternative A

The demand for solid waste collection and disposal associated with Alternative A would be similar to that of the proposed Project on a long-term basis because the size of the Schilling Lodge and operations for this alternative would be similar to the proposed Project. However, Alternative A would remove the Existing Lodge; thus, there would be no solid waste generated from recreation/special classes and community gatherings at the Highlands Community Center like that described above for the proposed Project.

Alternative A would generate a greater amount of C&D waste than the proposed Project, because Alternative A would include demolition of the Existing Lodge. Construction-generated C&D waste would need to be managed in accordance with Section 5.408 of the CALGreen Code, which requires that a minimum of 65 percent of C&D debris generated during construction be recycled and/or salvaged for reuse. For these reasons and those described above for the proposed Project, the impact from implementation of Alternative A on solid waste collection and disposal would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

As described in Impacts 3.11-1 through 3.11-4, all utility providers are currently able to meet the needs of their customers. Therefore, no existing significant impacts on utilities currently exist.

Water

Cumulative projects that could combine with the Project to result in a cumulatively considerable impact on water supply and water supply infrastructure include buildout of the Placer County Tahoe Basin Area Plan and Regional Plan within the service area for TCPUD and implementation of the Dollar Creek Crossing project. As identified in Impact 3.11-1, above, the proposed Project would result in a less-than-significant impact related to water supply and water supply conveyance infrastructure and, after implementation of Mitigation Measure 3.11-1, Alternative A would also result in a less-than-significant impact. As identified in the TCPUD Urban Water Management Plan, there would be sufficient water supplies to meet future demand of these projects (TCPUD 2016; see Table 3.11-2). Additionally, individual projects are required to obtain approval of a water connection by TCPUD, which could include a capacity analysis to be performed by a project applicant to ensure the areas of the system being tapped for service are adequate to serve the project. If deficiencies are found, any infrastructure improvements required to serve the Project would be a condition of the Project through which the Project constructs system improvements and TCPUD takes ownership of the new facilities. For these reasons, there would be **no significant cumulative impact** on water supply and water supply infrastructure and, therefore, the proposed Project and Alternative A would not considerably contribute to any such impact.

Wastewater

Cumulative projects that could combine with the Project to result in a cumulatively considerable impact on wastewater conveyance and treatment infrastructure include buildout of the Placer County Tahoe Basin Area Plan and Regional Plan within the service area for TCPUD and implementation of the Dollar Creek Crossing project. Due to the growth limitations established by TRPA, TCPUD anticipates its collection system will not be exceeded by the current or projected buildout flows (TCPUD 2014). The same requirements for capacity analysis and needed system improvements described for water supply above related to TCPUD infrastructure would also apply to their wastewater collection services. The Project and cumulative projects identified above would contribute wastewater to the TRI and WRP. Any excess capacity in the TRI is allocated on a first-come, first-served basis and all future projects that would use this conveyance would be required to demonstrate that sufficient wastewater conveyance capacity is available. The T-TSA WRP has a capacity of 9.6 mgd and can accommodate between 400 to 800 new connections per year. However, the rate of new connections has not increased as originally anticipated (Nevada LAFCo 2018). The estimated remaining available capacity at the treatment plant is 5.6 mgd. Currently, there is ample available capacity to serve projected future development, including the buildout of the cumulative projects listed above. No project would be permitted without confirmation from the service provider that available capacity exists at the WRP. For these reasons, there would be **no significant cumulative impact** on TCPUD and T-TSA wastewater conveyance and wastewater treatment infrastructure or on the T-TSA WRP; therefore, the proposed Project and Alternative A would not considerably contribute to any such impact.

Electricity and Natural Gas

Liberty Utilities and Southwest Gas Corporation employ various programs and mechanisms to support provision of these services to new development; various utilities charge connection fees and re-coup costs of new infrastructure through standard billings for services. There is currently sufficient infrastructure and energy supply to support existing demand. Implementation of the proposed Project and Alternative A would result in an incremental increase in demand for energy.

Many of the cumulative projects identified in Table 3.1-2 in Section 3.1.2, "Cumulative Impact Analyses," that would be served by these energy providers involve redevelopment of existing developed sites or areas, including buildout of the Placer County Tahoe Basin Area Plan and Regional Plan and implementation of the North Tahoe High School and North Tahoe Middle School Facilities Program and the Dollar Creek Crossing project. Buildout of the Area Plan and Regional Plan include redevelopment of existing developed sites or areas, which could include residential and commercial uses. The school facilities program would expand the band room, construct a greenhouse, and implement other improvements to the outdoor quad areas. The Dollar Creek Crossing project is an affordable housing project that could construct up to 214 residential units, consisting primarily of multi-family units. These cumulative projects would result in an increase in demand for electricity and natural gas. Through their established process to provide connections, electricity, and natural gas supply to new development, Southwest Gas and Liberty Utilities use plans provided by developers to determine if or when upgrades in the system would be required to meet demand. These projects would also be required to implement energy efficiency measures in accordance with Title 24 standards to reduce energy demand, which would minimize increases in energy demand. For these reasons and because the utilities have procedures to plan for system improvements to keep pace with projected demand, there would be **no significant cumulative impact** on electricity and natural gas services and supplies and, therefore, the proposed Project and Alternative A would not considerably contribute to any such impact.

Solid Waste

Contributions of solid waste to the landfill associated with operation of the Project would be minimal, including contributions from an anticipated increase in visitation at the Schilling Lodge, for special events, community events, and private events. The Project operations would achieve the 50 percent waste diversion requirements of AB 939 through diversion of recyclable materials at the MRF. C&D activities associated with the Project would be required to recycle or salvage for reuse a minimum of 65 percent of C&D debris in accordance with Section 5.408 of the CALGreen Code. The cumulative projects listed in Table 3.1-2 in Section 3.1.2, "Cumulative Impact Analyses," would similarly contribute to the generation of solid waste during construction activities and operations that could be sorted and transferred through the

MRF and disposed at the Lockwood Regional Landfill. These projects would also achieve solid waste reductions during operations and construction as required by AB 939 and Section 5.408 of the CALGreen Code.

The available capacities of the Eastern Regional Landfill MRF and Lockwood Regional Landfill are characterized in Impact 3.11-4, above, and are determined to have remaining capacity of 595 tons per day and 267 million cubic yards, respectively. There would be sufficient and available capacity to meet solid waste disposal needs for the Project and cumulative projects for the foreseeable future. For these reasons, there would be **no significant cumulative impact** on solid waste disposal and, therefore, the proposed Project and Alternative A would not considerably contribute to any such impact.

3.12 ENERGY

This section evaluates the anticipated energy demand associated with the Project. The analysis considers whether the Project would result in inefficient, wasteful, and unnecessary consumption of energy. Issues related to energy consumption were not brought up during the scoping process.

Energy consumption associated with the proposed Project and Alternative A would include the combustion of diesel and gasoline to power equipment and vehicle trips used during construction; the combustion of natural gas for space and water heating; the use of electricity to power lighting, appliances, and other equipment; and the consumption of diesel, gasoline, and possibly electricity associated with vehicle trips by employees, patrons, vendors, and maintenance vehicles to and from the proposed Project site and the Alternative A site.

Changing the pattern of ownership of parcels as part of the larger land exchange being contemplated by TCPUD and the Conservancy by itself would have no impact related to energy demand. The potential environmental effects from construction and operation of the proposed Project on a portion of APN 093-160-064, currently owned by the Conservancy, are assessed in this section and other resource sections in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures," and in Chapter 5, "Other CEQA-Mandated Sections," of this EIR. The purpose of the land exchange is to consolidate ownership and increase land management efficiencies for the agencies and no other physical changes are proposed for the affected parcels.

3.12.1 Regulatory Setting

FEDERAL

Energy Policy and Conservation Act, and CAFE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration (NHTSA), part of the U.S. Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with the CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. The U.S. Environmental Protection Agency (EPA) calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance. Under the Energy Independence and Security Act of 2007 (described below), the CAFE standards were revised for the first time in 30 years.

Energy Policy Act of 1992 and 2005

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally-fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by EPAct to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Act increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels; and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

By addressing renewable fuels and the CAFE standards, the Act builds on progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

TAHOE REGIONAL PLANNING AGENCY

The Tahoe Regional Planning Agency (TRPA) has not specifically identified any goals, policies, or Environmental Threshold Carrying Capacities (environmental threshold standards) related to energy consumption. Through its Regional Plan and Code of Ordinances, however, TRPA has defined conformance requirements for area plans relative to energy consumption. In addition, through its Regional Transportation Plan and Sustainability Action Plan, both prepared in partnership with the Tahoe Metropolitan Planning Organization (TMPO), TRPA addresses greenhouse gas (GHG) reduction targets and subsequent reductions in energy consumption for cars and light trucks mandated by Senate Bill (SB) 375 and defines a GHG emissions target and broader GHG reduction strategies, respectively.

Placer County Tahoe Basin Area Plan

The following policies from the Placer County Tahoe Basin Area Plan (Area Plan) apply to energy:

- **Policy AQ-P-6:** Continue to implement the mPOWER incentive program to reduce greenhouse gas emissions from buildings and other site improvements.
- **Policy AQ-P-7:** Implement building design standards and design capital improvements to reduce energy consumption and, where feasible, incorporate alternative energy production.

STATE

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The Act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Plan

CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 1997 California Energy Plan. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban design that reduces vehicle miles traveled (VMT) and accommodates pedestrian and bicycle access.

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to: "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety" (Public Resources Code [PRC] Section 25301(a)). This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every two years and an update every other year. The 2017 IEPR is the most recent IEPR, which was adopted March 16, 2018. The 2017 IEPR provides a summary of priority energy issues currently facing the state, outlining strategies and recommendations to further the state's goal of ensuring reliable, affordable, and environmentally-responsible energy sources. Energy topics covered in the report include progress toward statewide renewable energy targets and issues facing future renewable development; efforts to increase energy efficiency in existing and new buildings; progress by utilities in achieving energy efficiency targets and potential; improving coordination among the state's energy agencies; streamlining power plant licensing processes; results of preliminary forecasts of electricity, natural gas, and transportation fuel supply and demand; future energy infrastructure needs; the need for research and development efforts to statewide energy policies; and issues facing California's nuclear power plants.

Senate Bill 1078: California Renewables Portfolio Standard Program

SB 1078 (Chapter 516, Statutes of 2002) establishes a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. This target date was moved forward by SB 1078 to require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least 1 percent each year. The outcome of this legislation will impact regional transportation powered by electricity. As of 2017, the state has reported that 32 percent of retail electricity sales were served by renewable energy facilities (CEC 2018a).

Senate Bill X1-2: California Renewable Energy Resources Act

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the RPS to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond.

Senate Bill 100: California Renewables Portfolio Standard Program

SB 100 requires that all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, supply 44 percent of retail sales from renewable resources by December 31, 2024; 50 percent by December 31, 2026; 52 percent by December 31, 2027; and 60 percent by December 31, 2030. The law requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

Energy Action Plan

The first Energy Action Plan (EAP) emerged in 2003 from a crisis atmosphere in California's energy markets. The State's three major energy policy agencies (CEC, CPUC, and the Consumer Power and Conservation Financing Authority [established under deregulation and now defunct]) came together to develop one high-level, coherent approach to meeting California's electricity and natural gas needs. It was the first time that energy policy agencies formally collaborated to define a common vision and set of strategies to address California's future energy needs and emphasize the importance of the impacts of energy policy on the California environment.

In the October 2005 *Energy Action Plan II*, CEC and CPUC updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP, such as the emerging importance of climate change, transportation-related energy issues and research and development activities. CEC adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the state's ongoing actions in the context of global climate change.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statues of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with the California Air Resources Board (CARB) and in consultation with other state, federal, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Energy Efficiency Building Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The CEC updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current (2016) California Energy Code is scheduled to be replaced by the 2019 California Energy Code on January 1, 2020. The 2019 California Energy Code will require builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use (CEC 2018b). CEC estimates that the 2019 California Energy Code will result in new nonresidential buildings that use 30 percent less energy than those designed to meet the 2016 California Energy Code, primarily through the transition to high-efficacy lighting (CEC 2018b). The California Energy Code is enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary due to local climatologic, geologic, or topographic conditions, provided that these standards exceed those provided in the California Energy Code.

Assembly Bill 32, Senate Bill 32, and Climate Change Scoping Plan and Update

Reducing GHG emissions in California has been the focus of the state government for approximately two decades (State of California 2018). GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (AB 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (SB 32 of 2016). Executive Order S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2 degrees Celsius, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected (United Nations 2015).

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals" (CARB 2017:1, 3, 5, 20, 25–26). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste). In 2015, electricity generation accounted for 11 percent of

the State's GHG emissions. California plans to significantly reduce GHG emissions from the energy through the development of renewable electricity generation in the form of solar, wind, geothermal, hydraulic, and biomass generation. The state is on target to meet the SB X1-2-33 percent renewable energy target by 2020 and will continue to increase statewide renewable energy to 50 percent by 2030, as directed by SB 350.

3.12.2 Environmental Setting

ELECTRICITY SERVICE

The proposed Project and Alternative A sites are serviced by Liberties Utilities. Liberty Utilities is an investor-owned utility founded in 2001. In 2011, the company purchased NV Energy's infrastructure to expand its service area (CEC 2015). In 2017, Liberty Utilities' electricity was sourced by 25 percent renewable energy, primarily from hydroelectric power (22 percent) and biomass (3 percent) (CEC 2018a).

NATURAL GAS SERVICE

Southwest Gas supplies natural gas service to the Tahoe Basin through state-regulated public utility contacts (CEC 2018b). Natural gas is supplied to the Alternative A site via infrastructure built and maintained by Southwest Gas. Natural gas lines are located along Polaris Road adjacent to the proposed Project site.

ALTERNATIVE FUELS

A variety of alternative fuels are used to reduce demand for petroleum-based fuel. The use of these fuels is encouraged through various statewide regulations and plans (e.g., programs and regulations contained in the AB 32 Scoping Plan). Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many transportation fuels, including:

- biodiesel,
- electricity,
- ethanol (E-10 and E-85),
- hydrogen,
- natural gas (methane in the form of compressed and liquefied natural gas),
- propane,
- renewable diesel (including biomass-to-liquid),
- synthetic fuels, and
- gas-to-liquid and coal-to-liquid fuels.

California has a growing number of alternative fuel vehicles through the joint efforts of CEC, CARB, local air districts, federal government, transit agencies, utilities, and other public and private entities. As of March 2019, California contained over 20,000 alternative fueling stations (Alternative Fuels Data Center [AFDC] 2019).

ENERGY USE FOR TRANSPORTATION

Transportation is the second largest energy consumer nationwide, accounting for 27 percent of the total national energy use. On-road vehicles are estimated to consume approximately 80 percent of California's transportation energy demand, with cars, trucks, and buses accounting for nearly all of the on-road fuel consumption. Petroleum products (e.g., gasoline, diesel, jet fuel) account for almost 99 percent of the energy used in California by the transportation sector, with the rest provided by ethanol, natural gas, and electricity (Bureau of Transportation Statistics 2018).

3.12.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

Levels of construction- and operation-related energy consumption associated with the Project, are measured in megawatt-hours (MWh) of electricity, million Btu (MMBtu) of natural gas, and gallons of gasoline and diesel fuel. Energy consumption estimates were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 computer program (CAPCOA 2017). Construction-related fuel consumption was calculated for CalEEMod default heavy-duty construction equipment based on anticipated hourly daily usage, the number of days used, and worker commute trip VMT. Yearly operational consumption of electricity and natural gas were determined by the default CalEEMod energy consumption values for the Project's land uses. Operational diesel and gasoline consumption was calculated using CARB's 2014 EMissions FACtor (EMFAC) model (CARB 2014) and annual proposed Project- and Alternative A-generated VMT. Where Project-specific information was not known, CalEEMod default values based on the Project's location were used.

Total energy consumed during construction of the proposed Project would be 68,897 and 13,015 gallons of gasoline and diesel, respectively. Total fuel required to construct Alternative A would be 75,990 and 12,945 gallons of gasoline and diesel, respectively. Levels of energy consumption would be expected to be higher with Alternative A than the proposed Project because it would include the demolition of the Existing Lodge (i.e., the Highlands Community Center), which would not occur with the proposed Project.

The annual electricity budget for the proposed Project would be 86 MWh and annual natural gas consumption would be 189 MMBtu. Total annual gasoline and diesel consumption associated with operation of the proposed Project for the year 2023 would be 15,983 and 3,309 gallons, respectively. Operation of Alternative A would result in incrementally less energy consumption than the proposed Project, because operations at the Existing Lodge would be discontinued. See Appendix F of this EIR for detailed calculations and assumptions.

SIGNIFICANCE CRITERIA

CEQA Criteria

In accordance with Appendix F and Appendix G of the State CEQA Guidelines, the Project would result in a significant impact related to energy if it would:

- result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

TRPA Criteria

While TRPA considers energy consumption during project review, TRPA has not adopted specific significance criteria for analyzing energy use associated with a proposed project, or endorsed a particular methodology for analyzing impacts related to energy consumption.

ENVIRONMENTAL EFFECTS OF THE PROJECT

Impact 3.12-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy During Project Construction or Operation

Implementation of the proposed Project or Alternative A would increase electricity and natural gas consumption at the proposed Project site and Alternative A site relative to existing conditions; however, the proposed Project and Alternative A would be constructed in compliance with the 2019 California Energy Code, which achieves substantial reductions in overall energy use in nonresidential land uses relative to buildings constructed in compliance with previous versions of the code. Construction energy consumption associated with the proposed Project and Alternative A would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. For these reasons, the impact related to wasteful, inefficient, or unnecessary consumption of energy during construction or operation of either the proposed Project or Alternative A would be **less than significant**.

Proposed Project

Appendix G of the State CEQA Guidelines requires the consideration of the energy implication of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usages (PRC Section 21100, Subdivision [b][3]). Neither the law nor the State CEQA Guidelines establish criteria that define wasteful, inefficient, or unnecessary use. Compliance with the 2019 California Energy Code requires builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use, which would result in highly energy-efficient buildings. However, compliance with building codes does not adequately address all potential energy impacts during construction and operation. For example, construction activities would result in fuel consumption associated with onsite equipment use and worker commute trips, and increased visitor access associated with expanded event capacity would result in an increase in transportation-related fuel from personal automobile and truck use.

Energy would be required to construct the proposed Project, operate, and maintain construction equipment, as well as produce and transport construction materials to and from the proposed Project site. Construction of the Schilling Lodge and paved areas would require a one-time energy expenditure. Most energy consumption would result from operation of construction equipment and vehicle trips associated with commuting by construction workers and haul trucks supplying materials. Approximately 13,000 gallons of gasoline and 68,800 gallons of diesel fuel would be consumed to enable proposed Project construction. Construction would require the use of some onsite energy use; however, these energy needs for proposed Project construction would be temporary and is not anticipated to require additional capacity or increase peak or base period demands for electricity or natural gas. Construction equipment use and associated energy consumption would be typical of that associated with the construction of nonresidential projects in a developed area like the proposed Project area. There would be no construction associated with the Highlands Community Center.

Operation of the proposed Project would be typical of nonresidential land uses requiring electricity and natural gas for lighting, space and water heating, appliances, and landscape maintenance activities. Indirect energy use would include wastewater treatment and solid waste removal at offsite facilities. The proposed Project would increase electricity and natural gas consumption relative to existing conditions, and would require the construction of new utility connections to existing electrical and natural gas facilities supplied by Liberty Utilities and Southwest Gas, respectively. The analysis of energy use also includes the continued operation of the Existing Lodge with some community meetings and recreation classes.

The proposed Project would be required to meet the 2019 California Energy Code if the construction schedule occurs as envisioned. (As described in Section 2.5.3, in the early Project planning stages, Project construction was anticipated to potentially occur over up to four construction seasons; however, it is possible that Project construction could occur in as few as two years. The proposed Project is expected to commence construction in 2021 and be operational by 2023.) However, if construction were to occur after 2023, the proposed Project would be required to comply with the future 2022 Energy Code as the standards are updated on a triennial basis.

Fuel consumption associated with vehicle trips related to the proposed Project would not be considered inefficient, wasteful, or unnecessary. The proposed Project would generate an estimated annual increase in VMT of 487,217 and would consume approximately 16,000 gallons of gasoline and 3,300 gallons of diesel fuel per year. Furthermore, state and federal regulations regarding standards for vehicles (such as the CAFE Standards) are designed to reduce wasteful, unnecessary, and inefficient use of fuel. Also, the coupling of various state policies and regulations such as the SB 350 requirements would result in the deployment of electric vehicles, which would be powered by an increasingly renewable electrical grid.

For these reasons, the proposed Project's energy consumption through construction, building operation, and transportation would not be considered wasteful, inefficient, or unnecessary. This impact would be **less than significant**.

Alternative A

Similar to the proposed Project, energy would be required to construct Alternative A. Approximately 13,000 gallons of gasoline and 76,000 gallons of diesel fuel would be consumed to enable Alternative A construction. As compared to the proposed Project, diesel consumption would be greater by about 5,000 gallons. This rise in consumption would occur from the demolition of the Existing Lodge with this alternative.

Operations at the Schilling Lodge associated with Alternative A would have similar levels of energy demand as the proposed Project; however, overall operational energy demand of electricity and natural gas use and consumption of gasoline and diesel fuels would be less than the proposed Project because of the discontinued use of the Existing Lodge. The Existing Lodge would be removed and replaced with the Schilling Lodge under this alternative; thus, the only natural gas and electricity demand for this alternative would be associated with the Schilling Lodge.

For similar reasons described above under the discussion of the proposed Project's energy impacts, Alternative A's energy consumption during construction and operation would not be considered wasteful, inefficient, or unnecessary. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.12-2: Consistency with a State or Local Plan for Renewable Energy or Energy Efficiency

The proposed Project and Alternative a would comply with the Title 24 California Energy Code. Construction and operation of the proposed Project and Alternative A would not conflict with implementation of the RPS, SB 350, or other programs under the 2017 Scoping Plan that would indirectly reduce energy consumption by reducing GHG emissions. The proposed Project and Alternative A would also not conflict with the applicable policies of the Area Plan. Impacts from the proposed Project and Alternative A related to consistency with a state or local plan for renewable energy or energy efficiency would be **less than significant**.

Proposed Project

Project construction would begin in 2021 following statewide and local adoption of the 2019 California Energy Code; however, the Project site is located in CEC's Climate Zone 16, which is not required to implement solar technologies under the 2019 California Energy Code. Due to a number of physical (e.g., forest canopy, north facing slopes) and demand (e.g., seasonal variability) factors, portions of the Tahoe Basin are not suitable for installation of solar photovoltaic systems. However, Liberty Utilities supports the installation of solar panels where feasible through its Solar Incentive Program, in which the Project applicant could participate.

The Area Plan identified two policies specific to energy consumption. Policy AQ-P-6 refers to continued implementation of the mPOWER incentive program, which serves to reduce GHGs through improved energy efficiency. The mPOWER program behaves similarly to the national Property Assesses Clean Energy (PACE) program, which incentivizes homeowners to install energy efficient home improvements or incorporate onsite renewables

through rebates and low interest rates. Implementation of the proposed Project would not hinder the application of the mPOWER program.

Policy AQ-P-7 directs future construction to incorporate building design standards to reduce energy consumption and to incorporate alternative energy production if feasible. Further, the proposed Project would be required to comply with the 2019 California Energy Code and the level of energy demand of the Project would not be atypically high relative to other facilities in the region.

For these reasons, the proposed Project would not conflict with a state or local plan designed to conserve energy. This impact would be **less than significant**.

Alternative A

Construction-related energy consumption under Alternative A would be expected to be greater as compared to the proposed Project because additional diesel consumption would occur during demolition of the Existing Lodge. However, operational energy use would be comparatively lower than that of the proposed Project because energy consumption for Alternative A would only involve use of the Schilling Lodge as it would replace the Existing Lodge (i.e., Highlands Community Center), whereas, energy consumption for operation of the proposed Project would include use of both the Schilling Lodge and the Highlands Community Center. For the reasons described above in the discussion of the proposed Project, this impact from Alternative A would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

As described in Impact 3.12-1, above, implementation of the proposed Project and Alternative A would increase electricity and natural gas consumption at the proposed Project and Alternative A sites relative to existing conditions. Many of the cumulative projects identified in Table 3.1-2 in Section 3.1.2, "Cumulative Impact Analyses," would result in an increase in energy demand from redevelopment of existing developed sites or areas, including buildout of the Area Plan and Regional Plan and implementation of the North Tahoe High School and North Tahoe Middle School Facilities Program and the Dollar Creek Crossing project. Buildout of the Area Plan and Regional Plan include redevelopment of existing developed sites or areas. Impacts related to inefficient use of energy are project-specific and do not combine to contribute to cumulative inefficient use of energy. These cumulative projects would be required to undergo project-level analysis, as applicable, to assess and minimize to the extent feasible their individual impacts related to inefficient use of energy and consistency with a state or local plan for renewable energy or energy efficiency.

The proposed Project and Alternative A would be constructed in compliance with Part 6 of the 2019 California Energy Code, which is 30 percent more energy efficient than the previous iteration of the California Energy Code. The proposed Project's and Alternative A's natural gas would be supplied by Southwest Gas and Liberty Utilities would supply electricity. Liberty Utilities, like Southwest Gas and other utility companies in the state, would be required to comply with the RPS and Senate Bill 350, which require that electricity be generated by at least 50 percent renewable energy by 2030. Therefore, the proposed Project's and Alternative A's potential contribution to impacts related to energy use **would not be cumulatively considerable**.

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4 ALTERNATIVES

The California Code of Regulations (CCR) Section 15126.6(a) (State CEQA Guidelines) requires EIRs to describe "… a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project, and foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis is as follows:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines Section 15126.6(d) requires that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project (Site D – Full Project). If an alternative would cause one or more significant effects in addition to those that would be caused by the Project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (CCR Section 15126.6[d]). The analysis herein provides a comparative analysis of alternatives to the proposed Project consistent with CCR Section 15126.6(d).

The State CEQA Guidelines further require that the "no project" alternative be considered (CCR Section 15126.6[e]). The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed Project with the impacts of not approving the proposed Project. If the no project alternative is the environmentally superior alternative, CEQA requires that the EIR "…shall also identify an environmentally superior alternative among the other alternatives." (CCR Section 15126[e][2]).

In defining "feasibility" (e.g., "… feasibly attain most of the basic objectives of the project …"), CCR Section 15126.6(f)(1) states, in part:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the Project, the Project's significant effects, and unique Project considerations. Alternatives that fail to meet the fundamental Project purpose need not be addressed in detail in an EIR. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, here the TCPUD Board of Directors (Board). (See PRC Sections 21081.5, 21081[a] [3].) At the time of action on the Project, the decision-making body may consider evidence beyond that found in this EIR in addressing such determinations. The decision-making body, for example, may conclude that a particular alternative is infeasible (i.e., undesirable) from a policy standpoint, and may reject an

alternative on that ground provided that the decision-making body adopts a finding, supported by substantial evidence, to that effect, and provided that such a finding reflects a reasonable balancing of the relevant economic, environmental, social, and other considerations supported by substantial evidence.

4.1 BASIS FOR SELECTION OF ALTERNATIVES

As summarized above, the State CEQA Guidelines Section 15126.6(c) provides the following guidance in selecting a range of reasonable alternatives for the proposed Project. The range of potential alternatives for the proposed Project considered must include those that could feasibly accomplish most of the basic objectives of the Project included below in Section 4.1.1 and Section 2.4, "Project Objectives," in Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail." The range of potential alternatives must also be considered that could avoid or substantially lessen one or more of the significant effects, as summarized in Section 4.1.2 below.

4.1.1 Attainment of Project Objectives

As described above, one factor that must be considered in selection of alternatives is the ability of a specific alternative to attain most of the basic objectives of the Project (CCR Section 15126.6[a]). Chapter 2, "Description of Proposed Project and Alternative Evaluated in Detail," articulates the following Project objectives:

TCPUD and TCCSEA are undertaking the proposed Project for a variety of reasons, many of which are interrelated. TCPUD's Project objectives are to:

- Expand recreational opportunities through construction of a new lodge at Highlands to improve resident and visitor experience.
- Construct a new lodge that minimizes effects on the neighborhood.
- Maintain a concessionaire partnership to operate improved and viable recreation opportunities.
- Preserve financial accountability and transparency of TCPUD property tax funds, while maximizing the use of private funding for construction of the new lodge.
- Create inviting community areas and public-use spaces.
- Support the North Lake Tahoe Tourism Plan by capitalizing infrastructure improvements on public lands and recreational assets.

TCCSEA's Project objectives are to:

- Address operational deficiencies in the current facility and improve financial viability.
- Repurpose the historic Schilling residence into a new lodge for community use and recreation activities.
- Maximize the base elevation of the lodge site.
- Improve and maintain educational programs and activities offered to adults and youth and create more user-friendly access to the trail system for beginner, disabled, and senior recreationists.

TCPUD and TCCSEA shared Project objectives to:

- Remedy inadequate parking and improve access to the lodge and trail system.
- Provide high quality and professionally maintained recreational amenities and facilitate growth and diversity of recreational opportunities by enhancing summer and winter activities.

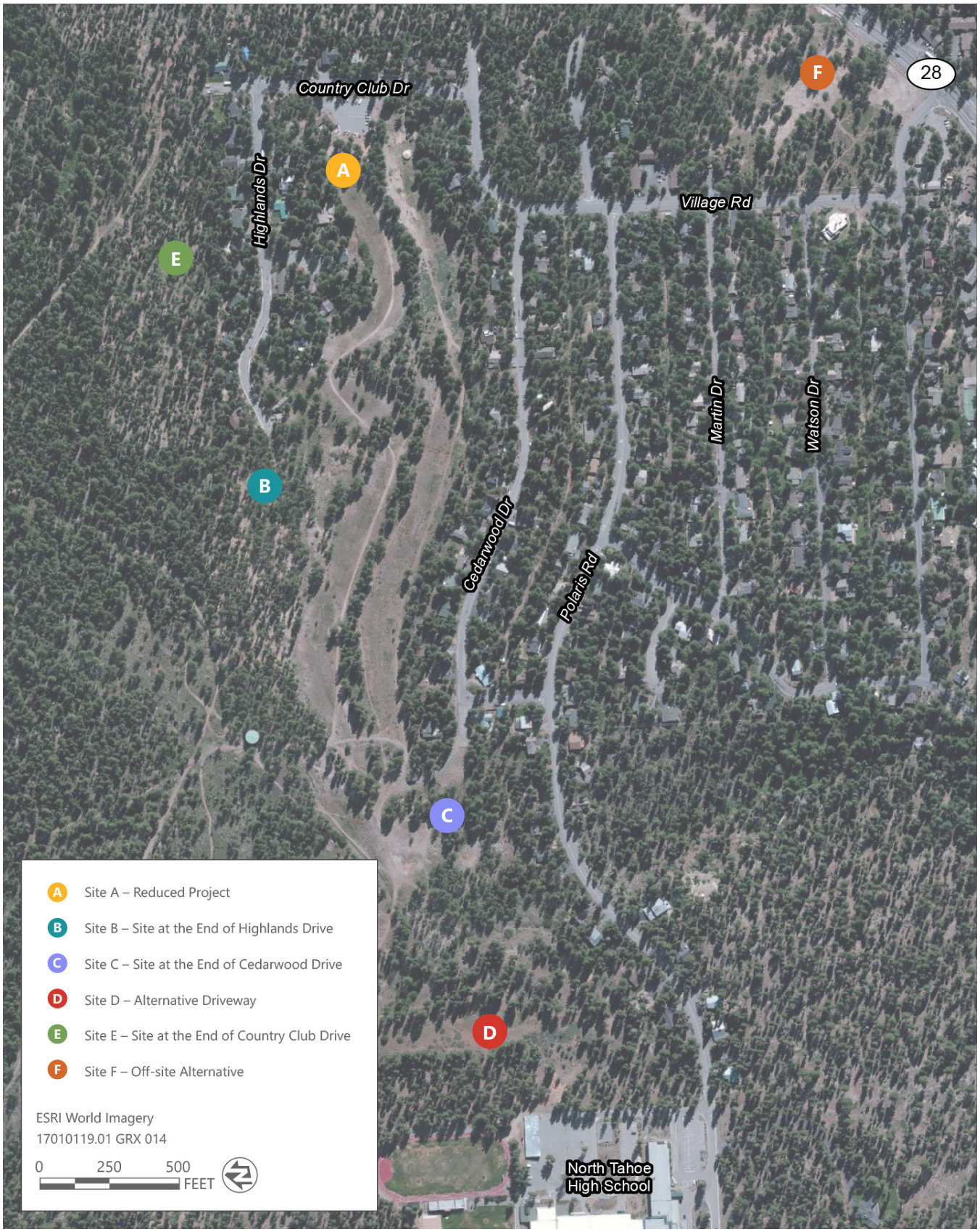
4.1.2 Environmental Impacts of the Tahoe Cross-Country Lodge Replacement and Expansion Project

Impacts associated with implementation of the proposed Project and Alternative A are evaluated in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures." The summary table (Table ES-1) provided in the "Executive Summary" chapter presents a detailed summary of the potential environmental impacts of implementation of the proposed Project and Alternative A.

4.2 ALTERNATIVES CONSIDERED AND NOT EVALUATED FURTHER

The EIR must also identify any alternatives that were considered by the lead agency, but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination. The following alternatives were considered by TCPUD but are not evaluated further in this Draft EIR. The following summary provides a brief description of these alternative proposals and the rationale for their dismissal. The general location of these alternatives are identified in Figure 4-1.

- **Site D – Alternative Driveway.** The Site D – Alternative Driveway alternative would involve construction of the Schilling Lodge at a similar location as the proposed Project, but with a new access driveway connecting to Cedarwood Drive rather than Polaris Road. With this alternative, the new driveway would cross through the Highlands Subdistrict, which is zoned and designated residential. The driveway for this alternative would be longer than the proposed Project driveway and would require a bridge across a seasonal drainage, which is considered a stream environment zone. This alternative would include the same structure, uses, and parking as the proposed Project. The Site D – Alternative Driveway was identified as an alternative in the Notice of Preparation for this EIR, but was rejected from further evaluation because it would result in greater potential adverse environmental effects associated with the seasonal drainage crossing. Additionally, this alternative would not substantially reduce any environmental impacts as compared to the Project, and did not receive any support from commenters during the public scoping process.
- **Site A – Reduced Project.** The Site A – Reduced Project alternative would involve construction of a new lodge at the site of the Existing Lodge. Like Alternative A, this alternative would include demolition of the Existing Lodge and construction of a new lodge using the repurposed Schilling residence. The building footprint could be similar to that of the proposed Project and Alternative A and would include a basement, but would not include an addition to the building. The size of the building would be approximately 6,229 sq. ft. This alternative could have the same number of parking spaces as the proposed Project and Alternative A. Although this alternative may reduce some environmental effects of the proposed Project (e.g., incrementally smaller increase in traffic), it was rejected from further evaluation because it would not have sufficient space to meet the needs of existing and future operational needs of the Project applicant (e.g., open interior space for a gear rental area) and would not substantially reduce any adverse environmental effects, as compared to the proposed Project. Additionally, due to the distance from the school, the location of this alternative would be less ideal than the proposed Project site for a shared parking agreement with the school for parking during special events. The cost and effort to provide utilities (e.g., power, gas, water, fire line, sewer, telephone, and data) would be similar to Alternative A, which would be greater than at the proposed Project site (Olson-Olson Architects 2017).
- **Site B – Site at the End of Highlands Drive.** The Site B alternative would be located at the end of Highlands Drive. This alternative would repurpose the historic Schilling residence and construct a lodge up to the size of the lodge for the proposed Project and could have a similar number of parking spaces. This alternative was rejected from further consideration for several reasons, including less direct access to cross-country ski trails compared to alternatives at the proposed Project and Alternative A sites. The location of this lodge would be at the edge of the neighborhood and visitors would have to travel farther into the Highlands Community neighborhood to access the lodge at this location. Additionally, both the proposed Project and Alternative A sites already provide public access for community and recreation purposes; locating the Schilling Lodge in either of these areas would represent less of a change in existing use for nearby neighbors than new disturbance at the end of Highlands Drive. The cost and effort to provide utilities (e.g., power, gas, water, fire line, sewer, telephone, and data) would be greater at this location than at the proposed Project site. (Olson-Olson Architects 2017).



Source: Compiled by Ascent Environmental in 2019

Figure 4-1 Alternatives Considered and Not Evaluated Further

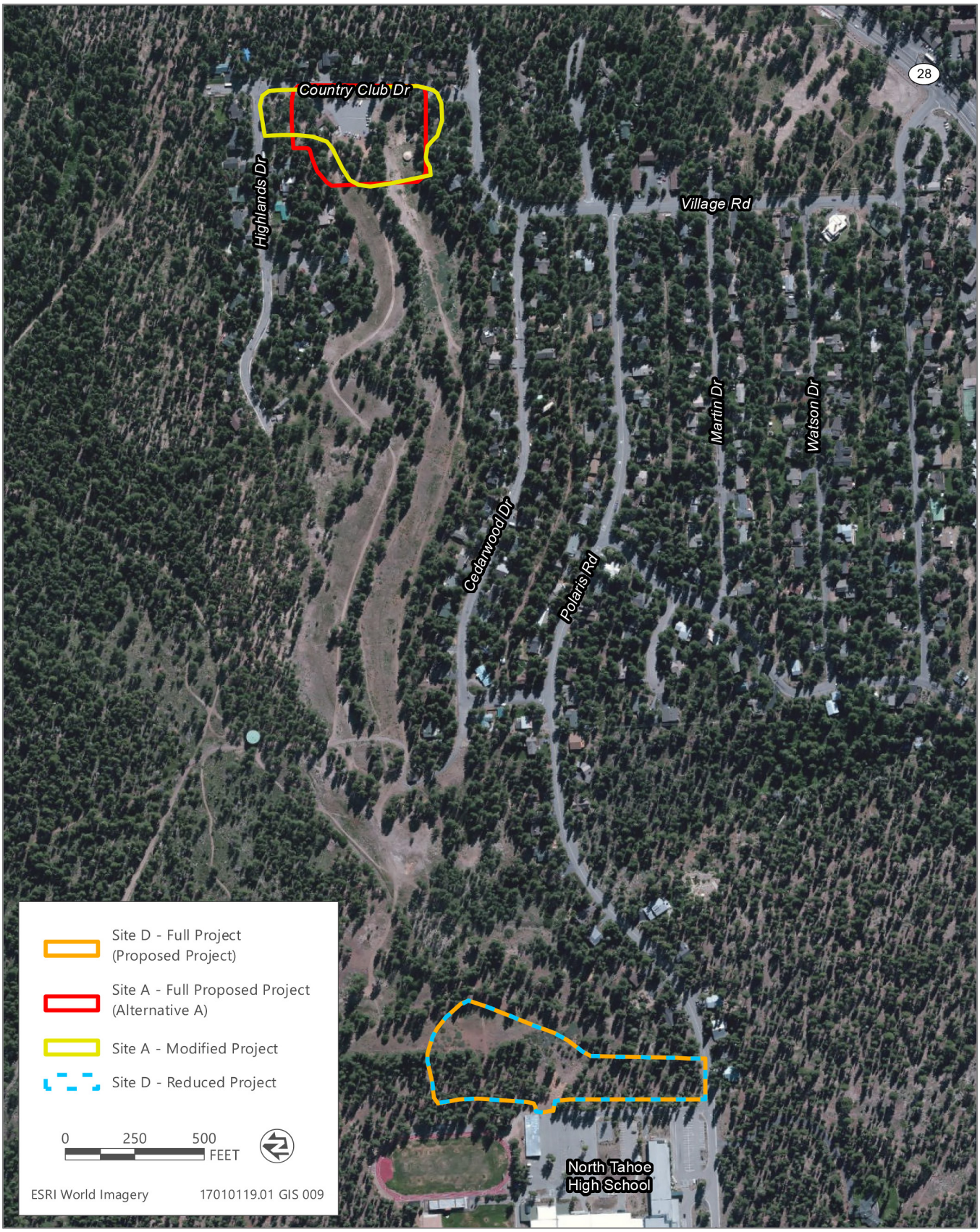
- **Site C – Site at the End of Cedarwood Drive.** The Site C alternative would be located at the end of Cedarwood Drive. Unlike the Site D – Alternative Driveway alternative, this alternative would not construct a new, long driveway off this street. This alternative would repurpose the historic Schilling residence and construct a lodge up to the size of the lodge for the proposed Project and could have a similar number of parking spaces. This alternative was rejected from further consideration because it would be located within the Highlands Subdistrict, which is zoned and designated residential and the Project would not be consistent with this land use designation. Similar to Site D – Alternative Driveway described above, the location of this alternative would not be supported by the public. Due to the distance from the school, the location of this alternative would be less ideal than the proposed Project for a shared parking agreement with the school for parking during special events.
- **Site E – Site at the End of Country Club Drive.** The Site E alternative would be located at the end of Country Club Drive. This alternative would repurpose the historic Schilling residence and construct a lodge up to the size of the lodge for the proposed Project and could have a similar number of parking spaces. This alternative was rejected from further consideration for several reasons, including less direct access to cross-country ski trails compared to alternatives at the Existing Lodge and adjacent to the school. Additionally, both the proposed Project and Alternative A sites already experience public access for community and recreation purposes; locating the Schilling Lodge in either of these areas would represent less of a change in existing use for nearby neighbors than new disturbance at the end of Country Club Drive. Due to the distance from the North Tahoe High School, a shared-parking agreement between the Schilling Lodge and the school for large special events would be less convenient than the proposed Project location directly adjacent to the school. This alternative would be located farther from the school, which would be a disadvantage for high school Nordic ski team members accessing the cross-country ski area. The cost and effort to provide utilities (e.g., power, gas, water, fire line, sewer, telephone, and data) would be greater at this location than at the proposed Project site. (Olson-Olson Architects 2017).
- **Alternative Project Location at the Firestone Property (Site F – Offsite Alternative).** During public scoping, comments were received that suggested locating the Project on the Firestone Property, owned by Placer County, which is located approximately 0.3 mile south of the Existing Lodge and trail network. This location for the Project was also identified by TCPUD early in the planning process as Site F – Offsite Alternative (TCPUD 2018). The Firestone Property is located on the mountain side of State Route (SR) 28 across from Dollar Drive. This alternative was rejected from further evaluation because the Firestone Property is substantially removed from the bulk of the existing ski trail network and does not include terrain suitable for beginners or lessons. Additionally, the property has been developed as a trailhead and includes parking for the Dollar Creek Shared-Use Trail, which further makes this area infeasible for use as a new lodge for the cross-country ski area. The trail was opened to trail users in 2018 (Tahoe Fund 2018).

4.3 ALTERNATIVES SELECTED FOR FURTHER EVALUATION

Alternatives to the proposed Project that are analyzed at a comparative level of detail include:

- No Project Alternative,
- Site A – Modified Project, and
- Site D – Reduced Project.

The locations of Site A – Modified Project and Site D – Reduced Project alternatives relative to the proposed Project and Alternative A are shown on Figure 4-2. The No Project Alternative would involve continued use of the Existing Lodge, which is located at the Highlands Community Center. These alternatives are described and analyzed in comparison to the proposed Project. Table 4-1 compares the site development features of each of the alternatives. The proposed Project and Alternative A are evaluated in detail in Chapter 3, "Environmental Setting, Environmental Impacts, and Mitigation Measures." Where construction, operation, physical characteristics, phasing, and other features would remain the same as the proposed Project, the reader is directed to the details in Chapter 2, "Description of Proposed Project and Alternative Evaluated in Detail." The alternatives descriptions herein focus on describing the elements that differ from the proposed Project.



Source: Adapted by Ascent Environmental in 2018

Figure 4-2 Locations of the Project Alternatives

Table 4-1 Site Development Features of Each of the Alternatives

Item		Proposed Project	Alternative A	No Project Alternative (Existing Conditions)	Site A – Modified Project	Site D – Reduced Project
Lodge[1]		10,154 sq. ft.	10,154 sq. ft.	2,723 sq. ft.[2]	8,661 sq. ft.[3]	6,229 sq. ft.
Parking		100 total parking spaces (59,799 sq. ft.)	100 total parking spaces (49,446 sq. ft.)	51 total spaces (approx. 16,820 sq. ft.)	100 total parking spaces (55,803 sq. ft.)	65 total parking spaces (53,184 sq. ft.)
		4 disabled parking spaces	4 disabled parking spaces	2 disabled parking spaces	4 disabled parking spaces	4 disabled parking spaces
		2 bus parking spaces	2 bus parking spaces	0	2 bus parking spaces	2 bus parking spaces
School Connector		Yes	No	No	No	Yes
Patio		6,808 sq. ft.	6,808 sq. ft.	1,345 sq. ft.	6,808 sq. ft.	6,808 sq. ft.
Kinder Sled Storage		80 sq. ft.	80 sq. ft.	Along building in parking lot	80 sq. ft.	80 sq. ft.
Bike Racks		2	2	0	2	2
Yurt		706 sq. ft.	706 sq. ft.	706 sq. ft.	706 sq. ft.	706 sq. ft.
Trees to be Removed	Total	183[4]	79[4]	0	152[5]	<183[5]
	Trees > 30 inches dbh	15[4]	7[4]	0	4[6]	9[6]
New Land Coverage[9]		81,593 sq. ft.[7]	67,619 sq. ft.[8]	0	74,487 sq. ft.	73,105 sq. ft.
Site Grading/Excavation		3,728 cu. yd. cut/ 1,785 cu. yd. fill	3,446 cu. yd./ 1,723 cu. yd. fill	NA	2,950 cu. yd./ 1,425 cu. yd. fill	3,360 cu. yd./ 1,082 cu. yd. fill

Notes: cu. yd. = cubic yard; sq. ft. = square feet; dbh = diameter at breast height; NA = not applicable

[1] The size of the lodge provided here includes the basement space, where proposed. For Site A – Modified Project, the size of the lodge includes the total size of the Schilling residence and the Existing Lodge as renovated.

[2] The Existing Lodge building combined with the areas containing the extra storage buildings and wax area, but not including the yurt, encompass 3,621 sq. ft.

[3] This includes the size of the Schilling Lodge combined with the size of the Existing Lodge.

[4] Estimate obtained from tree survey data provided by TTCSEA in 2020.

[5] Estimate for Site A – Modified Project provided by TTCSEA in 2019. No such estimate was provided for Site D – Reduced Project. However, because the Site D – Reduced alternative has a smaller footprint, the number of total trees to be removed will be less than for the proposed Project.

[6] Estimate derived by Ascent Environmental in 2020 based on a review of tree survey data provided by TTCSEA.

[7] The Project components contributing to land coverage for the proposed Project are detailed in Table 3.9-4 in Section 3.9, "Geology, Soils, Land Capability, and Coverage."

[8] The Project components contributing to land coverage for Alternative A are detailed in Table 3.9-5 in Section 3.9, "Geology, Soils, Land Capability, and Coverage."

[9] The land coverage estimates are conservative and higher than the coverage that would actually occur with development of each alternative because it does not account for installation of best management practices that could remove existing coverage.

Source: Compiled by Ascent Environmental in 2020

With regard to the no project alternative, the State CEQA Guidelines provide specific requirements. CCR Section 15126.6(e) (1) requires that the no project alternative be described and analyzed "to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project." The no project analysis is required to discuss "the existing conditions at the time the notice of preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current

plans and consistent with available infrastructure and community services" (Section 15126.6[e][2]). "If the project is… a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (Section 15126[e][3][B].)

4.4 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the Tahoe Cross-Country Lodge would continue to function in its current building capacity within the Highlands Community Center (i.e., the Existing Lodge), and serve as a winter cross-country lodge and trail network as well as a summer trailhead and year round space for other community functions and activities. During the spring, summer, and fall, bicycle rentals could continue to be offered. As under existing conditions, TCPUD could implement improvements or maintenance activities for the Existing Lodge building and address the parking deficiencies at the existing site. Such improvements or maintenance would be required to address issues with the aging facility and improving onsite parking capacity to reduce spillover onto residential streets. As part of the improvements and maintenance, the No Project Alternative could involve remodeling the interior, making changes to the façade, addressing circulation, and restriping parking. With this alternative, there would not be any anticipated increase in special events.

4.4.1 Biological Resources

The No Project Alternative would not include the development of a new lodge and associated improvements or any Project-related changes in recreation uses or patterns. Because no construction-related ground disturbance or operation of a new lodge facility would occur, no impacts to any common or sensitive biological resources would occur with the No Project Alternative. Similarly, tree removal would not occur with the No Project Alternative. In comparison, the proposed Project would remove native trees (including trees measuring greater than 30 inches diameter at breast height [dbh]) and other vegetation, and could potentially cause disturbance or loss of special-status plants if they are present on the proposed Project site, establishment or spread of invasive plants, and disturbances to wildlife movement. (*No Impact*)

4.4.2 Archaeological, Historical, and Tribal Cultural Resources

The proposed Project would include the relocation of the historic Shilling residence and because preservation measures required by SHPO would be a condition of the TRPA permit, relocation of the Schilling residence would occur without adversely affecting its historic status and the impact would be less than significant. Under the No Project Alternative, the Schilling residence could be reconstructed as part of a different project subject to its own environmental review and permitting. Because there would be no ground-disturbing activities or changes to existing conditions of the proposed Project site or Existing Lodge site under the No Project Alternative, there would be no potential impacts on cultural resources. (*No Impact*)

4.4.3 Transportation

Under the No Project Alternative, the Existing Lodge would remain unchanged and continue to operate consistent with existing conditions. Considering that there would be no changes at the proposed Project site, there would be no change in proposed Project site-generated or Existing Lodge site-generated traffic volumes. Consequently, there would be no change in intersection level of service (LOS), and all study intersections would continue to operate at an acceptable LOS. Additionally, there would be no change in daily vehicle miles traveled (VMT) associated with the No

Project Alternative. Because the No Project Alternative would not change traffic volumes on residential roadways, the roadways that serve the Project site would continue to meet Placer County's roadway capacity standards.

Because proposed Project site and the Existing Lodge site access would remain unchanged with the No Project Alternative, no driver sight distance deficiencies or other traffic hazard would occur. No changes in existing parking facilities and operations would occur. Existing on-street parking on Country Club Drive would continue pursuant to the existing agreement with Placer County. (*No Impact*)

4.4.4 Air Quality

The No Project Alternative would not include any new development or expansion of existing facilities, and thus, would not generate new construction or operation-related air emissions. By comparison, development of the proposed Project would generate construction-related and operational emissions associated with vehicle trips and activities within the proposed Project site or Existing Lodge site. Because there would be no physical changes to the Existing Lodge site that could affect air quality under the No Project Alternative, there would be no air quality impacts. *(No Impact)*

4.4.5 Greenhouse Gas Emissions and Climate Change

No construction would occur under the No Project Alternative, and no new vehicle trips would be generated on a daily basis. Further, no increase in electricity or natural gas consumption would occur. Therefore, there would be no increase in GHG emissions; thus, this alternative would be under the identified threshold of significance. To that end, it is important to view the Project in terms of GHG efficiency relative to what may occur without the proposed Project construction. The proposed Project has a relatively small carbon footprint due to its size. Nonetheless, in and of itself, emissions under this alternative would be less than those of the proposed Project. *(No Impact)*

4.4.6 Noise

Under the No Project Alternative, the Existing Lodge would continue to function in its current building capacity and operations would continue as a cross-country ski facility in the winter. During the spring, summer, and fall, the facility could continue to offer bicycle rentals and provide parking for a trailhead. No construction increases in special events, or associated increases in traffic would occur, and there would be no new noise impacts. (*No Impact*)

4.4.7 Geology, Soils, Land Capability, and Coverage

The No Project Alternative would not include the construction of a new lodge or result in increased impervious surfaces. No construction related ground disturbance would occur, so the risk of increased erosion would remain low. No new facilities would be constructed so there would be no change in the risk from strong seismic shaking. Because there would be no construction, no change in impervious cover, and no development of new facilities, there would be no new soils or geologic impacts. (*No Impact*)

4.4.8 Hydrology and Water Quality

The No Project Alternative would not include the construction of a new lodge or result in increased impervious surfaces. No construction-related ground disturbance would occur, so the risk of sediment laden runoff would remain low. The Highlands Community Center would continue to serve its current function and the ongoing operation and use of the facility would continue to generate urban contaminants that would be directed to existing stormwater management systems with an unknown degree of effectiveness. Because there would be no construction, no change in impervious cover, and no change in the level of use at the existing facility, there would be no new hydrologic impacts. (*No Impact*)

4.4.9 Utilities

With implementation of the No Project Alternative, operations at the Existing Lodge would not change and, thus, would result in no changes to the existing demand on utilities, including water supply, wastewater, electricity, natural gas, and solid waste. Because there would be no changes to the use or existing conditions of the proposed Project site or at the Existing Lodge site under the No Project Alternative, there would be no potential impacts on utilities compared to the proposed Project. (*No Impact*)

4.4.10 Energy

No construction would occur under the No Project Alternative, and no new vehicle trips would be generated on a daily basis. Further, no increase in electricity or natural gas consumption would occur. Therefore, there would be no increase in energy demand as compared to existing conditions and the proposed Project. Energy is currently being consumed on the No Project Alternative site by the Existing Lodge. With the proposed Project, the reconstructed portion of the Schilling residence would be built to energy efficiency standards of the 2019 California Energy Code, which would improve upon the energy efficiency of the Existing Lodge; however, overall energy consumption would be expected to be greater with implementation of the proposed Project as compared to the No Project Alternative because capacity and vehicle trips would be expanded. Energy consumption at the No Project Alternative site would be less under this alternative compared to that of the proposed Project. *(Less Impact)*

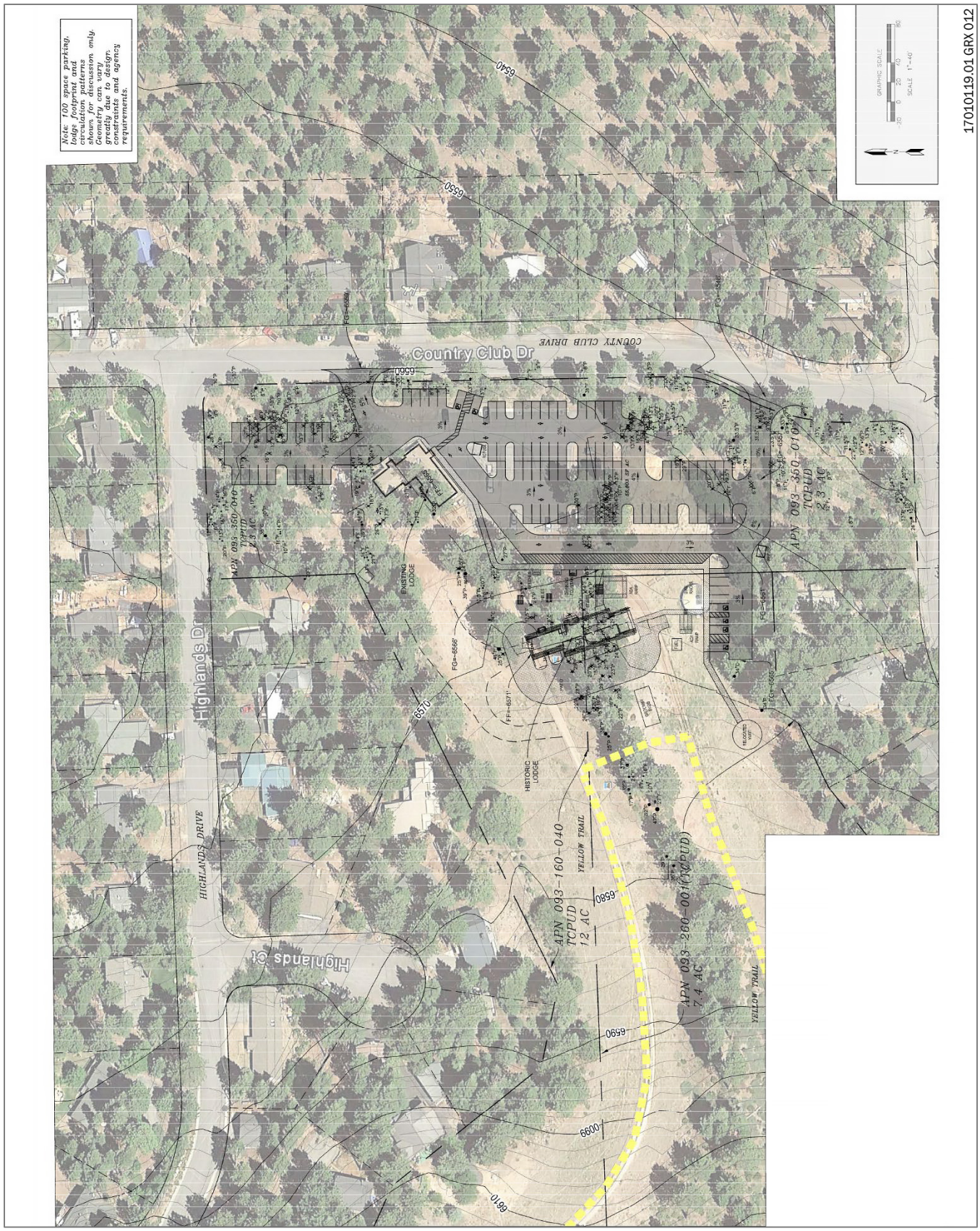
4.5 SITE A – MODIFIED PROJECT

The Site A – Modified Project alternative would be in the same location as Alternative A but would include a different site configuration with two buildings—the Schilling residence with a basement addition (totaling 6,229 sq. ft.) and renovation of the Existing Lodge building (2,432 sq. ft.; see Table 4-1 and Figure 4-3). The total building area would be about 1,500 sq. ft. smaller than the proposed Project and Alternative A. Uses of the lodge would be similar to the proposed Project and would include ticket sales, retail, meeting room, café, rental, storage, and community/outdoor space. This alternative would also include the same access and number of bus and vehicle parking spaces as Alternative A on Country Club Drive; however, due to its configuration, it would involve a slightly larger footprint for the parking lot and driveway area. Overall, this alternative would result in less new coverage than for the proposed Project. The number of special events (e.g., large special events, community events, private events) at the lodge and number of attendees at these events (see Table 2-3 in Chapter 2) would be similar to, but would not exceed, those of the proposed Project. The Site A – Modified Project does not propose a land exchange with the Conservancy.

4.5.1 Biological Resources

Development and operation of the Schilling Lodge and associated facilities would remove native trees and other vegetation, and could potentially cause disturbance or loss of special-status plants or wildlife if they are present on the Site A – Modified Project alternative site, establishment or spread of invasive plants, and disturbances to wildlife movement. Comparative summaries for these potential impacts between the Site A – Modified Project alternative and the proposed Project are provided below. With the Site A – Modified Project alternative, the area of new physical disturbances would be slightly smaller than with the proposed Project due to the reuse of an existing developed site.

With implementation of the Site A – Modified Project alternative, construction would require the removal of an estimated 152 total trees. Given that the location of this alternative is similar to that of Alternative A, the Site A – Modified Project alternative would result in a similar impact related to the removal of trees measuring 30 inches diameter at breast height (dbh) or greater as described for Alternative A in Section 3.3, "Biological Resources." This alternative would also be required to implement the same mitigation measure as that of Alternative A that involves minimizing tree removal and developing a limited forest plan and/or harvest plan for tree removal to avoid conflicting with TRPA's Code. The potential biological effects and TRPA review and permitting requirements related to



Source: Image provided by Tieslau Civil Engineering, Inc. in 2018

Figure 4-3 Site A – Modified Project Site Plan

tree removal, and the Project applicant's compliance with those requirements and applicable policies, would be similar to those described for the proposed Project. However, construction of the Site A – Modified Project alternative would require the removal of an estimated 31 fewer trees, including potentially 11 fewer trees measuring greater than 30 inches dbh, than with the proposed Project.

The potential for special-status plants, special-status wildlife, invasive plants, and wildlife movement corridors to occur on the Site A – Modified Project alternative site are similar to those described for the proposed Project site, although Site A contains slightly less natural vegetation and potential habitat. The potential construction-related and operational effects related to special-status species, invasive species, and wildlife movement corridors with the Site A – Modified Project alternative would be similar to those described for the proposed Project, because construction and ground disturbance required for this alternative would be located in the same general vicinity and would include the same impact mechanisms and construction effects as the proposed Project. Similar to the proposed Project, Mitigation Measures 3.3-1 and 3.3-3 would be implemented to reduce potential effects related to special-status plants and invasive plants to less-than-significant levels. However, the potential for and magnitude of these impacts may be less than those for the proposed Project. The Site A – Modified Project alternative would require less ground disturbance and native vegetation removal, possibly resulting in a lower risk or magnitude of invasive plant introduction and spread, potential disturbance to special-status plants, and disturbance to mule deer and other wildlife movements.

Additionally, as analyzed and discussed for Alternative A, the edge of a TRPA osprey disturbance zone intersects just inside the northeast-corner boundary of the Site A – Modified Project alternative site along Country Club Drive; the proposed Project site does not overlap with any of this osprey disturbance zone. For the same reasons described for Alternative A, operational activities associated with the Site A – Modified Project alternative would not substantially change potential habitat conditions for osprey, further degrade habitat conditions within the TRPA osprey disturbance zone measurably relative to existing habitat quality, or disturb future nesting activity at the nest site located approximately 0.25 mile away measurably above existing disturbance levels. *(Similar to Slightly Less Impact)*

4.5.2 Archaeological, Historical, and Tribal Cultural Resources

The Site A – Modified Project Alternative would include the relocation of the historic Schilling Residence to the site of the Existing Lodge, similar to Alternative A. Earth-moving activities within the Site A – Modified Project Alternative site have the potential to disturb archaeological resources, TCRs, or result in discovery of human remains. Under the Site A – Modified Project alternative, there would be ground-disturbing activities (e.g., grading, excavation) that could result in the discovery of archaeological resources, TCRs, or human remains; however, compliance with the California HSC Sections 7050.5 and 7052, PRC Section 5097, and feasible mitigation measures would reduce these impacts to a less-than-significant level. Because the alternative would have a slightly smaller footprint than the proposed Project, impacts on cultural resources would be incrementally less. *(Similar to Slightly Less Impact)*

4.5.3 Transportation

The Site A – Modified Project alternative would result in a different configuration of the lodge at Site A than Alternative A. It is anticipated that the lodge operations and site-generated traffic volumes associated with the Site A – Modified Project alternative would be the same as Alternative A, and similar to the proposed Project.

Consequently, the effect on intersection LOS would be the same as Alternative A, and similar to the proposed Project, and all study intersections would continue to operate at an acceptable LOS. Residential roadways that serve the Site A – Modified Project alternative site would continue to meet Placer County's roadway capacity standards.

The Site A – Modified Project alternative includes the same number of lodge parking spaces (100 spaces) as both Alternative A and the proposed Project. Therefore, parking impacts would be the same as the proposed Project.

As with the proposed Project, the Site A – Modified Project alternative site plan and associated engineering and design plans would be subject to the Placer County design review and plan check processes; and thus, would be

required to demonstrate compliance with all applicable Placer County design and safety standards for roadway improvements or changes to existing Placer County roadways for this alternative.

Because the Site A – Modified Project alternative would be in the same location as Alternative A and would result in similar operations and traffic volumes as Alternative A, this alternative would similarly result in an increase in daily VMT. The Site A – Modified Project alternative would be required to implement the same mitigation measures as described for the proposed Project and Alternative A in Section 3.5, "Transportation," to prepare and implement a Transportation Demand Management (TDM) plan to reduce project-generated daily VMT to the maximum degree feasible and fully mitigate GHG emissions. The VMT impacts of this alternative would be slightly less than those of the proposed Project.

For the reasons described above, the transportation impacts of the Site A – Modified Project alternative would be similar to those of the proposed Project. *(Similar to Slightly Less Impact)*

4.5.4 Air Quality

The Site A – Modified Project alternative would include a reconfiguration of buildings at the site of the Existing Lodge compared to Alternative A. This configuration would have less coverage and an incrementally smaller building area compared to the proposed Project but would have an incrementally greater building footprint (including the existing Highlands Community Center); however, this alternative would include the same uses and number of bus and vehicle parking spaces as the proposed Project. Construction-generated emissions of air pollutants under this alternative would be incrementally less because the Schilling Lodge and other site improvements (e.g., parking lot) would be slightly smaller than the proposed Project. Operational emissions would be similar to the proposed Project and also would not exceed significance criteria recommended by PCAPCD. Because of the decreased square footage of the Site A – Modified Project alternative, construction emissions would be incrementally less than the proposed Project. *(Similar to Slightly Less Impact)*

4.5.5 Greenhouse Gas Emissions and Climate Change

The Site A – Modified Project alternative would include a reconfiguration of the Existing Lodge (i.e., Highlands Community Center) as compared to Alternative A. This configuration would have an incrementally smaller footprint compared to the proposed Project; however, this alternative would include the same access, uses, and number of bus and vehicle parking spaces as the proposed Project. Because this alternative would have an incrementally smaller footprint for the buildings, parking, and driveway than the proposed Project and would not include demolition of the Existing Lodge building, the construction emissions could be less than those of the proposed Project. Operational emissions would be similar to the proposed Project. The emissions from this alternative would be mitigated to zero consistent with the Placer County Tahoe Basin Area Plan Mitigation Measure 12-1. *(Similar to Slightly Less Impact)*

4.5.6 Noise

The Site A – Modified Project alternative would construct a building similar to the proposed Project, and therefore, would require similar construction activities and equipment. Construction noise and vibration levels would be similar to those described for the proposed Project. The levels may be incrementally less under the Site A – Modified Project alternative compared to the proposed Project because of the incrementally smaller site for Site A – Modified Project alternative. Regarding operations, the number of special events would be similar to those described for the proposed Project, and therefore, operational (i.e., event, traffic) noise would be the same as described for the proposed Project. All noise impacts would be similar to those described for the proposed Project. (*Similar to Slightly Less Impact*)

4.5.7 Geology, Soils, Land Capability, and Coverage

Earth-moving activities associated with construction have the potential to affect geology, soils, and land coverage. The types of impacts that would occur from development of the Site A – Modified Project include: increased TRPA regulated land coverage, increased erosion because of ground disturbance and soil compaction, and exposing buildings and people to seismic hazards. Existing regulations and permitting requirements, such as California Building Code (CBC) requirements, National Pollutant Discharge Elimination System (NPDES) permit conditions, and best management practices (BMPs), would reduce potential impacts to a less-than-significant level. The area of impact would be slightly smaller than the proposed Project due to the reuse of an existing developed site and the smaller footprint of the parking area and driveway. Therefore, the Site A – Modified Project impacts on geology, soils, land capability, and coverage would be similar to but somewhat less than the proposed Project. *(Similar to Slightly Less Impact)*

4.5.8 Hydrology and Water Quality

Construction, earth-moving activities, and new development associated with the Site A – Modified Project alternative have the potential to affect hydrology and water quality. The types of impacts that could occur from development of this alternative include: adverse effects on the surface and ground water quality, increased stormwater runoff, and alterations to existing drainage systems. Existing TRPA, Lahontan RWQCB, and Placer County regulations and permitting requirements, such as NPDES permit conditions, stormwater pollution prevention plan (SWPPP), and temporary and permanent water quality BMPs would reduce potentially significant impacts to a less-than-significant level. The area of impact would be slightly smaller than the proposed Project, due to the reuse of an existing developed site and the reduced size of the parking area. Therefore, the Site A – Modified Project alternative's impact on hydrology and water quality would be similar but somewhat less than the proposed Project. *(Similar to Slightly Less Impact)*

4.5.9 Utilities

The size of the lodge building associated with the Site A – Modified Project alternative would be smaller than the lodge proposed by the proposed Project; thus, the water, wastewater, energy, and solid waste demands would be incrementally less than those of the proposed Project. Water supply, wastewater conveyance and treatment capacity, electricity and natural gas supplies, and capacity of solid waste collection facilities are sufficient to meet the demands associated with this alternative; however, like Alternative A, water supply infrastructure improvements could be needed to meet fire flow requirements for the lodge at this location. This alternative would also be required to implement Mitigation Measure 3.11-1 to reduce the potential impact related to water supply facilities to a less-than-significant level. Overall, it is reasonable to assume that potential impacts of the Site A – Modified Project alternative would be slightly greater than those of the proposed Project. (*Greater Impact*)

4.5.10 Energy

The Site A – Modified Project alternative would include a reconfiguration of buildings and site plan as compared to the proposed Project. The configuration of this alternative would have an incrementally smaller footprint compared to the proposed Project; however, this alternative would include the same amount of access, uses, and number of bus and vehicle parking spaces as the proposed Project. Construction-related energy consumption be short-term and would be incrementally less than the proposed Project. Operational energy consumption would be similar to the proposed Project. As part of the Site A – Modified Project alternative, the Existing Lodge building would be renovated, which could include some energy efficiency improvements. Because this alternative would include a smaller new lodge building compared to the proposed Project and would retain the Existing Lodge building with the possibility for energy efficiency improvements the operational energy consumption would be similar to incrementally less than energy use by the proposed Project. *(Similar to Slightly Less Impact)*

4.6 SITE D – REDUCED PROJECT

The Site D – Reduced Project alternative would occupy the same footprint as the proposed Project (Site D – Full Project), but there would be no addition to the Schilling Residence other than a basement. The total building area would be 6,229 sq. ft (see Table 4-1 and Figure 4-4). Uses of the lodge would be similar to the proposed Project and would include ticket sales, retail, meeting room, café, rental, storage, and community/outdoor space. The Existing Lodge would be retained. This alternative includes 65 vehicle parking and two bus parking spaces in a 53,184 sq. ft. driveway and parking area. Access to the site would be provided by the same new driveway from Polaris Road as the proposed Project. The number of special events (e.g., large special events, community events, private events) and number of attendees at these events at the lodge (see Table 2-3 in Chapter 2) would be similar to, but would not exceed, those of the proposed Project. This alternative would also provide a shared-parking opportunity with the high school and middle school consistent with Policy T-P-13 of the Area Plan. A connection between the school property and the Site D – Reduced Project alternative site would be constructed.

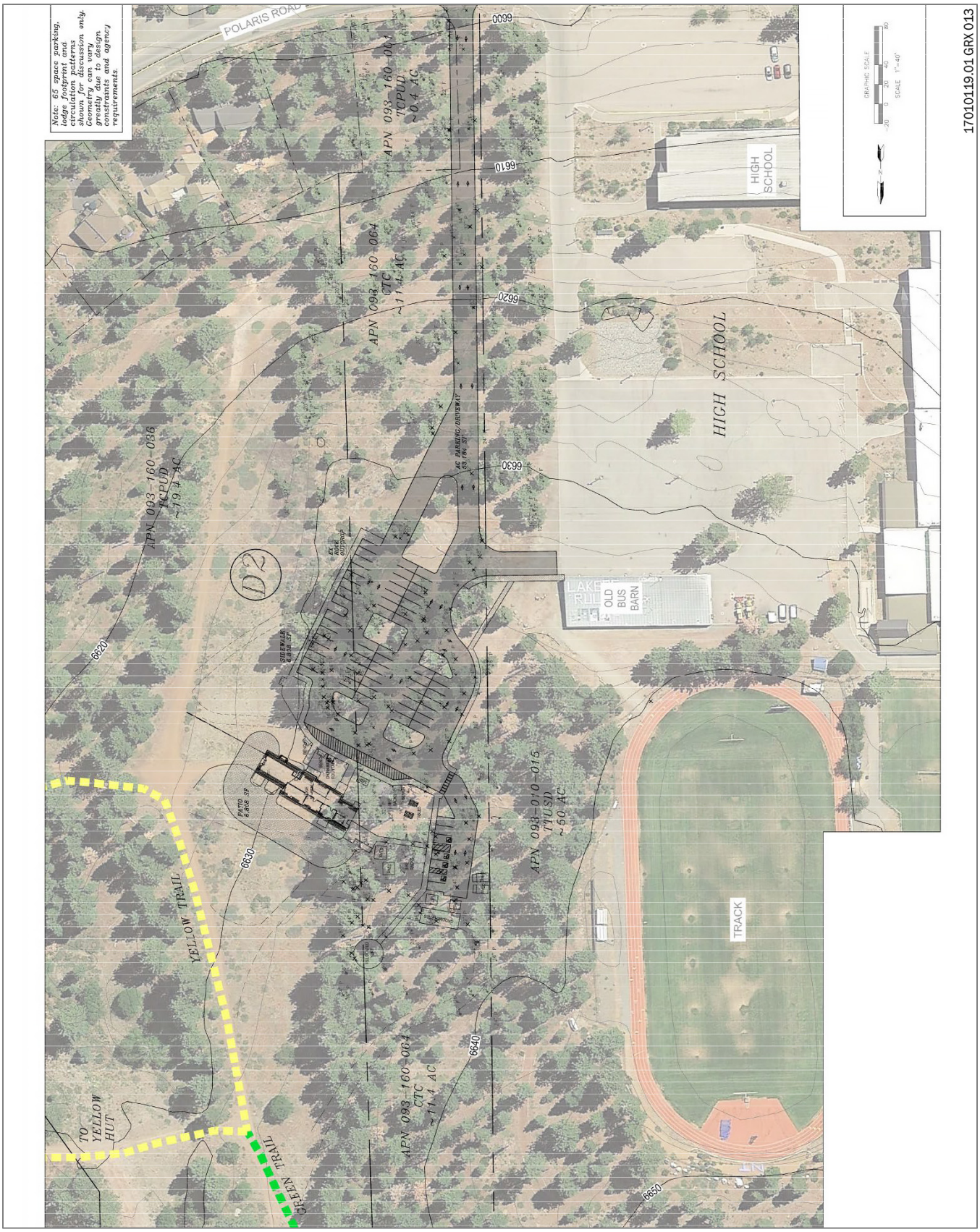
The Site D – Reduced Project alternative would also include a land exchange with the California Tahoe Conservancy (Conservancy) or would require some other form of property rights approval from the Conservancy. The properties that would be proposed for the exchange are described under the "TCPUD-Conservancy Land Exchange," section in Section 2.5.1, "Project Characteristics," and are shown on Figures 2-5 through 2-7 in Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail."

Implementation of Site D – Reduced Project would retain the Existing Lodge (i.e., Highlands Community Center). As described in the "Highlands Community Center" section under Section 2.6.1, "Proposed Project (Site D – Full Project)," it would be managed and maintained by TCPUD, would continue to be used for community-related activities, and could be rehabilitated or upgraded if determined necessary by TCPUD.

4.6.1 Biological Resources

Development and operation of the Schilling lodge and associated improvements would remove native trees and other vegetation, and could potentially cause disturbance or loss of special-status plants or wildlife if they are present on the Site D – Reduced Project alternative site, establishment or spread of invasive plants, and disturbances to wildlife movement. Comparative summaries for these potential impacts between the Site D – Reduced Project alternative and the proposed Project are provided below. With the Site D – Reduced Project alternative, the area of new physical disturbances would be slightly smaller than with the proposed Project due to the smaller footprint of the lodge building/facilities and parking area.

With implementation of the Site D – Reduced Project alternative, construction would require the removal of an amount of trees less than the 183 required for the proposed Project. Given the location of this alternative is the same but with a smaller footprint than that of the proposed Project, the total number of trees will be less. However, the Site D – Reduced Project alternative would result in a similar impact related to the removal of trees measuring 30 inches dbh or greater as described for the proposed Project in Section 3.3, "Biological Resources." This alternative would also be required to implement the same mitigation measure as that described for the proposed Project that involves minimizing tree removal and developing a limited forest plan and/or harvest plan for tree removal to avoid conflicting with TRPA's Code. The potential biological effects and TRPA review and permitting requirements related to tree removal, and the applicant's compliance with those requirements and applicable policies, would be similar to those described for the proposed Project. However, construction of the Site D – Reduced Project alternative would require the removal of fewer total trees, including six fewer trees measuring greater than 30 inches dbh, than the proposed Project.



Source: Image provided by Tieslau Civil Engineering, Inc. in 2018

Figure 4-4 Site D – Reduced Project Site Plan

The potential for special-status plants, special-status wildlife, invasive plants, and wildlife movement corridors to occur on the Site D – Reduced Project alternative site are similar to those described for the proposed Project site. The potential construction-related and operational effects related to special-status species, invasive species, and wildlife movement corridors with the Site D – Reduced Project alternative would be similar to those described for the proposed Project, because construction and ground disturbance required for this alternative would be located generally on the same site and would include the same impact mechanisms and construction effects as the proposed Project. Similar to the proposed Project, Mitigation Measures 3.3-1 and 3.3-3 would be implemented to reduce potential effects related to special-status plants and invasive plants to less-than-significant levels. However, the potential for and magnitude of these impacts may be less than those for the proposed Project. The Site D – Reduced Project alternative would require less ground disturbance and native vegetation removal, possibly resulting in a lower risk or magnitude of invasive plant introduction and spread, potential disturbance to special-status plants, and disturbance to mule deer and other wildlife movements. *(Similar to Slightly Less Impact)*

4.6.2 Archaeological, Historical, and Tribal Cultural Resources

The Site D – Reduced Project alternative would include the relocation of the historic Schilling Residence, similar to the proposed Project. Earth-moving activities within the Site D – Reduced Project alternative site have the potential to disturb archaeological resources, TCRs, or result in discovery of human remains. Under the proposed Project and the Site D – Reduced Project alternative, there would be ground-disturbing activities (e.g., grading, excavation) that could result in discovery of archaeological resources or human remains; however, compliance with the California HSC Sections 7050.5 and 7052, PRC Section 5097, and feasible mitigation measures would reduce these impacts to a less-than-significant level. Because the area of impact would be slightly less than under the proposed Project, impacts to cultural resources would be incrementally less. *(Similar to Slightly Less Impact)*

4.6.3 Transportation

Lodge operations and site-generated traffic volumes associated with the Site D – Reduced Project alternative would be similar to or slightly less than the proposed Project. Consequently, the effect on intersection LOS would be similar to the proposed Project, and all study intersections would continue to operate at an acceptable LOS. Residential roadways that serve the Site D – Reduced Project alternative site would continue to meet Placer County's roadway capacity standards.

The Site D – Reduced Project alternative includes fewer lodge parking spaces (65 spaces) than the proposed Project (100 spaces). While the overall parking impacts of Site D – Reduced Project alternative would be similar to the proposed Project—with parking largely being able to be accommodated on site—the potential for parking to spillover onto adjacent residential roadways or the adjacent high school and middle school on peak days would be incrementally greater than with the proposed Project.

The access driveway associated with the Site D – Reduced Project alternative is the same as the proposed Project. Therefore, the Site D – Reduced Project alternative site plan and associated engineering and design plans would be subject to the Placer County design review and plan check processes as the proposed Project; and thus, would be required to demonstrate compliance with all applicable Placer County design and safety standards for roadway improvements or changes to existing Placer County roadways for this alternative.

Because the Site D – Reduced Project alternative would be in the same location as the proposed Project and would result in similar operations and traffic volumes as the proposed Project, this alternative would similarly result in an increase in daily VMT. The Site D – Reduced Project alternative would be required to implement the same mitigation measures as described for the proposed Project in Section 3.5, "Transportation," to prepare and implement a TDM plan to reduce project-generated daily VMT to the maximum degree feasible and fully mitigate GHG emissions.

For these reasons, the transportation impacts of the Site D – Reduced Project alternative would be similar to those of the proposed Project. *(Similar to Slightly Less Impact)*

4.6.4 Air Quality

The Site D – Reduced Project alternative would not include an addition to the Schilling Residence other than a basement. The total square footage of the alternative would be less than the proposed Project, and the Site D – Reduced Project alternative would offer fewer parking spaces, which could result in spillover parking. Because the square footage would be less, the level of construction-generated emissions would be less. For these reasons, emissions of air pollutants under the Site D – Reduced Project alternative would generate less emissions than the proposed Project. *(Similar to Slightly Less Impact)*

4.6.5 Greenhouse Gas Emissions and Climate Change

The Site D – Reduced Project alternative would not include an addition to the Schilling Residence other than a basement. The total square footage of this alternative would be less and would offer fewer parking spaces as compared to the proposed Project, which could result in spillover parking. Because the square footage would be less, construction emissions would also be less. For these reasons, GHG emissions under the Site D – Reduced Project alternative would generate fewer emissions than the proposed Project. These emissions would be mitigated to zero consistent with the Placer County Tahoe Basin Area Plan Mitigation Measure 12-1. *(Similar to Slightly Less Impact)*

4.6.6 Noise

The Site D – Reduced Project alternative would construct a building similar to the proposed Project, and therefore, would require similar construction activities and equipment. Construction noise and vibration levels would be similar to those described for the proposed Project. The levels may be incrementally less under the Site D – Reduced Project alternative compared to the proposed Project because of the incrementally smaller site. Regarding operations, the number of special events would be similar to those described for the proposed Project, and therefore, operational (i.e., event, traffic) noise would be the same as described for the proposed Project. All noise impacts would be similar to those described for the proposed Project. (*Similar to Slightly Less Impact*)

4.6.7 Geology, Soils, Land Capability, and Coverage

Earth-moving activities associated with construction have the potential to affect geology, soils, and land coverage. The types of impacts that would occur from development of the Site D – Reduced Project include: increased TRPA regulated land coverage, increased erosion because of ground disturbance and soil compaction, and exposing buildings and people to seismic hazards. Existing regulations and permitting requirements, such as CBC requirements, NPDES permit conditions, and BMPs, would reduce potential impacts to a less-than-significant level. The area of impact would be slightly smaller due to the reduced size of the parking area. Therefore, the Site D – Reduced Project impacts to geology, soils, and land coverage would be similar but somewhat less than the proposed Project. *(Similar to Slightly Less Impact)*

4.6.8 Hydrology and Water Quality

Construction, earth-moving activities, and new development associated with the Site D – Reduced Project alternative have the potential to affect hydrology and water quality. The types of impacts that could occur from development of this alternative include: adverse effects on the surface and ground water quality, increased stormwater runoff, and alterations to existing drainage systems. Existing TRPA, Lahontan RWQCB, and Placer County regulations and permitting requirements, such as NPDES permit conditions, SWPPP, and temporary and permanent water quality BMPs would reduce potentially significant impacts to a less-than-significant level. The area of impact would be slightly smaller than the proposed Project, as well as Alternative A, due the reduced size of the parking area. Therefore, the Site D – Reduced Project alternative's impact to hydrology and water quality would be similar but somewhat less than the proposed Project. *(Similar to Slightly Less Impact)*

4.6.9 Utilities

The size of the lodge building associated with the Site D – Reduced Project alternative would be smaller than the lodge proposed by the proposed Project; thus, the water, wastewater, energy, and solid waste demands would be incrementally smaller than those of the proposed Project. Water supply, wastewater conveyance and treatment capacity, electricity and natural gas supplies, and capacity of solid waste collection facilities are sufficient to meet the demands of this alternative. The potential impacts of the Site D – Reduced Project alternative would be less than the proposed Project. (*Similar to Slightly Less Impact*)

4.6.10 Energy

The Site D – Reduced Project alternative would not include an addition to the Schilling Residence other than a basement. The total square footage of the alternative would be less as compared to the proposed Project, and the alternative would offer fewer parking spaces. Because the square footage would be less, construction energy consumption would also be less. For these reasons, energy consumption under the Site D – Reduced Project alternative would be less than that of the proposed Project. *(Similar to Slightly Less Impact)*

4.7 COMPARISON OF ALTERNATIVES

Table 4-2 summarizes the environmental analysis provided above for the Project alternatives.

Table 4-2 Comparison of the Environmental Impacts of the Alternatives in Relation to the Proposed Project

Environmental Topic	Proposed Project	No Project Alternative	Alternative A	Site A – Modified Project	Site D – Reduced Project
Biological Resources	LTSM	NI	≤	≤	≤
Archaeological, Historical, and Tribal Cultural Resources	LTSM	NI	≤	≤	≤
Transportation	LTS	NI	≤	≤	≤
Air Quality	LTS	NI	≤	≤	≤
Greenhouse Gas Emissions and Climate Change	LTSM	NI	≤	≤	≤
Noise	LTS	NI	≤	≤	≤
Geology, Soils, Land Capability, and Coverage	LTS	NI	≤	≤	≤
Hydrology and Water Quality	LTS	NI	≤	≤	≤
Utilities	LTS	NI	> (LTSM)	> (LTSM)	≤
Energy	LTS	NI	≤	≤	≤

Impact Status:

LTS = Less Than Significant Impact

LTSM = LTS with Mitigation

NI = No Impact

= Impacts would be similar to those of the proposed Project.

< Impacts would be less than those of the proposed Project.

> Impacts would be greater than those of the proposed Project.

≤ Impacts would be less than or equal to those of the proposed Project.

≥ Impacts would be greater than or equal to those of the proposed Project.

Source: Compiled by Ascent Environmental in 2020

4.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines require an EIR to discuss whether an environmentally superior alternative is apparent from the analysis. Often, alternatives have environmental advantages and disadvantages, but no clearly superior alternative becomes evident, because the relative importance of environmental impacts varies based on their different priorities and/or sensitivities. Section 15126.6 of the State CEQA Guidelines states that "if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." As the lead agency under CEQA, TCPUD elected to prepare this Draft EIR with a detailed evaluation of the environmental impacts of the proposed Project and one feasible alternative (i.e., Site A – Full Project alternative [Alternative A]), and a comparative evaluation of three additional feasible alternatives. While not required by CEQA, this approach was selected by the TCPUD Board to provide them with analysis of the proposed Project and Alternative A at an equal level of detail to allow them the flexibility to potentially approve a CEQA compliant project at either location. Possible reasons for this include, but are not limited to, insurmountable difficulty in obtaining permitting for the proposed Project, failure to complete the land exchange with the Conservancy, unavoidable environmental impacts of the proposed Project, and/or strong community and political opposition. In the event that any of these conditions occur, Alternative A is analyzed at this level of detail so that the EIR provides sufficient analysis to enable TCPUD to approve that alternative, should that course of action be taken by the Board.

The analysis in Section 4.4, above, demonstrates there would be no impacts from implementation of the No Project Alternative while the other alternatives would result in less-than-significant impacts or less-than-significant impacts after implementation of mitigation measures; thus, the No Project Alternative would be the environmentally superior alternative. For the reasons described herein, the following discussion provides a summary of the key environmental advantages and disadvantages of the proposed Project and action alternatives and whether any of those emerge as a clear, environmentally superior alternative.

4.8.1 Impacts Requiring Mitigation Measures

Table ES-1 in the Executive Summary chapter identifies the potential impacts of the proposed Project and Alternative A and whether the level of significance is less than significant, potentially significant, significant, and significant and unavoidable or if there would be no impact for each environmental issue area evaluated in this EIR. Sections 4.5 through 4.7, above, summarize the potential environmental effects of the Site A – Modified Project and Site D – Reduced Project alternatives in comparison to the proposed Project. All of the action alternatives, including the proposed Project, would be required to implement mitigation measures to reduce environmental effects related to biological resources; archaeological, historical, and tribal cultural resources; noise; and greenhouse gas emissions and climate change. Alternative A and the Site A – Modified Project alternative would also be required to implement a mitigation measure to reduce environmental effects related to the provision of adequate water supply to meet fire flow requirements. The proposed Project and the action alternatives would not result in any significant and unavoidable impacts. The comparison of the action alternatives in Table 4-2indicates that the proposed Project and Site D – Reduced Project alternative would have fewer potentially significant impacts that would be reduced to a less-than-significant level with implementation of mitigation compared to Alternative A and Site A – Modified Project alternatives. Additionally, aside from the utilities impact associated with the Site A alternatives, the proposed Project and each of the action alternatives would result in similar less-than-significant impacts, with a minor margin of difference between these impacts from each of the alternatives and the proposed Project.

4.8.2 Impacts Related to Tree Removal, Coverage, Utilities, and Construction

The Site D alternatives would result in development of a previously undeveloped area and would result in the removal of a greater number of trees (Table 4-1), including trees greater than 30 inches dbh, and a greater amount of coverage than the Site A alternatives. More specifically regarding trees, the proposed Project would remove more than twice as many trees, including trees greater than 30 inches dbh, than Alternative A. Alternative A would remove

two incense cedar trees (measuring 24 and 26 inches dbh) and the proposed Project would remove one sugar pine tree (measuring 32 inches dbh), which are identified as species of limited occurrence in TRPA Code Section 61.1.4.B(1)(d). Regardless, the amount of new coverage would be allowable and all improvements and tree removal would comply with TRPA and other applicable regulations with implementation of Mitigation Measure 3.3-2. The Site A alternatives would require upgrades to the water conveyance system serving the site to meet fire flow standards, which would result in additional ground disturbance outside of the site. The demolition of the Existing Lodge that would occur with Alternative A would result in marginally greater, though still less-than-significant, construction-related impacts related to air quality, greenhouse gas emissions, noise, and solid waste because the proposed Project and the other action alternatives would not require any demolition.

4.8.3 Transportation Impacts

Traffic volumes in the Highlands neighborhood would not increase substantially over existing conditions for the proposed Project or any of the action alternatives when compared to users of cross-country ski trails and hiking and biking trail use. Increases in traffic in the Highlands neighborhood would generally be associated with special events, community events, and private events, which would occur primarily in the evenings or on weekends (see Tables 3.5-2 through 3.5-5 in Section 3.5, "Transportation"). Implementation of the proposed Project and Site D – Reduced Project would alter the pattern of vehicle traffic in the neighborhood; vehicles traveling to the Schilling Lodge would travel on Polaris Road instead of on Country Club Drive, which is the same road used for access to North Tahoe High School and North Tahoe Middle School. Additionally, the proposed Project could add traffic on Polaris Road at times when vehicles are traveling to and from North Tahoe High School and North Tahoe Middle School; however, as discussed in Impacts 3.5-1 and 3.5-2, neither implementation of the proposed Project or Alternative would degrade intersection or roadway operations to unacceptable levels or exceed Placer County's threshold for 2,500 vehicles per day on a residential street. The increase in unmitigated VMT would be greater under the proposed Project and Site D – Reduced Project alternative than with Alternative A and the Site A – Modified Project alternative; however, the proposed Project and all alternatives would be required to mitigate the net increase in VMT over the existing amount of VMT.

4.8.4 Beneficial Effects and Project Objectives

The proposed Project and each of the action alternatives would result in benefits that are not indicated by the impact conclusions, such as the Project's long-term beneficial effects related to enhancing recreational offerings; increased year-round opportunities for special events, community events, and private events; implementation of BMPs; and enhancing the financial sustainability of the TCCSEA.

All of the action alternatives would "feasibly attain most of the basic project objectives" as specified in State CEQA Guidelines Section 15126.6(a). However, the proposed Project would best meet the project objectives (identified in Sections 2.4 and 4.1.1) for the following reasons:

- The proposed Project and the Site D – Reduced Project alternative would increase the distance between the lodge and the nearest homes relative to the Site A alternatives. Through the provision of adequate onsite parking and the site's closer proximity to the North Tahoe High School that would help facilitate establishment of a shared-parking agreement between TCCSEA and the Truckee Tahoe Unified School District, the proposed Project would also minimize parking spillover onto residential streets relative to all of the other action alternatives. Although a shared-parking agreement could still be implemented with the Site A alternatives, due to the increased distance between the school and Site A, a shared-parking agreement would not be successful and would require shuttle traffic between the sites. For these reasons, the proposed Project would best meet the project objectives to minimize effects on the neighborhood and to remedy inadequate parking.
- The proposed Project and Site D – Reduced Project alternative would best meet the project objectives that include maximizing the base elevation of the lodge site and creating more user-friendly access to the cross-country trail system for beginner, disabled, and senior recreationists. Connections between the Site A alternatives

and the trail network are exposed and at a lower elevation (Site D is at an elevation of about 6,636 feet above mean sea level [msl], whereas Site A is located at 6,560 feet msl), and therefore do not hold snow as long as other portions of the trail network. Melted snow serves as a barrier between the Site A alternatives and the trail network. For the Site D alternatives, the lodge site and connections to the trail system are relatively flat and accommodating to users of all abilities. The existing tree canopy between the lodge associated with the Site D alternatives and the trail system would also help to better retain snow. For these reasons, the proposed Project and Site D – Reduced Project alternative would better meet these project objectives.

- The lodge associated with the proposed Project and Alternative A best meet the project objective to address operational deficiencies by providing adequate space for all aspect of operations at Tahoe XC. Because the total building area for the Site A – Modified Project and Site D – Reduced Project alternatives would be about 1,500 sq. ft. smaller and 3,900 sq. ft. smaller, respectively, than the proposed Project and Alternative A, these alternatives would not meet this objective as well.

4.8.5 Conclusion

The potential environmental impacts and benefits that would result from implementation of the proposed Project and the action alternatives are substantially similar in magnitude. The proposed Project and the action alternatives would not result in any significant and unavoidable impacts. The comparison of the action alternatives in Table 4-2 indicates that the proposed Project and Site D – Reduced Project alternative would have fewer potentially significant impacts that would be reduced to a less-than-significant level with implementation of mitigation compared to Alternative A and the Site A – Modified Project alternative. The Site A alternatives would result in potential impacts to water supply that do not apply to the Site D alternatives. As described above, from a functional perspective, Alternative A, Site A – Modified Project alternative, and Site D – Reduced Project alternative would also not meet some of the project objectives as well as the proposed Project. For these reasons, the proposed Project would be the environmental superior alternative.

5 OTHER CEQA-MANDATED SECTIONS

5.1 GROWTH INDUCEMENT

5.1.1 California Environmental Quality Act

California Environmental Quality Act (CEQA) Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an environmental impact report (EIR). Section 15126.2(d) of the State CEQA Guidelines provides the following guidance for assessing growth-inducing impacts of a project:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can induce growth directly, indirectly, or both. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may foreseeably lead to environmental effects. If substantial growth inducement occurs, it can result in secondary environmental effects, such as increased demand for housing, demand for other community and public services and infrastructure capacity, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, conversion of agricultural and open-space land to urban uses, and other effects.

5.1.2 Tahoe Regional Planning Agency

Section 3.7.2(H) of the TRPA Code of Ordinances requires evaluation of the growth-inducing impacts of a project. Growth can be induced by eliminating obstacles to growth or by stimulating economic activity in a way that encourages increases in population and housing in the region.

5.1.3 Growth-Inducing Effects of the Project

Implementation of the Project would replace and expand the Existing Lodge and would include associated improvements, such as a larger parking lot, that would reduce impacts on the surrounding neighborhood. The average daily visitation at the Schilling Lodge over the course of the year, aside from attendance at special events and gatherings, would increase incrementally with implementation of the proposed Project and Alternative A. The type and frequency of events at the Schilling Lodge would increase over existing conditions, but the number of attendees at the large special events would not be greater than those that occur under existing conditions. The Project would result in the need for two additional employees in the winter and up to five additional employees in the summer (see Table 2-4 in Chapter 2, "Description of the Proposed Project and Alternative Evaluated in Detail"). Among other things, the Project objectives are to expand recreational opportunities to improve resident and visitor experience, address operational deficiencies in the current facility and improve financial viability, and repurpose the historic Schilling Residence into a new lodge for community use and recreation activities. The Project would not extend infrastructure (e.g., utilities, roads) into an undeveloped area. Because the Project would redevelop the existing cross-country lodge; result in a small net increase in employees; and would not result in any permanent housing, population growth, or expansions of roads or infrastructure capacity, the Project would not be growth inducing.

The small increase in visitation to the Schilling Lodge would not create the need for tourist services in Tahoe City and the surrounding area. Similarly, the Project would not foster economic growth in the region such that an increase in supporting recreation and tourist services would be needed, such as recreation equipment, supplies, food, and related facilities.

Development in the Tahoe Region is guided by the Regional Plan, which allows new development and redevelopment through authorization of residential allocations, commercial floor area, tourist accommodation units, and residential bonus units. As a result, development is capped in the Region and implementation of recreation-related and projects, such as the Tahoe Cross-Country Lodge Replacement and Expansion Project would not result in a direct or indirect increase in the planned development patterns in the Region. Although population growth in the state and region will continue to create an increased use and demand for recreational opportunities, increased use and demand will not have permanent, irreversible impacts in the region. The parcel exchange would not result in any change in land use policies or TCPUD and Conservancy policies; thus, there would be no growth inducement associated with changes to policies.

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

Chapter 3 of TRPA's Code of Ordinances (Section 3.7.2.F) requires a discussion of the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity. This requirement recognizes that short-term uses and long-term productivity are linked, and the opportunities acted upon in the near term have corollary opportunity costs in relation to foregone options and productivity that could have continuing effects well into the future. The following discussion addresses how the 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 of the Project, while "long-term" refers to the operational life of the Project.

Construction of the proposed Project or Alternative A would result in the use of energy and resources. These alternatives would result in short-term construction-related impacts such as: interference with local traffic and circulation, air emissions, increases in ambient noise levels, 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 either the proposed Project or Alternative A would commit the respective sites to long-term development and would result in a minor increase in visitation at the site. This increase in use of the proposed Project site or Alternative A site would have associated impacts to hydrology and water quality, biological resources, traffic and circulation; air quality; greenhouse gas emissions and climate change; noise; utilities; and energy. Implementation of either the proposed Project or Alternative A would, however, help to sustain natural resources and support social and economic health.

On the whole, the Project's long-term beneficial effects related to enhancing recreational offerings (e.g., improved access to cross-country ski trails for beginners at the proposed Project site); increased year-round opportunities for special events, community events, and private events; reduction in on-street parking impacts in the neighborhood during the winter; and implementation of BMPs would outweigh the potential short-term impacts on the environment resulting primarily from Project construction and the long-term incremental increases in traffic.

5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES AND SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

A commitment of resources is irreversible and irretrievable when the use or consumption of such resources is neither renewable nor recoverable for use in the future. Chapter 3 of the TRPA Code of Ordinances (Section 3.7.2.G) and Section 15126.2 of the State CEQA Guidelines require a discussion of such resources. The commitment of resources refers to the use of nonrenewable resources such as fossil fuels, water, and electricity, and also to changes to land use which would commit future generations to similar uses.

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 Project development alternatives would result in the irreversible and irretrievable commitment of energy and material resources during construction and operation.

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 operation of features of the Project. Required building materials would include a variety of materials such as rocks, wood, concrete, glass, steel, and other materials. 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 Tahoe Basin.

5.4 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

CEQA Section 21100(b)(2)(A) states that an EIR shall include a detailed statement setting forth "[i]n a separate section…[a]ny significant effect on the environment that cannot be avoided if the Project is implemented." State CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Section 5.8.B (2) of the TRPA Code of Ordinances requires an EIS to include any significant adverse environmental effects which cannot be avoided should any of the alternatives be implemented.

Sections 3.3 through 3.12 of this EIR address the potential environmental effects of the proposed Project and Alternative A and recommend mitigation measures, as necessary, to mitigate Project effects to the extent feasible. The analysis concludes that proposed Project and Alternative A would not result in significant and unavoidable impacts.

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Chapter 5, Other CEQA-Mandated Sections

No references are included in this chapter.

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Appendix A

Scoping Summary Report for the
Tahoe Cross-Country Lodge
Replacement and Expansion Project

SCOPING SUMMARY REPORT

Tahoe Cross-Country Lodge Replacement and Expansion Project

SCH NO. 2018062045

PREPARED FOR:

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SEPTEMBER 2018

Scoping Summary Report

for the

Tahoe Cross-Country Lodge Replacement and Expansion Project

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September 2018

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SCOPING SUMMARY REPORT

The Tahoe City Public Utility District (TCPUD) is preparing an environmental impact report (EIR) for the proposed Tahoe Cross-Country Lodge Replacement and Expansion Project (proposed project). TCPUD will be the lead agency for the EIR, which will be prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines.

The environmental review process began with issuance of a Notice of Preparation (NOP) to inform agencies and the public that a Draft EIR would be prepared for the project, and to solicit views of agencies and the public as to the scope and content of the document. Scoping meetings were held to allow oral expression of those views. This document summarizes the written and oral comments and issues raised by the public, agencies, and organizations. A complete set of comments received during scoping is attached to this document.

A summary of the scoping process and comments received during scoping that are germane to the environmental review is included herein.

COMMENTS ON THE NOTICE OF PREPARATION

The NOP for the EIR was released on June 22, 2018 and is included in Appendix A. The scoping period was 34 days, concluding on July 25, 2018. Written comments were received from agencies and individuals (Table 1). Oral comments were provided at the two scoping meetings hosted by TCPUD at its offices in Tahoe City on July 17, 2018—one meeting was held in the morning and one in the evening. Written comments were received from six agencies. Written and oral comments were received from 23 individual commenters.

Table 2 summarizes the written and oral comments received in response to the NOP. A complete set of written comments and summary notes of oral comments provided at the two scoping meetings are included in Appendix B.

The purpose of the NOP is to solicit views of agencies and the public as to the scope and content of the environmental document. Many comments, however, include questions about aspects of the project, or request information that may be beyond the scope of the analysis. Though the questions may not be answered directly, the resource areas to which the questions relate are noted in the scoping summary table. The EIR will consider these comments and include thorough analysis of the environmental impacts of the Tahoe Cross-County Lodge Replacement and Expansion Project.

Some comments do not refer to the content of the environmental analysis but are related to the merits of the Tahoe Cross County Lodge Replacement and Expansion project. Project merits will be considered by agency decision makers upon completion of the environmental review process when deciding whether or not to approve the project.

Table 1 Commenters on the NOP

Name of Author	Agency	Date Received/Post Marked
WRITTEN COMMENTS		
AGENCIES		
State		
Sharaya Souza	California Native American Heritage Commission (NAHC)	July 30, 2018
Local		
Dale Payne	Lahontan Regional Water Quality Control Board (Lahontan RWQCB)	June 29, 2018
Leigh Chavez	Placer County	July 24, 2018
Ann Hobbes	Placer County Air Pollution Control District (PCAPCD)	July 27, 2018
Emily Pindar	Tahoe Truckee Sanitation Agency (TTSA)	July 24, 2018
Todd Rivera	Tahoe Truckee Unified School District (TTUSD)	July 18, 2018
INDIVIDUALS		
Roger Huff	NA	June 22, 2018
Roger Huff	NA	June 23, 2018
Roger Huff	NA	June 27, 2018
Roger Huff	NA	July 4, 2018
Roger Huff	NA	July 8, 2018
Vivian Euzent	NA	July 8, 2018
Janet McNeil	NA	July 13, 2018
Diane Miller	NA	July 15, 2018
Monica Grigoleit	NA	July 17, 2018
Sue Rae Ireland	NA	July 17, 2018
Monica Grigoleit and Mike Niles	NA	July 19, 2018
Monica Grigoleit	NA	July 19, 2018
Alex Lesser	NA	July 19, 2018
Alex Lesser	NA	July 19, 2018
Paul Navabpour	NA	July 19, 2018
Carol Pollock	NA	July 19, 2018
Debbie White	NA	July 19, 2018
Janet Huff	NA	July 20, 2018
Debbie White	NA	July 20, 2018
Roger Huff	NA	July 21, 2018
Carol Pollock	NA	July 23, 2018
Ted Gomoll	NA	July 24, 2018
Don Heapes	NA	July 24, 2018
John and Linda Sutter	NA	July 24, 2018
Julie Basile	NA	July 25, 2018
Ray Garland	NA	July 25, 2018
Stephanie Schwartz	NA	July 25, 2018

Table 1 Commenters on the NOP

Name of Author	Agency	Date Received/Post Marked
ORAL COMMENTS		
TCPUD Scoping Meeting (Morning)		
Norm Kitching	NA	July 17, 2018
Alex Glasser	NA	July 17, 2018
Ted Gomoll	NA	July 17, 2018
Paul Navabpour	NA	July 17, 2018
Monica Grigoleit	NA	July 17, 2018
TCPUD Scoping Meeting (Evening)		
Stacy Boards	NA	July 17, 2018
Debbie White	NA	July 17, 2018
Paul Molarne	NA	July 17, 2018
Lane Van Fawson	NA	July 17, 2018
Debbie White	NA	July 17, 2018

NA = Not Applicable

Source: Prepared by Ascent Environmental in 2018

Table 2 summarizes written and oral comments received in response to the NOP. A complete set of written comments and summary notes of oral comments provided at the scoping meetings are included in Appendix B.

Table 2 Summary of Comments Received on the NOP

Commenter(s)	Environmental Issue	EIR Section
Agency		
NAHC	Recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project. Provides brief summaries of portions of AB 52 and SB 18 that relate to tribal cultural resources on the proposed project site.	Archeological, Historical, and Tribal Cultural Resources
Lahontan RWQCB	Expected release date for the EIR. Requested clarification of the location of proposed alternatives.	Description of Proposed Project and Alternatives Evaluated in Detail
	Requested clarification regarding any proposals for ski trails and snowmaking.	Description of Proposed Project and Alternatives Evaluated in Detail
	Project need for Waste Discharge Requirements and permits and evaluations regarding wetland delineations or 100-year floodplains.	Biological Resources; Hydrology and Water Quality
Placer County	Analyze a.m. and p.m. peak traffic volumes and consistency with Placer County Tahoe Basin Area Plan (TBAP) policies.	Transportation
	A more comprehensive explanation of seasonality, hours of operation, and list of activities and amenities for each alternative is needed.	Description of Proposed Project and Alternatives Evaluated in Detail
	Provide detail for increases in peak-flow runoff downstream of project; consider impacts on capacity of existing stormwater and flood-carrying facilities.	Hydrology and Water Quality
	Analyze hazards and hazardous materials associated with the project.	Other CEQA-Mandated Sections
	Perform Phase 1 ESA to be reviewed by Placer County.	Other CEQA-Mandated Sections

Table 2 Summary of Comments Received on the NOP

Commenter(s)	Environmental Issue	EIR Section
	Consider Placer County's Neighborhood Traffic Management Program, and the Placer County approval process.	Transportation
PCAPCD	Recommends air quality analysis take into consideration PCAPCD's air quality handbook and modeling suggestions.	Air Quality
	Address project effects on traffic.	Transportation
	Clarify removal of vegetation for land development and how vegetation will be managed each year.	Description of Proposed Project and Alternatives Evaluated in Detail
TTSA	Need more project detail to determine whether there would be sufficient capacity to serve the project; capacity allocations are made on a first-come, first-served basis; evaluate TCPUD wastewater collection capacity.	Utilities; Other CEQA-Mandated Sections
TTUSD	Concerned about the uncertainty of traffic volumes, timing, and delays for student drop-off and pick-up.	Description of Proposed Project and Alternatives Evaluated in Detail; Transportation
	Concerned about safety of students and staff during operating hours, hazardous materials, and emergency access and evacuation routes.	Description of Proposed Project and Alternatives Evaluated in Detail; Other CEQA-Mandated Sections
	Concerned about alcohol sales within 600 feet of the school.	Description of Proposed Project and Alternatives Evaluated in Detail
	Concerned about noise and potential disruption to the learning environment of the school.	Noise
Individual		
Roger Huff	Concern about scoping meetings occurring with less than 30 days notice, on the same day, and with no accommodations for those who cannot attend.	NA
	Clarify what will happen to the existing Highlands Community Center for each alternative.	Description of Proposed Project and Alternatives Evaluated in Detail; Other CEQA-Mandated Sections
	Disagrees with the name of the project.	Description of Proposed Project and Alternatives Evaluated in Detail
	Asserts project would have major adverse effects on public safety and the neighborhood.	Other CEQA-Mandated Sections
	Expresses concern about a commercial facility in a neighborhood.	Description of Proposed Project and Alternatives Evaluated in Detail
	Clarify how lodge could be used for community use. Distinguish between Tahoe Cross-Country Ski Education Association's (TCCSEA's) desires and those of the community.	Description of Proposed Project and Alternatives Evaluated in Detail
	Expresses concern regarding the design of the project. Disagrees that there would be a benefit to relocating the facility to a higher elevation.	Description of Proposed Project and Alternatives Evaluated in Detail
	Notes potential traffic and public safety issues associated with the Site D – Full Project alternative.	Transportation; Other CEQA-Mandated Sections
	Requests that scoping meetings and Draft EIR address CEQA Appendix G checklist items.	Introduction to the Impact Analysis
	Disagrees with how the project is described.	NA
	Provides suggestions for scaling the project down.	Description of Proposed Project and Alternatives Evaluated in Detail

Table 2 Summary of Comments Received on the NOP

Commenter(s)	Environmental Issue	EIR Section
	Seeks clarification on final ownership of the lodge, and whether that will be TCPUD or TCCSEA?	Description of Proposed Project and Alternatives Evaluated in Detail
Vivian Euzent	Expresses support for the project.	NA
Janet McNeil	Suggests that the lodge project represent and incorporate Tahoe history.	Archaeological, Historical, and Tribal Cultural Resources
Diane Miller	Expresses support for the project.	NA
Monica Grigoleit	Asks how much the project will cost, how site D was approved, and how to oppose the current approved site.	Description of Proposed Project and Alternatives Evaluated in Detail
Sue Rae Ireland	Suggests clarifying what standards will trigger a significant impact.	Introduction to the Impact Analysis
	Suggests using "aesthetic" instead of "scenic".	Other CEQA-Mandated Sections
Monica Grigoleit	Asks about the project cost and how TCPUD decided on the Tahoe Cross-Country Lodge Replacement and Expansion Project proposal?	Description of Proposed Project and Alternatives Evaluated in Detail
Monica Grigoleit and Mike Niles	Expresses support for no project and improvements to existing building and parking.	NA
Alex Lesser	Expresses disappointment in the lack of TCPUD board members attendance at the scoping meetings and questions opportunity for discussion. Would like the right improvements for the right reasons.	NA
	Questions storage needs and parking demand. Questions the need for additional parking or changes to improve traffic flow if the cross-country ski facility is open five or six weeks (10 or 12 weekend days) each year.	Description of Proposed Project and Alternatives Evaluated in Detail; Transportation
	Concerned about public safety, and questions whether alcohol will be served at the new facility.	Description of Proposed Project and Alternatives Evaluated in Detail; Other CEQA-Mandated Sections
	Concerned about financial viability of lodge.	Description of Proposed Project and Alternatives Evaluated in Detail
	Supports Schilling Lodge at current location of community center.	NA
Paul Navabpour	Concern for environmental impact of adding a driveway to Polaris Road or Cedarwood Road and the combined traffic associated with the school and a new lodge.	Transportation
	Environmental impacts associated with breaking ground, tree removal, and effects to seasonal creeks.	Biological Resources
	Supports a modified expansion and improvements at existing site.	NA
Carol Pollock	Concerned about public safety related to traffic.	Transportation
	Supports Schilling Lodge at current location of community center.	NA
	Need improvements for parking and traffic at existing cross-country center location.	Transportation
Debbie White	Additional parking demand could be met at existing site. Concerned about access issues at Site D.	Transportation
	What is meant by "additional uses, as determined by TCPUD"?	Description of Proposed Project and Alternatives Evaluated in Detail
	Maximizing the base elevation at a meadow could actually result in more snow melt than at the existing site.	Description of Proposed Project and Alternatives Evaluated in Detail
	Concerned about land use compatibility, community effects, and public safety.	Other CEQA-Mandated Sections
	Asks if alcohol will be served?	Description of Proposed Project and Alternatives Evaluated in Detail

Table 2 Summary of Comments Received on the NOP

Commenter(s)	Environmental Issue	EIR Section
	Site A is already served by infrastructure for public services and utilities.	Utilities; Other CEQA-Mandated Sections
	Concerned about the project's contribution to deforestation.	Biological Resources
	Concerned about noise from existing events.	Noise
Janet Huff	Asks if the project would result in effects related to hydrology/water quality; geology and soils, land capability, and coverage; scenic resources; biological resources; cultural resources; hazards and public safety; public services and utilities; traffic and parking; air quality; GHG emissions; and noise.	Biological Resources; Archaeological, Historical, and Tribal Cultural Resources; Transportation; Air Quality; Greenhouse Gas Emissions and Climate Change; Noise; Geology, Soils, Land Capability and Coverage; Hydrology and Water Quality; Utilities; Other CEQA-Mandated Sections
Debbie White	Notes their observation of a number of small outbuildings at the existing community center (Site A location). Site A could meet many of the needs met by Site D. Asks what additional uses are proposed at Site A.	Description of Proposed Project and Alternatives Evaluated in Detail
	Suggests using temporary storage structures for winter equipment.	Description of Proposed Project and Alternatives Evaluated in Detail
	Concerned about rationale for change in elevation.	Description of Proposed Project and Alternatives Evaluated in Detail
Roger Huff	Suggests corrections to how the project is described and named. Requests that the analysis address CEQA checklist questions. Suggests adding a Site A - Low Impact option. Suggests transferring ownership of the facility to TCPUD.	Description of Proposed Project and Alternatives Evaluated in Detail; Alternatives
Carol Pollock	Suggests additional traffic studies are needed related to the increased traffic on the street.	Transportation
	Concerned about environmental damage associated with covering open space with parking lots and coverage.	Geology, Soils, Land Capability, and Coverage
	Supports a reduced lodge, improved parking, improved traffic flows, and provides other suggestions for Site A – Low Impact option that mirror suggestions provided by other commenters.	Description of Proposed Project and Alternatives Evaluated in Detail
	Requests that the EIR analyze impacts related to hydrology and water quality; geology, soils, land capability, and coverage; scenic resources; biological resources; cultural resources; hazards and public safety; public services and utilities; traffic and parking; air quality; greenhouse gas emissions; and noise.	Biological Resources; Archaeological, Historical, and Tribal Cultural Resources; Transportation; Air Quality; Greenhouse Gas Emissions and Climate Change; Noise; Geology, Soils, Land Capability and Coverage; Hydrology and Water Quality; Utilities; Other CEQA-Mandated
	Provides questions related to building and operating budget and costs associated with studies for a project that has no funding requirements identified.	NA
Ted Gomoll	Supports a lodge next to SR 28.	Alternatives
Don Heaps	State criteria for determining significant impacts up front and not after data collection.	Introduction to the Environmental Analysis
John and Linda Sutter	Supports Site D location. Asks about swapping coverage. Requests that operating hours not begin before 7:00 a.m.	Description of Proposed Project and Alternatives Evaluated in Detail; Geology, Soils, Land Capability, and Coverage

Table 2 Summary of Comments Received on the NOP

Commenter(s)	Environmental Issue	EIR Section
Julie Basile	Questions the need for expansion and financial viability. Asks whether the lodge project represents the highest and best use of the Schilling Lodge gift.	Description of Proposed Project and Alternatives Evaluated in Detail
	Concerned about environmental impacts associated with Site D - Alternative Driveway.	Alternatives
	Notes there is a desire in the community for recreation experiences not already provided in town.	Description of Proposed Project and Alternatives Evaluated in Detail
Ray Garland	Expresses concern for Site A alternatives, tree removal, and aesthetics.	Description of Proposed Project and Alternatives Evaluated in Detail; Other CEQA-Mandated Sections
Stephanie Schwartz	Notes that the need for more snow and easier access for beginner and disabled skiers justifies the environmental impacts of moving the lodge to Site D; suggests re-working the slope near Site A to accommodate these users; supports Site A.	Description of Proposed Project and Alternatives Evaluated in Detail
Norm Kitching (oral)	What would happen to the old lodge and old parking area if Site D is implemented? Will it be restored and paved? What will the purpose of that building be?	Description of Proposed Project and Alternatives Evaluated in Detail
Alex Lesser (oral)	How much more recreational demand is there for this project? How much more parking is needed? How many days per year is there not sufficient parking at the current site?	Description of Proposed Project and Alternatives Evaluated in Detail; Transportation
	How much storage is needed? Concern that project exceeds current facilities and questions financial viability.	Description of Proposed Project and Alternatives Evaluated in Detail
	Questions whether Site F can be revisited as a possibility.	Alternatives
Ted Gomoll (oral)	States that if the project were relocated by the highway, the residential neighborhood of Highlands would not be impacted.	Alternatives
	Polaris Road and Cedarwood Road are narrow roads and therefore there would need to be another access road if the project site is by the high school. Burton Creek could be used for emergency access purposes if the road is properly built and maintained.	Description of Proposed Project and Alternatives Evaluated in Detail; Other CEQA-Mandated Sections
Paul Navabpour (oral)	As a resident of Polaris Road, was never aware of an alternative Site D driveway when he bought his home. There cannot be a thoroughfare on Polaris Road and behind residents on Polaris Road if access is provided by Cedarwood Road.	Transportation
	Supports rebuilding the lodge at the existing site; supports modified Site A.	NA
Monica Grigoleit (oral)	Supports the existing site because there are fewer impacts and fewer residents affected. No impact on Polaris at this site.	NA
Stacy Boards (oral)	Majority of residents are in support of an upgrade to the Nordic center but residents are not in support of moving it from its existing site.	NA
	Concerned about public safety issues, pedestrian safety on Polaris Road, congested emergency evacuation routes, and the increase in traffic from the two schools and the proposed larger Nordic center.	Transportation; Other CEQA-Mandated Sections
	Concerned about hazardous materials being stored right next to a school and some environmental issues such as deforestation, stream disturbance, and drainage.	Biological Resources; Hydrology and Water Quality; Other CEQA-Mandated Sections
Debbie White (oral)	Supports the Site A alternative because it reduces the impact on the neighborhood and environment.	NA
Paul Molarne (oral)	The NOP does not mention flora and fauna and whether any of these species are protected.	Biological Resources
	Questions whether the whole area is zoned for recreation, and whether any zoning changes would be required.	Description of Proposed Project and Alternatives Evaluated in Detail; Other CEQA-Mandated Sections

Table 2 Summary of Comments Received on the NOP

Commenter(s)	Environmental Issue	EIR Section
Lane Van Fawson (oral)	Expresses support for Site A because it is much less invasive than paving over and disrupting a meadow and would minimize the impact on the neighborhood.	NA
	Concerned about the financial viability of the project because there is less snow.	Description of Proposed Project and Alternatives Evaluated in Detail
Debbie White (oral)	Property values must be considered. Suggests the possibility of a lawsuit because property owners never envisioned buying residential property that would have commercial activity in its backyard.	NA

NA = Not Applicable

Source Prepared by Ascent Environmental in 2018

Appendix A

Notice of Preparation

NOTICE OF PREPARATION

and

ANNOUNCEMENT OF SCOPING MEETINGS

Tahoe Cross-Country Lodge Replacement and Expansion Project Environmental Impact Report

Release Date: June 22, 2018

To: California and Nevada State Clearinghouses, California Responsible and Trustee Agencies, Other Public Agencies, and Interested Individuals and Organizations

Subject: Notice of Preparation of an Environmental Impact Report for the Tahoe Cross-Country Lodge Replacement and Expansion Project

Lead Agency: Tahoe City Public Utility District
PO Box 5249, Tahoe City, CA 96145
Contact: Kim Boyd, Senior Management Analyst
Phone: (530) 580-6286
Email: kboyd@tcpud.org

Consistent with the California Environmental Quality Act (CEQA) requirements, the Tahoe City Public Utility District (TCPUD) is the lead agency under CEQA for the preparation of an environmental impact report (EIR) for the Tahoe Cross-Country Lodge Replacement and Expansion Project. TCPUD prepared this Notice of Preparation (NOP) pursuant to Section 15082 of the CEQA Guidelines.

This NOP is intended to inform responsible, trustee, and other affected or interested agencies and the public that an EIR will be prepared to address potential impacts resulting from implementation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. Agencies should comment on the elements of potential environmental effects that are relevant to their statutory responsibilities in connection with the implementation of the proposed project.

PROJECT LOCATION

The Tahoe Cross-Country Lodge Replacement and Expansion Project is located along the northwest shore of Lake Tahoe within the community of Tahoe City in Placer County (see Exhibit 1). The existing lodge is located at 925 Country Club Drive in the Highlands Community. The proposed project involves replacing, expanding, and relocating the lodge to a site off Polaris Road adjacent to the North Tahoe Middle/High School. Exhibit 2 shows the location of the existing lodge (Site A), the proposed relocation site (Site D), and the approximate footprint (area of ground disturbance) of alternatives that will be evaluated in the EIR.

PROJECT DESCRIPTION

The existing Tahoe Cross-Country Lodge, which also serves as the Highlands Park and Community Center, is owned by TCPUD and operated by the project applicant and concessionaire, the Tahoe Cross-Country Ski Education Association (TCCSEA), under a Concession Agreement with TCPUD. The proposed project would relocate and reconstruct the Tahoe Cross-County Lodge and would address existing operational deficiencies relative to circulation and parking, storage, staff facilities, and community space; better accommodate existing recreation demand; and improve the quality of the recreation user experience at the lodge. Reconstruction of the lodge would consolidate the existing accessory buildings into a single facility and would provide more amenities to serve guests and employees. In addition, the types of activities at the lodge could be expanded to better serve additional recreational opportunities and community needs. Reconstruction of the lodge would adaptively reuse elements of the historic Schilling Lodge, constructed as a private residence on Lake Tahoe's west shore in 1936, and would eliminate or minimize spillover parking on residential streets. No changes are proposed to the existing Highlands Park trail system or adjacent trails on state property.

TCPUD has primary authority for project review and approval as the lead agency under CEQA. Additional approvals will be needed from Placer County and the California Tahoe Conservancy (Conservancy), and the project would also be required to obtain approval from the Tahoe Regional Planning Agency (TRPA) through a subsequent permit application process. The proposed increase in the size of the recreation building is sufficient to require TRPA Governing Board approval of the project. The Conservancy would need to provide property rights approval (such as a special use permit, easement, license, lease, or land exchange) for the proposed project and any alternative involving Site D.

TCPUD's project objectives are to:

- Expand recreational opportunities through construction of a new lodge at the Highlands Park to improve resident and visitor experience.
- Construct a new lodge that minimizes effects on the neighborhood.
- Maintain a concessionaire partnership to operate improved and viable recreation opportunities.
- Preserve financial accountability and transparency of TCPUD property tax funds, while maximizing the use of private funding for construction of the new lodge.
- Create inviting community areas and public-use spaces.
- Support the North Lake Tahoe Tourism Plan by:
    - Capitalizing infrastructure improvements on public lands and recreational assets.
    - Achieving a Tier 1 Action Priority by providing connected trails systems for mountain biking, hiking, and Nordic skiing.

TCCSEA's project objectives are to:

- Address operational deficiencies in the current facility and improve financial viability.
- Repurpose the historic Schilling Lodge into a new lodge for community use and recreation activities.
- Maximize the base elevation of the lodge site.
- Improve and maintain educational programs and activities offered to adults and youth and create more user-friendly access to the trail system for beginner, disabled, and senior recreationists.

TCPUD and TCCSEA share project objectives to:

- Remedy inadequate parking and improve access to the lodge and trail system.
- Provide high quality and professionally-maintained recreational amenities and facilitate growth and diversity of recreational opportunities by enhancing summer and winter activities.

At the March 16, 2018 meeting, the TCPUD Board of Directors passed a motion directing staff to evaluate the proposed project, four action alternatives, and a no project alternative in the EIR. The proposed project and action alternatives are located at two sites—Site D is located on Polaris Road adjacent to North Tahoe High School at an elevation of 6,636 feet above mean sea level (msl), and Site A is the location of the existing lodge on Country Club Drive at 6,560 feet above msl. Both sites are in the North Tahoe High School Subdistrict and zoned for recreation in the Placer County Tahoe Basin Area Plan (Area Plan); the sites also have a land use designation of recreation in the Area Plan and the TRPA Regional Plan. Site D distances the lodge from adjacent residents, provides a shared-parking opportunity with the North Tahoe Middle/High School consistent with Policy T-P-13 of the Area Plan, and provides favorable trail access. Under the proposed project and alternatives at Site D, the lodge at the existing site would either be demolished and the site would be restored to its natural condition, or the existing lodge and site would be retained in its current condition to be used in a manner consistent with TCPUD's mission. Site A is situated on an existing developed site and minimizes new disturbance. The proposed project and all four action alternatives propose to adaptively reuse the historic Schilling Lodge in the reconstruction of a new lodge facility. Renderings of the outside of the proposed reconstructed lodge are shown in Exhibit 3. Each alternative to be evaluated in the EIR is summarized below.

- Site D – Full Project (Proposed Project). The proposed project includes a 10,154 square foot (sq. ft.) reconstructed lodge that adaptively reuses the Schilling Lodge with an addition and basement. Uses of the building would include ticket sales, retail, meeting room, café, rental, storage, staff area, first aid, lockers, family area, gym/meeting space, snowmobile carport, and community/outdoor space. One hundred vehicle parking spaces and two bus parking spaces are included in the 59,799 sq. ft. parking and driveway area. Access to the site would be from a new driveway on Polaris Road.

- Site A – Full Project. This alternative includes a reconstructed lodge of the same size as the proposed project, and would accommodate the same uses as the proposed project. One hundred vehicle parking spaces and two bus parking spaces are included in the 49,466 sq. ft. parking and driveway area. Access to the site would be provided from Country Club Drive. Under this alternative, the existing lodge would be demolished.

- Site A – Modified Project. This alternative would be in the same location as Site A – Full Project but would include a different site configuration with two buildings—the Schilling Lodge with a basement addition (totaling 6,229 sq. ft.) and a renovated existing clubhouse (2,432 sq. ft.). The total building area would be about 1,500 sq. ft. smaller than the proposed project and Site A – Full Project Alternative. This alternative would include the same access, uses, and number of bus and vehicle parking spaces as the Site A – Full Project Alternative; however, due to its configuration, it would involve a slightly larger footprint for the parking and driveway area.

- Site D – Reduced Project. This alternative is within the same footprint as the proposed project, but there would be no addition to the Schilling Lodge other than a basement. The total building area would be 6,229 sq. ft. Uses of the lodge would include ticket sales, retail, meeting room, café, rental, storage, and community/outdoor space. This alternative includes 65 vehicle parking and two bus parking spaces in a 53,184 sq. ft. driveway and parking area. Access to the site would be provided by the same new driveway as the proposed project.

- Site D – Alternative Driveway. This alternative is proposed in a similar location as the proposed project and the Site D – Reduced Project Alternative, but with a new access driveway connecting to Cedarwood Drive rather than Polaris Road. With this alternative, the new driveway would cross through the Highlands Subdistrict, which is zoned and designated residential. The driveway for this alternative would be longer than the proposed project driveway and would require a bridge across a seasonal drainage. This alternative proposes the same structure, uses, and parking as the proposed project.

- No Project Alternative. This alternative would involve the existing lodge continuing to function in its current capacity. Under this alternative, as under existing conditions, TCPUD would implement improvements or maintenance activities for the existing Highlands Community Center building and address the parking deficiencies at the existing site. Such improvements or maintenance would be required to address issues with the aging facility and improving on-site parking capacity to reduce spillover onto residential streets. As part of the improvements and maintenance, the No Project Alternative could involve remodeling the interior, making changes to the façade, and revisiting circulation and restriping parking.

POTENTIAL ENVIRONMENTAL IMPACTS

TCPUD has identified the types of environmental impacts that may result from implementation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. The potential environmental effects of the project that will be addressed in the EIR include impacts on the following resource areas:

- Aesthetics
- Air quality
- Cultural resources
- Greenhouse gas emissions
- Hydrology and water quality
- Mineral resources
- Population and housing
- Recreation
- Archaeological, historical, and tribal cultural resources
- Agriculture and forestry resources
- Biological resources
- Geology, soils, land capability and coverage
- Hazards and hazardous materials
- Land use and planning
- Noise
- Public services and utilities
- Transportation and traffic

SCOPING MEETINGS

Two EIR scoping meetings have been scheduled to provide additional information about the project and CEQA process. The meetings will provide interested parties with the opportunity to offer early input into the project, as well as to comment on the scope of environmental issues, potential environmental effects, and alternatives to be considered in the EIR. The scoping meetings will be held at the following times and locations:

July 17, 2018
Beginning at 10:00 a.m.
TCPUD Board Room
221 Fairway Drive
Tahoe City, CA 96145

July 17, 2018
Beginning at 6:00 p.m.
TCPUD Board Room
221 Fairway Drive
Tahoe City, CA 96145

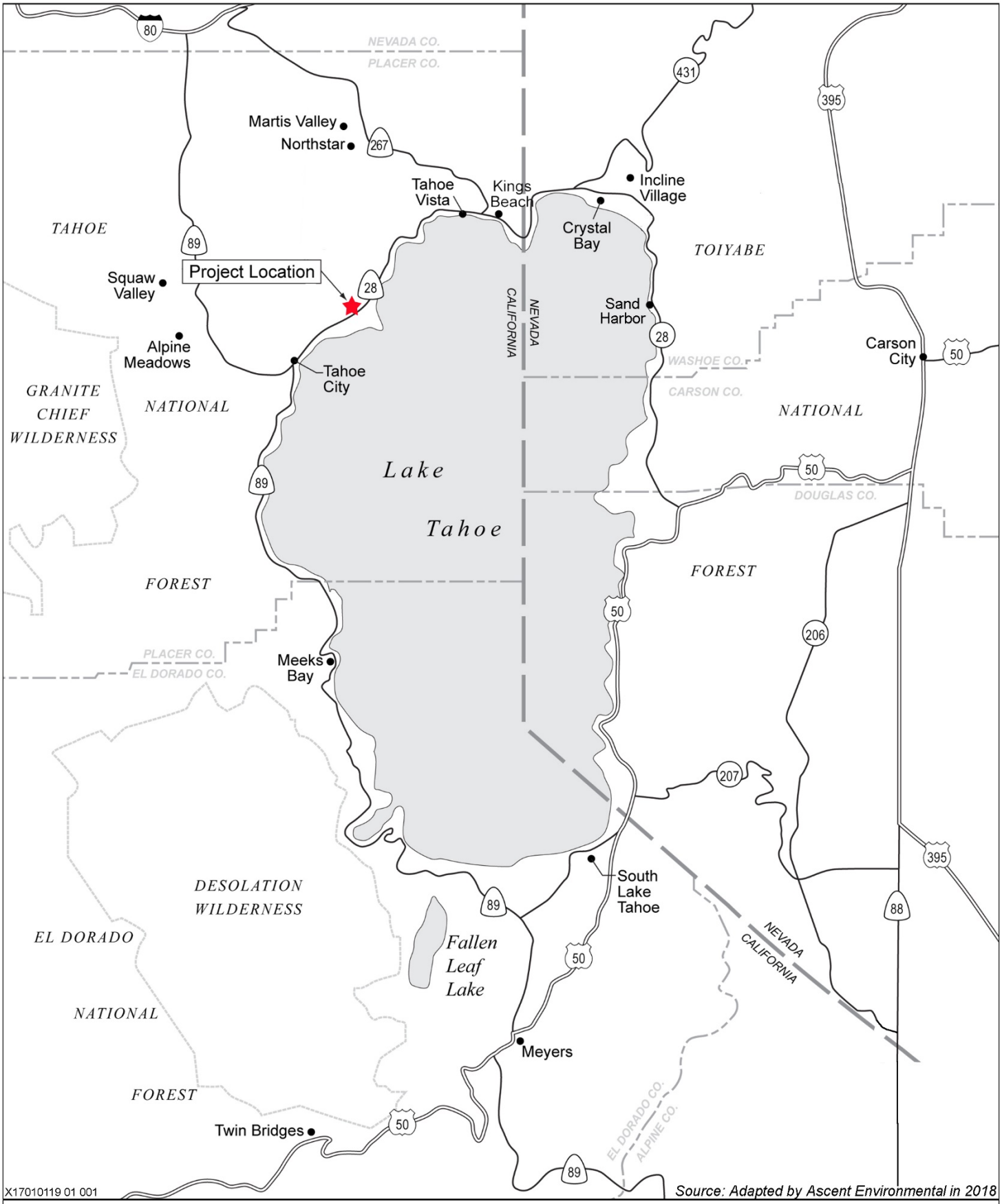
RESPONSES TO THIS NOP

Due to the time limits mandated by state law, responses to the NOP must be sent at the earliest possible date, but no later than July 25, 2018. Please send your written responses, including the name of a contact person, to:

Tahoe City Public Utility District
PO Box 5249, Tahoe City, CA 96145
Contact: Kim Boyd, Senior Management Analyst
Phone: (530) 580-6286
kboyd@tcpud.org

INTENDED USES OF THE EIR

TCPUD will use the EIR to consider environmental effects of the proposed project, provide mitigation measures to reduce potential significant impacts resulting from implementation of the project, and evaluate alternatives. TCPUD will use the EIR to comply with CEQA and make an informed environmental decision regarding project approval. It will also serve as a project EIR that may be referenced in the permitting of later activities implementing the project.



X17010119 01 001

Source: Adapted by Ascent Environmental in 2018

Exhibit 1 **Regional Location**

ASCENT ENVIRONMENTAL

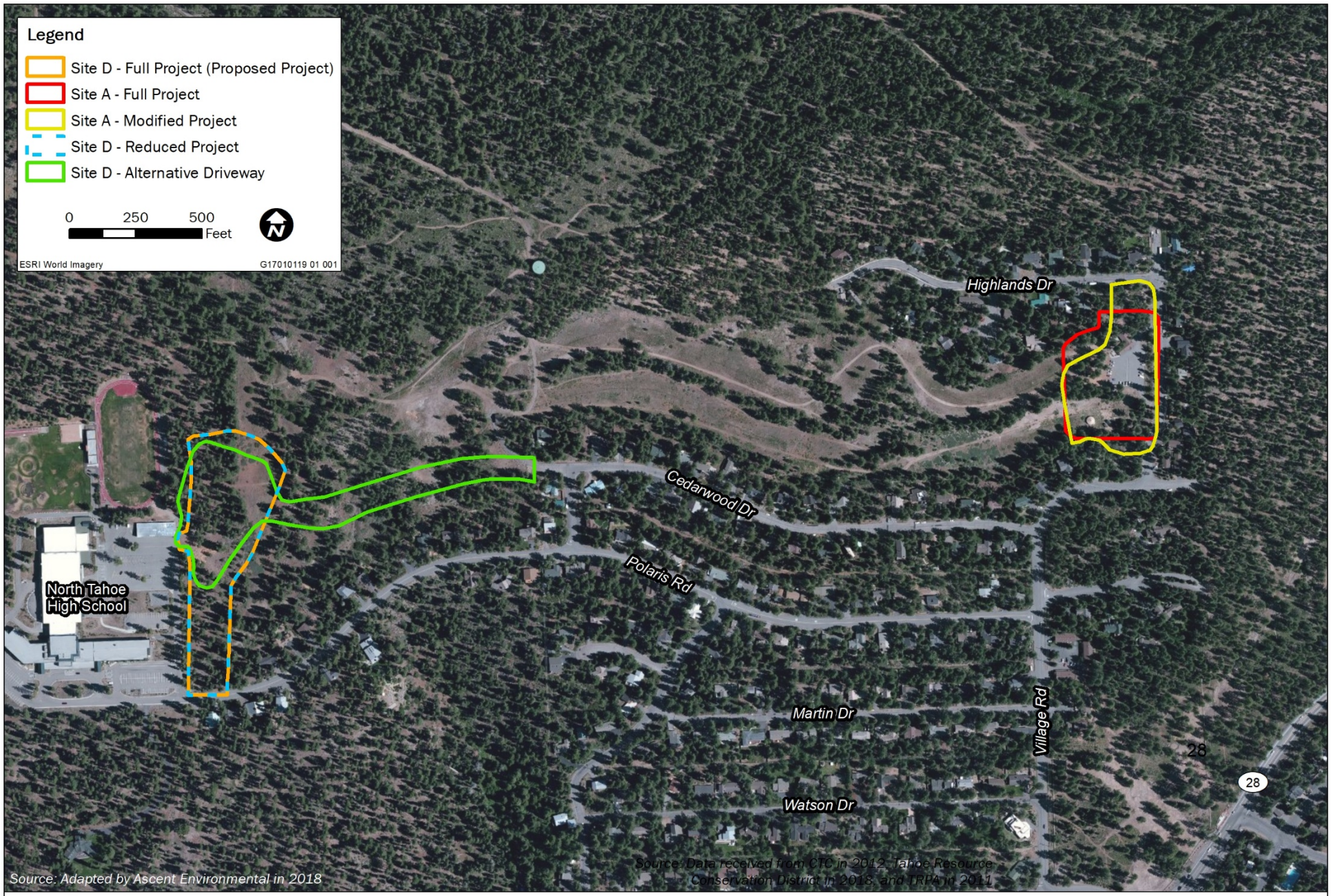


Exhibit 2

Location of Project Site and Alternatives

ASCENT ENVIRONMENTAL

Tahoe Cross Country Ski Area—Site A - full project, Site D - full project, and Site D - alternative driveway.

Tahoe Cross Country Ski Area—Back for Site A - full project, Site D - full project, and Site D - alternative driveway.

Source: Olson-Olson Architects, LLP 2018

X17010119 01 003

Exhibit 3 **Lodge Renderings**

ASCENT ENVIRONMENTAL

Appendix B

Written and Oral Comments Received During Scoping

B-1 Comments Received on NOP Released on June 22, 2018

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

July 30, 2018

Kim Boyd
Tahoe City Public Utility District
P.O. Box 5249
Tahoe City, CA 96145

RE: SCH#2018062045, Tahoe Cross-Country Lodge Replacement & Expansion, Placer County

Dear Ms. Boyd:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.
b. The lead agency contact information.
c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation

monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: Sharaya.Souza@nahc.ca.gov.

Sincerely,

Sharaya Souza
Staff Services Analyst
(916) 573-0168

cc: State Clearinghouse

Cory Allison

Subject: FW: Comments on the Tahoe Cross-Country Lodge Project Notice of Preparation

From: Kim Boyd
Sent: Friday, June 29, 2018 2:22 PM
To: Cory Allison <callison@tcpud.org>
Subject: FW: Comments on the Tahoe Cross-Country Lodge Project Notice of Preparation

From: Payne, Dale@Waterboards [mailto:dale.payne@waterboards.ca.gov]
Sent: Friday, June 29, 2018 2:20 PM
To: Kim Boyd <kboyd@tcpud.org>
Cc: Tucker, Robert@Waterboards <robert.tucker@waterboards.ca.gov>
Subject: Comments on the Tahoe Cross-Country Lodge Project Notice of Preparation

Good Afternoon Kim,
Water Board staff have reviewed the Notice of Preparation for the Tahoe Cross-Country Lodge Project, and our comments and questions follow.

1. When is the EIR expected to be circulated?
2. Exhibit 2 is confusing regarding location of proposed alternatives.
3. Will existing ski trails be continued to be used?
4. Will new ski trails be created?
5. Are there plans for snowmaking?
6. It is possible that the Water Board may make the determination that the cross country lodge and associated ski trails will require Waste Discharge Requirements, similar to other cross country and ski terrain facilities.
7. Applicable Water Board permits and evaluations regarding wetland delineations or 100-year floodplain located in the project area will be required.

Dale Payne

Environmental Scientist
North Basin Regulatory Unit
Lahontan Regional Water Quality Control Board
South Lake Tahoe

July 24, 2018

Tahoe City Public Utility District
Attn: Kim Boyd, Senior Management Analyst
PO Box 5249
Tahoe City, CA 96145

via email: kboyd@tcpud.org

Subject: Tahoe Cross-Country Lodge Replacement and Expansion Project Notice of Preparation of an Environmental Impact Report

Dear Ms. Boyd:

Placer County appreciates the opportunity to engage at this stage in the process. After reviewing the submitted information, the County offers the following comments for your consideration regarding the proposed project:

Engineering & Surveying Division and Department of Public Works and Facilities

1. Due to the proximity of the proposed project to the High School, the traffic study should analyze both AM and PM peak traffic volumes.
2. Each proposed project alternative should demonstrate consistency with the Transportation Policies outlined in Placer County's Tahoe Basin Area Plan.
3. A more comprehensive explanation of the seasonality, hours of operation, and list of activities and amenities available should be outlined for each alternative in order to determine the traffic impacts of each alternative.

Placer County Flood Control and Water Conservation District

The proposed project has the potential to create the following impacts:

1. Increases in peak flow runoff downstream of the project area.
2. Overloading of the actual or designed capacity of existing stormwater and flood-carrying facilities.

Future EIRs must specifically quantify the incremental effect of the above impacts due to this plan, and must propose mitigation measures where appropriate.

Planning Services Division

Health & Human Services Environmental Health Division

1. The EIR should analyze hazards and hazardous materials.
2. A Phase 1 Environmental Site Assessment performed to ASTM Standard E 1527-13 should be completed for this project EIR. This will need to be reviewed by Placer County Environmental Health Services Division to determine if potential environmental concerns occur on site. If so, a Phase 2 limited soil investigation should be completed in accordance with the California EPA, Department of Toxic Substances Control (DTSC).

Advisory Comments

1. Residents have expressed concerns regarding excessive speeds on Polaris Rd. and may be pursuing Placer County's Neighborhood Traffic Management Program, which is intended to facilitate neighborhoods pursuing traffic calming measures.
2. Prior to approval of a Building Permit for the structure/café, contact the Placer County Environmental Health Services Division, pay required fees, and apply for a plan check. Submit to Environmental Health Services Division, for review and approval, complete construction plans and specifications as specified by the Division.

Thank you again for the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the TCPUD Tahoe Cross-Country Lodge Replacement and Expansion project.

Should you have any questions, please contact Leigh Chavez, Environmental Coordinator at lchavez@placer.ca.gov or 530-745-3077.

Sincerely,

LEIGH CHAVEZ, PRINCIPAL PLANNER
ENVIRONMENTAL COORDINATOR

Placer County
AIR POLLUTION CONTROL DISTRICT

110 Maple Street, Auburn, CA 95603 • (530) 745-2330 • Fax (530) 745-2373 • www.placer.ca.gov/apcd

Erik C. White, Air Pollution Control Officer

July 27, 2018
Kim Boyd, Senior Management Analyst
Tahoe City Public Utility District
P.O. Box 5249
Tahoe City, CA 96145

SENT VIA: kboyd@tcpud.org

SUBJECT: Tahoe Cross-Country Lodge Replacement and Expansion Project Environmental Impact Report Notice of Preparation

Thank you for the opportunity to review and comment on the **Tahoe Cross-Country Lodge Replacement and Expansion Project Environmental Impact Report Notice of Preparation** (Project). The District recommends consideration of the following items in preparation of the Draft Environmental Impact Report.

Environmental Review

1. The District's California Environmental Quality Act (CEQA) Air Quality 2017 Handbook (Handbook) provides recommended analytical approaches and feasible mitigation measures when preparing air quality analyses for land use projects. The Handbook is available on the District's website at http://www.placerair.org/landuseandceqa/ceqaairqualityhandbook. Except where noted below additional detail relating to the following recommended items can be found within the Handbook.

    - The Project is located within the Lake Tahoe Air Basin (LTAB) and is under the jurisdiction of the District. The LTAB is designated unclassified for the federal ozone standard and nonattainment state ozone (O_3) standard, and unclassified for the federal particulate matter standard ($PM_{2.5}$) and attainment for the state particulate matter standard ($PM_{2.5}$). Within the Air Quality section the District recommends the discussion include the area designations for the federal and state standards for the LTAB.

    - The California Emissions Estimator Model (CalEEMod) is recommended when estimating the Project related air pollutants emissions from construction and operational phases. CalEEMod quantifies criteria pollutant emissions, including greenhouse gases (GHGs) from construction and operation (including vehicle use), as well as GHG emissions from energy production, solid waste handling, vegetation planting and/or removal, and water conveyance. In addition, CalEEMod calculates the benefits from implementing mitigation measures, including GHG mitigation measures, developed and approved by CAPCOA. Please contact the District for information on appropriate default settings applicable to the project area.

      The District requests copies of all modeling analysis files during the review of the DEIR for public review and comment.

    - In the event the air quality analysis demonstrates the potential for the Project to cause or generate significant adverse air quality related impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts.

Additional mitigation measures can be found in the District's CEQA Handbook within the following related appendices.

Appendix A. District Rules and Regulations (Construction and Operational)

Appendix C. Recommended Mitigation Measures (Construction)

Appendix E. Recommended Mitigation Measures (Operational)

Appendix F. Mitigation Measures (Greenhouse Gases)

- The District recommends a CALINE 4 modeling analysis for carbon monoxide (CO) concentration be performed and discussed within the environmental document either of the following scenarios is true for any intersection affected by the project traffic, the project should conduct a site-specific CO dispersion modeling analysis to evaluate the potential local CO emission impact at roadway intersections:

- A traffic study for the project indicates that the peak-hour LOS on one or more streets or at one or more intersections (both signalized and non-signalized) in the project vicinity will be degraded from an acceptable LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., E or F); or

- A traffic study indicates that the project will substantially worsen an already existing unacceptable peak-hour LOS on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where a delay would increase by 10 seconds or more when project-generated traffic is included.

2. If there is any vegetation removal proposed, a discussion identifying the treatment of vegetation removal for land development.

   Additionally, since vegetation continues to grow year after year, what will be the long term management of vegetation on this property? If burning is proposed, please contact the District for air quality requirements.

Thank you for allowing the District this opportunity to review the project proposal. Please do not hesitate to contact me at 530.745.2327 or ahobbs@placer.ca.gov if you have any questions.

Sincerely,

Ann Hobbs
Associate Planner
Planning & Monitoring Section

TAHOE-TRUCKEE SANITATION AGENCY
A Public Agency
13720 Butterfield Drive
TRUCKEE, CALIFORNIA 96161
(530) 587-2525 • FAX (530) 587-5840

VIA EMAIL

July 24, 2018

Ms. Kim Boyd
Senior Management Anlayst
Tahoe City Public Utility District
PO Box 5249
Tahoe City, CA 96145
kboyd@tcpud.org

RE: Notice of Preparation for Tahoe Cross-County Lodge Replacement and Expansion Project

Dear Ms. Boyd:

The Tahoe-Truckee Sanitation Agency (T-TSA) has received and reviewed the Notice of Preparation (NOP) for the proposed Tahoe Cross-Country Lodge Replacement and Expansion Project (Project). T-TSA staff has reviewed these materials and offers the following comments:

As background information, T-TSA provides regional wastewater treatment service to several Tahoe & Truckee area communities in portions of El Dorado, Placer, and Nevada counties through the Agency's five member sewage collection districts - the North Tahoe Public Utility District, the Tahoe City Public Utility District (TCPUD), the Alpine Springs County Water District, the Squaw Valley Public Service District, and the Truckee Sanitary District (TSD). The TSD also serves the Northstar Community Services District (NCSD) by way of an agreement. T-TSA owns, operates and maintains the Truckee River Interceptor (TRI), a main trunk line for raw sewage conveyance, and the Tahoe-Truckee Sanitation Agency Water Reclamation Plant (WRP), both of which are described in more detail below.

The 17-mile long TRI pipeline runs along the Truckee River corridor between Tahoe City and the WRP in Truckee. The interceptor flows exclusively by gravity and varies in size from 24- to 42-inches in diameter. The interceptor conveys all of the untreated, raw sewage collected from the northern and western shores of Lake Tahoe, Alpine Meadows, Squaw Valley, and Truckee. Wastewater from the Northstar development is conveyed to T-TSA via an export agreement between NCSD and TSD.

The WRP regional facility is designed to treat and dispose of the sewage delivered by the TRI. Through a series of biological, chemical and physical processes, the wastewater is purified to a degree where surface and ground water quality is protected. Wastewater flow to the facility varies in quantity and quality in proportion to the population present during the year. The WRP is principally sized to treat the maximum sewage flows that occur during peak holiday periods with the large influx of seasonal residents and visitors.

We would like to take this opportunity to offer the following comments on the documents you've made available for review:

1. At this time, T-TSA does not have enough information to determine whether it can serve the proposed Project. Before T-TSA can make a proper assessment as to what impact the Project may have on our facilities, planning documents need to be submitted that present more detail on proposed Project features with tabulated fixture unit counts and other T-TSA billing factor counts. The methodology used to develop these fixtures and factors also must be submitted.

2. At this early stage of the planning process, please be advised that T-TSA does not issue Will Serve letters. All capacity allocations are made on a first-come, first-serve basis for all projects within T-TSA's service area.

3. In addition to being served by T-TSA, the Project would also receive wastewater collection service from TCPUD. Potential impacts to TCPUD's wastewater collection facilities should also be evaluated. Project planners should contact and coordinate with TCPUD separately from T-TSA in evaluating the impacts of this Project to their systems.

T-TSA requests the TCPUD coordinate with the applicant to evaluate and address the concerns noted above so that we can better understand and respond to the impacts that this Project might have on T-TSA's facilities and operations. These comments do not include any additional impacts and concerns that may be identified by T-TSA or TCPUD in the future.

T-TSA thanks TCPUD for the opportunity to provide these comments. If you have any questions, please do not hesitate to call me at (530) 587-2525.

Sincerely,

Emily Pindar

Emily Pindar
Customer Service Supervisor

TAHOE TRUCKEE
UNIFIED SCHOOL DISTRICT
PATHWAYS TO POSSIBILITIES AND STUDENT SUCCESS

District Office
Robert J. Leri, Ed.D.
Superintendent
Chief Learning Officer
11603 Donner Pass Rd
Truckee, CA 96161-4953
P (530) 582-2500
F (530) 582-7606
www.ttusd.org

July 18, 2018

Tahoe City Public Utility District
PO Box 5249
Tahoe City CA, 96145

RE: EIR Scoping Comments for Tahoe Cross Country Lodge

Dear Ms. Boyd:

Please accept this letter in response to the Tahoe City Public Utility District's (TCPUD) Notice of Preparation and Announcement of Scoping Meetings for the Tahoe Cross-Country Lodge Replacement and Expansion project and Environmental Impact Report (NOP). The NOP describes various project options for replacement and improvement of the existing Tahoe Cross-Country Lodge located at 925 Country Club Drive. The Tahoe Truckee Unified School District (District) has interest in the options identified as Site D- Full Project (Proposed Project) and Reduced project. The full project at Site D is the preferred or proposed project of TCPUD and includes the construction or reconstruction of a 10,154 square foot lodge and 59,799 square foot parking and driveway adjacent to the District's North Tahoe School and North Tahoe High School campuses. The alternative or reduced Site D project reduces the building square footage and parking and driveway areas but maintains the same location as Proposed project.

Due to the proposed project's proximity to our school site, the District does have some concerns that we feel should be addressed during the preparation of the Environmental Impact Report (EIR). These concerns are related to potential operational and safety impacts that the project could impose on the school and include, but are not limited to, the following:

- Traffic Impacts. There is uncertainty surrounding the volume and timing of increased vehicle traffic along Polaris Road associated with the Tahoe Cross-County Lodge patrons. Increased traffic prior to and during school start and end times could impact student drop off and pickup for parents and the District and possibly cause delays. In addition, increased vehicle traffic could create safety issues for other vehicles and pedestrians travelling to the school site. The EIR should include a full analysis of traffic impacts on Polaris Road and the school's ingresses and egresses and include an assessment of the volume and peak travel times of Lodge patrons and potential conflicts with the school's start and end times.

TAHOE TRUCKEE
UNIFIED SCHOOL DISTRICT
PATHWAYS TO POSSIBILITIES AND STUDENT SUCCESS

- Security. The EIR should include consideration of the safety of students and staff and measures to prevent patrons from having access to the school campus during operating hours.
- Hazardous Materials listing and storage
- Alcohol Sales within 600 feet of school property
- Noise and potential disruptions to the learning environment of students.
- Emergency Access and evacuation routes, especially during Winter conditions

The District appreciates the opportunity to share our concerns with the proposed project. We look forward to reviewing the upcoming EIR and its analysis of these potential issues. Thank you for your consideration.

Sincerely,

Todd Rivera
Executive Director of Business Services

Robert J. Leri, Ed.D., Superintendent Chief Learning Officer
11603 Donner Pass Road, Truckee, CA 96161 | P (530) 582-2500 | F (530) 582-7606 | www.ttusd.org

Cory Allison

Subject: FW: Tahoe Cross Country Lodge Replacement and Expansion Project - Notice of Preparation (NOP)
Attachments: Final_Tahoe XC Lodge NOP_TCPUD.pdf

From: Kim Boyd
Sent: Wednesday, June 27, 2018 11:32 AM
To: Cory Allison <callison@tcpud.org>
Subject: FW: Tahoe Cross Country Lodge Replacement and Expansion Project - Notice of Preparation (NOP)

From: Huff [mailto:huffmntry@aol.com]
Sent: Friday, June 22, 2018 12:24 PM
To: Kim Boyd <kboyd@tcpud.org>
Cc: Judy Friedman <jfriedman@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>; Sean Barclay <sbarclay@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>
Subject: Re: Tahoe Cross Country Lodge Replacement and Expansion Project - Notice of Preparation (NOP)

Thank you, Kim!
Expressed concerns about the proposed EIR Scoping Meetings include:

1. That the public is provided less than thirty (30) days notice,
2. Both of them are scheduled to be held on the same day, and
3. There isn't any provision for those who can't attend in person.

Please review and discuss the above and other public concerns with the Staff and Board members, and consider making changes.
Have a great weekend,
Roger

In a message dated 6/22/2018 11:38:26 AM Pacific Standard Time, kboyd@tcpud.org writes:

> Dear interested member of the public,
>
> You are receiving this message because we have your email on file as an interested individual in the development of the Tahoe Cross Country Lodge Replacement and Expansion Project.
>
> Consistent with the California Environmental Quality Act (CEQA) requirements, the Tahoe City Public Utility District (TCPUD) is the lead agency under CEQA for the preparation of the Environmental Impact Report (EIR) for the Tahoe Cross-Country Lodge Replacement and Expansion Project (Project). TCPUD prepared a Notice of Preparation (NOP) pursuant to Section 15082 of the CEQA Guidelines. The NOP is intended to inform responsible, trustee, and other affected or interested agencies and the public that an EIR will be prepared to address potential impacts resulting from implementation of the Project.

Two EIR scoping meetings have been scheduled to provide additional information about the project and CEQA process. The meetings will provide interested parties with the opportunity to offer early input into the project, as well as to comment on the scope of environmental issues, potential environmental effects, and alternatives to be considered in the EIR. The scoping meetings will be held at the following times and locations:

July 17, 2018	**July 17, 2018**
Beginning at 10:00 a.m.	Beginning at 6:00 p.m.
TCPUD Board Room	TCPUD Board Room
221 Fairway Drive	221 Fairway Drive
Tahoe City, CA 96145	Tahoe City, CA 96145

The NOP is attached for your convenience. Please contact me directly should you have any questions.

Thank you,

Kim Boyd

Senior Management Analyst

Tahoe City Public Utility District

530.580.6286 Direct

530.583.3796 Main Office ext. 386

www.tcpud.org

2016 RECIPIENT OF THE DISTRICT TRANSPARENCY CERTIFICATE OF EXCELLENCE

The Mission of the TCPUD is to serve the people, our community, and its environment. It is our responsibility to provide safe and reliable water service, sewer service for the protection of public health, and parks and recreation services to enhance quality of life.

NOTICE OF PREPARATION

and

ANNOUNCEMENT OF SCOPING MEETINGS

Tahoe Cross-Country Lodge Replacement and Expansion Project Environmental Impact Report

Release Date: June 22, 2018

To: California and Nevada State Clearinghouses, California Responsible and Trustee Agencies, Other Public Agencies, and Interested Individuals and Organizations

Subject: Notice of Preparation of an Environmental Impact Report for the Tahoe Cross-Country Lodge Replacement and Expansion Project

Lead Agency: Tahoe City Public Utility District
PO Box 5249, Tahoe City, CA 96145
Contact: Kim Boyd, Senior Management Analyst
Phone: (530) 580-6286
Email: kboyd@tcpud.org

Consistent with the California Environmental Quality Act (CEQA) requirements, the Tahoe City Public Utility District (TCPUD) is the lead agency under CEQA for the preparation of an environmental impact report (EIR) for the Tahoe Cross-Country Lodge Replacement and Expansion Project. TCPUD prepared this Notice of Preparation (NOP) pursuant to Section 15082 of the CEQA Guidelines.

This NOP is intended to inform responsible, trustee, and other affected or interested agencies and the public that an EIR will be prepared to address potential impacts resulting from implementation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. Agencies should comment on the elements of potential environmental effects that are relevant to their statutory responsibilities in connection with the implementation of the proposed project.

PROJECT LOCATION

The Tahoe Cross-Country Lodge Replacement and Expansion Project is located along the northwest shore of Lake Tahoe within the community of Tahoe City in Placer County (see Exhibit 1). The existing lodge is located at 925 Country Club Drive in the Highlands Community. The proposed project involves replacing, expanding, and relocating the lodge to a site off Polaris Road adjacent to the North Tahoe Middle/High School. Exhibit 2 shows the location of the existing lodge (Site A), the proposed relocation site (Site D), and the approximate footprint (area of ground disturbance) of alternatives that will be evaluated in the EIR.

PROJECT DESCRIPTION

The existing Tahoe Cross-Country Lodge, which also serves as the Highlands Park and Community Center, is owned by TCPUD and operated by the project applicant and concessionaire, the Tahoe Cross-Country Ski Education Association (TCCSEA), under a Concession Agreement with TCPUD. The proposed project would relocate and reconstruct the Tahoe Cross-County Lodge and would address existing operational deficiencies relative to circulation and parking, storage, staff facilities, and community space; better accommodate existing recreation demand; and improve the quality of the recreation user experience at the lodge. Reconstruction of the lodge would consolidate the existing accessory buildings into a single facility and would provide more amenities to serve guests and employees. In addition, the types of activities at the lodge could be expanded to better serve additional recreational opportunities and community needs. Reconstruction of the lodge would adaptively reuse elements of the historic Schilling Lodge, constructed as a private residence on Lake Tahoe's west shore in 1936, and would eliminate or minimize spillover parking on residential streets. No changes are proposed to the existing Highlands Park trail system or adjacent trails on state property.

TCPUD has primary authority for project review and approval as the lead agency under CEQA. Additional approvals will be needed from Placer County and the California Tahoe Conservancy (Conservancy), and the project would also be required to obtain approval from the Tahoe Regional Planning Agency (TRPA) through a subsequent permit application process. The proposed increase in the size of the recreation building is sufficient to require TRPA Governing Board approval of the project. The Conservancy would need to provide property rights approval (such as a special use permit, easement, license, lease, or land exchange) for the proposed project and any alternative involving Site D.

TCPUD's project objectives are to:

- Expand recreational opportunities through construction of a new lodge at the Highlands Park to improve resident and visitor experience.
- Construct a new lodge that minimizes effects on the neighborhood.
- Maintain a concessionaire partnership to operate improved and viable recreation opportunities.
- Preserve financial accountability and transparency of TCPUD property tax funds, while maximizing the use of private funding for construction of the new lodge.
- Create inviting community areas and public-use spaces.
- Support the North Lake Tahoe Tourism Plan by:
    - Capitalizing infrastructure improvements on public lands and recreational assets.
    - Achieving a Tier 1 Action Priority by providing connected trails systems for mountain biking, hiking, and Nordic skiing.

TCCSEA's project objectives are to:

- Address operational deficiencies in the current facility and improve financial viability.
- Repurpose the historic Schilling Lodge into a new lodge for community use and recreation activities.
- Maximize the base elevation of the lodge site.
- Improve and maintain educational programs and activities offered to adults and youth and create more user-friendly access to the trail system for beginner, disabled, and senior recreationists.

TCPUD and TCCSEA share project objectives to:

- Remedy inadequate parking and improve access to the lodge and trail system.
- Provide high quality and professionally-maintained recreational amenities and facilitate growth and diversity of recreational opportunities by enhancing summer and winter activities.

At the March 16, 2018 meeting, the TCPUD Board of Directors passed a motion directing staff to evaluate the proposed project, four action alternatives, and a no project alternative in the EIR. The proposed project and action alternatives are located at two sites—Site D is located on Polaris Road adjacent to North Tahoe High School at an elevation of 6,636 feet above mean sea level (msl), and Site A is the location of the existing lodge on Country Club Drive at 6,560 feet above msl. Both sites are in the North Tahoe High School Subdistrict and zoned for recreation in the Placer County Tahoe Basin Area Plan (Area Plan); the sites also have a land use designation of recreation in the Area Plan and the TRPA Regional Plan. Site D distances the lodge from adjacent residents, provides a shared-parking opportunity with the North Tahoe Middle/High School consistent with Policy T-P-13 of the Area Plan, and provides favorable trail access. Under the proposed project and alternatives at Site D, the lodge at the existing site would either be demolished and the site would be restored to its natural condition, or the existing lodge and site would be retained in its current condition to be used in a manner consistent with TCPUD's mission. Site A is situated on an existing developed site and minimizes new disturbance. The proposed project and all four action alternatives propose to adaptively reuse the historic Schilling Lodge in the reconstruction of a new lodge facility. Renderings of the outside of the proposed reconstructed lodge are shown in Exhibit 3. Each alternative to be evaluated in the EIR is summarized below.

- Site D – Full Project (Proposed Project). The proposed project includes a 10,154 square foot (sq. ft.) reconstructed lodge that adaptively reuses the Schilling Lodge with an addition and basement. Uses of the building would include ticket sales, retail, meeting room, café, rental, storage, staff area, first aid, lockers, family area, gym/meeting space, snowmobile carport, and community/outdoor space. One hundred vehicle parking spaces and two bus parking spaces are included in the 59,799 sq. ft. parking and driveway area. Access to the site would be from a new driveway on Polaris Road.

- Site A – Full Project. This alternative includes a reconstructed lodge of the same size as the proposed project, and would accommodate the same uses as the proposed project. One hundred vehicle parking spaces and two bus parking spaces are included in the 49,466 sq. ft. parking and driveway area. Access to the site would be provided from Country Club Drive. Under this alternative, the existing lodge would be demolished.

- Site A – Modified Project. This alternative would be in the same location as Site A – Full Project but would include a different site configuration with two buildings—the Schilling Lodge with a basement addition (totaling 6,229 sq. ft.) and a renovated existing clubhouse (2,432 sq. ft.). The total building area would be about 1,500 sq. ft. smaller than the proposed project and Site A – Full Project Alternative. This alternative would include the same access, uses, and number of bus and vehicle parking spaces as the Site A – Full Project Alternative; however, due to its configuration, it would involve a slightly larger footprint for the parking and driveway area.

- Site D – Reduced Project. This alternative is within the same footprint as the proposed project, but there would be no addition to the Schilling Lodge other than a basement. The total building area would be 6,229 sq. ft. Uses of the lodge would include ticket sales, retail, meeting room, café, rental, storage, and community/outdoor space. This alternative includes 65 vehicle parking and two bus parking spaces in a 53,184 sq. ft. driveway and parking area. Access to the site would be provided by the same new driveway as the proposed project.

- Site D – Alternative Driveway. This alternative is proposed in a similar location as the proposed project and the Site D – Reduced Project Alternative, but with a new access driveway connecting to Cedarwood Drive rather than Polaris Road. With this alternative, the new driveway would cross through the Highlands Subdistrict, which is zoned and designated residential. The driveway for this alternative would be longer than the proposed project driveway and would require a bridge across a seasonal drainage. This alternative proposes the same structure, uses, and parking as the proposed project.

- No Project Alternative. This alternative would involve the existing lodge continuing to function in its current capacity. Under this alternative, as under existing conditions, TCPUD would implement improvements or maintenance activities for the existing Highlands Community Center building and address the parking deficiencies at the existing site. Such improvements or maintenance would be required to address issues with the aging facility and improving on-site parking capacity to reduce spillover onto residential streets. As part of the improvements and maintenance, the No Project Alternative could involve remodeling the interior, making changes to the façade, and revisiting circulation and restriping parking.

POTENTIAL ENVIRONMENTAL IMPACTS

TCPUD has identified the types of environmental impacts that may result from implementation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. The potential environmental effects of the project that will be addressed in the EIR include impacts on the following resource areas:

- Aesthetics
- Air quality
- Cultural resources
- Greenhouse gas emissions
- Hydrology and water quality
- Mineral resources
- Population and housing
- Recreation
- Archaeological, historical, and tribal cultural resources
- Agriculture and forestry resources
- Biological resources
- Geology, soils, land capability and coverage
- Hazards and hazardous materials
- Land use and planning
- Noise
- Public services and utilities
- Transportation and traffic

SCOPING MEETINGS

Two EIR scoping meetings have been scheduled to provide additional information about the project and CEQA process. The meetings will provide interested parties with the opportunity to offer early input into the project, as well as to comment on the scope of environmental issues, potential environmental effects, and alternatives to be considered in the EIR. The scoping meetings will be held at the following times and locations:

July 17, 2018
Beginning at 10:00 a.m.
TCPUD Board Room
221 Fairway Drive
Tahoe City, CA 96145

July 17, 2018
Beginning at 6:00 p.m.
TCPUD Board Room
221 Fairway Drive
Tahoe City, CA 96145

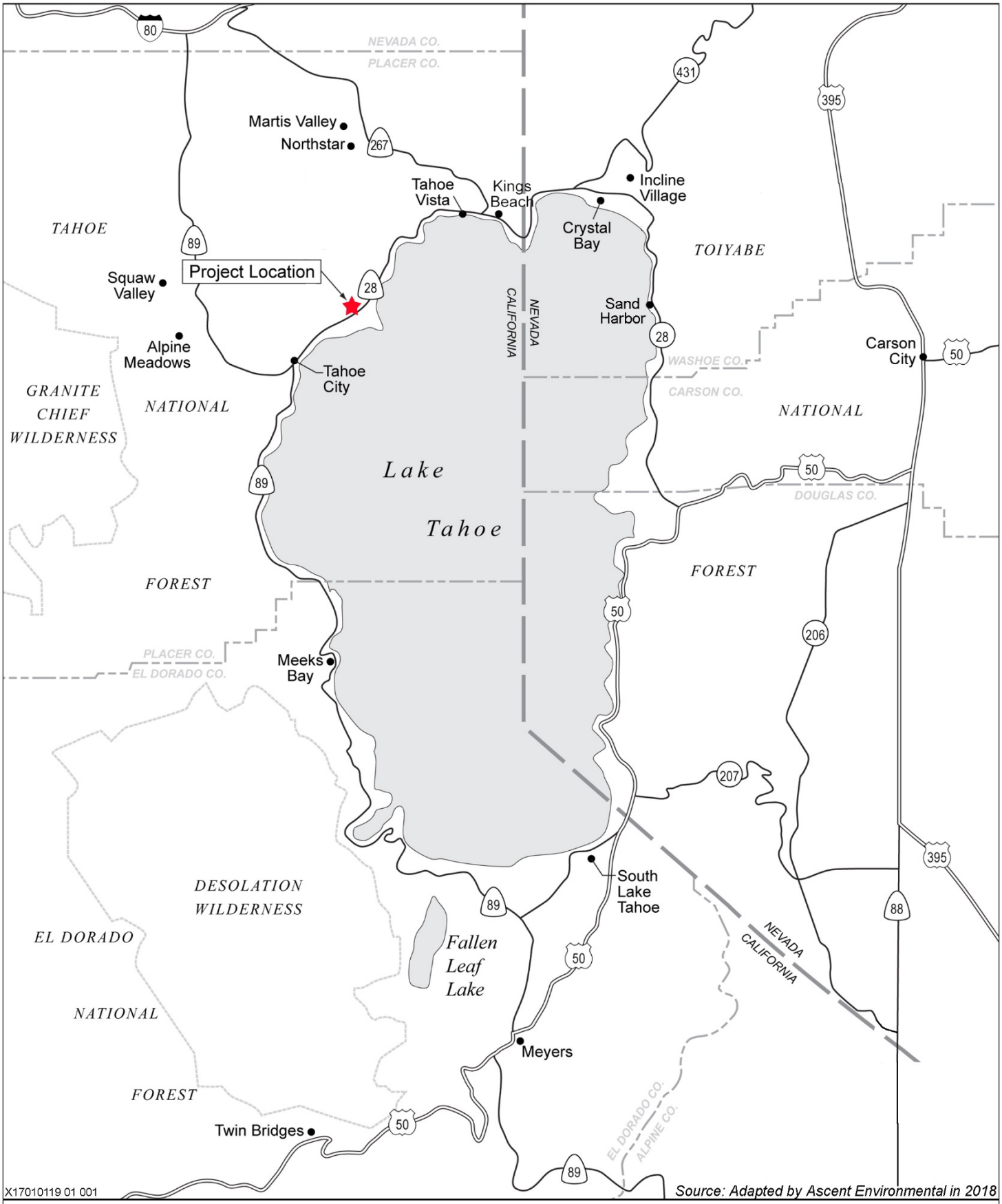
RESPONSES TO THIS NOP

Due to the time limits mandated by state law, responses to the NOP must be sent at the earliest possible date, but no later than July 25, 2018. Please send your written responses, including the name of a contact person, to:

Tahoe City Public Utility District
PO Box 5249, Tahoe City, CA 96145
Contact: Kim Boyd, Senior Management Analyst
Phone: (530) 580-6286
kboyd@tcpud.org

INTENDED USES OF THE EIR

TCPUD will use the EIR to consider environmental effects of the proposed project, provide mitigation measures to reduce potential significant impacts resulting from implementation of the project, and evaluate alternatives. TCPUD will use the EIR to comply with CEQA and make an informed environmental decision regarding project approval. It will also serve as a project EIR that may be referenced in the permitting of later activities implementing the project.



X17010119 01 001

Source: Adapted by Ascent Environmental in 2018

Exhibit 1 **Regional Location**

ASCENT ENVIRONMENTAL

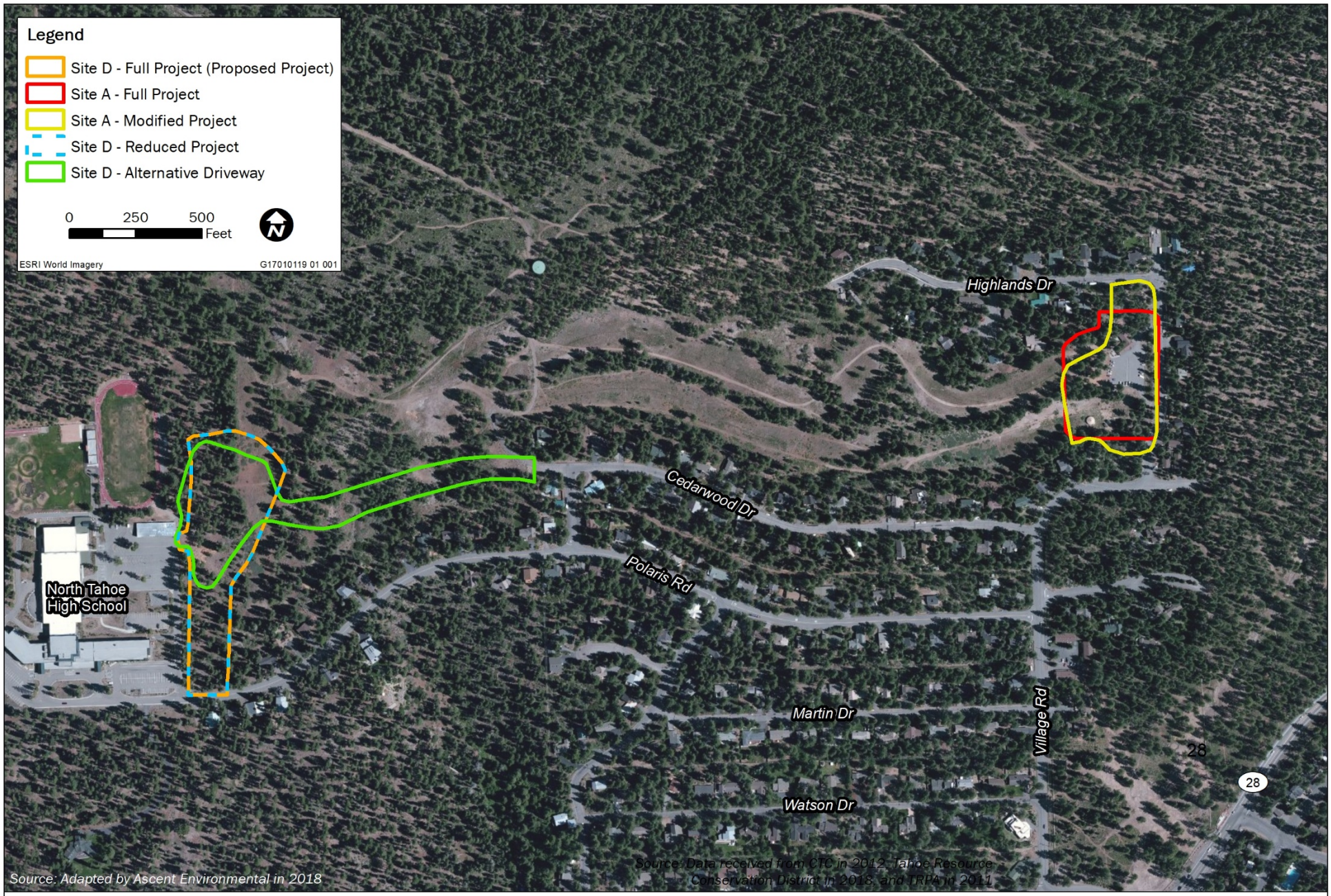


Exhibit 2

Location of Project Site and Alternatives

ASCENT ENVIRONMENTAL

Tahoe Cross Country Ski Area—Site A - full project, Site D - full project, and Site D - alternative driveway.

Tahoe Cross Country Ski Area—Back for Site A - full project, Site D - full project, and Site D - alternative driveway.

Source: Olson-Olson Architects, LLP 2018

X17010119 01 003

Exhibit 3 **Lodge Renderings**

ASCENT ENVIRONMENTAL

Cory Allison

Subject: FW: REQUESTED CHANGES
Attachments: Final_Tahoe XC Lodge NOP - Annotated.pdf

From: Kim Boyd
Sent: Wednesday, June 27, 2018 11:32 AM
To: Cory Allison <callison@tcpud.org>
Subject: FW: REQUESTED CHANGES

From: Huff [mailto:huffmntry@aol.com]
Sent: Saturday, June 23, 2018 10:54 AM
To: Kim Boyd <kboyd@tcpud.org>
Cc: Judy Friedman <jfriedman@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>; Sean Barclay <sbarclay@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>
Subject: REQUESTED CHANGES

Hi Kim,
Unfortunately, the NOP continues to damage credibility by repeating much of the same incorrect or misleading wording that residents asked be corrected in the Draft EIR's Work Statement last October.

Let's try again, before they get perpetuated into the EIR. I have highlighted and annotated some of them in the attached version of the NOP that you sent, and very strongly recommend that they be corrected this time around. The failure to do so now will just lead to future controversies.
Regards,
Roger

NOTICE OF PREPARATION

and

ANNOUNCEMENT OF SCOPING MEETINGS

Tahoe Cross-Country Lodge Replacement and Expansion Project Environmental Impact Report

Release Date: June 22, 2018

To: California and Nevada State Clearinghouses, California Responsible and Trustee Agencies, Other Public Agencies, and Interested Individuals and Organizations

Subject: Notice of Preparation of an Environmental Impact Report for the Tahoe Cross-Country Lodge Replacement and Expansion Project

Lead Agency: Tahoe City Public Utility District
PO Box 5249, Tahoe City, CA 96145
Contact: Kim Boyd, Senior Management Analyst
Phone: (530) 580-6286
Email: kboyd@tcpud.org

Consistent with the California Environmental Quality Act (CEQA) requirements, the Tahoe City Public Utility District (TCPUD) is the lead agency under CEQA for the preparation of an environmental impact report (EIR) for the Tahoe Cross-Country Lodge Replacement and Expansion Project. TCPUD prepared this Notice of Preparation (NOP) pursuant to Section 15082 of the CEQA Guidelines.

This NOP is intended to inform responsible, trustee, and other affected or interested agencies and the public that an EIR will be prepared to address potential impacts resulting from implementation of the Tahoe Cross-Country Lodge Replacement and Expansion Project. Agencies should comment on the elements of potential environmental effects that are relevant to their statutory responsibilities in connection with the implementation of the proposed project.

PROJECT LOCATION

The Tahoe Cross-Country Lodge Replacement and Expansion Project is located along the northwest shore of Lake Tahoe within the community of Tahoe City in Placer County (see Exhibit 1). The existing lodge is located at 925 Country Club Drive in the Highlands Community. The proposed project involves replacing, expanding, and relocating the lodge to a site off Polaris Road adjacent to the North Tahoe Middle/High School. Exhibit 2 shows the location of the existing lodge (Site A), the proposed relocation site (Site D), and the approximate footprint (area of ground disturbance) of alternatives that will be evaluated in the EIR.

Summary of Comments on Final_Tahoe XC Lodge NOP - Annotated.pdf

Page: 1

Number: 1 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:26:47 AM
These words are invalid and misleading There is currently no such thing as the "Tahoe Cross-Country Lodge," and the Proposed Project (Site D - Full Project) does not include any plans to replace or expand the Highlands Community Center currently leased to the TCCSEA/TXC.

Number: 2 Author: Huff Subject: Highlight Date: 6/23/2018 9:19:20 AM

Number: 3 Author: Huff Subject: Highlight Date: 6/22/2018 7:31:48 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 8:07:21 PM
Delete these misleading words, since the current building is neither being replaced nor expanded.

Number: 4 Author: Huff Subject: Highlight Date: 6/22/2018 7:32:03 PM

Number: 5 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:50:24 AM
This is incorrect and misleading. The Proposed Project (Site D - Full Project) does NOT include replacing, expanding, or relocating the current Highlands Community Center structure.

PROJECT DESCRIPTION

The existing Tahoe Cross-Country Lodge, which also serves as the Highlands Park and Community Center, is owned by TCPUD and operated by the project applicant and concessionaire, the Tahoe Cross-Country Ski Education Association (TCCSEA), under a Concession Agreement with TCPUD. The proposed project would relocate and reconstruct the Tahoe Cross-County Lodge and would address existing operational deficiencies relative to circulation and parking, storage, staff facilities, and community space; better accommodate existing recreation demand; and improve the quality of the recreation user experience at the lodge. Reconstruction of the lodge would consolidate the existing accessory buildings into a single facility and would provide more amenities to serve guests and employees. In addition, the types of activities at the lodge could be expanded to better serve additional recreational opportunities and community needs. Reconstruction of the lodge would adaptively reuse elements of the historic Schilling Lodge, constructed as a private residence on Lake Tahoe's west shore in 1936, and would eliminate or minimize spillover parking on residential streets. No changes are proposed to the existing Highlands Park trail system or adjacent trails on state property.

TCPUD has primary authority for project review and approval as the lead agency under CEQA. Additional approvals will be needed from Placer County and the California Tahoe Conservancy (Conservancy), and the project would also be required to obtain approval from the Tahoe Regional Planning Agency (TRPA) through a subsequent permit application process. The proposed increase in the size of the recreation building is sufficient to require TRPA Governing Board approval of the project. The Conservancy would need to provide property rights approval (such as a special use permit, easement, license, lease, or land exchange) for the proposed project and any alternative involving Site D.

TCPUD's project objectives are to:

- Expand recreational opportunities through construction of a new lodge at the Highlands Park to improve resident and visitor experience.
- Construct a new lodge that minimizes effects on the neighborhood.
- Maintain a concessionaire partnership to operate improved and viable recreation opportunities.
- Preserve financial accountability and transparency of TCPUD property tax funds, while maximizing the use of private funding for construction of the new lodge.
- Create inviting community areas and public-use spaces
- Support the North Lake Tahoe Tourism Plan by:
  - Capitalizing infrastructure improvements on public lands and recreational assets.
  - Achieving a Tier 1 Action Priority by providing connected trails systems for mountain biking, hiking, and Nordic skiing.

TCCSEA's project objectives are to:

- Address operational deficiencies in the current facility and improve financial viability.
- Repurpose the historic Schilling Lodge into a new lodge for community use and recreation activities.
- Maximize the base elevation of the lodge site.
- Improve and maintain educational programs and activities offered to adults and youth and create more user-friendly access to the trail system for beginner, disabled, and senior recreationists.

Page: 2

Number: 1 Author: Huff Subject: Sticky Note Date: 6/22/2018 8:11:46 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 8:12:35 PM
The correct name is the Highlands Community Center. Change it.

Number: 2 Author: Huff Subject: Sticky Note Date: 6/22/2018 8:07:47 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 8:11:06 PM
Delete this term. TXC is a tenant activity that operates out of the Highlands Community Center.

Number: 3 Author: Huff Subject: Highlight Date: 6/22/2018 7:32:24 PM

Number: 4 Author: Huff Subject: Highlight Date: 6/22/2018 7:32:31 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 7:55:21 PM
The correct name is the Highlands Community Center (delete Park and)

Number: 5 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:27:28 AM
Delete this invalid and misleading statement. See above reasons

Number: 6 Author: Huff Subject: Highlight Date: 6/22/2018 7:32:47 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 7:59:28 PM
Also misleading and incorrect. The current building is not being relocated or reconstructed.

Number: 7 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:28:22 AM
Delete this misleading term. The current facility is not being reconstructed under the Proposed Project (Site D - Full Project)..

Number: 8 Author: Huff Subject: Highlight Date: 6/22/2018 7:33:01 PM

Number: 9 Author: Huff Subject: Sticky Note Date: 6/22/2018 8:40:14 PM
Delete this term. Same reason.

Number: 10 Author: Huff Subject: Highlight Date: 6/22/2018 7:33:11 PM

Number: 11 Author: Huff Subject: Sticky Note Date: 6/22/2018 8:41:00 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 8:42:09 PM
Delete this word. There is no such thing as Highlands Park, except in the mind of the applicant.

Number: 12 Author: Huff Subject: Highlight Date: 6/22/2018 8:40:50 PM

Number: 13 Author: Huff Subject: Sticky Note Date: 6/22/2018 8:21:55 PM
The Proposed Project (Site D - Full Project would have major adverse effects on both public safety and the negihborhood.

Number: 14 Author: Huff Subject: Highlight Date: 6/22/2018 7:33:29 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 7:46:30 PM
The Proposed Project (Site D - Full Project fails this in multiple areas.

Number: 15 Author: Huff Subject: Sticky Note Date: 6/22/2018 8:24:46 PM
The proposed design features are specific to the applicant's desires, not those of the public/community.

Number: 16 Author: Huff Subject: Highlight Date: 6/22/2018 7:33:46 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 7:48:25 PM
This is misleading, because the proposed project is designed specifiically to satisfy the TCCSEA's desires, not the community's.

Number: 17 Author: Huff Subject: Sticky Note Date: 6/22/2018 8:25:52 PM
This describes a commercial facility in a residential neighborhood.

Number: 18 Author: Huff Subject: Highlight Date: 6/22/2018 7:34:01 PM

Comments from page 2 continued on next page

PROJECT DESCRIPTION

The existing Tahoe Cross-Country Lodge, which also serves as the Highlands Park and Community Center, is owned by TCPUD and operated by the project applicant and concessionaire, the Tahoe Cross-Country Ski Education Association (TCCSEA), under a Concession Agreement with TCPUD. The proposed project would relocate and reconstruct the Tahoe Cross-County Lodge and would address existing operational deficiencies relative to circulation and parking, storage, staff facilities, and community space; better accommodate existing recreation demand; and improve the quality of the recreation user experience at the lodge. Reconstruction of the lodge would consolidate the existing accessory buildings into a single facility and would provide more amenities to serve guests and employees. In addition, the types of activities at the lodge could be expanded to better serve additional recreational opportunities and community needs. Reconstruction of the lodge would adaptively reuse elements of the historic Schilling Lodge, constructed as a private residence on Lake Tahoe's west shore in 1936, and would eliminate or minimize spillover parking on residential streets. No changes are proposed to the existing Highlands Park trail system or adjacent trails on state property.

TCPUD has primary authority for project review and approval as the lead agency under CEQA. Additional approvals will be needed from Placer County and the California Tahoe Conservancy (Conservancy), and the project would also be required to obtain approval from the Tahoe Regional Planning Agency (TRPA) through a subsequent permit application process. The proposed increase in the size of the recreation building is sufficient to require TRPA Governing Board approval of the project. The Conservancy would need to provide property rights approval (such as a special use permit, easement, license, lease, or land exchange) for the proposed project and any alternative involving Site D.

TCPUD's project objectives are to:

- Expand recreational opportunities through construction of a new lodge at the Highlands Park to improve resident and visitor experience.
- Construct a new lodge that minimizes effects on the neighborhood.
- Maintain a concessionaire partnership to operate improved and viable recreation opportunities.
- Preserve financial accountability and transparency of TCPUD property tax funds, while maximizing the use of private funding for construction of the new lodge.
- Create inviting community areas and public-use spaces
- Support the North Lake Tahoe Tourism Plan by:
  - Capitalizing infrastructure improvements on public lands and recreational assets.
  - Achieving a Tier 1 Action Priority by providing connected trails systems for mountain biking, hiking, and Nordic skiing.

TCCSEA's project objectives are to:

- Address operational deficiencies in the current facility and improve financial viability.
- Repurpose the historic Schilling Lodge into a new lodge for community use and recreation activities.
- Maximize the base elevation of the lodge site.
- Improve and maintain educational programs and activities offered to adults and youth and create more user-friendly access to the trail system for beginner, disabled, and senior recreationists.

Author: Huff Subject: Sticky Note Date: 6/22/2018 7:49:11 PM
This defines a commercial activity in a residential area

Number: 19 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:31:16 AM
This is disingenuous. The proposed facility is specifically designed to meet the applicant's commercial and member functions, not for use by the community.

Number: 20 Author: Huff Subject: Highlight Date: 6/22/2018 7:34:11 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 7:50:11 PM
Misleading again, because the Project is designed for the TCCSEA/TXC.

TCPUD and TCCSEA share project objectives to:

- Remedy inadequate parking and improve access to the lodge and trail system.
- Provide high quality and professionally-maintained recreational amenities and facilitate growth and diversity of recreational opportunities by enhancing summer and winter activities.

At the March 16, 2018 meeting, the TCPUD Board of Directors passed a motion directing staff to evaluate the proposed project, four action alternatives, and a no project alternative in the EIR. The proposed project and action alternatives are located at two sites—Site D is located on Polaris Road adjacent to North Tahoe High School at an elevation of 6,636 feet above mean sea level (msl), and Site A is the location of the existing lodge on Country Club Drive at 6,560 feet above msl. Both sites are in the North Tahoe High School Subdistrict and zoned for recreation in the Placer County Tahoe Basin Area Plan (Area Plan); the sites also have a land use designation of recreation in the Area Plan and the TRPA Regional Plan. Site D distances the lodge from adjacent residents, provides a shared-parking opportunity with the North Tahoe Middle/High School consistent with Policy T-P-13 of the Area Plan, and provides favorable trail access. Under the proposed project and alternatives at Site D, the lodge at the existing site would either be demolished and the site would be restored to its natural condition, or the existing lodge and site would be retained in its current condition to be used in a manner consistent with TCPUD's mission. Site A is situated on an existing developed site and minimizes new disturbance. The proposed project and all four action alternatives propose to adaptively reuse the historic Schilling Lodge in the reconstruction of a new lodge facility. Renderings of the outside of the proposed reconstructed lodge are shown in Exhibit 3. Each alternative to be evaluated in the EIR is summarized below.

- Site D – Full Project (Proposed Project). The proposed project includes a 10,154 square foot (sq. ft.) reconstructed lodge that adaptively reuses the Schilling Lodge with an addition and basement. Uses of the building would include ticket sales, retail, meeting room, café, rental, storage, staff area, first aid, lockers, family area, gym/meeting space, snowmobile carport, and community/outdoor space. One hundred vehicle parking spaces and two bus parking spaces are included in the 59,799 sq. ft. parking and driveway area. Access to the site would be from a new driveway on Polaris Road.

- Site A – Full Project. This alternative includes a reconstructed lodge of the same size as the proposed project, and would accommodate the same uses as the proposed project. One hundred vehicle parking spaces and two bus parking spaces are included in the 49,466 sq. ft. parking and driveway area. Access to the site would be provided from Country Club Drive. Under this alternative, the existing lodge would be demolished.

- Site A – Modified Project. This alternative would be in the same location as Site A – Full Project but would include a different site configuration with two buildings—the Schilling Lodge with a basement addition (totaling 6,229 sq. ft.) and a renovated existing clubhouse (2,432 sq. ft.). The total building area would be about 1,500 sq. ft. smaller than the proposed project and Site A – Full Project Alternative. This alternative would include the same access, uses, and number of bus and vehicle parking spaces as the Site A – Full Project Alternative; however, due to its configuration, it would involve a slightly larger footprint for the parking and driveway area.

- Site D – Reduced Project. This alternative is within the same footprint as the proposed project, but there would be no addition to the Schilling Lodge other than a basement. The total building area would be 6,229 sq. ft. Uses of the lodge would include ticket sales, retail, meeting room, café, rental, storage, and community/outdoor space. This alternative includes 65 vehicle parking and two bus parking spaces in a 53,184 sq. ft. driveway and parking area. Access to the site would be provided by the same new driveway as the proposed project.

Page: 3

Number: 1 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:32:18 AM
This is not credible. The Proposed Project (Site D - Full Project) makes access much worse because of multiple traffic and public safety reasons.

Number: 2 Author: Huff Subject: Highlight Date: 6/22/2018 7:34:34 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 7:51:40 PM
The Proposed Project (Site D- Full Project) fails miserably in this area.

Number: 3 Author: Huff Subject: Highlight Date: 6/22/2018 8:49:21 PM

Number: 4 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:33:50 AM
Not credible. A 76 foot difference in elevation is being touted as a reason for generally more snow.

Number: 5 Author: Huff Subject: Highlight Date: 6/22/2018 8:49:29 PM

Number: 6 Author: Huff Subject: Highlight Date: 6/22/2018 8:47:02 PM

Number: 7 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:34:41 AM
These renderings are misleading because they do not show a third (basement) level. or the massive additions to the original historic structure..

Number: 8 Author: Huff Subject: Highlight Date: 6/22/2018 7:59:30 PM

Author: Huff Subject: Sticky Note Date: 6/22/2018 8:02:11 PM
These design features are specifically intended to satisfy the TCCSE/TXC's commercial and member activities.

Number: 9 Author: Huff Subject: Sticky Note Date: 6/23/2018 9:35:37 AM
All of these features are specifically designed to support TCCSEA/TXC commercial and member activities, NOT for general community use .

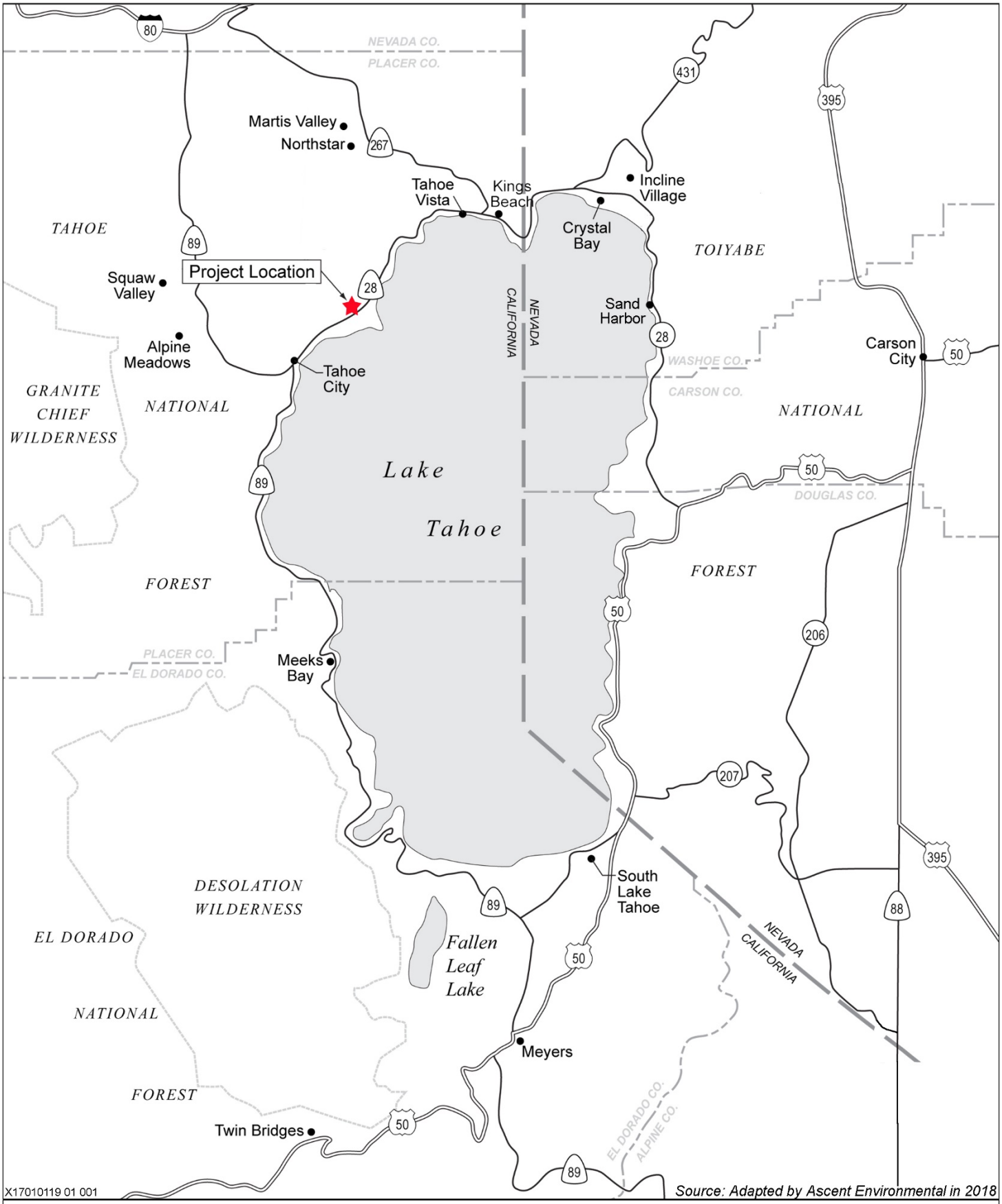
RESPONSES TO THIS NOP

Due to the time limits mandated by state law, responses to the NOP must be sent at the earliest possible date, but no later than July 25, 2018. Please send your written responses, including the name of a contact person, to:

Tahoe City Public Utility District
PO Box 5249, Tahoe City, CA 96145
Contact: Kim Boyd, Senior Management Analyst
Phone: (530) 580-6286
kboyd@tcpud.org

INTENDED USES OF THE EIR

TCPUD will use the EIR to consider environmental effects of the proposed project, provide mitigation measures to reduce potential significant impacts resulting from implementation of the project, and evaluate alternatives. TCPUD will use the EIR to comply with CEQA and make an informed environmental decision regarding project approval. It will also serve as a project EIR that may be referenced in the permitting of later activities implementing the project.



X17010119 01 001

Source: Adapted by Ascent Environmental in 2018

Exhibit 1 **Regional Location**

ASCENT ENVIRONMENTAL

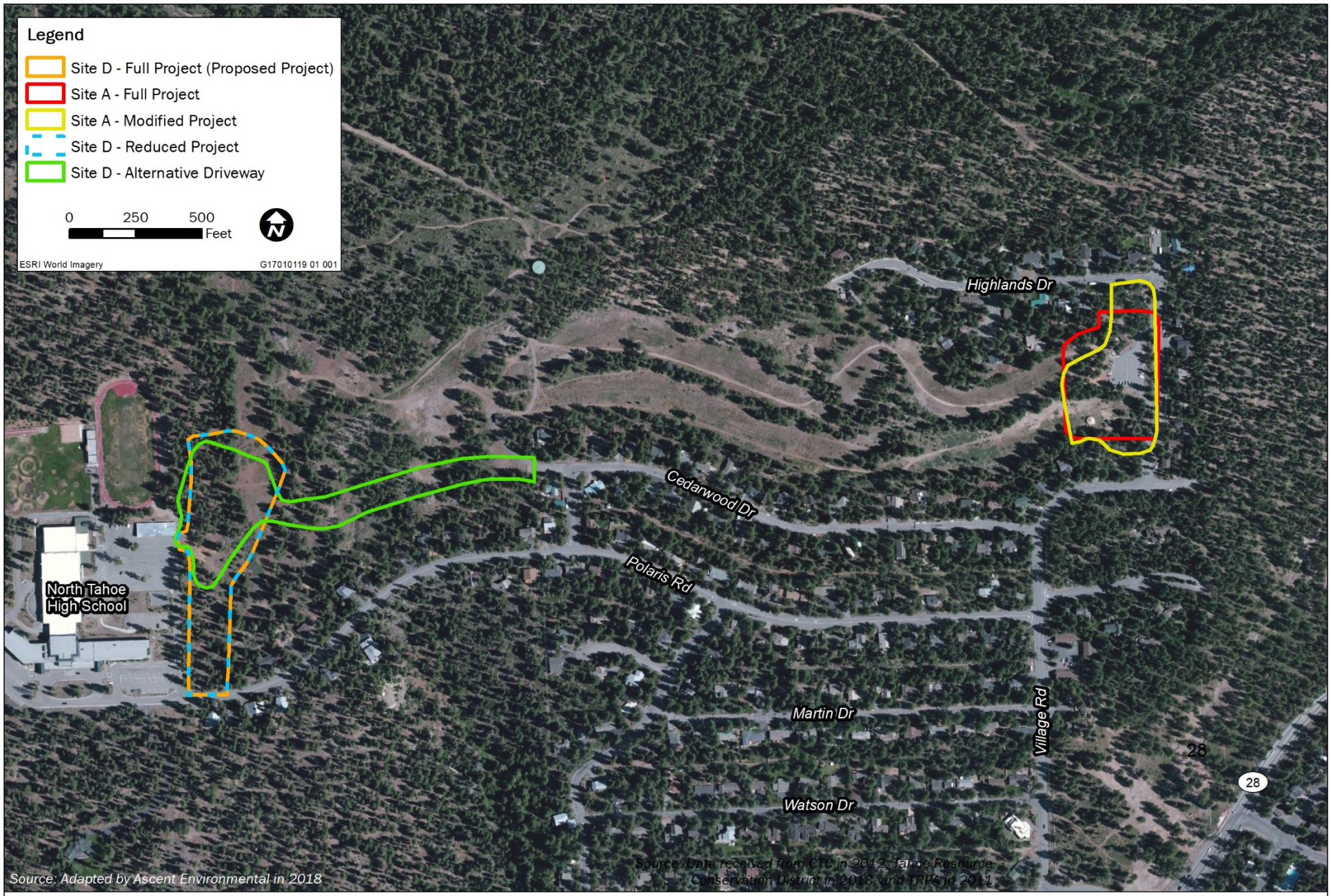


Exhibit 2

Location of Project Site and Alternatives

ASCENT ENVIRONMENTAL

Tahoe Cross Country Ski Area—Site A - full project, Site D - full project, and Site D - alternative driveway.

Tahoe Cross Country Ski Area—Back for Site A - full project, Site D - full project, and Site D - alternative driveway.

Source: Olson-Olson Architects, LLP 2018

X17010119 01 003

Exhibit 3 **Lodge Renderings**

ASCENT ENVIRONMENTAL

Cory Allison

Subject: FW: TXC SKI LODGE PROJECT - REQUESTED EIR SCOPING ACTION ITEMS

From: Kim Boyd
Sent: Wednesday, June 27, 2018 11:31 AM
To: Cory Allison <callison@tcpud.org>
Subject: FW: TXC SKI LODGE PROJECT - REQUESTED EIR SCOPING ACTION ITEMS

From: Huff [mailto:huffmntry@aol.com]
Sent: Wednesday, June 27, 2018 11:14 AM
To: Judy Friedman <jfriedman@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>
Cc: Sean Barclay <sbarclay@tcpud.org>; Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>
Subject: TXC SKI LODGE PROJECT - REQUESTED EIR SCOPING ACTION ITEMS

Dear TCPUD Board Members,

Please:

(1) ***Present and discuss*** all the following categories and questions (copied from official CEQA Guidance documentation) at this project's Public Scoping Meetings;

(2) ***Insist*** that all of them are thoroughly and objectively answered in the Draft Environmental Impact Report (EIR) for all candidate Sites and Alternatives; and

(3) ***Ensure*** this email gets into the District's record correspondence file for this project:

AESTHETICS. Would the project:

- Have a substantial adverse effect on a scenic vista?
- Substantially degrade the existing visual character or quality of public views of the site and its surroundings? OR
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

AGRICULTURE & FORESTRY RESOURCES. Would the project:

- Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production?

- Result in the loss of forest land or conversion of forest land to non-forest use? OR

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use; or the conversion of forest land to non-forest use?

AIR QUALITY. Would the project:

- Violate any air quality standard or contribute substantially to result in a cumulatively considerable net increase in an existing or projected air quality violation?

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? OR

- Create objectionable emissions (such as odors or dust) adversely affecting a substantial number of people?

BIOLOGICAL RESOURCES. Would the project:

- Have a substantial adverse effect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

- Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? OR

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

CULTURAL RESOURCES. Would the project:

- Cause a substantial adverse change in the significance of a historical resource?

GEOLOGY AND SOILS. Would the project:

- Result in substantial soil erosion or the loss of topsoil?

GREENHOUSE GAS EMISSIONS. Would the project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? OR

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

HAZARDS AND HAZARDOUS MATERIALS. Would the project:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

- Emit hazardous emissions or handle hazardous or acutely hazardous materials,

  substances, or waste within one-quarter mile of an existing or proposed school? OR

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

HYDROLOGY AND WATER QUALITY. Would the project:

- Substantially deplete decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows? OR

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river.

LAND USE AND PLANNING. Would the project:

- Physically divide an established community?

- Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? OR

- Conflict with any applicable habitat conservation plan or natural community conservation plan?

NOISE. Would the project result in:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? OR

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

PUBLIC SERVICES. Would the project result in:

- Need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for any of the public services: □Fire protection? □Police protection? □Schools? □Parks? □Other public facilities?

RECREATION. Would the project:

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

TRANSPORTATION/TRAFFIC. Would the project:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths? , taking into account all modes of transportation including mass transit and non-motorized travel and relevant

components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways

- Result in inadequate emergency access? OR

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

UTILITIES AND SERVICE SYSTEMS. Would the project:

- Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? OR

- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years from existing entitlements and resources, or are new or expanded entitlements needed?

WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- Impair an adopted emergency response plan or emergency evacuation plan

- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? OR

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:

- Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels,

threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

- Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? OR

- Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?“

I have examined the candidate sites, counted trees and traffic, and taken enough photos to realize that valid answers to these questions will reveal serious and potential “show-stopper” impacts; and I look forward to reviewing the findings of the Draft EIR.

Thank you,

Roger Huff

Cory Allison

Subject: FW: TXC LODGE PROJECT NOP COMMENTS & DRAFT EIR INPUTS

From: Kim Boyd
Sent: Thursday, July 05, 2018 9:05 AM
To: Cory Allison <callison@tcpud.org>
Subject: FW: TXC LODGE PROJECT NOP COMMENTS & DRAFT EIR INPUTS

From: Huff [mailto:huffmntry@aol.com]
Sent: Wednesday, July 04, 2018 7:46 AM
To: Judy Friedman <jfriedman@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>; Sean Barclay <sbarclay@tcpud.org>; Kim Boyd <kboyd@tcpud.org>
Cc: Matt Homolka <mhomolka@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>
Subject: TXC LODGE PROJECT NOP COMMENTS & DRAFT EIR INPUTS

Dear Board Members,

Credibility and public trust continue to be damaged by incorrect or misleading statements in the NOP that must not be allowed to perpetuate into the EIR or other project documents. These include:

- The *Project Title*, *Project Location*, and *Project Description* paragraphs imply or state that a structure called the *Tahoe Cross-Country Lodge* is "located at 925 Country Club Drive" that "also serves as the *Highlands Park and Community Center*"; and that "the proposed project involves replacing, expanding, and relocating" it. **Problems** – none of these statements are factually correct.

- Use of the benign and ambiguous term "adaptively reuse" is misleading and doesn't describe the massive internal changes and additions to the original historic structure; and the *Renderings* don't properly depict a basement level.

Besides correcting the above items, to be more credible please ensure that the Draft EIR also includes a compilation of concerns identified by members of the public.

Than you,

Roger Huff

Cory Allison

Subject: FW: REQUESTED REALITY CHECKS FOR THE 10 & 17 JULY MEETINGS

From: Huff [mailto:huffmntry@aol.com]
Sent: Sunday, July 08, 2018 7:47 AM
To: Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>; Sean Barclay <sbarclay@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>; Kim Boyd <kboyd@tcpud.org>
Cc: Terri Viehmann <tviehmann@tcpud.org>; Jess McMillion <jmcmillion@tcpud.org>
Subject: REQUESTED REALITY CHECKS FOR THE 10 & 17 JULY MEETINGS

Dear Board Members,

Please read and discuss the following during both the 10 & 17 July meetings:

When we moved here from the south shore I wanted a lakefront estate, but we were quite happy with our one-bedroom condo. Before we bought our current SUV, I wanted a Porsche; but we have been very satisfied with our Chevrolet. Timely reality checks can avoid making making foolish mistakes and getting in over one's head; and the recent funding prioritization by the *TOT Grant Advisory Committee* should provide this project a critical wake-up call.

One Reality – cumulative costs for: environmental impact analyses, mitigation, design, engineering, construction, public safety issues, and legal fees for the Site D Alternatives (i.e., Full Project, Reduced Project, Alternative Driveway) are extremely high, and quite possibly unrealistic.

Another Reality – continuing to waste precious funding on exploring unrealistic options at this point may limit one to the least desirable alternative (e.g., No Project) downstream.

Eliminating the Site D Alternatives and reducing the scope and cost of the EIR would make the project more realistic and affordable, and would currently still offer the Site A – Modified Project and No Project Alternatives; but **please re-consider the following (less costly, less controversial, and more realistic) Alternative proposed to the TCPUD in March:**

REALISTIC PROJECT ALTERNATIVE

1. Replace the 2,465 sq. ft. Highlands Community Center with the *original 4,607 sq. ft., two story, historic Schilling Lodge*; as favored by the vast majority of residents in 2014, and as consistent with both the Donor's and the Schilling Family's stated wishes;

2. *Only allow minimal, internal*, modifications required *not just to meet essential* needs of the Applicant; *but also* for *larger Community enjoyment* as the Donor and Family intended;

3. *Make the parking area less obtrusive* by limiting its additions to those needed to minimize on-street parking on an *average* winter day, and using the smaller 2,814 sq. ft. surface footprint of the *original* Schilling Lodge; and

4. *Transfer its final ownership to the TCPUD* to avoid problems associated with putting a privately-owned facility on publicly-owned land, and allowing it to be shared by "the larger Tahoe Community" as the Donor has stated.

Very sincerely,

Roger Huff

Cory Allison

Subject: FW: Tahoe XC Lodge Replacement & Expansion Project

-----Original Message-----
From: Vivian Euzent [mailto:veuzent@comcast.net]
Sent: Sunday, July 08, 2018 2:19 PM
To: Kim Boyd <kboyd@tcpud.org>; Ski@TahoeXC.org
Subject: Tahoe XC Lodge Replacement & Expansion Project

As a part time resident of Truckee, I have been willing to drive to Tahoe Cross Country Ski Area for about 17 years because the staff is so friendly and helpful, other skiers (many of them local residents) are helpful on the trails, and the trail system allows one to get to the more advanced trails without having to spend an hour skiing on the beginning trails in order to get to them. Tahoe XC has successfully created an extremely welcoming and supportive atmosphere. I have enjoyed watching Tahoe XC add programs, a cafe, and, of course, the memorable free hot chocolate or tea on the trail in the warming huts. I strongly support the Site D - Full Porject. This project would make the ski area top rate and increase the likelihood of financial stability.

Sincerely,
Vivian Euzent
10751 Silver Spur Drive
Truckee, CA 96161

From:	Sean Barclay
To:	Terri Viehmann
Cc:	Matt Homolka; Kim Boyd; Cory Allison
Subject:	FW: Contact Board of Directors Submission
Date:	Monday, July 16, 2018 12:42:01 PM

Sean Barclay
General Manager
Tahoe City Public Utility District
530.580.6051 Direct
530.583.3796 Main Office ext. 351
www.tcpud.org

2016 RECIPIENT OF THE DISTRICT TRANSPARENCY CERTIFICATE OF EXCELLENCE

The Mission of the TCPUD is to serve the people, our community, and its environment. It is our responsibility to provide safe and reliable water service, sewer service for the protection of public health, and parks and recreation services to enhance quality of life.

From: Judy Friedman [mailto:jfriedman85@hotmail.com]
Sent: Friday, July 13, 2018 8:07 PM
To: Sean Barclay <sbarclay@tcpud.org>
Subject: Fw: Contact Board of Directors Submission

From: noreply@tcpud.org <noreply@tcpud.org> on behalf of Tahoe City Public Utility District <noreply@tcpud.org>
Sent: Friday, July 13, 2018 10:52:29 PM
To: d.wilkins@tcpud.org; jfriedman@tcpud.org; jpang@tcpud.org; r.treabess@tcpud.org; scottrzumwalt@gmail.com
Subject: Contact Board of Directors Submission

Submitted on Fri, 07/13/2018 - 15:52

Submitted by: lilyoftheplaya@gmail.com

Submitted values are:

Name: Janet Mcneil

Email: lilyoftheplaya@gmail.com

Subject: Txc and lodge project.

Message: I believe to have history in our community depends on what we leave behind. America loves to build and breakdown, unlike other countries are so rich in their history of buildings, art, museums etc.... Please allow the lodge project represent some Tahoe history forever in our memories. Thank you for your time and support.

From:	Sean Barclay
To:	Terri Viehmann
Cc:	Matt Homolka; Kim Boyd; Cory Allison
Subject:	FW: Contact Board of Directors Submission
Date:	Monday, July 16, 2018 11:41:03 AM

Sean Barclay
General Manager
Tahoe City Public Utility District
530.580.6051 Direct
530.583.3796 Main Office ext. 351
www.tcpud.org

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From: Judy Friedman [mailto:jfriedman85@hotmail.com]
Sent: Monday, July 16, 2018 6:33 AM
To: Sean Barclay <sbarclay@tcpud.org>
Subject: Fw: Contact Board of Directors Submission

From: noreply@tcpud.org <noreply@tcpud.org> on behalf of Tahoe City Public Utility District <noreply@tcpud.org>
Sent: Monday, July 16, 2018 4:02:30 AM
To: d.wilkins@tcpud.org; jfriedman@tcpud.org; jpang@tcpud.org; r.treabess@tcpud.org; scottrzumwalt@gmail.com
Subject: Contact Board of Directors Submission

Submitted on Sun, 07/15/2018 - 21:02

Submitted by: lkdda07@gmail.com

Submitted values are:

Name: Dianne Miller

Email: lkdda07@gmail.com

Subject: TXC and Schilling Lodge Project

Message: Dear TCPUD Board of Directors, I have been a resident of the North Shore of Lake Tahoe and the Tahoe City area for 45 years. I am a dedicated community member and have supported many projects and improvements over the years. I am an avid cross country skier and spend many hours on the trails of Tahoe Cross Country. They provide a first class nordic center and contribute hugely to our local schools and children. I believe that the Schilling Lodge will be a wonderful addition to Tahoe XC and the local community. Please consider this incredible project and how it will enhance both the local and tourist experience.

From: outlook_AFABBB4B7D4B408D@outlook.com
To: Kim Boyd
Subject: Tahoe XC
Date: Tuesday, July 17, 2018 11:27:19 AM

Hi Kim,

I was at today's meeting and I do have a lot of additional questions.

1. Cost of each site?
2. How did site D get approved without us knowing?
3. How do we oppose current approved site?

Where do I look for these answers?

Thanks,
Monica Grigoleit

Sent from Mail for Windows 10

COMMENT CARD

TAHOE CROSS-COUNTRY LODGE REPLACEMENT AND EXPANSION PROJECT
Environmental Impact Report

Thank you for your interest in the planning and environmental review processes for the Tahoe Cross-Country Lodge Replacement and Expansion Project. Please share your comments regarding the environmental topics to be discussed in the Draft EIR, which could include suggestions for alternatives and mitigation measures. It helps if you are specific. You can submit your comments in several ways: (1) write your comment below and leave this form with meeting representatives; (2) take a comment card home and drop it in the mail later; or (3) email your comment to kboyd@tcpud.org. All comments must be received by July 25, 2018.

Visit the project website (http://www.tahoecitypud.com/capital-improvement-projects/tahoe-cross-country-lodge-replacement-and-expansion) for more information.

1. standard of significance - make very clear what standards will trigger significant impact
2. scenic - neighborhood aesthetics vs "scenic" not applicable for any alternative

Sriram Iyer
870 Woodside Dr.
sriram@gmail.com

- over -

PLEASE FOLD ALONG THIS LINE FOR MAILING

Your Name:_____

Address: _____

_____

Place Stamp Here

Kim Boyd
Tahoe City Public Utility District
PO Box 5249
Tahoe City, CA 96145

Monica Grigoleit
PO Box 1088
Tahoe City, CA 96145

July 19, 2018

Tahoe City Public Utility District
PO Box 5249
Tahoe City, CA 96145

Attn: Kim Boyd

Re: Tahoe XC

We are residents of the Highlands and we are only in favor of the No Project Alternative – which includes improvements to the building and the parking. We believe it addresses the concerns at the current facility without the expense of constructing new buildings.

Sincerely,

Monica Grigoleit
Mike Niles

530-412-1275

Cory Allison

Subject: FW: Tahoe XC

From: Monica Grigoleit [mailto:shop@cobblestonetahoe.com]
Sent: Thursday, July 19, 2018 3:11 PM
To: Kim Boyd <kboyd@tcpud.org>
Subject: Tahoe XC

Hi Kim,

I have several questions and don't know where to go for the answers.
1) What are the costs associated with each different site?
2) How did TCPUD make it's final decision, was it a public vote or only a decision made by a board specifically for the Tahoe XC proposal?

Thanks,
Monica Grigoleit
530-412-1275

--
Monica Grigoleit
Cobblestone Center
530-583-1580

Cory Allison

Subject: FW: YESTERDAY'S MEETINGS

-----Original Message-----
From: Alex Lesser [mailto:alex@pssclabs.com]
Sent: Thursday, July 19, 2018 3:56 PM
To: Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Sean Barclay <sbarclay@tcpud.org>; Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>
Cc: debbie@mrooms.co.uk; Carol Pollock <carolpollock10@gmail.com>; jakeaqua@me.com; lucy.nava@yahoo.com; paul@4propertysales.co.uk; stephandmike@hotmail.com; Mike@thebackcountry.net; stacyalain@earthlink.net; Roger Huff <huffmntry@aol.com>
Subject: YESTERDAY'S MEETINGS

Hello Everyone

I wanted to take a moment and just reflect on today's first EIR scoping meeting. First off I am pretty disappointed to see very few TCPUD Board Members in attendance. I want to ask first if TCPUD actually cares what the Highlands residents (or any Tahoe City) residents have to say? We received notification for this meeting almost a full month ago. There really is no reason that the entire TCPUD Board could not be in attendance. From what I understand there is only going to be one opportunity for the Public and TCPUD Board Members to engage in a back and forth. Is this correct? If so will be there be any time limits? Will there be a limit to the number of questions? Is there any information TCPUD Board Members can provide now to help the public prepare for what seems to be the only time we can actually engage in a back and forth discussion.

Next I would like to reiterate the questions I presented that were not answered. My expectation is that these questions will be answered at some point. Again if the TCPUD Board was in attendance perhaps we could have had a productive conversation rather than community vehemently voicing their objections to many aspects of this project with no one from TCPUD able to respond. If you take the time to review the video, I spend the majority of my time asking questions to the only person representing the TCPUD that appeared to be engaged.

It was stated that the main goals of this project were to do the following three things

- Improve the current layout of the Tahoe Cross Country Ski Lodge to better accommodate things like "storage"
- Provide more parking spaces
- Provide better traffic flow

These items are directly from the presentation. I'd like to understand how much research has gone into these goals. For instance, how much storage is really needed? If expanded storage is main goal then great let's add some more storage. I highly doubt this means going from a 2400 sq ft structure to a nearly 10,000 sq ft structure. Next, how may days per year is there insufficient parking? Over the past few years the number of weeks that the Cross Country facility is actually open is on avert 5 or 6 weeks. That means may 10 or 12 weekend days per year that there may be need for additional parking. And in terms of traffic flow, even the presentation noted that the current location of the Cross Country facility can be reconfigured to offer better traffic flow than the proposed location at Site D.

I believe if the TCPUD can provide answers to the stated three main objectives, we can all find a solution that would be satisfactory to everyone involved. During my conversations with Hihghlands residents and neighbors on one has stated that they do not want to the Cross Country facility to be improved. But let's make the right improvements for the right reasons.

Now, I'd like to make absolutely certain that in fact the three stated main goals are the only reasons for the proposes site change and lodge expansion. I would like to give TCPUD Board Members the opportunity now to tell the public if there are other reasons that were not stated on the PowerPoint Presentation or stated. I believe this is very important now for TCPUD to address this.

Because I only had 3 minutes to ask questions I didn't have a chance to address my real concern which is public safety. I have stated several times previously that I have very young children. My home sits around a blind turn. There are NO sidewalks on Polaris. There are NO streetlights next to my house. I later found out that one Tahoe City resident has her son hit by a car on Polaris as well as several pets killed by oncoming traffic. Two nights ago, there was an SUV driving 65+ MPH with two teenagers yelling out their car windows. I can only imaging what may happen if this new facility starts serving alcohol. Actually I would like this clarified, will alcohol be served at ANY event at the new Cross Country facility?

The Highlands Residents continue to voice their disapproval of moving the location to Site D. The Highlands Residents have voiced support for improvements to the current Cross Country facility at the current site. When, not if, there is a serious accident due to increased traffic on Polaris, we will all be responsible for tragedy. TCPUD Board Members can step forward now and show the community that their residents' safety comes first by removing Site D completely. I implore the TCPUD Board Members to consider if the situation was reversed and the residents of Tahoe City voted to put the Cross Country center in their backyard. I'm certain every TCPUD Board Member would oppose it as strongly as we are.

I invite any TCPUD Board Member to pick up the phone and call me. My number is 562-810-5998. I really don't want until Summer 2019 for a productive discussion. We can have it now.

Alex Lesser

Cory Allison

Subject: FW: YESTERDAY'S MEETINGS

-----Original Message-----
From: Alex Lesser [mailto:alex@pssclabs.com]
Sent: Thursday, July 19, 2018 5:00 PM
To: Carol Pollock <carolpollock10@gmail.com>
Cc: Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Sean Barclay <sbarclay@tcpud.org>; Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>; debbie@mrooms.co.uk; jakeaqua@me.com; lucy.nava@yahoo.com; paul@4propertysales.co.uk; stephandmike@hotmail.com; Mike@thebackcountry.net; stacyalain@earthlink.net; Roger Huff <huffmntry@aol.com>
Subject: Re: YESTERDAY'S MEETINGS

Thank you Carol. We are a small community here in Tahoe City. TCPUD Board Members live here. I think we need to work together to address the three identified goals clearly identified at the meeting. In my view these are easily addressed with simple changes.

I did not address any financial concerns because there is no amount of financial trickery that can make this lodge financially viable unless the lodge will be used for items beyond the stated goals. It would be great if TCPUD board members can give us a complete picture here.

Alex

www.pssclabs.com

> On Jul 19, 2018, at 4:26 PM, Carol Pollock <carolpollock10@gmail.com> wrote:
>
> Dear Alex,
>
> Such good points. Because I was not able to attend, I watched the two NOP sessions and did not realize before that they were not an occasion for discussion. And with only one Board member there, why bother?
>
> Like others I share the concern for safety. Our home is on Old Mill Road. I believe for the last session I provided photos of three accidents that took place on one winter day. It is dangerous in all seasons.
>
> I guess I need to resubmit with a summary of concerns: traffic safety, environmental issues and cost benefits of this expansion.
>
> I'd love to see the lodge improved by the Schilling lodge in its current location. And, to see parking and traffic flow improved, too. I've gone up to see the summer usage a number of times. Rarely more than 5-10 cars there.
>
> I do not understand the budgeted costs for studies --$200,000 now and $400,000 next year-- for a project that has no apparent building or operating budget.
>
> Sincerely,
>
> Carol Pollock
> 405 Old Mill Road
> Tahoe City

>
> ALERT: new email: carolpollock10@gmail.com -----Original Message-----
> From: Alex Lesser [mailto:alex@pssclabs.com]
> Sent: Thursday, July 19, 2018 3:56 PM
> To: Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>;
> Sean Barclay <sbarclay@tcpud.org>; jfriedman@tcpud.org;
> r.treabess@tcpud.org; jpang@tcpud.org
> Cc: debbie@mrooms.co.uk; Carol Pollock <carolpollock10@gmail.com>;
> jakeaqua@me.com; lucy.nava@yahoo.com; paul@4propertysales.co.uk;
> stephandmike@hotmail.com; Mike@thebackcountry.net;
> stacyalain@earthlink.net; Roger Huff <huffmntry@aol.com>
> Subject: YESTERDAY'S MEETINGS
>
> Hello Everyone
>
> I wanted to take a moment and just reflect on today's first EIR scoping meeting. First off I am pretty disappointed to see very few TCPUD Board Members in attendance. I want to ask first if TCPUD actually cares what the Highlands residents (or any Tahoe City) residents have to say? We received notification for this meeting almost a full month ago. There really is no reason that the entire TCPUD Board could not be in attendance. From what I understand there is only going to be one opportunity for the Public and TCPUD Board Members to engage in a back and forth. Is this correct? If so will be there be any time limits? Will there be a limit to the number of questions? Is there any information TCPUD Board Members can provide now to help the public prepare for what seems to be the only time we can actually engage in a back and forth discussion.
>
> Next I would like to reiterate the questions I presented that were not answered. My expectation is that these questions will be answered at some point. Again if the TCPUD Board was in attendance perhaps we could have had a productive conversation rather than community vehemently voicing their objections to many aspects of this project with no one from TCPUD able to respond. If you take the time to review the video, I spend the majority of my time asking questions to the only person representing the TCPUD that appeared to be engaged.
>
> It was stated that the main goals of this project were to do the following three things
> Improve the current layout of the Tahoe Cross Country Ski Lodge to better accommodate things like "storage"
> Provide more parking spaces
> Provide better traffic flow
>
> These items are directly from the presentation. I'd like to understand how much research has gone into these goals. For instance, how much storage is really needed? If expanded storage is main goal then great let's add some more storage. I highly doubt this means going from a 2400 sq ft structure to a nearly 10,000 sq ft structure. Next, how may days per year is there insufficient parking? Over the past few years the number of weeks that the Cross Country facility is actually open is on avert 5 or 6 weeks. That means may 10 or 12 weekend days per year that there may be need for additional parking. And in terms of traffic flow, even the presentation noted that the current location of the Cross Country facility can be reconfigured to offer better traffic flow than the proposed location at Site D.
>
> I believe if the TCPUD can provide answers to the stated three main objectives, we can all find a solution that would be satisfactory to everyone involved. During my conversations with Hihghlands residents and neighbors on one has stated that they do not want to the Cross Country facility to be improved. But let's make the right improvements for the right reasons.
>
> Now, I'd like to make absolutely certain that in fact the three stated main goals are the only reasons for the proposes site change and lodge expansion. I would like to give TCPUD Board Members the opportunity now to tell the public if there are other reasons that were not stated on the PowerPoint Presentation or stated. I believe this is very important now for TCPUD to address this.

>
> Because I only had 3 minutes to ask questions I didn't have a chance to address my real concern which is public safety. I have stated several times previously that I have very young children. My home sits around a blind turn. There are NO sidewalks on Polaris. There are NO streetlights next to my house. I later found out that one Tahoe City resident has her son hit by a car on Polaris as well as several pets killed by oncoming traffic. Two nights ago, there was an SUV driving 65+ MPH with two teenagers yelling out their car windows. I can only imaging what may happen if this new facility starts serving alcohol. Actually I would like this clarified, will alcohol be served at ANY event at the new Cross Country facility?
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> The Highlands Residents continue to voice their disapproval of moving the location to Site D. The Highlands Residents have voiced support for improvements to the current Cross Country facility at the current site. When, not if, there is a serious accident due to increased traffic on Polaris, we will all be responsible for tragedy. TCPUD Board Members can step forward now and show the community that their residents' safety comes first by removing Site D completely. I implore the TCPUD Board Members to consider if the situation was reversed and the residents of Tahoe City voted to put the Cross Country center in their backyard. I'm certain every TCPUD Board Member would oppose it as strongly as we are.
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> I invite any TCPUD Board Member to pick up the phone and call me. My number is 562-810-5998. I really don't want until Summer 2019 for a productive discussion. We can have it now.
>
> Alex Lesser
>
>

Cory Allison

Subject: FW: YESTERDAY'S MEETINGS

From: PAUL NAVABPOUR [mailto:jakeaqua@me.com]
Sent: Thursday, July 19, 2018 6:57 PM
To: Alex Lesser <alex@pssclabs.com>
Cc: Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Sean Barclay <sbarclay@tcpud.org>; Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>; debbie@mrooms.co.uk; Carol Pollock <carolpollock10@gmail.com>; Lucy Navabpour <lucy.nava@yahoo.com>; paul@4propertysales.co.uk; stephandmike@hotmail.com; Mike@thebackcountry.net; stacyalain@earthlink.net; Huff <huffmntry@aol.com>; Paul Navabpour <jakeaqua@me.com>
Subject: Re: YESTERDAY'S MEETINGS

Alex: Your points are spot-on.

I found the meeting rather bizarre to stand at a podium without any of our representatives PRESENT to address our ongoing concerns.

Having said that, I will address the TCPUD board with the following points for our family who live here year round and have children attending the school.

To the TCPUD BOARD copied above:

- Environmental impact: CEQA's own slide presented a desire to study the environmental impact on many fronts for moving to the high school. Adding a HUGE driveway from Polaris, or even worse, from Cedarwood does not in any way comply to the objective of being mindful of an environmental impact.

- Overloading the high school/middle school area with traffic from BOTH Polaris OR Cedarwood is not acceptable. Our kids can't walk on Polaris to school. Our kids AMONG many others travel the trails to the school; add a "driveway" off Cedarwood, and you merely add more traffic to an overburdened corner where the school is and take away the peace of mind for those on bikes and on foot to get to and from school.

- Unnecessary to break ground, take down trees, affect seasonal creeks with such a HUGE project that will impact neighbors, our backyards, our front yards when the existing location already has the negative impacts absorbed.

For the record, I propose a modified expansion and improvement to the TC XC center at it's current location; Far less impact, diverts traffic away from the "school corner" and won't affect us residents that purchased our homes accepting the issues of Polaris KNOWING that we backed up to an "open space" behind our homes free of car or bus traffic.

Regards,
Paul Navabpour

Paul Navabpour | JakeAqua@me.com | (mobile) 650.400.3639

On Jul 19, 2018, at 3:56 PM, Alex Lesser <alex@pssclabs.com> wrote:

Hello Everyone

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Alex Lesser

Cory Allison

Subject: FW: YESTERDAY'S MEETINGS

-----Original Message-----
From: Carol Pollock [mailto:carolpollock10@gmail.com]
Sent: Thursday, July 19, 2018 4:27 PM
To: 'Alex Lesser' <alex@pssclabs.com>; Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Sean Barclay <sbarclay@tcpud.org>; Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; John Pang <jpang@tcpud.org>
Cc: debbie@mrooms.co.uk; jakeaqua@me.com; lucy.nava@yahoo.com; paul@4propertysales.co.uk; stephandmike@hotmail.com; Mike@thebackcountry.net; stacyalain@earthlink.net; 'Roger Huff' <huffmntry@aol.com>
Subject: RE: YESTERDAY'S MEETINGS

Dear Alex,

Such good points. Because I was not able to attend, I watched the two NOP sessions and did not realize before that they were not an occasion for discussion. And with only one Board member there, why bother?

Like others I share the concern for safety. Our home is on Old Mill Road. I believe for the last session I provided photos of three accidents that took place on one winter day. It is dangerous in all seasons.

I guess I need to resubmit with a summary of concerns: traffic safety, environmental issues and cost benefits of this expansion.

I'd love to see the lodge improved by the Schilling lodge in its current location. And, to see parking and traffic flow improved, too. I've gone up to see the summer usage a number of times. Rarely more than 5-10 cars there.

I do not understand the budgeted costs for studies --$200,000 now and $400,000 next year-- for a project that has no apparent building or operating budget.

Sincerely,

Carol Pollock
405 Old Mill Road
Tahoe City

ALERT: new email: carolpollock10@gmail.com -----Original Message-----
From: Alex Lesser [mailto:alex@pssclabs.com]
Sent: Thursday, July 19, 2018 3:56 PM
To: Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Sean Barclay <sbarclay@tcpud.org>; jfriedman@tcpud.org; r.treabess@tcpud.org; jpang@tcpud.org
Cc: debbie@mrooms.co.uk; Carol Pollock <carolpollock10@gmail.com>; jakeaqua@me.com; lucy.nava@yahoo.com; paul@4propertysales.co.uk; stephandmike@hotmail.com; Mike@thebackcountry.net; stacyalain@earthlink.net; Roger Huff <huffmntry@aol.com>
Subject: YESTERDAY'S MEETINGS

Hello Everyone

I wanted to take a moment and just reflect on today's first EIR scoping meeting. First off I am pretty disappointed to see very few TCPUD Board Members in attendance. I want to ask first if TCPUD actually cares what the Highlands residents

(or any Tahoe City) residents have to say? We received notification for this meeting almost a full month ago. There really is no reason that the entire TCPUD Board could not be in attendance. From what I understand there is only going to be one opportunity for the Public and TCPUD Board Members to engage in a back and forth. Is this correct? If so will be there be any time limits? Will there be a limit to the number of questions? Is there any information TCPUD Board Members can provide now to help the public prepare for what seems to be the only time we can actually engage in a back and forth discussion.

Next I would like to reiterate the questions I presented that were not answered. My expectation is that these questions will be answered at some point. Again if the TCPUD Board was in attendance perhaps we could have had a productive conversation rather than community vehemently voicing their objections to many aspects of this project with no one from TCPUD able to respond. If you take the time to review the video, I spend the majority of my time asking questions to the only person representing the TCPUD that appeared to be engaged.

It was stated that the main goals of this project were to do the following three things

Improve the current layout of the Tahoe Cross Country Ski Lodge to better accommodate things like "storage"
Provide more parking spaces
Provide better traffic flow

These items are directly from the presentation. I'd like to understand how much research has gone into these goals. For instance, how much storage is really needed? If expanded storage is main goal then great let's add some more storage. I highly doubt this means going from a 2400 sq ft structure to a nearly 10,000 sq ft structure. Next, how may days per year is there insufficient parking? Over the past few years the number of weeks that the Cross Country facility is actually open is on avert 5 or 6 weeks. That means may 10 or 12 weekend days per year that there may be need for additional parking. And in terms of traffic flow, even the presentation noted that the current location of the Cross Country facility can be reconfigured to offer better traffic flow than the proposed location at Site D.

I believe if the TCPUD can provide answers to the stated three main objectives, we can all find a solution that would be satisfactory to everyone involved. During my conversations with Hihghlands residents and neighbors on one has stated that they do not want to the Cross Country facility to be improved. But let's make the right improvements for the right reasons.

Now, I'd like to make absolutely certain that in fact the three stated main goals are the only reasons for the proposes site change and lodge expansion. I would like to give TCPUD Board Members the opportunity now to tell the public if there are other reasons that were not stated on the PowerPoint Presentation or stated. I believe this is very important now for TCPUD to address this.

Because I only had 3 minutes to ask questions I didn't have a chance to address my real concern which is public safety. I have stated several times previously that I have very young children. My home sits around a blind turn. There are NO sidewalks on Polaris. There are NO streetlights next to my house. I later found out that one Tahoe City resident has her son hit by a car on Polaris as well as several pets killed by oncoming traffic. Two nights ago, there was an SUV driving 65+ MPH with two teenagers yelling out their car windows. I can only imaging what may happen if this new facility starts serving alcohol. Actually I would like this clarified, will alcohol be served at ANY event at the new Cross Country facility?

The Highlands Residents continue to voice their disapproval of moving the location to Site D. The Highlands Residents have voiced support for improvements to the current Cross Country facility at the current site. When, not if, there is a serious accident due to increased traffic on Polaris, we will all be responsible for tragedy. TCPUD Board Members can step forward now and show the community that their residents' safety comes first by removing Site D completely. I implore the TCPUD Board Members to consider if the situation was reversed and the residents of Tahoe City voted to put the Cross Country center in their backyard. I'm certain every TCPUD Board Member would oppose it as strongly as we are.

I invite any TCPUD Board Member to pick up the phone and call me. My number is 562-810-5998. I really don't want until Summer 2019 for a productive discussion. We can have it now.

Alex Lesser

Cory Allison

Subject: FW: The Schilling Lodge scoping meeting feedback

From: Debbie - Mountain Rooms & Chalets [mailto:debbie@mrooms.co.uk]
Sent: Thursday, July 19, 2018 6:50 PM
To: Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Judy Friedman <jfriedman@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; Paul Niwano <paul@4propertysales.co.uk>
Subject: The Schilling Lodge scoping meeting feedback

Kim et al

Thank you for the presentation on Tuesday evening. It was good to put some faces to names on emails and to see the progression on this project.

A couple of points to pick up on using your presentation points as my headline topics;

- The Project will address existing operational deficiencies relative to circulation and parking

This was stated in the presentation as part of the purpose of this lodge project. As I said when I stood up, the rationale for moving to site D from site A has been lack of parking yet the presentation shown on Tuesday showed site D as having 100 parking spaces that is exactly the same as the modified site A option. So site D offers nothing more than the current site in terms of parking spaces (once modified). This further supports the need to stick with site A as the location to place the lodge and improve the current facility.

There is also a viable concern that overflow parking at site D will result in cars being parked on Polaris or at the school, which will clog an already heavily trafficked area resulting in blocking traffic flow (as the road is already thin) and creating more safety issues. No outlet, safety when walking on Polaris, blocking fire access etc.. is already a serious concern without hindering it further.

- Additional uses, as determined by the TCPUD, may also be proposed.

The presentation states enhancing winter Nordic skiing, summer hiking & biking facilities, which we understand but 'additional uses, as determined by the TCPUD may also be proposed'; what does this mean? To include such an open statement is a worry. Can you clarify please?

Does this encompass the license to host profit generating events such as weddings? If so, this is another concern given noise pollution, safety and traffic issues. This point must be clarified.

- Maximize base elevation of lodge site

Logically you would think this would make sense but the meadow at higher elevation is far more exposed to sunshine and snow melt, therefore not relevant. There was also talk of site D having more snow than site A, but this is simply not true. This is a very weak point to rationalise site D over site A.

- Environmental review

Land Use & community effects; site A is operational and site D is currently used for biking in the summer and partly for Nordic skiing in the winter. Should site D be chosen, biking through this area will no longer be possible as the area will be covered by a lodge & parking. This is my access to the forest out the back of my house, as it is for many people who use the trails for biking in the summer. Safety to continue to ride from house or car to trails will be compromised if site D is chosen.

Scenic resources; the job of the TRPA and TCPUD is to maintain or enhance views of individual, existing scenic resources that are visible by the public. Site A exists and all boxes have been ticked for this subject. Site D location will result in considerable, catastrophic interference of our current views & landscape.

The height of the building is not established (I believe, but could be wrong) so please clarify the height of the building at full or reduced project on site D. I understand max height limits range from 24 feet to 42 feet but additional height up to 56 feet is permitted for certain buildings.

Hazards & public safety; Public safety is already a concern on Polaris so site D option will only increase this touchy subject. Nobody wants blood on their hands and this is a melting pot of potential disaster. Access, small street, huge traffic, increased traffic with the XC Lodge at site D, no street lights, no speed bumps, young drivers who think Polaris is a race track (kid you not & mostly those with loud exhausts to really advertise their speed as they fly by your house at 65 mph), a neighbourhood terrified alcohol will be served all contribute to alarming public safety issues at site D.

Public services & utilities; site A has all utilities in place. Site D is starting from scratch. Waste of money, damages the environment, huge expense. No need.

Greenhouse gas and emissions & climate change; our planet is changing, we all know that but apparently 11% of all global greenhouse emissions caused by humans can be blamed on DEFORESTATION. Shockingly, this is exactly what site D proposal will do; clearance, or clearing of the forest or stand of trees behind Polaris so the land can be converted to a non-forest use (i.e. this Lodge project). That is not a fact anyone can ignore and the fact this is Lake Tahoe makes it even more shocking that site D is under consideration.

Site A, has no impact on this.

The TCPUD need to do the right thing and stop all consideration of site D as the list of cons is just getting longer as time passes.

Noise; Site A is far more protected from a noise point of view than site D. Events such as the schools mountain biking championships held early Sept that have a start and finish right about where Site D will be creates a level of noise not acceptable to the neighbourhood. We don't mind it now and then as we are all sports people and we encourage competition but constantly is not an option.

One thing not on this list is the effect on flora & fauna; huge, devastation of existing flora and fauna at site D due to tearing up the great outdoors and paving it with a car park and placement of a lodge.

Same for animals. Who is going to protect and speak for them?

If anyone reading this still thinks site D is a good idea, you should not live in Tahoe.

Over and out - I MUST get on my mountain bike!

Debbie

Debbie White
3015 Polaris Road

Cory Allison

Subject: FW: REQUESTED EIR SCOPING ITEMS

From: Huff [mailto:huffmntry@aol.com]
Sent: Friday, July 20, 2018 9:02 AM
To: Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>; Sean Barclay <sbarclay@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>; Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>
Subject: REQUESTED EIR SCOPING ITEMS

Dear TCPUD Board & Staff Members,

To reduce future challenges, please make sure the Environmental Impact Report (EIR) objectively and thoroughly answers all of the following questions in each of these analysis areas identified at the Public Scoping meetings on July 17th:

Re Hydrology/water quality

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives:

change the drainage pattern of the site, or alter the course of a natural stream?

Re Geology and soils, land capability, and coverage

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: result in soil erosion or loss of topsoil, conflict with zoning of forest land or open space, convert forest land to non-forest use, or conflict with any land use, habitat conservation, or natural community conservation plan?

Re Scenic resources

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: adversely effect a scenic vista, degrade public views of the site or surroundings (i.e., create an eyesore), or produce a light source that would adversely affect day or nighttime views in the area?

Re Biological resources

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: adversely affect sensitive or special status species, protected wetlands, interfere with resident wildlife movements, or conflict with policies protecting biological resources, including tree preservation?

Re Cultural resources

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: adversely and excessively modify a structure that is significant to Lake Tahoe's cultural history?

Re Hazards and public safety

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: create public and environmental hazards through the routine transport, storage, and handling of flammable fuels and other hazardous materials that present a reasonable possibility of accidents within one quarter mile of schools, expose people and structures to increased wildfire dangers, or increase congestion of the only emergency evacuation route from two schools?

Re Public services and utilities

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: create a need for new/expanded facilities to maintain acceptable service levels, emergency response times (e.g., fire protection, law enforcement), and provide both the project and Highlands neighborhood with sufficient water supplies in normal and dry years?

Re Traffic and parking

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: increase the vehicle traffic upon the busiest street(s) in the Highlands during the winter months, endanger pedestrians (e.g., neighborhood children, gym classes) that routine use Polaris, Cedarwood, Old Mill, and Heather, increase the "rolling-stop" violations through the stop signs at Old Mill and Polaris, endanger drivers and residents on the slippery winter conditions on both Old Mill and Polaris, or dangerously increase congestion on the only emergency evacuation route from two schools?

Re Air quality

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: contribute to a decrease in air quality in a residential and school neighborhood?

Re Greenhouse gas emissions

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: increase greenhouse gas emissions by adding up to one hundred more cars and several buses to the daily traffic in a residential and school neighborhood?

Re Noise

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: generate a temporary or permanent increase in ambient noise levels in the area beyond those existing without the project?

Thorough analyses of the above are expected to reveal significant impacts, some of which might be unfeasible to mitigate, but people are willing to give the formal process a chance to work. Please let me know if you have any questions about the above requested action.

Sincerely yours,

Janet Huff

3051 Polaris

Cory Allison

Subject: FW: Schilling Lodge follow up no 2

From: Debbie - Mountain Rooms & Chalets [mailto:debbie@mrooms.co.uk]
Sent: Friday, July 20, 2018 1:45 AM
To: Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>; Judy Friedman <jfriedman@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>
Subject: Schilling Lodge follow up no 2

Kim et al

On my mountain bike ride tonight I went to the Tahoe XC & Snow Shoe Center (site A). I have obviously been there before but without sounding rude, the place is a mess with a total of 8 small outbuildings of all shapes and sizes dotted throughout the property. Stuff everywhere.

I understand why those involved got excited at the prospect of a bigger, better, gifted lodge. But it seems feasible that given the opportunity, new life can be injected in to this existing site (A) to maximise the space available, hit project objectives and to clean up what is looking like a once loved Scout Hut from 1975!

With careful planning, lower spend, no environmental impact or safety issues, the Schilling Lodge can take pride of place on the existing lot that will also include renovation of the current building plus 100 parking spaces (currently c. 50 that I counted tonight). This option is outlined as 'Proposed Site A - Modified Project' in the TCPUD Scoping document.

The table I have done below shows marginal differences in Site D full project & Site A - Modified Project sizes. Small differences with big consequences. It seems foolish to pursue Site D.

Site D Full project size	Site A Modified project size
10,154 sq ft reconstructed lodge inc. addition & basement	**8, 661 sq ft** (6229 sq ft Schilling Lodge with baseme sq ft renovation of existing clubhouse.
59,799 sq ft parking & driveway coverage	**55,803 sq ft** parking driveway coverage
100 parking spaces	**100 parking spaces**

Use; as you can see below only 2 of the list of uses for Site D full project are not possible at Site A- Modified project. No family area or snowmobile car port. Perhaps the meeting room can be used for a Family Area at Site A when not in use to overcome this hurdle. Do Snowmobiles have to live on site year round and maybe a temporary structure is possible in the winter. Neither are a disaster or a serious compromise.

Site D Full project USE includes:	Site A Modified project USE includes:	Difference
Ticket sales	Ticket sales	No family area
Retail	Retail	No snowmobile car port
Meeting room	Meeting room	2 of 13 uses not possible at Site A-Modified Project

Café	Café	
Rental	Rental	
Storage	Storage	
Staff area	Staff area	
First aid	First aid	
Lockers	Lockers	
Family area		
Gym/mtg space	Gym/mtg space	
Snowmobile carport		
Community/outdoor space	Community/outdoor space	

Elevation; all this discussion, heartache, safety worry & concern to protect our beautiful Tahoe outdoors is for an additional 76' difference in elevation from Site A to Site D. This is pitiful and a disgraceful waste of everyone's time, public money and effort.

Site A planned use if not the TXC center. This has been raised throughout this process; what use is planned for Site A should Site D be the chosen? This question has not been answered, which is frankly astonishing. Having no plan for the space is a blatant waste of public money and has so many consequences. I realise all options must be considered but having a plan for Site A if Site D is chosen should be very much part of your internal discussion and planning process as surely that involves a level of spend and management too? You can't simply forget it in this equation.

Once again, thank you for your time.

Debbie

Debbie White
3015 Polaris Road
Tahoe City

Cory Allison

Subject: FW: SPECIFIC EIR SCOPING REQUESTS - PLEASE CONFIRM RECEIPT

From: Huff [mailto:huffmntry@aol.com]
Sent: Saturday, July 21, 2018 7:43 AM
To: Kim Boyd <kboyd@tcpud.org>; Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>; Sean Barclay <sbarclay@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>
Subject: SPECIFIC EIR SCOPING REQUESTS - PLEASE CONFIRM RECEIPT

Dear TCPUD Board & Staff Members,

The following are provided in response to your Public Scoping invitation to offer early input, comment on the scope of environmental issues and potential effects and alternatives to be considered in the EIR. The requested specific actions are intended strengthen the EIR and make the project more feasible, less divisive, and much more beneficial for a much larger segment of our community.

1. **Please make the following corrections to the invalid and/or misleading statements in the Notice Of Preparation (NOP) and identified previously:**

   a. There currently are no such facilities as the *Tahoe Cross-Country Lodge* or *Highlands Park and Community Center*. Both these names are incorrect.

   b. The Proposed Project (i.e., Site D – Full Project) does not include any replacement or expansion of the above facilities. This is misleading.

   c. Use of the terms “public use” and “community use” are also misleading, because the proposed facility is designed *specifically* for TCCSEA/TXC membership/commercial operations use, not for the larger community.

2. **Please also insist that the EIR provide thorough and objective answers to the following questions (taken from CEQA guidance documentation) regarding whether the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives would:**

- ❑ have adverse effect on a scenic vista, degrade the existing visual character or quality of public views of the site and its surroundings, or create a source of light or glare that would adversely affect day or nighttime views in the area;

- ❑ generate a temporary or permanent increase in ambient noise levels in the project vicinity or a temporary or periodic increase in ambient noise levels in the vicinity above levels existing without the project;

- ❑ result in soil erosion or the loss of topsoil; conflict with existing zoning for, or cause rezoning of, forest land, result in the loss of forest land or conversion of forest land to non-forest use, or cause an environmental impact due to a conflict with any applicable land use plan, policy, or regulation

- ❑ violate any air quality standard or contribute to a net increase in an existing or projected air quality violation, generate greenhouse gas emissions, or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gases;

- ❑ create a hazard to the public or the environment through routine transport, use, or disposal of hazardous materials, create a hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, or expose people or structures, either directly or indirectly, to risk of loss, injury or death involving wild land fires including where wild lands are adjacent to urbanized areas or residences are intermixed with wild lands;

- ❑ have an adverse effect, directly or through habitat modifications, on any species identified as a sensitive or special status species, interfere with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflict with the provisions of a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan or conflict with any habitat conservation or natural community conservation plan;

- ❑ cause an adverse change in the significance of a historical resource;

- ❑ alter the existing drainage pattern of the site, including through alteration of the course of a stream through addition of impervious surfaces, or alter the existing drainage pattern of the site or area, including the alteration of the course of a stream;

- ❑ result in a need for new/altered governmental facilities, the construction of which could cause environmental impacts, to maintain acceptable service ratios, response times, or performance objectives for: fire protection, law enforcement, schools, or other public facilities;

- ❑ conflict with an applicable plan, ordinance or policy establishing measures of circulation system effectiveness, conflict with any congestion management program, including level of service standards and travel demand measures, or other standards or conflict with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease performance or safety of such facilities; or result in inadequate emergency access;

- ❑ require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, or the expansion of existing facilities, in order to have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;

- ❑ impair an adopted emergency response or emergency evacuation plan, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire; or expose people or structures to risks, including down slope or downstream flooding, landslides, from of runoff, post-fire slope instability, or drainage changes?

3. And since Public Scoping solicits "Alternatives," please replace the high-risk *Site D – Alternate Driveway* option with the following more realistic, less controversial, and more affordable *Site A – Low Impact* option that does not create the serious environmental impacts of the Proposed Project at Site D or currently proposed Alternatives:

- Change the title to the "Highlands Community Center Project," and replace the existing *Highlands Community Center* with the *original* (4,607 sq. ft.) historic Schilling structure in the current Country Club Drive location;

- Only permit *minimal* internal and external changes required *not just* to meet basic needs of the TCCSEA/TXC, but also for *other Community* functions;

- Reduce the parking lot size: by limiting its additions to those required to minimize on-street parking on an *average* winter day, and by using the *smaller* (2,814 sq. ft.) *surface footprint* of the Schilling structure; and

- Transfer final ownership of the facility to the TCPUD for use as a *true* community resource, like the current *Highlands Community Center*.

As always, if you have questions about any of the above, please contact me.

Very sincerely,

Roger Huff

Cory Allison

Subject: FW: XC Lodge in the Highlands

From: Carol Pollock [mailto:carolpollock10@gmail.com]
Sent: Monday, July 23, 2018 12:35 PM
To: Judy Friedman <jfriedman@tcpud.org>; Ron Treabess <r.treabess@tcpud.org>; Dan Wilkins <d.wilkins@tcpud.org>; John Pang <jpang@tcpud.org>; Scott Zumwalt <scottrzumwalt@gmail.com>; Sean Barclay <sbarclay@tcpud.org>; Matt Homolka <mhomolka@tcpud.org>; Kim Boyd <kboyd@tcpud.org>; Terri Viehmann <tviehmann@tcpud.org>
Cc: carolpollock10@gmail.com
Subject: XC Lodge in the Highlands

My husband and I have a home on Old Mill Road, which we have owned for over twenty years. I would like to reinforce the need for traffic studies related to increased traffic on our street. I believe at the first comment meeting I provided photos of three accidents that took place directly below our home on one not terribly snowy day this winter. Exiting our driveway is risky in all seasons with the current traffic. Walking on Old Mill is equally dangerous and difficult. The school traffic is predictable and what existed when we purchased our home. The traffic increases and impacts just from the softball games on Thursday evenings is unbelievable. Not what we bargained for.

In addition to traffic safety I am very concerned about environmental damage that will result in covering 50,000 square feet of open space with parking lots and coverage required for a 10,000 sq foot new lodge. Not to mention the problems that will be encountered by neighbors in the proposed Site D.

I am entirely in favor of improvements to the XC lodge in its current location, utilizing a smaller Schilling lodge, improving the parking and traffic flow for an average winter day. One of our neighbors has provided the following alternative suggestion:

Please replace the high-risk Site D – Alternate Driveway option with the following more realistic, less controversial, and more affordable Site A – Low Impact option that does not cause the environmental impacts of the Proposed Project at Site D or its currently proposed Alternatives:

- *Change the title to the "Highlands Community Center Project," and replace the existing Highlands Community Center with the original (4,607 sq. ft.) historic Schilling structure in the current Country Club Drive location;*

- *Only permit minimal internal and external changes to the original structure required not just to meet basic needs of the TCCSEA/TXC, but also for other Community functions;*

- *Reduce the parking lot size (and traffic load): by limiting its additions to those required to minimize on-street parking on an average winter day, and by using the smaller (2,814 sq. ft.) surface footprint of the Schilling structure; and*

- *Transfer the final ownership of the facility to the TCPUD for use as a community resource, like the current Highlands Community Center.*

My neighbors also have pointed out areas of the study that need further clarification and identification. Those seem very appropriate to request. I have included them below:

To reduce future challenges, please make sure the Environmental Impact Report (EIR) objectively and thoroughly answers all of the following questions in each of these analysis areas identified at the Public Scoping meetings on July 17th:

Re Hydrology/water quality

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: change the drainage pattern of the site, or alter the course of a natural stream?

Re Geology and soils, land capability, and coverage

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: result in soil erosion or loss of topsoil, conflict with zoning of forest land or open space, convert forest land to non-forest use, or conflict with any land use, habitat conservation, or natural community conservation plan?

Re Scenic resources

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: adversely effect a scenic vista, degrade public views of the site or surroundings (i.e., create an eyesore), or produce a light source that would adversely affect day or nighttime views in the area?

Re Biological resources

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: adversely affect sensitive or special status species, protected wetlands, interfere with resident wildlife movements, or conflict with policies protecting biological resources, including tree preservation?

Re Cultural resources

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: adversely and excessively modify a structure that is significant to Lake Tahoe's cultural history?

Re Hazards and public safety

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: create public and environmental hazards through the routine transport, storage, and handling of flammable fuels and other hazardous materials that present a reasonable possibility of accidents within one quarter mile of schools, expose people and structures to increased wildfire dangers, or increase congestion of the only emergency evacuation route from two schools?

Re Public services and utilities

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: create a need for new/expanded facilities to maintain acceptable service levels, emergency response times (e.g., fire protection, law enforcement), and provide both the project and Highlands neighborhood with sufficient water supplies in normal and dry years?

Re Traffic and parking

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: increase the vehicle traffic upon the busiest street(s) in the Highlands during the winter months, endanger pedestrians (e.g., neighborhood children, gym classes) that routine use Polaris, Cedarwood, Old Mill, and Heather, increase the "rolling-stop" violations through the stop signs at Old Mill and Polaris, endanger drivers and residents on the slippery winter conditions on both Old Mill and Polaris, or dangerously increase congestion on the only emergency evacuation route from two schools?

Re Air quality

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: contribute to a decrease in air quality in a residential and school neighborhood?

Re Greenhouse gas emissions

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: increase greenhouse gas emissions by adding up to one hundred more cars and several buses to the daily traffic in a residential and school neighborhood?

Re Noise

Would the Proposed Project (i.e., Site D – Full Project) or any of the Alternatives: generate a temporary or permanent increase in ambient noise levels in the area beyond those existing without the project?

Finally, as a Tahoe taxpayer I am astonished that this project can proceed to this point without a building budget and operating budget. How can that be? And, how can so much money be spent for studies on a significant project that has no funding requirements that have been identified.

Very sincerely,

Carol Pollock
405 Old Mill Road
Tahoe City, Ca. 96145

Cory Allison

Subject: FW: Tahoe Cross-Country Lodge

From: Ted Gomoll [mailto:tedgomoll@gmail.com]
Sent: Tuesday, July 24, 2018 2:43 PM
To: Kim Boyd <kboyd@tcpud.org>
Subject: Tahoe Cross-Country Lodge

Hi Kim,

I am following up on the meeting held 7/17/18. I have been a Highlands property owner since the early 1990's. I strongly believe that the new lodge should not be located in our residential area whether the high/middle school location or the current location. The construction traffic will be dangerous and very disruptive. When the new high school was built, construction trucks were travelling our streets all hours of the day and night seven days a week. The noise was unbearable in a residential area.

Therefore the best location would be the north side of State Hwy. 28 next to the new bike trail and the TART stop across from the entrance to Dollar Point. This would be far less disruptive to our residential community and very accessible year around for all types of users. Virtually no road construction would be necessary and a large parking lot could be constructed with minimal negative environmental impact. It would be easy to construct a trail from the Hwy 28 location to the current trail network. The existing lodge could remain as gathering area, warming area with restrooms and the parking lot would not need to be enlarged.

Most Highlands property owners support my recommendation and would be willing to sign a petition to the TCPUD board supporting the Hwy 28 location. Possibly a few Highlands property owners should meet with the TCPUD board to discuss the Hwy 28 location alternative.

Best regards,
Ted Gomoll

from Mail for Windows 10

Cory Allison

Subject: FW: TCCSEA Lodge Replacement Scoping Comments

From: Don Heapes [mailto:donheapes@tahoexc.org]
Sent: Tuesday, July 24, 2018 12:33 PM
To: Kim Boyd <kboyd@tcpud.org>
Subject: TCCSEA Lodge Replacement Scoping Comments

Kim…

I am hoping the criterial for determining significant impacts in CEQA scoping are stated up from in the process and not at the back end after data has been collected.

Thanks…Don Heapes

Cory Allison

Subject: FW: Comments

-----Original Message-----
From: John Sutter [mailto:John@johnsutterrealestate.com]
Sent: Tuesday, July 24, 2018 6:38 PM
To: Kim Boyd <kboyd@tcpud.org>
Subject: Comments

Hi Kim,
We are the owners of 3075 Highlands Court and would like to add comments to the environmental topics.

We believe the High School location would be the best location and have the lowest negative effect on the quality of life for Highlands' property owners.

As far as the "increased traffic" on Polaris, wasn't it busier 10-15 years ago when the schools were full and we had more full time residents? I have been a real estate agent here for 28 years. Whenever I showed homes on Polaris I would disclose "you will have more traffic than other streets... but the best snow removal!" This fact is well known for all locals and for parcel owners to complain after the fact is disingenuous.

The high school location would not put the facility right in the face of the adjoining neighbors, (including my parcel), as the plan to place/expand the current location would. I believe the value of our parcels would be diminished as, instead of looking at the fairway, we would be looking at a huge complex.

The new location at the high school would be farther away from existing homeowners parcels besides the bonus of a higher elevation for snow operations.

As a contractor, I recall that coverage could be swapped. Would it not be advantageous to use the existing coverage the Country Club parcel has, to transfer to the new high school location?

Another factor which should be addressed is the noise and time of any operation. We live in a "residential" area. We should not be inundated by noise or lights before 7:00 am. (preferably 8...)

Thank you for your efforts!

John and Linda Sutter

Kim Boyd
Tahoe City Public Utility District
P.O. Box 5249
Tahoe City, CA. 96145

July 25, 2018

Re: Tahoe Cross-Country Lodge Replacement and Expansion Project - EIR

Dear Ms. Boyd:

Thank you for the opportunity to provide comments on the Notice of Preparation for the Tahoe Cross-Country Lodge Replacement and Expansion Project . I appreciate that the Tahoe City Public Utility District has shown such a great capacity for listening to the community. I have written previous comment letters regarding this project, but it is my understanding that these comments should be provided during the environmental review process. Please accept my apology for any repetition.

I have a few thoughts regarding the project objectives and many concerns about the potential impacts associated with Site D - alternative driveway.

A. Project Objectives

1. Does the Tahoe City Cross Country Center need an expanded facility?

   I have been a pass holder at the cross country center for many years and I try to utilize the trails several times a week. In the last few years, unfortunately the weather has not cooperated and the cross country ski season has been fairly minimal (except for last year). The center is not always able to open over the Christmas holiday when many visitors come to the area. Many of the traditional races such as the Great Ski Race continue to be cancelled. Although snowmaking would make skiing possible, the large amount of area to cover verses the price of a trail pass do not seem to support snowmaking like the downhill ski resorts.

   If the new facility costs the Cross Country center more to operate, will it still be sustainable? If year after year, people don't use their passes more than a few times, will they continue to buy them? I am sure there are some yearly costs that must be paid such as insurance, equipment, staff etc that must be paid regardless of whether the facility opens or not. An expanded facility would require a higher operating cost and if Mother Nature doesn't cooperate, that could be more of a burden than a benefit. I would hate to see the Cross Country center become economically unviable. There are many locals that use this area to exercise every single day. This is not my area of expertise and really none of my business, but an important question to be asked.

Who is this expansion intended to serve? Are we trying to draw a huge number of visitors to this area? Does this change the experience that we currently enjoy and is that worth the financial benefit? Is the project proposed this way because the lodge was gifted and happens to be larger or does the facility need to be this size? I only bring this up because Squaw Valley added a fancy Village with lots of great places to eat, shops and places to stay and now it is very difficult to enjoy a day on the mountain on the weekend or a holiday when the kids don't have school. This area is a perfect example of a traffic issue. It is not only the residents that complain, I hear second home owners and visitors expressing their disappointment with their experience.

My understanding was that this upgrade was intended to support the education component. If this is the case, shouldn't it be a part of the high school? Shouldn't it be accessed in the same way as the school? If this is the case the alternate driveway through Cedarwood Drive does not appear beneficial.

2. Is this the highest and best use of the Schilling lodge gift?

   Is it possible or beneficial to upgrade the existing lodge and use the Schilling lodge in a different place?

   If the Schilling lodge is not the best fit for Tahoe City Cross Country because of its increased size, is it possible to use the Schilling lodge for another community project and perhaps give some of the money that would have been spent for a new facility back to the Cross Country Center to update their existing facility? Could it be used for the Fire Station site in town if there is an art center or conference center there? What about at the golf course for the new ice rink? Could it be incorporated into a new recreation center? Is it possible that it could be a ski destination out in the woods that could add an additional amenity to the Cross Country Center? Could it be a part of a system of lodges that people hike to and could provide an additional recreation opportunity in the basin? They have this system in New Zealand and it is pretty incredible.

   People in our community really want recreation experiences that are not already provided in our town. Many families commute to Truckee and Reno to provide recreational opportunities for their children several to five times a week. Pool Facilities, gymnastics gyms and covered/ indoor field space would be a huge benefit to our community.

B. Site D - alternative driveway

The alternative evaluating a proposed "driveway" from the end of Cedarwood Drive to the project site creates at least 7 environmental impacts to avoid the traffic impact to a portion of Polaris Road. I have listed a minimum of the categories below and some of the sections that are applicable. Please note that this is in no way a complete list but a starting point. The proposed alternative driveway appears environmentally offensive, not cost effective and downright dangerous to residents of Cedarwood Drive and all of the Highlands residents that utilize that street for exercise.

1. Aesthetics

a) Have a substantial adverse effect on a scenic vista?

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

2. Agriculture and Forestry Resources

d) Result in the loss of forest land or conversion of forest land to non-forest use?

3.Biological

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

4.Hydrology / Water Quality

5.Land Use / Planning

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? Association of Environmental Professionals 2017 CEQA Guidelines Appendices 291 Potentially Significant Impact Less Than Significant with Mitigation Incorporated Less Than Significant Impact No Impact

c) Conflict with any applicable habitat conservation plan or natural community conservation plan? XI. MINERAL RESOURCES. Would the

6.Noise

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

7.Recreation

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

8.Transportation/Traffic

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Discussion

At this time, Cedarwood is a very quiet street, one in which I know almost every car and the only time it is really ever busy is when there is a band meeting at Mr. Norby's house. It is a street that many of the Highlands residents use to walk their dogs during the winter months and the children play and ride their bikes without fear that they will be hit by a car.

The back yard is a different story. It is full of skiers cruising by enjoying themselves. Will their outdoor experience be any different if they are listening to the sound of buses going by instead of the quiet of the forest?

What about the residents on Polaris that have traffic in front of their house but they back to Conservancy lands? Is this an appropriate alternative to take that away and put traffic in the back of their house too? That section of trail is highly used recreationally. Is a new road appropriate in this area that has a creek?

As a resident of the Tahoe Basin, and a TCPUD customer I hope that the final approved project respects our environment as well as our community. Thank you for this opportunity to comment.

Sincerely:

Julie Basile
3065 Cedarwood Drive
Tahoe City, CA. 96145

Cory Allison

Subject: FW: ISSUES SURROUNGING SITE "A' - TXC Lodge Expansion

From: Ray Garland [mailto:raygarland2@gmail.com]
Sent: Wednesday, July 25, 2018 12:53 PM
To: Kim Boyd <kboyd@tcpud.org>
Subject: ISSUES SURROUNGING SITE "A' - TXC Lodge Expansion

Hi Kim,

Before the deadline later today, I wanted to point out some issues regarding alternative site “A”. At the public scoping meeting, I was asked by one of the TXC Board members why they had not heard from neighbors surrounding the current facility. The main reason is that so much publicity and emphasis has put on the preference for side “D” near NTHS that they don’t think they are in any danger of site “A” ending up as the site selected for the expansion.

However, should site “A” be selected, I think I can assure you that there would be a large outcry and opposition from neighbors on Country Club, Highlands Dr., Village and Cedarwood. The expansion, even at the reduced size, plus expanding the parking lot to 100 spaces would move the lodge up the hill directly behind houses on Village and Cedarwood. TXC initial research indicated it would have a negative sightline impact on more houses near site “A” than site “D”. So you could certainly expect to hear from residents so affected.

In addition, the large number of trees that would have to be removed would be objected to by residents on the aforementioned streets.

Sincerely,

Ray Garland
3165 Cedarwood Drive

Cory Allison

Subject: FW: Comments about the proposed TCXC lodge replacement

-----Original Message-----
From: Stephanie Schwartz [mailto:stephandmike@hotmail.com]
Sent: Wednesday, July 25, 2018 4:33 PM
To: Kim Boyd <kboyd@tcpud.org>
Subject: Comments about the proposed TCXC lodge replacement

Kim,
After attending many meetings over the years (beginning with the first meeting in the yurt 4 years ago) I think the 2 main reasons that the TCCSEA wants the lodge to be relocated to Site D are:
1. The potential for more snow
2. Easier access for beginner and disabled skiers

Neither of these issues can justify the environmental impact that will ensue if the lodge is moved from its original site (Site A) to the proposed site (Site D).

1. The elevation gain at Site D is 76 feet. Site A sits at 6560' and Site D sits at 6636'. The amount of snowfall is equal. I ski on those trails daily and I can tell you with absolute certainty that when the snow is melting at the existing site it is also melting at the proposed site. When dirt is showing, it is showing in both places. Equally. The only way to ensure more snowfall would be to move the TCXC center above 8000'.
This insignificant elevation gain does not justify paving a driveway, paving 100 parking spaces or building a 10,000 square foot building on existing meadows and forest.

2. I understand the hill makes it challenging for beginner skiers and handicapped skiers, however, please note that beginner skiers and handicapped skiers ski at the downhill ski resorts daily. I think reworking that slope above the existing site (Site A) will make far less environmental impact than what is proposed for Site D.

I think the best way to solve the environmental impact problem is to keep the lodge where it is, Site A. Create a beautiful, accessible lodge for all skiers. The title of your web page says it perfectly- Tahoe Cross Country Lodge Replacement, replacement NOT relocation.

Thank you,
Stephanie Schwartz
Highlands Homeowner

Sent from my iPad

B-2 TCPUD Scoping Meetings Comment Summary

Meeting Notes
Tahoe Cross-Country Lodge Relocation and Expansion Project

Date: Tuesday, July 17, 2018
Time: 10:00 a.m. – 10:35 a.m.
Location: TCPUD Board Room, Tahoe City, CA

Meeting Purpose:
The agenda included the Notice of Preparation (NOP) for the Tahoe Cross Country Lodge Relocation and Expansion Project as an informational item. The meeting began with a brief presentation by Kim Boyd (TCPUD) and Jessica Mitchell (Ascent). The meeting was then followed by oral comments from the public.

#	Commenter	Summary of Comments
1	Norm Kitching	Resident of the Highlands neighborhood and just learning about project. What would happen to the old lodge and old parking area if Site D is implemented? Will it be restored and paved? What will be the purpose of that building? Response: It will be analyzed in the EIR as it relates to environmental resources of that project. Not exactly sure at the moment.
2	Alex Lesser	Highlands resident. Would like questions answered. 1. How much more recreational demand is there for this project? How much more parking is needed? 2. How much storage is needed? Going from 2,400 feet to 7,000 feet. Concerned project exceeds concerns with current facilities. Would like to find a reasonable project on the current site with improvements. Questions financial viable. Not a year-round money-making situation. How many days per year is there not sufficient parking at the current site? Re: Site F. Is that a site that we can revisit? Suggested revisiting other alternatives.
3	Ted Gomoll	Long term resident of the Highlands. Lives of Bigler. Want to second previous commenters theory. When you are down by the highway, you won't impact the residential neighborhood of highlands. Site could connect to trails off highway and not impact residential neighborhood. HS should have been put on 64 acres. If there's construction, then it's on the highway and not a residential area. Narrow access road on Polaris or Cedarwood. Need another access road if its by the HS. Could use Burton Creek for emergency access purposes if properly built and maintained.

#	Commenter	Summary of Comments
		The location by the highway should be the preferred location. You can put in tons of parking. There is a parcel for sale at that location.
4	Paul Navabpour	Resident on Polaris. We were never aware of an alternative Site D driveway when we bought home. We cannot have this become a thoroughfare on Polaris, and behind residents on Polaris if access is provided by Cedar. Supports rebuilding the lodge at the previous location. May not need to be as big as proposed. Supports Modified Site A. Paving roads and tearing down trees and diminishing Tahoe's resources is not what residents are about. No need to keep rebuilding things. Don't want to see more impact on kids.
5	Monica Grigoleit	Resident. First mistake was HS in Highlands. 2nd mistake was the Cross-Country Facility near the Highlands. Agrees with Paul. Impact on Polaris from HS is terrible. Supports the existing location. Fewer impacts and fewer residents affected. No impact on Polaris at this site.
End of Discussion		

Meeting Notes
Tahoe Cross-Country Lodge Relocation and Expansion Project

Date: Tuesday, July 17, 2018
Time: 6:00 p.m. – 6:35 p.m.
Location: TCPUD Board Room, Tahoe City, CA

Meeting Purpose:
The agenda included the Notice of Preparation (NOP) for the Tahoe Cross Country Lodge Relocation and Expansion Project as an informational item. The meeting began with a brief presentation by Kim Boyd (TCPUD) and Jessica Mitchell (Ascent). The meeting was then followed by oral comments from the public.

#	Commenter	Summary of Comments
1	Stacy Boards	Resident of Highlands. Reiterate that majority of residents are in support of an upgrade to the Nordic center. Not in support of moving it from its existing site. Mostly concerned about public safety issues, traffic and pedestrian safety on Polaris Road, emergency evacuation route congestion since there is only one way in and one way out, the two schools, and the new proposed larger Nordic site. Concern of hazardous materials being stored right next to the school and some environmental issues such as deforestation and stream proximity if the Nordic Center is moved; drainage of the stream, and initial fire danger. Community is in support of improvements to the center, but not at a new site.
2	Debbie White	Supports what Stacy said. Encourages upgrade of current facility. It appears Site A (current site) may be outgrown. It is possible to get 100 parking spaces on Site A, and 100 parking spaces are being proposed at Site D. Question is, why create disruption and money over a new site for the same number of parking spaces? Stick with Site A. It reduces the impact on the environment and the neighborhood, reduces impact on everything that goes with the project. Do we need retail at the back of Polaris? Site should be retained for biking, skiing, and enjoying the outdoors. Don't need a huge building with café and retail back on Polaris.
3	Paul Molarne	Resident on Polaris. Support the statements of Stacy and Debbie in their entirety. There was no mention of flora and fauna and whether any of these species are protected. Is the whole area zoned for recreation? Is there a zoning modification required for the different proposals?
4	Lane Van Fawson	Resident on Polaris. In support of Site A, changing it and increasing parking, is much less invasive than paving over and disrupting a meadow. Site A would better meet goals and minimize impact on the neighborhood. Project is not financially viable because climate change has resulted in less snow historically. Facility was only open 2 months this year. Just not

#	Commenter	Summary of Comments
		financially viable to spend millions of dollars on a ski resort. Going to need to be run non-stop in the summer to recoup the money being put into this project. Downhill resorts are putting their money into snow making equipment, they are not putting money into new lifts or buildings. Even the district has put a snow making machine in for the sled hill. Environmentally, a lot of disruption is being created for very little benefit.
5	Debbie White	Property values are one thing to consider. In the winter, sent an email regarding zoning. Was advised to get three values for the property on Polaris. Was advised that a lawsuit could be possible because property owners never envisioned buying residential property that would have commercial activity at the back of house/property. Has been advised to take certain route to make sure we are following correct protocol to prevent it.
End of Discussion		

Appendix B

Schilling Lodge Management Plan

TAHOE CROSS COUNTRY SKI EDUCATION ASSOCIATION
TAHOE CROSS COUNTRY SKI AREA

DRAFT MANAGEMENT PLAN
SCHILLING LODGE

NOVEMBER 2018

Shilling Lodge Management Plan

This Management Plan addresses anticipated management and operational needs at TXC after construction of the Shilling Lodge Reconstruction Project. It includes the policies drafted by the Board of Directors that will guide future management decisions as well as some operational details. This plan, developed as the Shilling Lodge Project developed, represents the intention of the organization, informed by 20 years of managing a recreational facility for public benefit. As management of a recreation facility serving the public necessarily responds to specific events or changing circumstances, this plan will be amended as needed to implement the non-profit mission of the Tahoe Cross Country Ski Education Association, the needs of the recreation area, the provisions of agreements with public recreation landowners, and the continued input and support of the community.

Management Plan: Schilling Lodge

Purpose: Efficient and transparent management of year-round recreation facility for public benefit.

Management Policies

1. Maintain/enhance access to public outdoor recreation resources in partnership with public recreation providers.

2. Provide a welcoming, high quality community gathering space at the lodge facility that serves as a trailhead for public land and as a community gathering amenity.

3. Provide outdoor education opportunities for youth and adults that combine environmental education with outdoor fitness activities.

4. Provide interpretation of the historic Shilling Lodge and use it as a venue to help residents and visitors create a connection to Tahoe's past.

5. Operate a safe and enjoyable facility.

6. Operate the facility, including daily and special event activities, to be an asset for the entire community including the nearby neighbors.

7. Support the junior development teams by providing coaches, equipment and transportation to/from practice and events at a subsidized rate for participants.

8. Support the youth ski program, Strider Gliders, by providing coaches and equipment at a subsidized rate. The program shall include provisions to reduce the need for parents to individually drive their children to the program. These provisions include:
    a. The 5th grade coaches will walk their students from the school to the site.
    b. For third and fourth grade students, work with parents and the school district to encourage parent carpools and/or school bus transportation.
    c. Offer an after-school snack and area to change and secure their school supplies while they ski.

9. The carpool program will include proactive incentives for carpooling to the trailhead with a carpool punch card which records participation, redeemable for enhanced services such as waxing, ski tune-up, free food, preferential parking spots, free or discounted companion day passes, and/or other incentives.

10. Create partnerships with lodging properties with van service to offer incentives for use of lodge vans to access ski and bicycle trails. Upon completion of the Shilling Lodge, expand this recreational user transportation program to include those lodging properties that do not offer van service for their guests. This could include use of the TXC vans or others to support broad recreational user transportation purposes. Initial program expansion will focus on peak weekends.

11. Accessory uses at TXC, as defined and allowed by TRPA Code Sections 90.2 and 201.3.1.E, include retail space and a café. Accessary uses are those that are clearly incidental and secondary to the primary use. Facility management will comply with the prohibitions on outdoor advertising or off-site promotion for these uses. The café will not sell alcohol.

12. Special events occurring at the lodge or staging from the or other portions of Highlands Park offer broad access to public recreation resources, help develop shared community connections, and help create a sustainable business model for continued Nordic center and trailhead operation. Existing uses that will continue free of charge include school district sporting events, Boy Scout meetings, and Highland Homeowner Association meetings. All other uses shall pay a fee on a sliding scale. TXC intends to support small local community and non-profit organizations with a minimal charge. Larger organizations and/or events shall pay a higher fee. Private use shall pay market rate for the space needed. Other event policies and requirements are included following.

    a. Co-sponsor two premiere events per year that directly serve the outdoor recreation public, meet relevant goals of the Tourism Master Plan, and support local non-profit fundraising needs. The winter event, the Great Ski Race, has been offered for 41 years, weather permitting, and is a well-known event with a dedicated following. A summer mountain bike event of similar scope and importance could develop. For these events, staging details must be implemented on a case-by-case basis to address neighborhood traffic and parking, noise, and resource protection. If premiere events will displace general recreation access to public lands, that restriction must be of short duration and the public adequately notified.

    b. Support a limited number of other special events in all seasons that feature access to the outdoor recreation resources of North Lake Tahoe. Existing events that showcase this emphasis are home Nordic races for the Middle and High school teams, the Alpenglow 20K, and Big Blue Adventures' Burton Creek Trail Run. This type of event can be produced by TXC or others and shall generally be limited to 2-3 per season, and not more than 7 per year. During these events, parking shall occur in established parking lots, either on-site or shared with the adjacent school property under specific agreement. Carpooling incentives shall be included in each special event operation. Event planning must consider continued public recreation access to public lands that will occur during the event and make provisions to avoid overflow parking into nearby neighborhoods. Amplified music or speech audible more than 200' away shall be limited to a short (2 hour) mid-day period.

    c. Encourage smaller group activities either in the building or in the nearby outdoor spaces that serve to develop community connections. Examples of these events may be a community potluck, non-profit fundraiser or Cub Scout pinewood derby. These activities are not expected to generate parking needs in excess of on-site availability and should not involve amplified outdoor sound audible more than 200' away. No outside music after dusk.

    d. Allow facility rental for private gatherings as a way to financially support overall operations of the facility. Such events might include rehearsal dinners, family reunions, celebrations of life, or employee parties. The venue will not host weddings. Parking demand shall not exceed what can be provided on-site, carpooling shall be encouraged as part of the rental agreement, and no amplified outdoor sound audible more than 200' away shall be allowed. No outside music after dusk.

Appendix C

Special-Status Species Evaluated for the Tahoe Cross-Country Lodge Replacement and Expansion Project

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
Botanical Species				
Galena Creek rockcress *Arabis rigidissima var. demota*	SI	CRPR-1B	Rocky areas along edges of conifer and/or aspen stands. Usually found on moderate to steep northerly aspects in moisture accumulating microsites; 7,400–8,400 ft. elev.	**Low.** No known occurrences in the project vicinity. The project area is located below the elevation range of this species. Suitable upper montane habitat is not present on the proposed Project site or Alternative A site.
Threetip sagebrush *Artemisia tripartita* ssp. *tripartita*	—	CRPR-2B	Openings in upper montane coniferous forest, on rocky/volcanic soils; 7,200–8,530 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable upper montane habitat is not present on the proposed Project site or Alternative A site.
Tiehm's rock cress *Boechera tiehmii*	—	CRPR-1B	Granitic alpine boulder and rock fields; 9,700 to 12,000 ft. elev.	**None.** The project area is located below the elevation range of this species; no alpine rocky habitats present.
Tulare rockcress *Boechera tularensis*	—	CRPR-1B	Bogs and fens, meadows and seeps, marshes and swamps in lower montane and upper montane coniferous forest; 4,200 to 10,700 ft. elev.	**None.** No known occurrences in the project vicinity. Suitable alpine and upper montane habitat is not present on the proposed Project site or Alternative A site.
Upswept moonwort *Botrychium ascendens*	—	CRPR-2B	Wet or moist soils, mostly of meadows and riparian areas in lower montane coniferous forest; 5,000–10,200 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Scalloped moonwort *Botrychium crenulatum*	—	CRPR-2B	Bogs, fens, meadows, and seeps, in upper montane coniferous forest, primarily moist meadows near creeks; 4,000–11,000 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Common moonwort *Botrychium lunaria*	—	CRPR-2B	Wet or moist soils, mostly of meadows, seeps, and springs in subalpine and upper montane coniferous forest; 6,400–11,200 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Mingan moonwort *Botrychium minganense*	—	CRPR-2B	Wet or moist soils, mostly of riparian areas, small streams, or fens in upper and lower montane coniferous forest; 5,000–10,000 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Western goblin *Botrychium montanum*	—	CRPR-2B	Wet or moist soils, mostly of meadows and seeps in upper and lower montane coniferous forest; 5,000–7,000 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Davy's sedge *Carex davyi*	–	CRPR-1B	Subalpine and upper montane coniferous forests; 4,800-10,600 ft. elev.	**Moderate.** Although no known documentation of Davy's sedge occurs in the project vicinity, conifer forest habitat on the proposed Project site or Alternative A site is degraded, and the presence of Davy's

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
				sedge would be unusual, a detailed habitat assessment or focused surveys for this species on the proposed Project site or Alternative A site have not been conducted. Therefore, this analysis conservatively assumes Davy's sedge could potentially occur on the proposed Project site or Alternative A site, because of the presence of conifer forest.
Woolly-fruited sedge *Carex lasiocarpa*	–	CRPR-2B	Bogs and fens, and lake margin marshes and swamps at elevations; of 1,980-6,850 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Mud sedge *Carex limosa*	–	CRPR-2B	Upper montane coniferous forest, lower montane coniferous forest, bogs and fens, meadows and seeps, marshes and swamps (in floating bogs and soggy meadows, often at edges of lakes); 4,000–9,000 ft. elev.	**Low.** Boggy habitats preferred by this species are not present.
Tahoe draba *Draba asterophora* var. *asterophora*	SI	CRPR-1B	Alpine boulder and rock fell field in rock crevices and open granite talus slopes, subalpine coniferous forest, usually on northeast-facing slopes; 8,200–10,500 ft. elev.	**None.** No documented occurrences in the project vicinity. Project site is located below the elevation range of this species. No suitable habitat present.
Cup Lake draba *Draba asterophora* var. *macrocarpa*	SI	CRPR-1B	Subalpine coniferous forest on steep, gravelly or rocky slopes; 8,200–9,200 ft. elev.	**None.** No documented occurrences in the project vicinity. Project site is located below the elevation range of this species. No suitable habitat present.
Mineral King draba *Draba cruciate*	—	CRPR-1B	Subalpine coniferous forest, on gravely soils, 8,200 – 10,900 ft elev.	**None.** No documented occurrences in the project vicinity. Project site is located below the elevation range of this species. No suitable habitat present.
Starved daisy *Erigeron miser*	—	CRPR-2B	Cracks or clefts in granite outcrops; 6,000–8,500 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable rocky outcrop microsites within upper montane habitat are not present on the proposed Project site or Alternative A site.
Jack's wild buckwheat *Eriogonum luteolum* var. *saltuarium*	—	CRPR-1B	Great Basin scrub, upper montane coniferous forest on sandy, granitic soils, 5,600 -7,900 ft. elev.	**Low.** No known occurrences in project vicinity or elsewhere in Placer County.
Donner Pass buckwheat *Eriogonum umbellatum* var. *torreyanum*	—	CRPR-1B	Highly erosive, shallow, rocky volcanic soils with sparse vegetation; 6,000–8,600 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable upper montane habitat not present on site.
American manna grass *Glyceria grandis*	–	CRPR-2	Bog, fens, meadows, seeps, marshes, and swamps; streambanks and lake margins; 50-6,500 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
Blandow's bog moss *Helodium blandowii*	—	CRPR-2B	Bogs and fens with calcareous groundwater in subalpine coniferous forest; 5,000-9,500 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Short-leaved hulsea *Hulsea brevifolia*	—	CRPR-1B	Upper and lower montane coniferous forest, primarily red fir forests, on volcanic or granitic gravel or sand, or on slate; 4,200-10,500 ft. elev.	**Moderate.** Although no known documentation of short-leaved hulsea occurs in the project vicinity, conifer forest habitat on the proposed Project site or Alternative A site is degraded, and the presence of short-leaved hulsea would be unusual, a detailed habitat assessment or focused surveys for this species on the proposed Project site or Alternative A site have not been conducted. Therefore, this analysis conservatively assumes short-leaved hulsea could potentially occur on the proposed Project site or Alternative A site, because of the presence of conifer forest.
Plumas ivesia *Ivesia sericoleuca*	—	CRPR-1B	Vernally wet portions of meadows and alkali flats, and in vernal pools within sagebrush scrub or lower montane coniferous forest, often on volcanic soils; 4,300-7,200 ft.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site. Species occurs west of the project area in Martis Valley.
Santa Lucia dwarf rush *Juncus luciensis*	—	CRPR-1B	Wet, sandy soils in riparian habitats, meadows and seeps, and vernal pools within chaparral, sagebrush scrub, and lower montane coniferous forest; 1,000-6,700 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Long-petaled lewisia *Lewisia longipetala*	SI	CRPR-1B	Northerly exposures on slopes and ridge tops in alpine boulder and rock field, subalpine coniferous forest; often found near the margins of persistent snow banks in wet soils 8,200–9,400 ft. elev.	**None.** No documented occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site; and, the site is located below the elevation range of this species.
Broad-nerved hump-moss *Meesia uliginosa*	—	CRPR-2B	Bogs and fens, and permanently wet meadows, typically spring fed, in subalpine and upper montane coniferous forest; 4,200–8,200 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Whitebark pine *Pinus albicaulis*	FC	—	Thin, rocky, cold soils at or near timberline in subalpine forests; 7,000-12,000 ft. elev.	**None.** No suitable habitat is present on the proposed Project site or Alternative A site. The proposed Project site or Alternative A site is located below the elevation range of this species.
Alder buckthorn *Rhamnus alnifolia*	—	CRPR-2B	Meadows, seeps, and riparian scrub within lower and upper montane coniferous forests; 4,500-7,000 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
Tahoe yellow cress *Rorippa subumbellata*	SI	CE, CRPR-1B	Decomposed granitic beaches on Lake Tahoe; species is endemic to Lake Tahoe Basin beaches; 6,217–6,234 ft. elev.	**None.** Species only occurs on beaches of Lake Tahoe.
Marsh skullcap *Scutellaria galericulata*	—	CRPR-2B	Meadows, seeps, marshes, and swamps in sunny openings in lower montane coniferous forest; 0–7,000 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable habitat is not present on the proposed Project site or Alternative A site.
Munro's desert mallow *Sphaeralcea munroana*	—	CRPR-2B	Sagebrush scrub; 6,560 ft. elev.	**Low.** No known occurrences in the project vicinity. Suitable great basin scrub habitat for this species is not present on the proposed Project site or Alternative A site.
Fish				
Cui-ui *Chasmistes cujus*	E	—	Occurs in Pyramid Lake, spawns in lower Truckee River.	**None.** Project area is outside of the known range of this species.
Lahontan Lake tui chub *Gila bicolor pectinifer*)	—	C-SSC	Pelagic fish that feed on zooplankton in the open water of Lake Tahoe.	**None.** No suitable aquatic habitat is present. Species occurs in Lake Tahoe; spawns in shallow near-shore environments with aquatic vegetation.
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*	FT, SI	—	Only trout species native to lakes and streams in the Tahoe Basin. Found in both lake and stream habitats, but spawn in stream environments. Lahontan cutthroat trout (LCT) requires gravels and riffles for spawning and generally does not persist or occur with nonnative salmonids.	**None.** No aquatic habitats are present on the proposed Project site or Alternative A site.
Delta smelt *Hypomesus transpacificus*	FT	C-SE	Upper estuarine areas in or just upstream of the mixing zone between fresh and salt water in the San Francisco Bay-Delta.	**None.** Outside of the known range of the species.
Central Valley steelhead *Oncorhynchus mykiss*	FT	—	Anadromous or resident inland; rivers in the Sacramento and San Joaquin Valley and their tributaries; needs cold water and gravel substrates.	**None.** Outside of the known range of the species.
Amphibians				
Sierra Nevada yellow-legged frog *Rana sierrae*	FE	C-ST	Occurs in upper elevation lakes, ponds, bogs, and slow-moving alpine streams. Most Sierra Nevada populations are found between 6,000–12,000 feet elevation. Almost	**None.** No aquatic habitats are present on the proposed Project site or Alternative A site. The only known population in the Tahoe Basin occurs at Hell Hole bog, in the southern end of the Lake Tahoe Basin,

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
			always found within 3.280853 feet of water, and associated with montane riparian habitats in lodgepole pine, ponderosa pine, Jeffrey pine, sugar pine, white fir, whitebark pine, and wet meadow vegetation types. Alpine lakes inhabited by mountain yellow-legged frogs generally have grassy or muddy margin habitat, although below treeline sandy and rocky shores may be preferred. Suitable stream habitat can be highly variable, from high gradient streams with plunge pools and waterfalls, to low gradient sections through alpine meadows. Low-gradient streams are preferred because breeding and tadpole development cannot occur in streams with fast-moving water. Small streams are generally unoccupied and have no potential breeding locations because of the lack of depth for overwintering and refuge. Although Sierra Nevada yellow-legged frogs have been observed successfully breeding in shallow locations less than 7 feet deep, typically depth is an important factor for breeding locations since adults and larvae require overwintering habitat. For up to nine months, adults and larvae will live/hibernate below ice, or in nonfrozen portions of ponds or lakes, so adequate depth (greater than 2 m) is necessary to avoid having the pond or lake freeze through.	over 25 miles south of the proposed Project site or Alternative A site. The closest known population is outside of the Tahoe Basin in the vicinity of Five Lakes near Squaw Valley. There are also limited records of the species on the Tahoe National Forest, with the largest known population in the Soda Springs area more than 12 miles northwest of the proposed Project site or Alternative A site. Suitable breeding and wintering habitat necessary for persistence of a population includes perennial waters of sufficient depth to avoid freezing.
Yosemite toad *Bufo canorus*	FT	C-SSC	Endemic California toad found in wet meadows between 4,000 and 12,000 feet in the Sierra Nevada from Alpine County south to Fresno County.	**None.** Project area is outside of the known range for the species.
Birds				
Northern goshawk *Accipiter gentilis*	SI	C-SSC	In the Sierra Nevada, this species generally requires mature conifer forests with large trees, snags, downed logs, dense canopy cover, and open understories for nesting; aspen stands also are used for nesting. Foraging habitat includes forests with dense to moderately open overstories and open understories	**Low.** Goshawk detections and nesting have been documented west and north of the proposed Project site or Alternative A site, but no suitable breeding habitat is present on the site. The proposed Project site or Alternative A site is not located within a TRPA-designated goshawk disturbance zone. Goshawk could occasionally forage or perch within, or otherwise move through, the project area; however, goshawk use of the

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
			interspersed with meadows, brush patches, riparian areas, or other natural or artificial openings. Goshawks reuse old nest structures and maintain alternate nest sites.	project area is not expected due to marginal forest conditions and high disturbance levels.
Golden eagle *Aquila chrysaetos*	BGEPA ,SI	C-FP	Mountains and foothills throughout California. Nest on cliffs and escarpments or in tall trees.	**Low.** Golden eagle nests within the Lake Tahoe Basin, however this species generally prefers to nest on or near rock outcrops and cliffs, and prefers more open habitats for foraging than occurs on the proposed Project site or Alternative A site
Long-eared owl *Asio otus*	—	C-SSC	Found in a variety of habitat types throughout its range. Nest in woodland, forest, and open settings (e.g., grassland, shrub-steppe, and desert). Occupy wooded and nonwooded areas that support relatively dense vegetation (e.g., trees, shrubs) adjacent to or within larger open areas such as grasslands or meadows (i.e., habitat edges) (Bloom 1994; Marks, Evans, and Holt 1994). This species also has been documented breeding in contiguous conifer forest habitat with heavy mistletoe infestation (Bull, Wright, and Henjum 1989). Trees and shrubs used for nesting and roosting include oaks, willows, cottonwoods, conifers, and junipers (Marks, Evans, and Holt 1994).	**Low (Nesting).** Habitat with some attributes suitable for this species are present (wooded areas); however, species is not known to nest on or near the proposed Project site or Alternative A site.
Western yellow-billed cuckoo *Coccyzus americanus*	FT	C-ST	Willow and cottonwood riparian habitats along the Sacramento and San Joaquin Rivers in the Central Valley of California.	**None.** Outside of the known range of the species, and no suitable riparian forest present in the project area.
Olive-sided flycatcher *Contopus cooperi*	—	C-SSC	Summer resident and migrant that breeds primarily in late-succession conifer forest with open canopy. Species prefers to forage near forest openings or edges.	**Low.** Olive-sided flycatcher is not uncommon in the Tahoe Basin; however, optimal nesting habitat (mature conifer forest) is not present on the proposed Project site or Alternative A site.
Yellow warbler *Setophaga petechia*	—	C-SSC	In the Sierra Nevada, yellow warbler typically breeds in wet areas with dense riparian vegetation. Breeding habitats primarily include willow patches in montane meadows, and riparian scrub and woodland dominated by willow, cottonwood, aspen, or alder with dense understory cover. Localized breeding has been	**Low**. Suitable riparian habitat is not present on the proposed Project site or Alternative A site.

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
			documented in more xeric sites including chaparral, wild rose (*Rosa* spp.) thickets, and young conifer stands (Siegel and DeSante 1999, RHJV 2004).	
Willow flycatcher *Empidonax traillii brewsteri*	—	C-SE	In the Sierra Nevada, suitable habitat typically consists of montane meadows that support riparian deciduous shrubs (particularly willows) and remain wet through the nesting season (i.e., midsummer). Important characteristics of suitable meadows include a high water table that results in standing or slow-moving water, or saturated soils (e.g., "swampy" conditions) during the breeding season; abundant riparian deciduous shrub cover (particularly willow); and riparian shrub structure with moderate to high foliar density that is uniform from the ground to the shrub canopy. Most breeding occurrences are in meadows larger than 19 acres, but the average size of occupied meadows is approximately 80 acres. Although less common in the Sierra Nevada, riparian habitat along streams also can function as suitable habitat for willow flycatcher. However, those areas must support the hydrologic and vegetation characteristics described for suitable meadows (e.g., standing or slow-moving water, and abundant and dense riparian vegetation).	**Low.** No riparian areas that contain the necessary hydrology and floodplain characteristics to provide suitable breeding habitat for willow flycatcher are present on the proposed Project site or Alternative A site.
Peregrine falcon *Falco peregrinus anatum*	TRPA	C- FP	Nest and roost on protected ledges of high cliffs, usually adjacent to water bodies and wetlands that support abundant avian prey.	**Low.** Suitable nesting habitat not present on the proposed Project site or Alternative A site. Nesting has not been documented in the project vicinity.
Bald eagle *Haliaeetus leucocephalus*	De-listed; SI	C-SE, C-FP	Use ocean shorelines, lake margins, and river courses for both nesting and wintering. Most nests are within 1 mile of water, in large trees with open branches. Roost communally in winter.	**Low.** Bald eagle does not nest on or near the proposed Project site or Alternative A site. This species is known to nest in only two areas of the Tahoe Basin (Emerald Bay and Marlette Lake), which are several miles from the project area. Bald eagle is not expected to use the proposed Project site or Alternative A site due to the lack of foraging habitat (no large waterbodies or streams). Any bald eagle occurrence and habitat use in the area would be most likely during winter, when the species is more abundant in the Tahoe region.

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
Osprey *Pandion haliaetus*	TRPA	—	Associated with large fish-bearing waters. Nest usually within 0.25 mile of fish-producing water, but may nest up to 1.5 miles from water. In the Tahoe Basin, osprey nests are distributed primarily along the Lake Tahoe shoreline, at the northern portion of the east shore and southern portion of the west shore. Other osprey nest sites in the Tahoe Basin occur along the shorelines of smaller lakes (e.g., Fallen Leaf Lake) and in forest uplands up to 1.5 miles from lakes.	**Low.** Osprey nests and forages in suitable habitat throughout the Tahoe region; however, osprey is not known to nest on the proposed Project site or Alternative A site. An osprey nest site is located approximately 0.25 mile northeast of Site A. This nest site was not documented as active in recent years (TRPA mapping). The TRPA Code requires a nondegradation standard for habitat within a 0.25-mile buffer zone ("disturbance zone") around active and inactive osprey nest sites in nonurban Plan Areas. The edge of this 0.25-mile osprey disturbance zone intersects just inside the northeast-corner boundary of Site A along Country Club Drive. This small area includes the driveway entrance to the existing lodge, the shoulder of Country Club Drive, and some disturbed upland vegetation, and is not suitable for osprey nesting or foraging. Any potential use of the proposed Project site or Alternative A site by osprey would be limited due to the presence of more suitable habitat located nearby on Lake Tahoe.
Great gray owl *Strix nebulosa*	—	C-SE	Found in Central Sierra mature mixed conifer forests near meadows. Scattered along the west slope of the Sierra, between 4,500 and 7,500 feet elevation, from Plumas County to Yosemite National Park.	**None.** Suitable habitat is not present on the proposed Project site or Alternative A site, and the species has not been documented in the vicinity.
California spotted owl *Strix occidentalis occidentalis*	—	C-SSC	Occur in several forest vegetation types including mixed conifer, ponderosa pine, red fir, and montane hardwood. Nesting habitat is generally characterized by dense canopy closure (i.e., greater than 70 percent) with medium to large trees and multistoried stands (i.e., at least two canopy layers). Foraging habitat can include intermediate to late-successional forest with greater than 40 percent canopy cover.	**Low.** Spotted owl detections and nesting have been documented west and north of the proposed Project site or Alternative A site, but no suitable breeding or foraging habitat is present on the site.
Mammals				
Sierra Nevada mountain beaver *Aplodontia rufa californica*	—	C-SSC	Uses riparian habitats with soft, deep soils for burrowing, lush growth of preferred food sources such as willow and alder, and a variety of herbaceous species for bedding material. Vegetation types preferred include wet meadows and willow-alder–dominated riparian corridors typically near water	**Low**. No suitable riparian habitat is present on the proposed Project site or Alternative A site.

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
			sources. Suitable riparian habitats are characterized by dense growth of small deciduous trees and shrubs near permanent water. Mountain beaver is generally solitary, except during its short breeding season; beavers spend a high proportion of their time in extensive underground burrow systems with multiple openings, tunnels, and food caches.	
Sierra Nevada snowshoe hare *Lepus americanus tahoensis*.	—	C-SSC	In the Sierra Nevada, found in boreal zones, typically inhabiting riparian communities with thickets of deciduous trees and shrubs such as willows and alders.	**Low.** Riparian or other high-quality habitats are not present, and the species has not been reported in the project vicinity.
California wolverine *Gulo gulo luteus*	FPT	C-ST, C-FP	Inhabit upper montane and alpine habitats of Sierra Nevada, Cascades, Klamath, and north Coast Ranges. Need water source and denning sites. Rarely seen. Sensitive to human disturbance.	**Low.** Suitable habitat is not present on the proposed Project site or Alternative A site, and there have been very few documented occurrences in the region.
Mule deer *Odocoileus hemionus*	SI	—	Year-long resident or elevational migrant that prefer a wide distribution of various-aged vegetation for cover, meadow, and forest openings, and free water. In the Sierra Nevada, early to mid-successional forests, woodlands, and riparian and brush habitats are preferred because of the greater diversity of shrubby vegetation and woody cover. In addition to forage, vegetative cover is critical for thermoregulation. Suitable habitats include a mosaic of vegetation such as forest or meadow openings, dense woody thickets and brush, edge habitat, and riparian areas. Fawning habitat, used by does during birth and by newborn fawns, is of critical importance for reproductive success. A diversity of thermal cover, hiding cover, succulent forage, and water are needed during fawning. Optimal deer fawning habitat has been described as having moderate to dense shrub cover near forest cover and water, such as riparian zones. A source of surface water (e.g., creek or river) is especially important to mule deer. Typical fawning habitat varies in size, but an area of 5–26 acres is adequate, with optimal fawn-rearing habitat of around 400 acres.	**Moderate**. Deer are not expected to fawn on or regularly use the proposed Project site or Alternative A site due to existing human disturbance levels; lack of high-quality forage and cover; and habitat fragmentation and degradation from residential, recreation, commercial, and other uses on and near the site, and adjacent roads and associated edge effects. However, mule deer may occasionally migrate through or forage on the proposed Project site or Alternative A site.

Table C-1 Special-Status Species Evaluated for the Tahoe Cross-County Lodge Replacement and Expansion Project

Species	Regulatory Status[1]		Habitat Associations	Potential to Occur or Be Affected in the Proposed Project Site or Alternative A Site[2]
	Federal/ TRPA	State/ Other		
Townsend's big-eared bat *Corynorhinus townsendii*	—	C-SSC, WBWG-H	Range throughout California, mostly in mesic habitats. Limited by available roost sites (i.e., caves, tunnels, mines, and buildings).	**Low.** This species has been detected only infrequently in the Tahoe Basin, and optimal roosting habitat is not present in the project area.
Pallid bat *Antrozous pallidus*	—	C-SSC, WBWG-H	Locally common at lower elevations in California and occurs in grassland, shrubland, woodland, and mixed conifer forests. Absent from highest elevation locations in the Sierra Nevada. Rocky outcrops, caves, crevices, and occasional tree cavities or buildings provide roosts.	**Low**. No documented occurrences in the project vicinity, and optimal roosting habitat is not present on the proposed Project site or Alternative A site.
Western red bat *Lasiurus blossevillii*	—	C-SSC, WBWG-H	Day roosting common in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. An association with intact riparian habitat may exist (particularly willows, cottonwoods, and sycamores).	**Low**. No documented occurrences in the project vicinity, and optimal roosting habitat is not present on the proposed Project site or Alternative A site.

[1] Regulatory Status Definitions:

TRPA/Federal:

SI = TRPA sensitive/special interest (threshold) species
FT = Threatened species under the Federal Endangered Species Act
FE = Endangered species under the Federal Endangered Species Act
FPT = Proposed for listing as Threatened under the Federal Endangered Species Act
FC = Candidate for listing under the Federal Endangered Species Act
BGEPA = Protected under the Bald and Golden Eagle Protection Act

State:

CA (California Department of Fish and Wildlife)

C-SE = California Endangered
C-ST = California Threatened
C-FP = California Fully Protected
C-SSC = California Species of Special Concern
CRPR = California Rare Plant Rank
1A = Plants presumed extinct in California
1B = Plants considered rare or endangered in California and elsewhere
2 = Plants considered rare or endangered in California, but more common elsewhere.

Other:

WBWG = Western Bat Working Group
H = Bats with high priority

[2] **Potential for Occurrence Definitions**

Present – Species was observed during site visits conducted for this analysis or was documented on the site by another reputable source.
High – All of the species' specific life history requirements can be met by habitat present on the site, and populations/occurrences are known to occur in the immediate vicinity.
Moderate – Some or all of the species life history requirements are provided by habitat on the site; populations/occurrences may not be known to occur in the immediate vicinity, but are known to occur in the region (Tahoe Basin).
Low – Species not likely or expected to occur due to marginal habitat quality or distance from known occurrences.
None – None of the species' life history requirements are provided by habitat on the site and/or the site is outside of the known distribution or elevation range for the species.

Appendix D

Tahoe XC Lodge Project
Transportation Analysis

Tahoe XC Lodge Project Transportation Analysis

Prepared for

Ascent Environmental

TRANSPORTATION CONSULTANTS, INC.

TAHOE CROSS-COUNTRY LODGE PROJECT
TRANSPORTATION IMPACT ANALYSIS

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December 12, 2019

LSC #177490

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Section 1
INTRODUCTION

This engineering report documents the findings and conclusions regarding transportation impacts of the replacement and expansion of the Tahoe Cross-Country (Tahoe XC) lodge near Tahoe City, California. This new lodge is evaluated for the proposed relocated site on Polaris Road just east of the North Tahoe High School (Alternative D), as well as for the existing site location on Country Club Drive (Alternative A). This analysis considers impacts in both the winter and summer seasons. Traffic and parking data were collected during the 2015/2016 ski season as a part of the original study conducted for this project. The 2015/2016 data is used as the basis for the winter analysis for this updated, expanded study. Based on a review of Tahoe XC skier data from recent seasons (2016/2017 and 2017/2018), as well as snowfall data over the past few seasons, the 2015/2016 data is considered a reasonable data set in terms of evaluating impacts. Additionally, the project assumptions from the original study have been revised to include additional event activities at the proposed lodge site, as well as implementation of a potential community center at the existing lodge site. Supplemental data was also collected in 2018 and 2019 to support the analysis herein.

SCOPE OF STUDY

This traffic engineering study analyzes traffic data and intersection level of service on a midweek day in the winter and on a summer day at the following intersections:

- Polaris Road / Village Way
- Polaris Road / Old Mill Road
- State Route (SR) 28 / Fabian Way
- SR 28 / Old Mill Road

Additionally, winter weekend/holiday traffic data is analyzed at the following intersections:

- SR 28/Fabian Way
- SR 28/Old Mill Road

Changes in daily roadway volumes are analyzed at the following locations:

- Polaris Road Near High School
- Village Road just southwest of Country Club Drive
- Country Club Drive north of the existing Tahoe XC lodge location

Bicycle and pedestrian traffic are analyzed at the following three intersection locations:

- Polaris Road / Village Way
- Polaris Road / Old Mill Road
- Polaris Road / High School Driveway

Finally, parking conditions, impacts to regional Vehicle Miles Traveled (VMT), and transportation safety impacts are analyzed as a part of this study.

Section 2

EXISTING CONDITIONS

This section documents the existing setting and operational traffic conditions in the vicinity of Tahoe XC, providing a foundation for comparison to future conditions. Existing roadway conditions are studied to identify if the roadways are currently operating in a safe and efficient manner. The site location is shown in Figure 1.

EXISTING SETTING

Tahoe XC is located in the northeastern portion of Tahoe City, within Placer County, on the north shore of Lake Tahoe. The current lodge is located on Country Club Drive, which is accessed from State Route (SR) 28 via Fabian Way and Village Road. Tahoe XC provides winter cross-country ski and snowshoe opportunities, and is opened when snow conditions allow. It also operates as a trailhead for hiking and mountain biking in the summer months, though activity levels are generally higher in winter.

Existing Roadways

The roadways within the study area are described below.

State Route 28

SR 28 is a two-lane roadway beginning in Tahoe City, California at SR 89, extending east along the north and east shores of Lake Tahoe, and terminates at US 50. SR 28 connects the north shore communities of Tahoe City, Dollar Point, Tahoe Vista, Carnelian Bay, Kings Beach, Brockway, and Incline Village. Traffic volumes along SR 28 exhibit strong seasonal variation, with the highest traffic activity during the summer. Caltrans reports that the peak month Average Daily Traffic (ADT) on SR 28 in the project vicinity is 14,500 vehicles per day, based on a count location to the east of Lardin Way. The posted speed limit on SR 28 near the project area is 45 miles per hour.

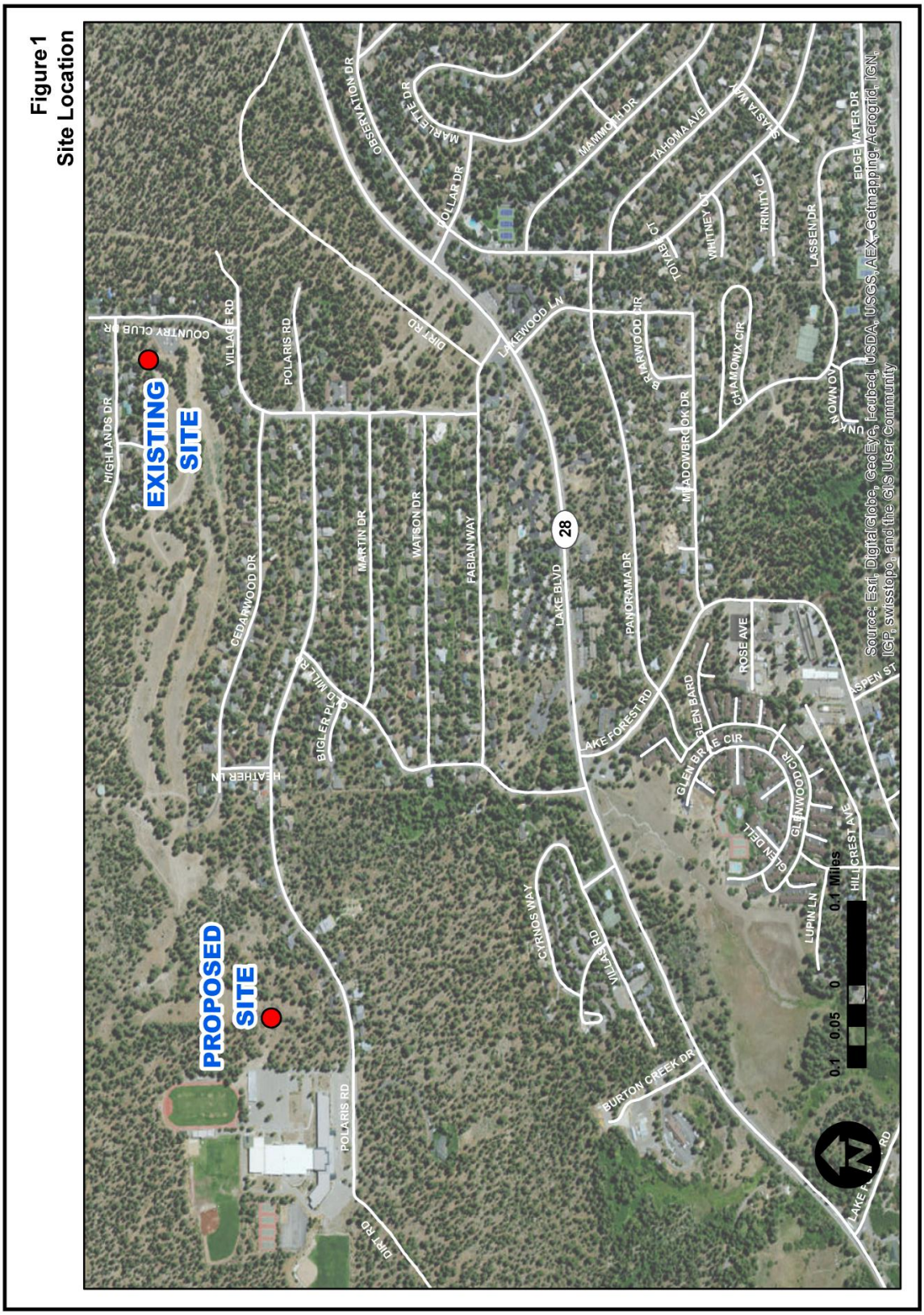
Old Mill Road

Old Mill Road is a north/south running residential street off of SR 28, which connects to Polaris Road to the north. Though it is possible to access the current Tahoe XC lodge site via Old Mill Road, it is not the preferred route as it is both steeper and longer.

Fabian Way

Fabian Way is a residential street connecting SR 28 on the south and Village Road to the north, and extending west to Old Mill Road. Those traveling to and from Tahoe XC use Fabian Way for

Figure 1
Site Location



a short distance (400 feet) between SR 28 and Village Road. This short segment of Fabian Way provides access to commercial uses, and in the future may provide access to the proposed Dollar Creek Crossing project.

Village Road

Village Road is a residential street connecting Fabian Way at the south and Country Club Drive to the north. It is the main access route for the current Tahoe XC base area and lodge.

Polaris Road

Polaris Road is an east-west roadway serving single-family homes. It also serves as the sole public access to the North Tahoe High School and Middle School at the west end. On the east, Polaris Road terminates about 630 feet east of Village Road. The western portion carries approximately 1,400 daily one-way vehicle trips on a school day.

Existing Traffic Volumes

The review of existing traffic volumes focuses on the "PM peak hour" – the hour of the afternoon/evening when the highest traffic activity is observed to occur[1].

Winter Traffic Volumes

Traffic volume counts were collected at various locations near the project site. Intersection turning movements were counted during the winter at the following locations:

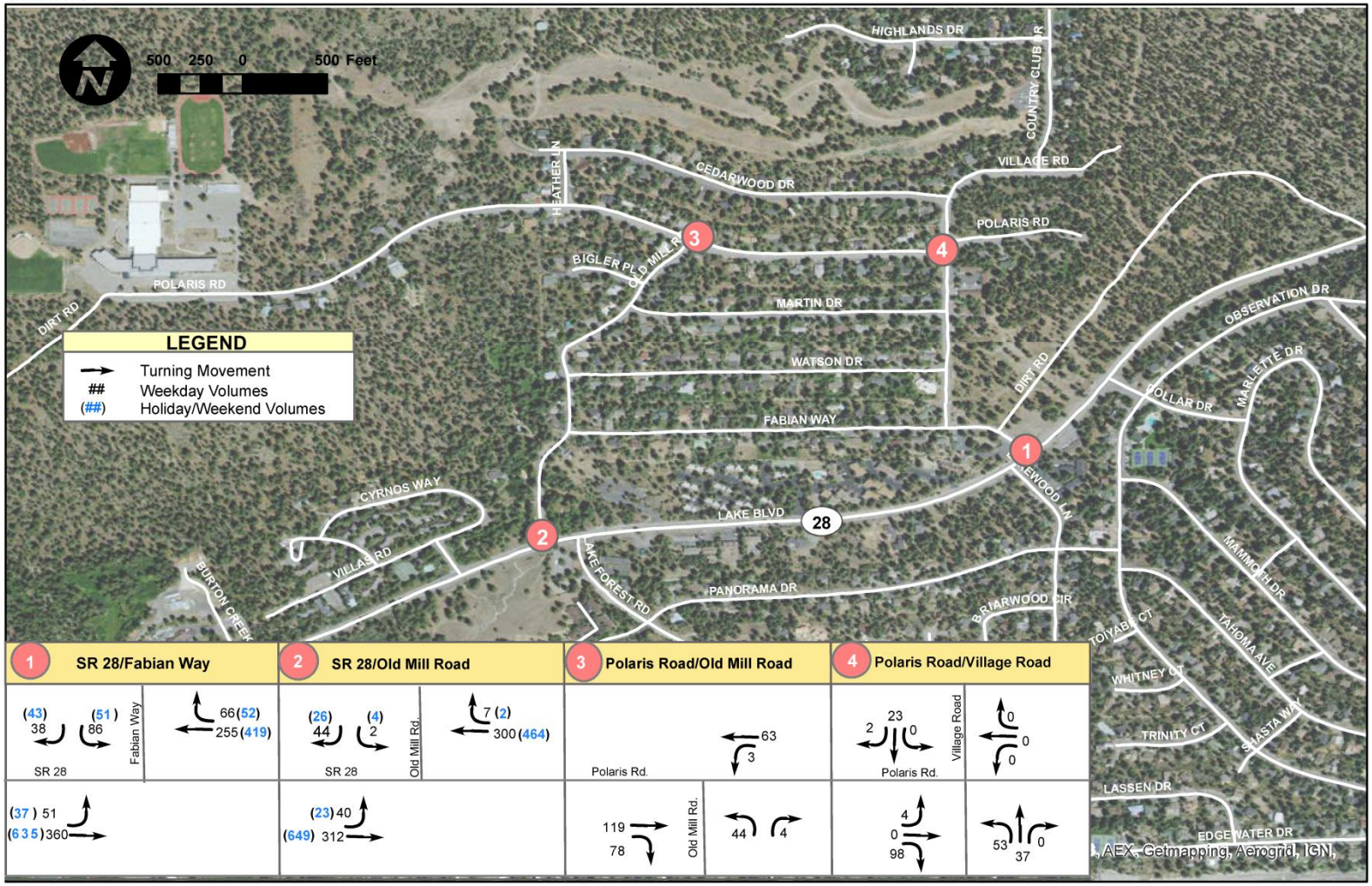
- SR 28 / Fabian Way (Winter Weekend/Holiday included)
- SR 28 / Old Mill Road (Winter Weekend/Holiday included)
- Polaris Road / Old Mill Road
- Polaris Road / Village Way

The winter weekend/holiday intersection turning-movement counts were conducted on Thursday, December 31, 2015 (New Year's Eve day). The weekday (school day) intersection turning movement counts were conducted during the afternoon peak periods of school-related traffic activity on January 12, 13, 14 and 19, 2016. The count data is included in Appendix A, and the resulting winter PM peak-hour traffic volumes are presented in Figure 2. No significant weather issues impacted traffic volumes on any of the count days. The winter weekday PM peak hour in the neighborhood typically occurs during the afternoon when the schools let out.

The winter weekend/holiday PM peak hour occurred from 4 PM to 5 PM on the day of the traffic counts (which was New Year's Eve day). However, the timing of the weekend/holiday PM

[1] The busiest hour of traffic activity in the morning is observed to be lower than the afternoon/evening peak hour.

Figure 2
Winter Existing No Project Volumes



peak hour is variable, depending on what day it is. Based on a review of Tahoe XC skier data from recent seasons (16/17 and 17/18), as well as snowfall data over the past few seasons, the 15/16 data is considered to be a reasonable data set in terms of evaluating impacts.

In addition, 24-hour roadway volume counts for were conducted at the following locations:

- Polaris Road near east of the eastern High School driveway (weekday)
- Village Road just southwest of Country Club Drive (holiday)
- Country Club Drive north of the existing Cross Country Center (holiday)

The roadway volumes used to calculate trip generation were collected from Wednesday, December 30, 2015 through Tuesday, January 5, 2016. Weekday volumes were collected from Wednesday, January 13 through Tuesday, January 19, 2016. The purpose of the two data collection periods was to capture both typical conditions (during a school day) and peak ski traffic conditions. While the holiday period generates the highest skier volumes, the school traffic periods typically generate the highest existing traffic volumes in the neighborhood.

Summer Traffic Volumes

In summer, the highest daily traffic volumes in the Dollar Hill area typically occur on Fridays. The summer intersection turning-movement counts were collected on Friday, August 10, 2018. The traffic count data is presented in Appendix A. The resulting summer PM peak-hour traffic volumes are presented in Figure 3. The roadway volumes used to calculate trip generation were collected at the same locations as the winter counts, from Thursday, August 9, 2018 to Monday, August 13, 2018. The roadway volumes were collected using pneumatic road tubes and radar-counting machine. The primary purpose of the data collection periods was to capture both typical summer weekend conditions and summer weekday conditions.

The highest daily traffic volumes during the count period occurred on Friday, August 10, 2018 (the same day the intersection counts were conducted). The time of the summer PM peak hour varies in this area. This study assumes the PM peak hour of site-generated traffic coincides with PM peak hour of adjacent street traffic, in order to yield conservatively high traffic volumes. In summer, the highest daily traffic volumes typically occur on Fridays, although this study doesn't specify whether the project generates more traffic on summer weekends or weekdays. This study assumes the design day for the XC site-generated traffic coincides with high daily traffic volumes on adjacent roadways.

Recent Trends in Traffic Volumes

While scheduled traffic counts on County streets are not conducted, Caltrans has an ongoing program of traffic counts reported on an annual basis on all state routes. In the study area, Caltrans reports counts for the SR 28 segment between Tahoe State Park (just east of Tahoe City) and Lake Forest Road (western intersection) and between Lake Forest Road and Lardin Way (in Carnelian Bay). The most recent available counts are for 2017. Caltrans reports both

Figure 3
Summer Existing No Project Volumes
LEGEND
Turning Movement
Weekday Volumes
500 250 0 500 Feet
1 SR 28/Fabian Way
2 SR 28/Old Mill Road
3 Polaris Road/Old Mill Road
4 Polaris Road/Village Road
SR 28
Fabian Way
Old Mill Rd.
Polaris Rd.
Village Road
POLARIS RD
DIRT RD
VILLAGE RD
COUNTRY CLUB DR
HIGHLANDS DR
CEDARWOOD DR
MARTIN DR
WATSON DR
FABIAN WAY
BIGLER PLACE
HEATHER LN
LAKE BLVD
PANORAMA DR
LAKEFOREST RD
CYRNOS WAY
VILLA RD
BURTON CREEK
OBSERVATION DR
MARLETTE DR
POLLAP DR
MAMMOTH DR
TAHOMA AVE
SHASTA WAY
TRINITY CT
WHITNEY CT
LASSEN DR
EDGEWATER DR
28
31
661
28
SR 28
28
453
25
Fabian Way
37
655
25
3
SR 28
11
437
Old Mill Rd.
9
17
9
12
6
Old Mill Rd.
3
Polaris Rd.
18
2
0
Polaris Rd.
1
0
8
Village Road
0
0
4
13
17
3
© AEX, Getmapping, Aerogrid, IGN,

Annual Average Daily Traffic (AADT) volumes, as well as Peak Month Average Daily Traffic (PMADT) volumes. The peak month is generally in July.

- West of Lake Forest Road

    - PMADT – 17,400 in 2007, 16,200 in 2012, 16,500 in 2016, 16,500 in 2017
    - Total PMADT change – 2 percent increase from 2012 to 2017, 5 percent decrease from 2007 to 2017
    - ADT – 13,600 in 2007, 11,600 in 2012, 12,300 in 2016, 12,300 in 2017
    - Total ADT change – 6 percent increase from 2012 to 2017, 10 percent decrease from 2007 to 2017

- East of Lake Forest Road

    - PMADT – 14,100 in 2007, 13,700 in 2012, 14,500 in 2016, 14,500 in 2017
    - Total PMADT change – 6 percent increase from 2012 to 2017, 3 percent increase from 2007 to 2017
    - ADT – 11,300 in 2007, 11,000 in 2012, 11,200 in 2016, 11,200 in 2017
    - Total ADT change – 2 percent increase from 2012 to 2017, 1 percent decrease from 2007 to 2017

Overall, these counts indicate a modest decline from 2007 to 2012, followed by a modest increase to 2017. Overall traffic volumes in 2017 are similar or slightly lower than in 2007.

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Section 3

PROPOSED PROJECT

The project location, the size of the project, and when it will be completed are all important elements that need to be considered to determine the impacts of the project on traffic safety and capacity. It is also important to examine how the project will operate within the existing transportation system, estimate how much new traffic will be generated, and predict where traffic generated by the site will be distributed.

PROJECT DESCRIPTION

The proposed Tahoe XC Project would consist of construction of a new lodge. The new lodge is proposed to be built at a new site at the west end of Polaris Road near the North Tahoe High School (Site D). Alternatively, replacement of the existing lodge at the existing site on Country Club Drive (Site A) is also studied. Although these two project options were included in the original 2016 transportation analysis, this updated, expanded study reflects additional event activities at the proposed lodge site, as well as implementation of a potential community center at the existing lodge site. An analysis of summer conditions is also provided, which was not included in the original study.

Vehicular Access

Properly located access points are essential to allow for the safe and orderly movement of traffic in and out of a site. Recognizing this fact, Placer County has enacted ordinances to assure their proper placement. Full access to and from the proposed project site (Site D) is proposed to be provided via a new driveway on the north side of Polaris Road, immediately east of the high school driveway. Additionally, a connection between the school property and the project site would be constructed and would include a gate that would be locked for safety during school hours and when not needed. Under the project alternative (Site A), access to the site would be provided from Country Club Drive, consistent with existing conditions.

TRIP GENERATION

The first step in the analysis of future traffic impacts is to prepare an estimate of the number of one-way vehicle-trips generated by the proposed project. Trip generation is the evaluation of the number of vehicle-trips that would either have an origin or destination at the project site. As a cross-country ski resort is not a standard land use found in the Institute of Transportation Engineers (ITE) *Trip Generation* manual, trip generation is based on the existing trips currently generated by the existing facility, as well as the change in activities anticipated with the new facility. As standard trip generation rates are not provided for a cross-country ski lodge or community center, the trip generation of the project is estimated based upon a "person-trip analysis." Multiplying the number of persons visiting the site per day by the number of one-way person-trips per day (1 entering and 1 exiting) and dividing by the average vehicle occupancy

rate yields the number of vehicle trips generated at the site driveways. Identifying the existing trip generation is complicated by the fact that some of the existing parking occurs along the shoulders of Country Club Drive and Village Road (per an agreement with Placer County), and that homes along these streets (and beyond) add to the traffic in the vicinity.

Winter Trip Generation

Winter Trip Generation of Existing Site

The winter roadway counts were used to identify the peak-hour traffic generated by the existing Tahoe XC site. Two sets of roadway count volumes were collected; one on Village Road south of the Tahoe XC lodge and one on Country Club drive just north of the Tahoe XC lodge. Subtracting the two data sets from each other reflect the number of trips that are generated by the Tahoe XC lodge plus the trips generated by the nine homes located between the two roadway counters. To account for these additional homes, a trip rate is calculated by dividing the northern roadway volumes by the number of homes (25) past this counter. This trip rate is then applied to the nine homes adjacent to the Tahoe XC lodge (between the two count locations) and removed from the total volume count (difference between the southern and northern counts). The remaining trips, which are attributed to existing Tahoe XC lodge, are found to be 34 inbound and 15 outbound trips during the winter weekday PM peak hour and 24 inbound and 36 outbound trips during the weekend PM peak hour[2]. Over the course of an entire winter day, this methodology yields 372 total one-way vehicle-trips on a weekend day and 178 total one-way vehicle-trips on a weekday. The winter trip generation at the existing site is summarized in the lower portion of Table 1.

With the proposed relocation of the XC lodge activities to the new site, the existing lodge site is assumed to also function as a community center. On a typical busy day, a gathering of about 15 people may occur at the community center. However, a 30-person gathering is assumed in winter, to remain conservative (conservatively high) with respect to winter trip generation. Also, for purposes of traffic generation, this gathering is assumed to let out during the PM peak hour. Compared to the existing background traffic levels on Country Club Drive (excluding XC lodge traffic), this gathering would generate about a 10 percent increase in peak-hour traffic. Additionally, approximately 4 persons are assumed to be on the site over the course of the day, such as staff, service, and/or delivery trips. It should be noted that large wedding events are not expected to occur at the community center, and are not considered in this analysis.

Subtracting the existing XC lodge trips that would be removed from this site and adding the trips generated by the potential community center yields the project "net impact" on the number of trips at the existing site driveways. As shown in the lower portion of the table, the project would result in a net reduction of approximately 146 daily one-way vehicle trips at the

[2] The specific observed time of the PM peak-hour varied between individual days.

TABLE 1: Tahoe XC - Winter Trip Generation - Proposed Project (Site D)

Zone	Description	Quantity	Units	Vehicle Occupancy	Project Generated Vehicle Trips at Site Access - Weekday				Project Generated Vehicle Trips at Site Access - Weekend			
					Daily	PM Peak Hour			Daily	PM Peak Hour		
						In	Out	Total		In	Out	Total
Proposed Lodge Site (Site D)												
	Skier Activity - Proposed Lodge Site											
	Existing Lodge Use				178	34	15	49	372	24	36	60
	10% Increase in Visitation				18	3	2	5	37	2	4	6
	Subtotal: Skier Activity				*196*	*37*	*17*	*54*	*409*	*26*	*40*	*66*
	Gathering at New Lodge											
	Attendees	65	Attendees	1.8	72	36	0	36	72	36	0	36
	Staff/Service/Deliveries	2	Persons	1.1	4	2	0	2	4	2	0	2
	Subtotal Gathering at New Lodge				*76*	*38*	*0*	*38*	*76*	*38*	*0*	*38*
	Additional Employees at New Lodge (Weekends Only)											
	Staff	2	Staff	1.1	0	0	0	0	4	0	2	2
	Total Proposed Lodge				**272**	**75**	**17**	**92**	**489**	**64**	**42**	**106**
Existing Lodge Site												
	Remove Existing Lodge Use											
	Existing Use Relocated to New Lodge				*-178*	*-34*	*-15*	*-49*	*-372*	*-24*	*-36*	*-60*
	Potential Community Center											
	Attendees	30	Attendees	2.5	24	0	12	12	24	0	12	12
	Staff/Service/Deliveries	4	Persons	1.0	8	0	0	0	8	0	0	0
	Subtotal Community Center				*32*	*0*	*12*	*12*	*32*	*0*	*12*	*12*
	Net Impact at Existing Lodge				**-146**	**-34**	**-3**	**-37**	**-340**	**-24**	**-24**	**-48**
TOTAL PROJECT NET IMPACT - WINTER					***126***	***41***	***14***	***55***	***149***	***40***	***18***	***58***

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

existing site driveways over the course of a winter weekday, including a reduction of approximately 37 PM peak-hour one-way trips. On a winter weekend, the net reduction would be approximately 340 daily trips and 48 PM peak-hour trips.

Winter Trip Generation at Proposed New Lodge Site (Site D)

The winter trip generation at the proposed site is summarized in the upper portion of Table 1, and it is estimated based on the following assumptions:

- Although the new lodge is not expected to increase the general skier visitation to Tahoe XC, general visitation is assumed to increase by 10 percent in winter (in addition to the potential events and gatherings held at the new lodge), for purposes of this study. This is a conservatively high traffic increase assumption, as trip generation of a ski area is typically a function of the skiable terrain and skier capacity rather than lodge amenities.

- Some existing trailhead users will continue to use the existing lodge site (such as season pass holders living near the existing lodge site) while some will shift to the new location. However, for purposes of this analysis, all existing users are assumed to relocate to the new site, resulting in conservatively high traffic volume impacts at the new site and along Polaris Road and Old Mill Road.

- Additionally, on a typical busy winter day a 65-person[3] (including event attendees, staff, performers, volunteers) gathering is assumed to occur at the new lodge. This gathering event is assumed to start/arrive during the PM peak hour. The average vehicle occupancy rate of event attendees is assumed to be 1.8 persons per vehicle. This vehicle occupancy rate will vary depending upon type of event, with events geared for visitors and/or families generating a higher rate and those geared for locals and/or adults generating a lower rate. The Tahoe Regional Planning Agency (TRPA) 2016 Winter Travel Mode Survey found that 371 surveyed recreational travel groups in the Tahoe Region had an average vehicle occupancy of 2.72. Based on this, 1.8 persons per vehicle can be considered a conservative assumption, as it results in a conservatively high trip generation.

- No increase in total number of staff at the new lodge is expected on winter weekdays, although 2 additional staff members are assumed on winter weekends.

- An average employee vehicle occupancy rate of 1.1 staff per vehicle is assumed, based on a review of employee occupancy rates assumed for other similar facilities (such as the Tahoe Donner Cross Country Ski Center and the Tahoe City Golf Course). This is a conservatively low factor compared with the average work-trip vehicle occupancy generated by the TRPA 2016 Winter Travel Mode Survey (1.96) as well as the value of

[3] Although a 65 person gathering is assumed at the new lodge, a smaller gathering of only 30 persons is assumed at the potential community center at the existing site.

1.18 reported in the 2017 National Household Travel Survey conducted by the Federal Highway Administration.

As shown in the middle portion of Table 1, the proposed project would generate a total of approximately 272 daily one-way vehicle trips on a winter weekday and 489 daily trips on a winter weekend day. During the PM peak hours, 92 vehicle trips (75 arriving and 17 departing) would occur during the weekday PM and 106 (64 arriving and 42 departing) during the weekend PM.

Project Net Impact on Winter Trip Generation – Proposed Project (Site D)

As shown in Table 1, adding the project net impact at the existing site to the trip generation at the new site yields an overall net increase of 126 daily vehicle trip ends (DVTE) on weekdays and 149 DVTE's on weekends/holidays on the regional roadway network. The net increase on regional roads during the winter weekday PM peak hour would be approximately 55 one-way vehicle trips, and the net increase during a winter weekend would be 58 vehicle trips.

Winter Trip Generation of Project Alternative (Site A)

The winter trip generation of the project alternative (Site A), which would reconstruct the lodge at the existing site, is summarized in the upper portion of Table 2. As the reconstructed lodge would have the same size and layout as for the proposed project, the assumptions regarding activities at the new lodge are the same as for the proposed project. As shown in the lower row of Table 2, the project alternative (Site A) would result in a net increase of approximately 94 daily one-way vehicle trips on a winter weekday and 117 daily trips on a winter weekend day. During the PM peak hours, a net increase of 43 vehicle trips would occur during the weekday PM and a net increase of 46 vehicle trips would occur during the weekend PM.

Summer Trip Generation

Summer Trip Generation at Existing Site

The summer roadway counts were used to identify the peak-hour traffic generated by the existing XC lodge, applying the same method used for winter to adjust the roadway counts. The weekday and weekend PM peak-hour volumes at this location are generally similar, although the PM peak hour does not tend to occur at the same time each day. This study assumes the PM peak hour of site-generated traffic coincides with the PM peak hour of adjacent street traffic, to yield conservatively high traffic volumes. The existing Tahoe XC lodge is estimated to generate 17 inbound and 20 outbound trips during the summer PM peak hour. Over the course of a busy summer day, this methodology yields about 370 total daily one-way vehicle-trips. The summer trip generation at the existing site is summarized in the lower portion of Table 3.

TABLE 2: Tahoe XC - Winter Trip Generation - Project Alternative (Site A)

Zone	Description	Quantity	Units	Vehicle Occupancy	Project Generated Vehicle Trips at Site Access - Weekday				Project Generated Vehicle Trips at Site Access - Weekend			
					Daily	PM Peak Hour			Daily	PM Peak Hour		
						In	Out	Total		In	Out	Total
Alternative Lodge (Site A)												
	Skier Activity - New Lodge											
	Existing Lodge Use Relocated to New Lodge				178	34	15	49	372	24	36	60
	10% Increase in Visitation				18	3	2	5	37	2	4	6
	Subtotal: Skier Activity				*196*	*37*	*17*	*54*	*409*	*26*	*40*	*66*
	Gathering at New Lodge											
	Attendees	65	Attendees	1.8	72	36	0	36	72	36	0	36
	Staff/Service/Deliveries	2	Persons	1.1	4	2	0	2	4	2	0	2
	Subtotal Gathering at New Lodge				*76*	*38*	*0*	*38*	*76*	*38*	*0*	*38*
	Additional Employees at New Lodge (Weekends Only)											
	Staff	2	Staff	1.1	0	0	0	0	4	0	2	2
	Total Trip Generation				**272**	**75**	**17**	**92**	**489**	**64**	**42**	**106**
	PROJECT NET IMPACT (Total Minus Existing Trips)				***94***	***41***	***2***	***43***	***117***	***40***	***6***	***46***

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

TABLE 3: Tahoe XC - Summer Trip Generation - Proposed Project (Site D)

Description	Quantity	Units	Vehicle Occupancy Rate (persons/ vehicle)	Project Generated Vehicle Trips at Site Access			
				Daily	PM Peak Hour		
					In	Out	Total
Proposed Lodge Site (Site D)							
Existing Lodge & Trailhead Use (Relocated from Existing Site)	--	--	--	370	17	20	37
Add Gatherings at New Lodge							
Attendees	65	Attendees	1.8	72	36	0	36
Early Day Meeting	15	Attendees	1.8	17	0	0	0
Subtotal Gatherings				*89*	*36*	*0*	*36*
Additional Bike Rental Customers	5	Customers	2.5	4	0	0	0
Additional Lodge/Café/Rental Staff Employees	3	Employees	1.1	5	0	1	1
Add Youth Camp							
Participants	15	Participants	1.5	40	10	10	20
Staff	3	Staff	1.1	5	0	3	3
Subtotal Youth Camp				*45*	*10*	*13*	*23*
Total at Proposed Site				***513***	***63***	***34***	***97***
Existing Lodge Site							
Remove Existing Lodge & Trailhead Use				-370	-17	-20	-37
Add Potential Community Center							
Attendees	15	Attendees	2.5	12	0	6	6
Staff/Service/Deliveries	2	Persons	1.0	4	0	0	0
Subtotal Community Center				*16*	*0*	*6*	*6*
Net Impact at Existing Site				**-354**	**-17**	**-14**	**-31**
OVERALL PROJECT NET IMPACT ON TRIP GENERATION - SUMMER				***159***	***46***	***20***	***66***

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

With the proposed relocation of the XC lodge activities to the new site, the existing lodge site is assumed to function as a community center. The trip generation assumptions for the community center during the summer are different than in winter. On a typical busy summer day, a gathering of about 15 people may occur at the community center. For purposes of traffic generation, this gathering is assumed to let out during the PM peak hour. Additionally, approximately 2 persons are assumed to be on the site over the course of the day, such as staff, service, and/or delivery trips.

Subtracting the existing XC lodge trips that would be removed from this site and adding the trips generated by the potential community center yields a net reduction of approximately 354 daily one-way vehicle trips at the existing site driveways over the course of a summer day, including a reduction of approximately 31 PM peak-hour trips (17 entering and 14 exiting).

Summer Trip Generation at Proposed New Lodge Site (Site D)

The summer traffic generation at the new lodge site is estimated based on the following "design day" assumptions:

- It is not specified whether the project generates more traffic on summer weekends or weekdays. Rather, the "design day" for estimating the XC site-generated traffic is assumed to coincide with a busy traffic day on adjacent roadways (such as a Friday in August), to yield conservatively high traffic volumes.

- No expansion of the trail system is proposed. There are other trailhead access locations nearby, such as the recently constructed trailhead parking lot on SR 28 opposite Dollar Drive. General visitation levels to the trailheads in summer are not expected to increase as a result of the new lodge.

- Some existing trailhead users will continue to use the existing lodge site, and some will shift to the new location. However, for purposes of this analysis, all existing users are assumed to relocate to the new site, which results in conservatively high traffic volume impacts at the new site and along Polaris Road and Old Mill Road. Additionally, a 65-person gathering is assumed to occur at the new lodge on a busy summer day. This gathering event has the same trip generation assumptions in summer and winter.

- A 15-person meeting/gathering is also assumed to occur at the new lodge, earlier in the day.

- Trips associated with the bike rental operations are reflected in the "existing use" trips relocated from the existing site. However, the project proponent indicates that they expect bike rental operations at the new lodge to generate about 5 additional customers over the course of a busy day. Bike rental customers are assumed to have an average vehicle occupancy of 2.5 persons per vehicle.

- Three (3) additional summer lodge/café/rental staff members are assumed at the new site, above and beyond the existing staff that would be relocated from the existing lodge site.

- Junior mountain biking sessions and/or summer DEVO/Nordic dryland training activities are reflected in the existing use trips. (The project proponent confirmed that a junior mountain biking session did occur during the week of August 9-13, 2018 when the supplemental summer traffic counts were conducted.) With the proposed lodge, these activities are not expected to occur on the same day.

- Finally, summer youth camps could potentially occur at the new site. These camps are assumed to have 15 children and 3 staff on a typical busy day.

- Youth camp participants are assumed to have an average vehicle occupancy rate of 1.5 participants per vehicle, consistent with rates used for youth activities in other recent studies.

As shown in the middle portion of Table 3, the proposed project is estimated to generate approximately 513 daily one-way vehicle trips at the proposed site driveways on a summer day, including 97 PM peak-hour trips (63 arriving and 34 departing).

Project Net Impact on Summer Trip Generation – Proposed Project (Site D)

As shown in the bottom row of Table 3, adding the project net impact at the existing site to the trip generation at the new site yields an overall net increase of 159 daily vehicle trips (DVTE) on the regional roadway network. The net increase on regional roads during the summer PM peak hour would be approximately 66 one-way vehicle trips.

Summer Trip Generation of Project Alternative (Site A)

The summer trip generation of the project alternative (Site A) is summarized in the upper portion of Table 4. The assumptions regarding activities at the new lodge are the same as for the proposed project. As shown in the lower row of Table 4, the project alternative (Site A) would result in a net increase of approximately 143 daily one-way vehicle trips on a summer day, with a net increase of 60 vehicle trips (46 arriving and 14 departing) during the PM peak hour.

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of traffic arriving and departing the site is estimated based on existing traffic patterns, regional access patterns, and the location of the site relative to commercial and residential properties. To be conservative, no XC trips were assumed to travel to/from homes

TABLE 4: Tahoe XC - Summer Trip Generation - Project Alternative (Site A)

Zone	Description	Quantity	Units	Vehicle Occupancy Rate (persons/ vehicle)	Project Generated Vehicle Trips at Site Access			
					Daily	PM Peak Hour		
						In	Out	Total
Alternative Lodge (Site A)								
	Existing Lodge & Trailhead Use				370	17	20	37
	Add Gatherings at New Lodge							
	Attendees	65	Attendees	1.8	72	36	0	36
	Early Day Meeting	15	Attendees	1.8	17	0	0	0
	Subtotal Gatherings				*89*	*36*	*0*	*36*
	Additional Bike Rental Customers	5	Customers	2.5	4	0	0	0
	Additional Lodge/Café/Rental Staff Employees	3	Employees	1.1	5	0	1	1
	Add Youth Camp							
	Participants	15	Participants	1.5	40	10	10	20
	Staff	3	Staff	1.1	5	0	3	3
	Subtotal Youth Camp				*45*	*10*	*13*	*23*
	Total Trip Generation				***513***	***63***	***34***	***97***
	PROJECT NET IMPACT (Total Minus Existing Trips)				***143***	***46***	***14***	***60***

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

within the Highlands area. A resulting distribution of 55% to and from the west on SR 28 and 45% to and from the east on SR 28 was used for all scenarios.

Winter Traffic Assignment

If the lodge is built at the new site next to the North Tahoe High School, a shift in traffic will occur. Rather than using Fabian Way, Village Road and Country Club Drive, traffic to/from the east will divert and use Fabian Way, Village Road, and the entire length of Polaris Road. Ski area management has indicated that this route would be identified as the recommended route in marketing materials and on the website/social media. However, as travel between the new site and SR 28 to/from the west is substantially shorter using Old Mill Road, and as many drivers will be aware of the availability of this route either by being familiar with the roadway network or by using smartphone travel apps, it is estimated that 70% of traffic to and from the west will use Old Mill Road and Polaris Road to gain access to Tahoe XC in the winter if it is relocated to the new site. Traffic to/from the potential community center at the existing site location will be seen on the current roadway travel path (Fabian Way, Village Road, and Country Club Drive).

Applying these assumptions to the winter trip generation figures for the proposed project (Site D) and the project alternative (Site A) yields the 'project net impact' on intersection turning-movement volumes presented in Figures 4 and 5, respectively. Adding the 'project net impact' volumes to the 'existing winter no project' volumes yields the 'existing with project' intersection volumes illustrated in Figures 6 and 7 for the proposed project and the project alternative, respectively.

Summer Traffic Assignment

The east-west split (distribution) of project trips in the summer is the same as in winter, although the travel route assumptions are different for the proposed lodge site. All trips made between the proposed site and points east on SR 28 are assumed to use Fabian Way, Village Road, and Polaris Road, whereas all trips mad e to/from the west are assumed to use the Old Mill Road route. Under the project alternative (Site A), traffic to/from the new lodge on the existing site will be seen on the current roadway travel path (Fabian Way, Village Road, and Country Club Drive).

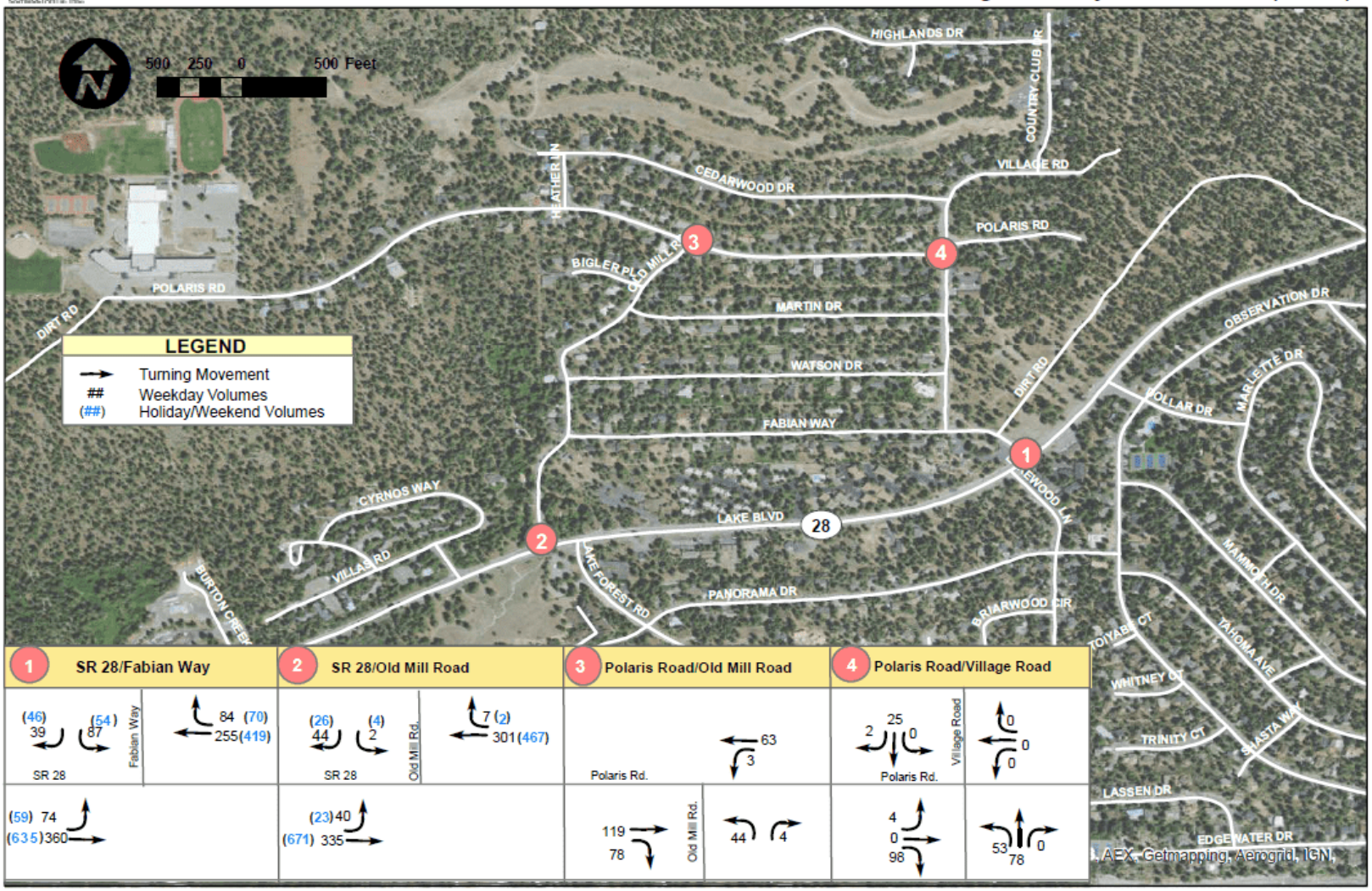
Applying these assumptions to the summer trip generation figures for the proposed project (Site D) and the project alternative (Site A) yields the 'project net impact' on intersection turning-movement volumes. Adding the 'project net impact' volumes to the 'existing summer no project' volumes yields the 'existing with project' intersection volumes. (The summer volumes from a previous analysis that assumed more activity at the site are provided in Appendix B. However, the summer volumes associated with the currently proposed project would be lower than those volumes.)

Figure 4
Winter Net Impact - Proposed Project (Site D)
LEGEND
Turning Movement
Weekday Volumes
(##) Holiday/Weekend Volumes
500 250 0 500 Feet
1 SR 28/Fabian Way
2 SR 28/Old Mill Road
3 Polaris Road/Old Mill Road
4 Polaris Road/Village Road
SR 28
Fabian Way
Old Mill Rd.
Polaris Rd.
Village Road
HIGHLANDS DR
COUNTRY CLUB DR
VILLAGE RD
POLARIS RD
DIRT RD
CEDARWOOD DR
MARTIN DR
WATSON DR
FABIAN WAY
HEATHER LN
BIGLER PL
LAKE BLVD
LAKE FOREST RD
PANORAMA DR
RIMWOOD DR
LINEWOOD LN
OBSERVATION DR
MARBLE TOP DR
POLLARD DR
MAMMOTH DR
TAHOMA AVE
SHASTA WAY
TRINITY CT
WHITNEY CT
ROYAL CT
LASSEN DR
EDGEWATER DR
CYRNOS WAY
VISTA DR
BURTON CREEK
28

Figure 5
Winter Net Impact - Project Alternate (Site A)

Figure 6
Winter Existing With Proposed Project (Site D)
LEGEND
Turning Movement
Weekday Volumes
(##) Holiday/Weekend Volumes
500 250 0 500 Feet
N
1 SR 28/Fabian Way
2 SR 28/Old Mill Road
3 Polaris Road/Old Mill Road
4 Polaris Road/Village Road
Fabian Way
SR 28
Old Mill Rd.
Polaris Rd.
Village Road
(43) 46
(45) 88
85(58)
255 (43 1)
(48) 48
(4) (2)
7 (14)
308 (464)
109
3
20
2
0
0
(34) 44
(635)360
(48) 69
(646) 305
132
82
73
4
4
0
111
99
3
0
0
0
POLARIS RD
DIRT RD
COUNTRY CLUB DR
VILLAGE RD
HIGHLANDS DR
CEDARWOOD DR
HEATHER LN
BIGLER PL
MARTIN DR
WATSON DR
FABIAN WAY
CYRNOS WAY
VILLA RD
BURTON CREEK
LAKE BLVD
28
LAKE FOREST RD
PANORAMA DR
RAINBOW DR
DIRT RD
OBSERVATION DR
MARLETTE DR
DOLLAR DR
MAMMOTH DR
TAHOMA AVE
SHASTA WAY
TRINITY CT
WHITNEY CT
TOYABE CT
LASSEN DR
EDGEWATER DR
AEX, Getmapping Aerogrid, IGN,

Figure 7
Winter Existing With Project Alternative (Site A)



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Section 4

FUTURE CUMULATIVE CONDITIONS

In addition to incorporating the vehicular impacts of the new (and potentially relocated) lodge, potential future developments and forecasted changes in traffic on major roadways in the community were reviewed. The future cumulative background traffic volumes used in this study include the addition of the following:

- Increase in through traffic on SR 28 in winter is based on the growth in traffic indicated in the Draft EIS/EIR for the Squaw Valley/Alpine Meadows Base-to-Base Gondola project. The estimated increase in through traffic volumes on SR 28 in Tahoe City is approximately 19.3 percent in the winter PM peak hour. This growth is applied to the existing winter through volumes on SR 28 in the site vicinity.

- Increase in through traffic on SR 28 in summer is based on the growth in traffic indicated in the adopted Placer County Tahoe Basin Area Plan EIR/EIS. The estimated increase in through traffic volumes on SR 28 in the site vicinity is approximately 13.8 percent in summer.

- The potential Dollar Creek Crossing project is located in the northeast quadrant of the SR 28/Fabian Way intersection. As this project is in the early planning stages, the specific details regarding the proposed land uses and access were not available at the time of completion of the traffic analysis. Thus, a preliminary estimate of 169 new multi-family residential units was assumed to be constructed, with 50% of the vehicle trips to and from the facility accessing via a driveway on SR 28 and the other 50% assumed to access the site via a potential new driveway on Fabian Way. Standard Institute of Transportation Engineers (ITE) trip generation rates were used to estimate the trip generation of the 169 units. As of May 2019, the Dollar Creek Crossing project proponents indicated that the project could include up to 214 residential units, which would almost entirely be multi-family residential units and a few single-family residential units. The difference between the modeled number of residential units and the most recent available greater number of residential units presented in May 2019 is not anticipated to result in a substantial change in the cumulative traffic analysis such that there would be a change in the impact conclusions.

- To estimate growth in traffic on the side streets in the study area, the growth in land use at buildout of the Area Plan (based on TRPA TransCAD Travel Demand Model land use files) was reviewed. Based on this review, the following future development is assumed:

    - Development of 4 additional homes in The Highlands neighborhood (on the north side of SR 28, between Old Mill Road and Village Road).

- Development of 7 additional homes in the Lake Forest neighborhood (on the south side of SR 28, accessed via Lake Forest Road).

- Development of 18 additional homes in Dollar Point (on the south side of SR 28, with access assumed via Dollar Drive and Lakewood Drive).

The trip generation of the additional homes is estimated using standard ITE trip rates for single-family homes.

- The approved Dollar Creek Forest Health and Biomass projects are expected to occur in 2019 and 2020. As the traffic associated with this project would be temporary and prior to completion of a new lodge, no additional traffic is assumed under future cumulative conditions.

- Finally, the North Tahoe School/North Tahoe High School Facilities Program is in the early planning stages. However, based on the nature of the potential improvements, this project would not be expected to generate a notable change in traffic or parking levels, once constructed.

The growth in traffic volumes associated with the items listed above was applied to the winter and summer volumes for the existing year scenarios to determine future cumulative scenario volumes (with and without the project). The future cumulative winter volumes are presented in Figures 8 through 10. (The future cumulative summer volumes from a previous analysis that assumed more activity at the site are provided in Appendix B. However, the future summer volumes associated with the currently proposed project would be lower than those volumes).

Figure 8
Winter Future No Project Volumes

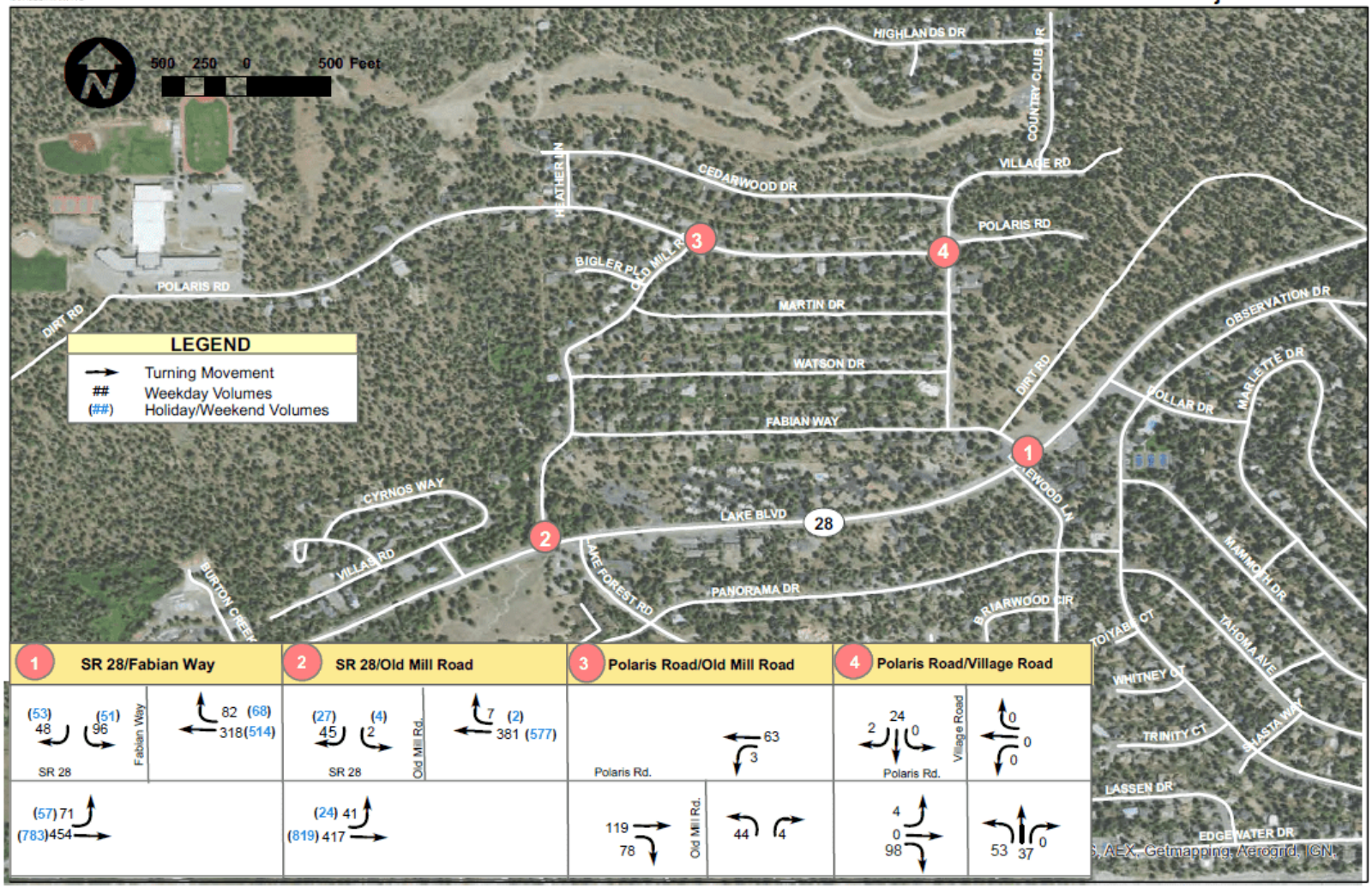

Figure 9
Winter Future With Proposed Project (Site D)
LEGEND
Turning Movement
Weekday Volumes
Holiday/Weekend Volumes
500 250 0 500 Feet
1 SR 28/Fabian Way
2 SR 28/Old Mill Road
3 Polaris Road/Old Mill Road
4 Polaris Road/Village Road
Fabian Way
SR 28
Old Mill Rd.
Polaris Rd.
Village Road
POLARIS RD
DIRT RD
CEDARWOOD DR
MARTIN DR
WATSON DR
FABIAN WAY
BIGLER PL
HEATHER LN
LAKE BLVD
LAKE FOREST RD
PANORAMA DR
CYNDS WAY
VILLA RD
BURTON CREEK
HIGHLANDS DR
COUNTRY CLUB DR
VILLAGE RD
OBSERVATION DR
DOLLAR DR
MARLETTE DR
MAMMOTH DR
TAHOMA AVE
SHASTA WAY
TRINITY CT
WHITNEY CT
JOVAN CT
SHARWOOD DR
LASSEN DR
EDGEWATER DR
28
(53) 56
(55) 88
101 (74)
318 (526)
(49) 49
(4) 2
7 (14)
389 (577)
(54) 64
(783) 454
(49) 70
(816) 410
132
82
109
3
73
4
21
2
0
0
4
0
111
99
3
0
0
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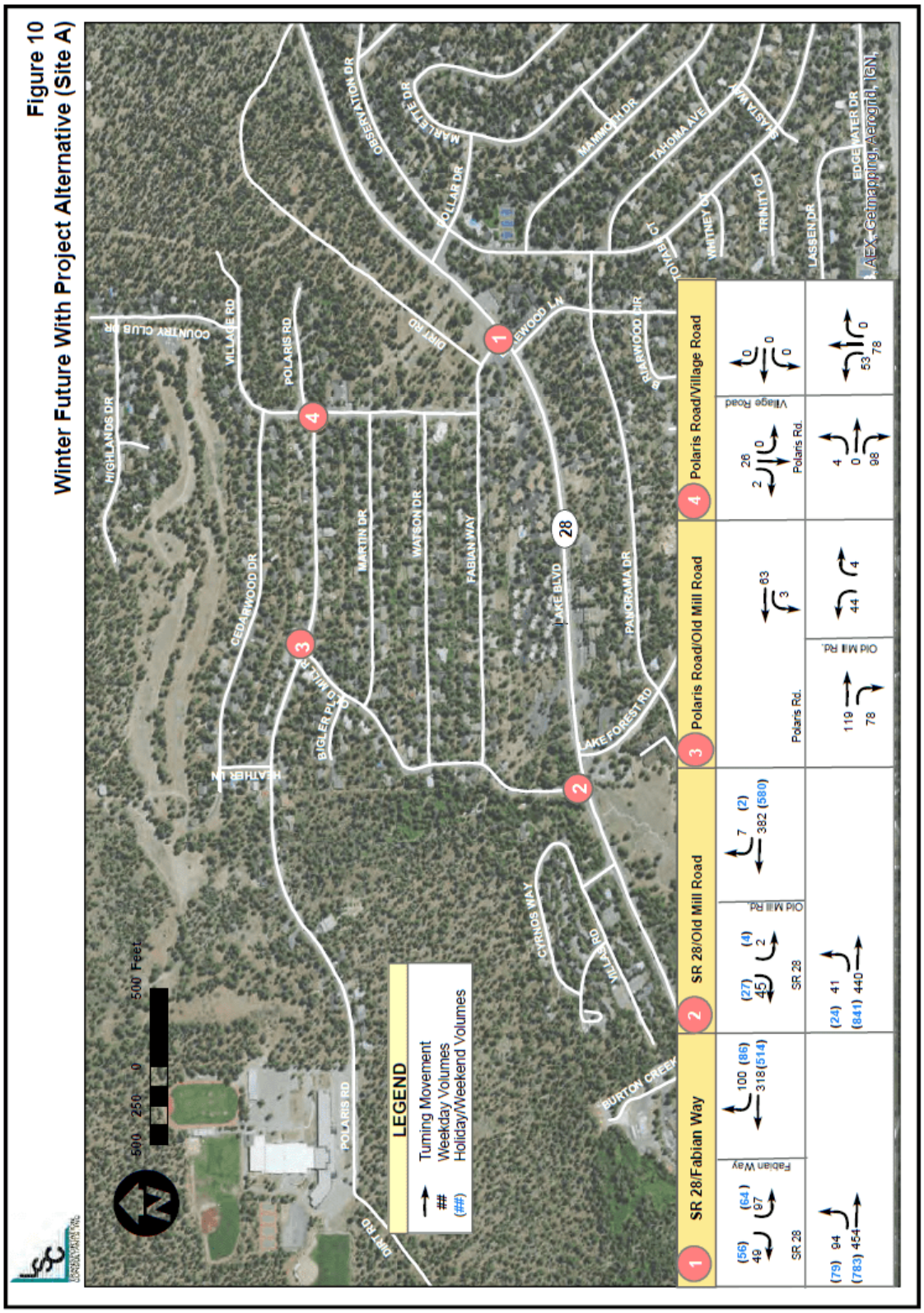
Figure 10
Winter Future With Project Alternative (Site A)
LEGEND
Turning Movement
Weekday Volumes
(##) Holiday/Weekend Volumes
500 250 0 500 Feet
1 SR 28/Fabian Way
2 SR 28/Old Mill Road
3 Polaris Road/Old Mill Road
4 Polaris Road/Village Road
SR 28
Fabian Way
Old Mill Rd.
Polaris Rd.
Village Road
HIGHLANDS DR
COUNTRY CLUB DR
VILLAGE RD
POLARIS RD
DIRT RD
CEDARWOOD DR
MARTIN DR
WATSON DR
FABIAN WAY
LAKE BLVD
PANORAMA DR
RIVERWOOD DR
LAKE FOREST RD
CYRNOS WAY
VILLA RD
BURTON CREEK
OBSERVATION DR
MARLETTE DR
DOLLAR DR
MAMMOTH DR
TAHOMA AVE
SHASTA WAY
WHITNEY CT
TRINITY CT
LASSEN DR
EDGEWATER DR
AEX - Geimapping, Aerogrid, NGN

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Section 5

LEVEL OF SERVICE ANALYSIS

DESCRIPTION

Traffic operations were assessed in terms of Level of Service (LOS). LOS is a concept that was developed by transportation engineers to quantify the level of operation of intersections and roadways (Highway Capacity Manual, Transportation Research Board, 2017). LOS measures are classified in grades "A" through "F" indicating a range of operation. LOS "A" signifies the best level of operation, while "F" represents the worst. A detailed description of LOS criteria is provided in Appendix B.

For signalized intersections, LOS is primarily measured in terms of average delay per vehicle entering the intersection. LOS at unsignalized intersections is quantified in terms of delay per vehicle for each movement. Unsignalized intersection LOS is based upon the theory of gap acceptance for side-street stop sign-controlled approaches, while signalized intersection LOS is based upon the assessment of volume-to-capacity ratios and control delay. Roundabout LOS is based upon the theory of gap acceptance for the traffic entering the roundabout, and an assessment of the conflicting circulating flow.

LEVEL OF SERVICE STANDARDS

TRPA

While TRPA's Goals and Policies in the Regional Plan Transportation Element set standards for vehicle LOS for roadways and signalized intersections, TRPA has no standards specific to unsignalized intersections. Typically, a project that causes a study intersection not controlled by a signal or roundabout to worsen from LOS A through E to LOS F, or to increase delay where LOS F currently exists, would be identified as a concern.

Caltrans

The California Department of Transportation (Caltrans) prepares Transportation Corridor Concept Reports for each highway in the state system, which include a "20 Year Concept LOS" for each segment. Reflecting forecast conditions and the limited opportunities to expand capacity in the Tahoe region, the most recent Transportation Corridor Concept Report (2012) identifies a 20-year concept LOS of LOS E for all segments of SR 28. The standards set forth by the TRPA typically govern over the state standards for projects located within the Tahoe Basin, but any projects affecting a state highway are also subject to Caltrans review.

Placer County

Placer County defines its LOS standard as "D" for locations within one-half mile of a state highway (encompassing the Tahoe XC study area), and "C" for other locations. According to County policy, the County's LOS standards for the state highway system shall be no worse than those adopted in the Placer County Congestion Management Program (CMP). The LOS standard in the CMP for roadways and signalized intersections located along state highways is "E." If worst movement LOS at an unsignalized intersection in Placer County exceeds LOS standards, a "Peak-Hour" signal warrant analysis, consistent with the Manual of Uniform Traffic Control Devices (MUTCD), is required. If the intersection attains minimum signal warrant volumes, mitigation is required.

INTERSECTION LEVEL OF SERVICE ANALYSIS

Intersection LOS for the study intersections was evaluated using the methodologies documented in the Highway Capacity Manual (HCM 6), as applied the Highway Capacity Software (HCS 7). All study intersections were evaluated to determine existing and future cumulative operational conditions for the winter weekday PM, winter weekend/holiday PM and summer PM peak hours. Note that the summer PM peak-hour volumes reflect a Friday in August, consistent with Placer County's standard design period. In addition, this study assumes the PM peak hour of XC site-generated traffic coincides with the PM peak hour of adjacent street traffic, in order to yield conservatively high traffic volumes. Detailed LOS outputs can be found in Appendix C.

Existing Year LOS

As indicated in the upper portion of Tables 5 and 6 below, all study intersections currently operate at a relatively good LOS A or B in the winter and summer without the project. Although implementation of the project could result in a slight increase in average delays during peak periods, all intersections would continue to operate at LOS A or B, under either project alternative. The greatest increase in delays would occur at the SR 28/Fabian Way intersection, where the project traffic would increase the average delay on the southbound left-turn movement from Fabian onto SR 28 by up to 1.7 seconds per vehicle during peak periods. However, no LOS deficiencies are identified.

Future Cumulative Year LOS

The future cumulative intersection LOS results are shown in the lower portion of Tables 5 and 6. With the future background traffic growth, some study intersections may experience a slight increase in driver delays, although all intersections would continue to operate at LOS A or B in the winter and summer without the project. Implementation of either project alternative could result in a slight increase in average delays during peak periods. However, all intersections would continue to operate at an acceptable LOS A or B during the winter and summer.

TABLE 5: Tahoe XC Winter Intersection Level of Service

Intersection	Analysis Period	Winter No Project LOS	Winter No Project Delay (sec)	Winter With Proposed Project (Site D) LOS	Winter With Proposed Project (Site D) Delay (sec)	Winter With Project Alternative (Site A) LOS	Winter With Project Alternative (Site A) Delay (sec)
EXISTING CONDITIONS							
SR 28/Fabian Way	Weekday PM	A	9.7	A	9.5	A	10.0
SR 28/Old Mill Rd	Weekday PM	A	9.8	A	9.9	A	9.8
Polaris Rd/Old Mill Rd	Weekday PM	A	8.1	A	8.5	A	8.1
Polaris Rd/Village Dr	Weekday PM	A	8.9	A	9.0	A	8.9
SR 28/Fabian Way	Weekend/Holiday PM	A	9.9	A	9.6	B	10.2
SR 28/Old Mill Rd	Weekend/Holiday PM	B	10.1	B	10.7	B	10.1
FUTURE CONDITIONS							
SR 28/Fabian Way	Weekday PM	B	10.4	B	10.1	B	10.8
SR 28/Old Mill Rd	Weekday PM	B	10.3	B	10.4	B	10.3
Polaris Rd/Old Mill Rd	Weekday PM	A	8.1	A	8.5	A	8.1
Polaris Rd/Village Dr	Weekday PM	A	8.9	A	9.0	A	8.9
SR 28/Fabian Way	Weekend/Holiday PM	B	11.2	B	10.8	B	11.7
SR 28/Old Mill Rd	Weekend/Holiday PM	B	10.8	B	11.5	B	10.9

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

TABLE 6: Tahoe XC Summer Intersection Level of Service

Intersection	Analysis Period [2]	Summer No Project LOS	Summer No Project Delay (sec)	Summer With Proposed Project (Site D) [1] LOS	Summer With Proposed Project (Site D) [1] Delay (sec)	Summer With Project Alternative (Site A) [1] LOS	Summer With Project Alternative (Site A) [1] Delay (sec)
EXISTING CONDITIONS							
SR 28/Fabian Way	PM	A	9.3	B	11.0	A	9.7
SR 28/Old Mill Rd	PM	B	10.1	B	10.7	B	10.2
Polaris Rd/Old Mill Rd	PM	A	7.1	A	7.7	A	7.1
Polaris Rd/Village Dr	PM	A	8.9	A	9.5	A	9.5
FUTURE CONDITIONS							
SR 28/Fabian Way	PM	B	10.3	B	12.0	B	10.9
SR 28/Old Mill Rd	PM	B	10.6	B	11.3	B	10.8
Polaris Rd/Old Mill Rd	PM	A	7.1	A	7.7	A	7.1
Polaris Rd/Village Dr	PM	A	8.9	A	9.5	A	9.5

Note 1: The 'summer with project' LOS calculations are based on volumes from a previous analysis that assumed more activities at the site. These volumes are contained in Appendix B. The summer volumes associated with the currently proposed project would be lower than these volumes. As such, the LOS with the currently proposed project would be the same or better.

Note 2: The summer PM peak-hour volumes reflect a Friday in August, consistent with Placer County's standard design period.

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

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Section 6

PARKING ANALYSIS

The parking evaluation of the Tahoe XC Lodge identifies the current demand of the existing XC facility as well as determines the capacity needed at the proposed facility. As the proposed new Tahoe XC site is adjacent to the High School, an analysis of the feasibility of shared parking is performed in order to consider whether peak parking demand of the XC lodge occurring on a weekend when school is not in session can be accommodated through use of the available parking at the high school. The peak parking demand is compared to the proposed parking supply for each alternative in order to determine the overall parking balance.

WINTER PARKING ANALYSIS

Winter Skier Parking Demand

Hourly parking lot volume counts for winter conditions were conducted at the existing Tahoe XC site on December 31, 2015 and again on Friday, January 15, 2016. Parking counts at the North Tahoe High School were conducted on Friday, January 15, 2016. These counts are presented in Table 7. The maximum observed parking activity was 123 cars parked around the XC center at the peak time on the peak day (New Year's Eve). As there was still available parking at this time, there was no potential that these counts did not reflect the full parking demand of the XC center.

Daily ticket sales data for the 2010/11 ski season (the most recent available good snow year at the time this study was conducted) were obtained and evaluated, considering the ratio of maximum parked cars to ticket sales on the dates of the parking surveys. Table 8 below presents the resulting estimate of the peak parking demand for each day of the ski season. The variation in ticket sales were used along with the observed parking demand on the two days to estimate the daily demand. This is also shown in the graph in Figure 11. Including the 10% growth, the absolute maximum parking demand associated with skier activity is 135.

Winter Additional Parking Demand

Table 9 presents the estimation of parking demand associated with the additional activities at the proposed lodge. As discussed in the trip generation analysis, a 65-attendee gathering is assumed to occur in the evening. Applying the vehicle occupancy rates used in the trip generation analysis yields a total parking demand of approximately 38 vehicles for the gathering. However, given that the peak periods of skier-related parking activity occur earlier in the day, only 2 parking spaces (associated with the 2 staff for the gathering) are assumed to

TABLE 7: Winter Parking Counts

	Tahoe Cross Country Parking Count						North Tahoe High School Parking Count			
Hour Beginning	XC Parking Lot	On Country Club Dr, West Side	On Country Club Dr, East Side	On Village	On Highlands	**Total**	Lower Southern Lot	Middle Lot (Seniors)	Upper Northern Lot	**Total**
Winter Holiday 12/31/2015										
8:00 AM	16	0	0	0	0	**16**	-	-	-	**-**
9:00 AM	35	1	0	0	0	**36**	-	-	-	**-**
10:00 AM	50	17	0	0	1	**68**	-	-	-	**-**
11:00 AM	49	24	0	7	9	**89**	-	-	-	**-**
12:00 PM	51	25	0	16	14	**106**	-	-	-	**-**
1:00 PM	51	30	0	22	20	**123**	-	-	-	**-**
2:00 PM	48	31	0	16	20	**115**	-	-	-	**-**
3:00 PM	47	23	0	10	11	**91**	-	-	-	**-**
4:00 PM	32	13	0	3	5	**53**	-	-	-	**-**
Winter Weekday 1/15/2016										
8:00 AM	6	0	0	1	0	**7**	34	17	40	**91**
9:00 AM	14	0	0	0	0	**14**	35	18	45	**98**
10:00 AM	29	0	0	0	0	**29**	40	18	46	**104**
11:00 AM	45	4	0	0	0	**49**	41	16	46	**103**
12:00 PM	48	12	0	0	0	**60**	39	12	40	**91**
1:00 PM	46	11	0	0	0	**57**	36	12	42	**90**
2:00 PM	40	9	0	0	0	**49**	37	6	35	**78**
3:00 PM	42	4	0	0	0	**46**	19	0	15	**34**
4:00 PM	43	18	0	0	0	**61**	5	0	20	**25**

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

TABLE 8: Estimated Daily Skier Peak Parking Demand

Including 10 Percent Future Growth

High School Days Shown in Blue

January			February			March			April		
Date		Parking Demand	Date		Parking Demand	Date		Parking Demand	Date		Parking Demand
1-Dec	Wednesday	8	1-Jan	Saturday	70	1-Feb	Tuesday	29	1-Mar	Tuesday	44
2-Dec	Thursday	5	2-Jan	Sunday	40	2-Feb	Wednesday	30	2-Mar	Wednesday	5
3-Dec	Friday	4	3-Jan	Monday	12	3-Feb	Thursday	20	3-Mar	Thursday	28
4-Dec	Saturday	16	4-Jan	Tuesday	27	4-Feb	Friday	30	4-Mar	Friday	32
5-Dec	Sunday	18	5-Jan	Wednesday	38	5-Feb	Saturday	76	5-Mar	Saturday	82
6-Dec	Monday	5	6-Jan	Thursday	40	6-Feb	Sunday	36	6-Mar	Sunday	40
7-Dec	Tuesday	12	7-Jan	Friday	50	7-Feb	Monday	22	7-Mar	Monday	47
8-Dec	Wednesday	8	8-Jan	Saturday	50	8-Feb	Tuesday	30	8-Mar	Tuesday	19
9-Dec	Thursday	3	9-Jan	Sunday	38	9-Feb	Wednesday	25	9-Mar	Wednesday	26
10-Dec	Friday	8	10-Jan	Monday	17	10-Feb	Thursday	15	10-Mar	Thursday	19
11-Dec	Saturday	29	11-Jan	Tuesday	34	11-Feb	Friday	34	11-Mar	Friday	33
12-Dec	Sunday	37	12-Jan	Wednesday	32	12-Feb	Saturday	68	12-Mar	Saturday	69
13-Dec	Monday	17	13-Jan	Thursday	18	13-Feb	Sunday	41	13-Mar	Sunday	36
14-Dec	Tuesday	1	14-Jan	Friday	33	14-Feb	Monday	11	14-Mar	Monday	22
15-Dec	Wednesday	16	15-Jan	Saturday	114	15-Feb	Tuesday	24	15-Mar	Tuesday	4
16-Dec	Thursday	14	16-Jan	Sunday	94	16-Feb	Wednesday	7	16-Mar	Wednesday	9
17-Dec	Friday	4	17-Jan	Monday	44	17-Feb	Thursday	13	17-Mar	Thursday	17
18-Dec	Saturday	36	18-Jan	Tuesday	96	18-Feb	Friday	29	18-Mar	Friday	28
19-Dec	Sunday	6	19-Jan	Wednesday	20	19-Feb	Saturday	68	19-Mar	Saturday	28
20-Dec	Monday	35	20-Jan	Thursday	23	20-Feb	Sunday	131	20-Mar	Sunday	23
21-Dec	Tuesday	34	21-Jan	Friday	49	21-Feb	Monday	61	21-Mar	Monday	28
22-Dec	Wednesday	36	22-Jan	Saturday	72	22-Feb	Tuesday	40	22-Mar	Tuesday	29
23-Dec	Thursday	48	23-Jan	Sunday	41	23-Feb	Wednesday	41	23-Mar	Wednesday	24
24-Dec	Friday	66	24-Jan	Monday	22	24-Feb	Thursday	40	24-Mar	Thursday	16
25-Dec	Saturday	85	25-Jan	Tuesday	34	25-Feb	Friday	4	25-Mar	Friday	34
26-Dec	Sunday	56	26-Jan	Wednesday	25	26-Feb	Saturday	57	26-Mar	Saturday	46
27-Dec	Monday	98	27-Jan	Thursday	25	27-Feb	Sunday	51	27-Mar	Sunday	31
28-Dec	Tuesday	111	28-Jan	Friday	27	28-Feb	Monday	29	28-Mar	Monday	24
29-Dec	Wednesday	76	29-Jan	Saturday	113				29-Mar	Tuesday	28
30-Dec	Thursday	101	30-Jan	Sunday	35				30-Mar	Wednesday	26
31-Dec	Friday	**135**	31-Jan	Monday	27				31-Mar	Thursday	23

Note: Based on parking counts conducted 12/31/15 and 1/15/16. Daily variation in activity is based on daily ticket sales from the 2010/2011 ski season.

Source: LSC Transportation Consultants, Inc.

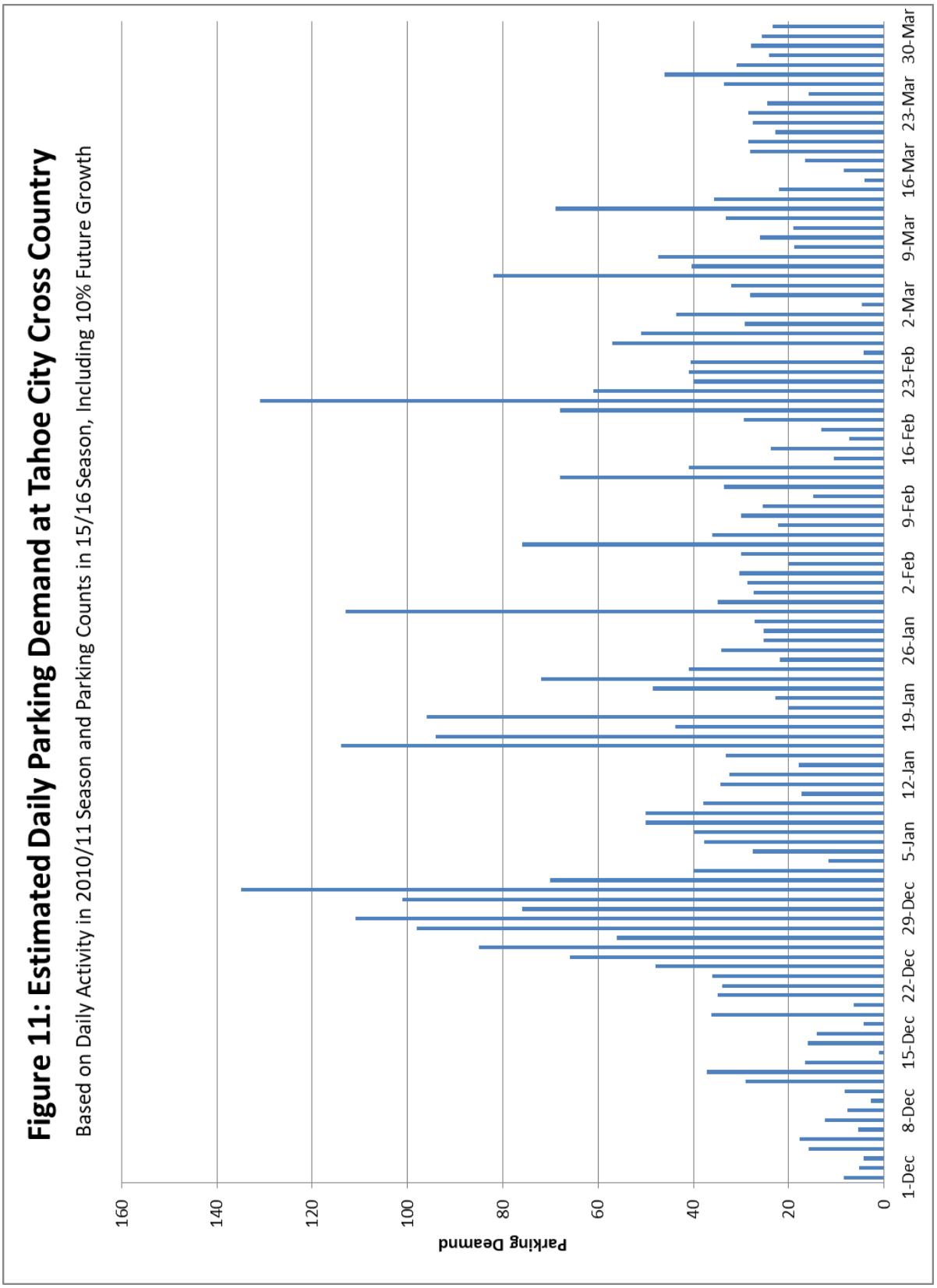
Figure 11: Estimated Daily Parking Demand at Tahoe City Cross Country
Based on Daily Activity in 2010/11 Season and Parking Counts in 15/16 Season, Including 10% Future Growth
Parking Deamnd
160
140
120
100
80
60
40
20
0
1-Dec
8-Dec
15-Dec
22-Dec
29-Dec
5-Jan
12-Jan
19-Jan
26-Jan
2-Feb
9-Feb
16-Feb
23-Feb
2-Mar
9-Mar
16-Mar
23-Mar
30-Mar

TABLE 9: Tahoe XC - Winter Additional Parking Demand

Zone	Description	Quantity		Units	Vehicle Occupancy	Parking Demand of Individual Use		% Present in Peak Period	Parking Demand During Peak Period	
		Midweek	Weekend			Midweek	Weekend		Midweek	Weekend
Proposed Lodge Site Additional Demand (excluding skier activity)										
	Gathering at New Lodge									
	Attendees	65	65	Attendees	1.8	36	36	0%	0	0
	Staff	2	2	Staff	1.1	2	2	100%	2	2
	Subtotal Gathering at New Lodge					*38*	*38*		*2*	*2*
	Additional Employees at New Lodge (Weekends Only)	0	2	Staff	1.1	0	2	100%	0	2
	Total Parking Demand Proposed Lodge								**2**	**4**
Existing Lodge Site										
	Potential Community Center									
	Attendees	30	30	Attendees	2.5	12	12	100%	12	12
	Staff/Service/Deliveries	4	4	Persons	1.0	4	4	100%	4	4
	Total Community Center								*16*	*16*

Note:

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

be needed for the gathering during the peak period of parking demand on the site, as the attendees would not be on site until later in the day.

As also shown in the table, there would be 2 additional XC staff on winter weekend days, requiring 2 parking spaces. The resulting total parking demand of the additional uses proposed at the lodge is 2 spaces on a weekday and 4 spaces on a weekend. These figures are added to the skier parking demand to determine the overall parking demand at the proposed lodge.

Winter Parking Demand at Potential Community Center

With the proposed project, the existing lodge site is assumed to function as a community center. The peak parking demand of the community center is summarized in the lower portion of Table 9. As discussed in the trip generation analysis, a 30-attendee gathering is assumed to occur in winter, and 4 additional staff or service persons are assumed to be on the site. Applying the vehicle occupancy rates used in the trip generation analysis yields a total parking demand of approximately 16 vehicles.

Winter Parking Balance

Table 10 presents a summary of the number of days with varying levels of peak skier parking demand. Adding the 4 spaces for the additional employees on site yields the total number of spaces needed at the proposed lodge, shown in the far right column of the table. This can be used to identify the number or percent of days that could be accommodated with the proposed onsite parking. The project proposes to provide 100 parking spaces (plus two bus loading spaces) at the new lodge facility. As indicated in Table 10, this would accommodate the peak parking demand on 94% of the days (with only 7 days per year requiring parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39 (139 maximum demand minus 100 parked on-site).

The parking counts conducted on January 15th also included the parking lots at the High School. The maximum High School parking demand was observed to be 104 cars. There are a total of 215 spaces on the High School side of the campus (excluding the Middle School side). Taking a 15 percent reduction for snow storage, 183 spaces are available in a snowy winter. Subtracting the observed peak demand, up to 79 spaces are currently available on school days, potentially available for use by XC skiers. Note that this does not reflect special events at the school, such as a basketball game.

TABLE 10: Days per Winter Season by Peak Parking Demand
Including 10 Percent Future Growth

Peak Parked Skier Vehicles	Days	Percent of Season	Total Parked Vehicles at Proposed Lodge (including skier activity + 4 additional employees)	Days That Demand Exceeds Supply [1]
135	1	1%	139	1
100-134	5	4%	138	5
96-100	1	1%	104	1
90-96	2	2%	**100**	-
80-90	2	2%	94	-
70-80	4	3%	84	-
60-70	5	4%	74	-
50-60	5	4%	64	-
40-50	13	11%	54	-
30-40	21	17%	44	-
20-30	31	26%	34	-
10-20	16	13%	24	-
0-10	15	12%	14	-
Total days	*121*	*100%*		*7*

Percent of Winter Season Days That Demand Exceeds Supply	*6%*
Percent of Winter Season Days That Can Be Accommodated at Proposed Lodge	***94%***

Note 1: Excludes consideration of high school lot supply.
Source: LSC Transportation Consultants, Inc. *2019 Tahoe XC.xlsx*

Table 8 shows the days that the High School is in session, which is useful in assessing the ability for high school parking areas to accommodate the off-site parking. For instance, the busiest day that is also a school day is January 18th, with a peak skier parking demand of 96 spaces, resulting in a total parking demand of 100 spaces (including the 4 additional employee spaces). As 100 spaces would be provided at the new lodge site, no high school parking spaces would be needed. As such, barring a special event at the high school or ski area, adequate overall parking supply would be provided on school days without the potential for "spill-over" parking occurring on nearby residential streets. Moreover, school special events during a school day does not result in a shortage of XC spaces, as all XC parking demand during a school day can be provided within the XC site (regardless of the time of day that the school special event occurs).

On non-school days, with 100 spaces onsite up to 39 high school spaces would be required, which is well below the 183 spaces in the high school lots. This therefore would provide more than adequate parking, barring a special event (like a Saturday basketball tournament). If the proposed new site is selected and limited onsite parking provided, there would need to be careful coordination between special events occurring at the high school and the ski area, to ensure that high school special events do not coincide with expected days of peak ski area parking demand.

Winter Parking Balance at Community Center

Finally, as the existing XC site provides 46 parking spaces, implementation of the potential community center would result in an excess of approximately 30 spaces at the existing site (46 minus 16 needed for the community center).

Parking Balance Under Project Alternative (Site A)

If the new lodge is constructed at the existing site under the project alternative (Site A), the parking demand would be the same as under the proposed project (Site D). The parking supply would also be the same, with 100 parking spaces (plus two bus loading spaces). This would accommodate the peak parking demand on 94% of the days (with only 7 days per year of parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39 (139 maximum demand minus 100 parked on-site).

SUMMER PARKING ANALYSIS

The summer season for purposes of this analysis is defined as after the close of school in June and prior to the opening of school in late August or early September.

Summer Existing Parking Demand

Hourly parking lot volume counts for summer conditions were conducted at the existing XC site and at North Tahoe High School on Saturday, August 18, 2018 to capture a typical summer weekend day. Additional counts were conducted on Sunday, August 26, 2018 to capture the volumes when a major event was hosted (a mountain biking event at the high school).

On a typical summer day, the existing XC parking lot had a maximum of 19 vehicles (which occurred at the noon hour) and the high school area had 4 parked cars (in the 10:00 AM hour). On the large-scale event day, a maximum of 26 vehicles were observed in the existing cross-country center parking lot (in the noon hour) and 283 vehicles were observed in the high school parking lot. Table 11 summarizes the summer hourly parking demands in the various areas that were counted.

Summer Total Parking Demand

Table 12 presents the estimation of parking demand associated with the proposed lodge. The assumed additional activities over the course of a busy summer day (shown in the left-hand columns) are the same as those applied in the trip generation analysis. Dividing the number of persons by their average vehicle occupancy rate yields the total parking demand of each individual use. Next, the portion of the parked vehicles for each individual use estimated to be on-site during the peak parking period is applied, in order to determine the total parking demand during the peak period. The peak parking period is expected to occur after vehicles arrive for an evening gathering event. During this period, all other uses are assumed to have

100% of the vehicles present, except the general trailhead use and bike rental customers, and the early daytime meeting. Based on a review of the hourly parking counts at the existing site, the parking demand in the late afternoon/early evening equates to about 26% of the maximum parking demand. In order to remain conservative in the parking analysis, 33% of vehicles for these uses are assumed to be present during the peak period. No cars associated with the early day meeting are expected to be parked onsite during the peak period. As shown, the resulting total peak parking demand at the proposed new lodge is 62 vehicles on a typical busy summer day.

Parking Demand with a Large Event

With a large event occurring at the high school, the peak period of parking demand occurs around the noon hour, when 283 cars are parked at the high school areas. The proportion of vehicles present for each activity at the proposed new XC lodge during the mid-day period is shown in Table 13. The total parking demand at the new XC lodge during this period is estimated to be approximately 45 vehicles. Adding 283 and 45 yields a total combined peak parking demand of 328 vehicles during a large event at the high school.

Summer Parking Demand of Community Center

The summer parking demand of the potential community center at the existing site is less than the winter demand, given that a 15-attendee gathering is assumed to occur in summer (vs. 30 attendees in winter), with 2 additional staff or service persons assumed to be on the site. Applying the vehicle occupancy rates used in the trip generation analysis yields a total parking demand of approximately 8 vehicles.

Summer Parking Balance

Subtracting the peak parking demand at the proposed lodge (62 spaces) from the proposed supply (100 spaces) yields an excess of 38 spaces in summer. As such, no parking concerns are identified on typical busy summer days.

On a summer day with a large event at the high school, a maximum of 328 cars are expected to be parked in the high school and XC lots. A total of 215 spaces at the high school plus 100 spaces at the proposed lodge yields 315 available spaces. Subtracting 315 from 328 vehicles yields a parking shortfall between the high school lots and XC lot of 13 spaces during peak periods with large summer events.

Summer Parking Balance at Community Center

As the existing XC site provides 46 parking spaces, implementation of the potential community center would result in an excess of approximately 38 spaces at the existing site (46 minus 8 needed for the community center).

TABLE 11: Summer Parking Counts

	Existing Tahoe Cross Country Center							North Tahoe High School					
Hour Beginning	XC Parking Lot	Cedarwood West Dead End	On Country Club Dr, West Side	On Country Club Dr, East Side	On Village	On Highlands	**Total**	West Lot	Polaris Road - South of School	Lower Southern Lot (Staff)	Middle Lot (Seniors)	Upper Northern Lot	**Total**
Typical Summer Day 8/18/2018													
8:00 AM	3	0	0	2	2	8	**15**	-	-	1	0	4	**5**
9:00 AM	6	0	0	2	2	5	**15**	-	-	1	0	2	**3**
10:00 AM	13	6	1	2	1	4	**27**	-	-	0	0	4	**4**
11:00 AM	15	9	0	2	1	6	**33**	-	-	0	0	3	**3**
12:00 PM	19	6	0	2	1	3	**31**	-	-	0	0	3	**3**
1:00 PM	10	0	0	2	2	3	**17**	-	-	0	0	3	**3**
2:00 PM	8	0	0	2	2	3	**15**	-	-	0	0	2	**2**
3:00 PM	6	0	0	2	2	3	**13**	-	-	0	0	2	**2**
4:00 PM	5	0	0	2	2	3	**12**	-	-	0	0	2	**2**
Summer Event Day 8/26/2018													
8:00 AM	6	-	-	-	2	5	**13**	N/A	N/A	2	19	45	**66**
9:00 AM	10	2	-	-	1	4	**17**	N/A	N/A	29	28	83	**140**
10:00 AM	18	3	-	-	1	4	**26**	N/A	N/A	63	30	86	**179**
11:00 AM	22	2	-	-	1	4	**29**	N/A	N/A	74	35	90	**199**
12:00 PM	26	1	-	-	1	4	**32**	55	22	74	37	95	**283**
1:00 PM	25	0	-	-	1	4	**30**	38	20	62	27	86	**233**
2:00 PM	14	0	-	-	3	4	**21**	21	11	53	26	82	**193**
3:00 PM	11	0	-	-	4	3	**18**	9	6	33	20	71	**139**
4:00 PM	11	1	-	-	2	4	**18**	0	0	0	0	8	**8**

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

TABLE 12: Tahoe XC - Summer Parking Demand on Typical Busy Day

Zone	Description	Quantity	Units	Average Vehicle Occupancy	Parking Demand of Individual Use	% Present in Peak Period (late afternoon)	Peak Period Parking Demand
Proposed Lodge Site							
	Summer Visitation						
	Existing Lodge & Trailhead Use	19	Vehicles	n/a	19	33%	7
	Add Gatherings at New Lodge						
	Evening Event Attendees	65	Attendees	1.8	37	100%	37
	Early Day Meeting	15	Attendees	1.8	9	0%	0
	Subtotal Gatherings						*37*
	Additional Bike Rental Customers	5	Customers	2.5	2	33%	1
	Additional Lodge/Café/Rental Staff Employees	4	Employees	1.1	4	100%	4
	Additional Youth Camp						
	Participants	15	Participants	1.5	10	100%	10
	Staff	3	Staff	1.1	3	100%	3
	Subtotal Youth Camp						*13*
	Total at Proposed Site						**62**
Existing Lodge Site							
	Potential Community Center						
	Attendees	15	Attendees	2.5	6	100%	6
	Staff	2	Persons	1.0	2	100%	2
	Subtotal Community Center						*8*

Source: LSC Transportation Consultants, Inc.

TABLE 13: Tahoe XC - Summer Parking Demand During Large Event at High School

Zone	Description	Quantity	Units	Average Vehicle Occupancy	Parking Demand of Individual Use	% Present in Peak Period (mid-day)	Peak Period Parking Demand
Proposed Lodge							
	Summer Visitation						
	Existing Lodge & Trailhead Use (noon hour)	26	Vehicles	n/a	26	100%	26
	Add Gatherings at New Lodge						
	Evening Event Attendees	65	Attendees	1.8	36	0%	0
	Early Day Meeting	15	Attendees	1.8	8	100%	8
	Subtotal Gatherings						*8*
	Additional Bike Rental Customers	5	Customers	2.5	2	100%	2
	Additional Lodge/Café/Rental Staff Employees	4	Employees	1.1	4	100%	4
	Additional Youth Camp						
	Participants	15	Participants	1.5	10	15%	2
	Staff	3	Staff	1.1	3	100%	3
	Subtotal Youth Camp						*5*
	Total Parking Demand With Large Event						**45**

Note:

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

Parking Balance under Project Alternative (Site A)

If the new lodge is constructed at the existing site under the project alternative (Site A), the parking demand would be the same as under the proposed project (Site D). As the parking supply would also be the same, there would be an excess of 38 spaces on a typical busy summer day.

On a summer day with a large event at the high school, a maximum of 45 cars are expected to be parked in the XC lot during the peak period. Subtracting 45 cars from 100 proposed spaces yields a parking surplus of 55 spaces on site.

PARKING ANALYSIS DURING PEAK SCHOOL EVENTS IN THE NON-WINTER SEASONS

There are some school-related events that currently use 100 percent of available school parking, such as cross-country meets, during non-ski periods. At these times, no parking is available for XC activities on the school site, limiting the available parking to the 100 spaces on the XC site. Referring to Table 12, XC parking generation during these periods could include the existing summer visitation, the additional gatherings at the new lodge, additional bike rental customers and additional lodge/café rental staff employees, but would exclude the youth camp as it would not be in operation during the school-related events. The maximum parking demand generated by XC uses would therefore be 49 vehicles, which could be accommodated within the proposed XC parking facility (and could provide additional parking for spillover school parking demand).

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Section 7

TRANSPORTATION SAFETY ANALYSIS

This transportation impact analysis considers transportation effects that are related to measurable changes in traffic, parking, vehicle miles traveled and other impacts governed by adopted regulatory standards. Transportation safety, while it is an important consideration, is not governed by measurements that can numerically identify "safe" or "unsafe" conditions. Professional impact assessment relies on data collection that addresses conditions which can contribute to a safer or less safe transportation system. For this analysis, data is presented for the following safety-related issues. As a whole, this data allows consideration of the proposed project impacts on transportation safety.

The following transportation safety-related issues are included in this section:

- Historical crash data analysis
- Proposed driveway spacing
- Speed surveys
- Driver sight distance conditions
- Bicycle and pedestrian conditions
- Impact on school access conditions

HISTORICAL CRASH DATA

Per County Public Works engineering staff, the industry standard for assessing traffic safety data is comparison with data generated by the Statewide Integrated Traffic Records System (SWITRS), as this provides a larger database for comparison and as no available data beyond the SWITRS database is available for Placer County roadways. To evaluate crashes at the priority intersection and roadway locations, the crash data from 2008-2017 (the most recent 10-year period available when data was collected) were compiled. Any crash within 200 feet of a study intersection was classified as an intersection crash, while incidents occurring beyond 200 feet from a study intersection were classified as roadway crashes. Crash data from January 1, 2008 through December 31, 2017 was reviewed.

Intersection Crash Data

Table 14 summarizes the intersection crash data. Key details of the crash data are as follows:

- A total of 22 incidents occurred at the four study intersections. Adding 5 crashes at other neighborhood intersections yields a total of 27 incidents at intersections within the project area.

- About half (14) of the intersection crashes occurred at the intersection of SR 28 and Fabian Way. Nearly half (6) of these crashes resulted in injuries, and 2 of the injury crashes involved a bicyclist/pedestrian.

- More than half (63%) of the total intersection crashes resulted in property damage only.

- Three (3) of the total intersection crashes involved a bicyclist/pedestrian, resulting in a total of 3 injured bicyclists/pedestrians. Crashes involving a bicyclist/pedestrian occurred at the following intersections:

Table 14: Crash Data Summary by Intersection Location

2008 to 2017 Includes Crashes on Cross Streets Within 200 Feet of the Intersection

				Crashes By Severity				Crashes by Type							Weather				Lighting				
Primary Road	Intersecting Road	Total Study Intersection Crashes	% Total Crashes	Property Damage Only	Injury	Fatality	Bike/Ped Involved	Broadside	Sideswipe	Rear End	Hit Object	Head-On	Auto/Ped	Other	Clear/Cloudy	Raining	Snowing	Other / Not Stated	Daylight	Dusk/Dawn	Dark- ST LTS	Dark- NO ST LTS	Other / Not Stated
SR 28	Fabian Way	14	52%	8	6	0	2	6	2	4	0	0	1	1	7	0	7	0	11	0	2	0	1
SR 28	Old Mill Road	3	11%	2	1	0	0	0	0	1	2	0	0	0	3	0	0	0	1	0	1	0	1
Old Mill Road	Polaris Road	4	15%	3	1	0	0	1	2	0	0	1	0	0	1	0	2	1	4	0	0	0	0
Village Road	Polaris Road	1	4%	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0
STUDY INTERSECTION TOTAL		**22**		**13**	**9**	**0**	**2**	**7**	**4**	**5**	**3**	**1**	**1**	**1**	**11**	**0**	**9**	**2**	**16**	**0**	**4**	**0**	**2**
Polaris Road	High School Parking Lot	2	7%	2	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	0	0	1
Polaris Road	Heather Lane	3	11%	2	1	0	1	1	1	0	1	0	0	0	3	0	0	0	3	0	0	0	0
OTHER SIGNIFICANT INTERSECTIONS		**5**		**4**	**1**	**0**	**1**	**1**	**1**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**1**
TOTAL INTERSECTIONS		**27**	**100%**	**17**	**10**	**0**	**3**	**8**	**5**	**5**	**6**	**1**	**1**	**1**	**14**	**0**	**9**	**4**	**20**	**0**	**4**	**0**	**3**
% Intersection Crashes				**63%**	**37%**	**0%**	**11%**	**30%**	**19%**	**19%**	**22%**	**4%**	**4%**	**4%**	**52%**	**0%**	**33%**	**15%**	**74%**	**0%**	**15%**	**0%**	**11%**

Source: SWITRS and LSC Transportation Consultants Inc. *2018 Tahoe XC.xlsx*

- SR 28 / Fabian Way (2 crashes) – Crash data indicates both incidents occurred on the highway, between Fabian Way and 7-11. One crash involved a vehicle making an improper turn movement during the daytime, while the other was a hit and run felony in the dark by a driver traveling at an unsafe speed, and alcohol was involved.

- Polaris Road / Heather Lane (1 crash) – Occurred on Polaris just east of Heather on a weekday morning in July.

- No fatalities were reported at any of the intersections.

- As shown in the middle columns of the table, the most common crash types are as follows:

  - Broadside (30%)
  - Hit Object (22%)
  - Sideswipe and Rear End (both 19%)

- Approximately one-third (9) of the total crashes occurred when it was snowing. Most (7) of these crashes occurred at the SR 28/Fabian Way intersection.

Table 15 provides a comparison of the actual crash rates with statewide average crash rates for similar intersection types. Statewide average crash rates are based solely on rates observed on the state highway system. As indicated, 4 intersections have total crash rates that exceed the statewide averages, and 3 intersections have injury crash rates exceeding the statewide averages. The following three intersections have "total" and injury crash rates that are more than double the statewide average rates:

- SR 28 / Fabian Way (43% injury crashes, 43% Broadside type)

- Old Mill Road / Polaris Road (25% injury crashes, 25% Sideswipe type)

- Polaris Road / Heather Lane (33% injury crashes, 33% Broadside/Sideswipe/Hit Object)

Note the statewide average crash rates are derived based on intersections along State Highways only. The very large majority of traffic activity along highways in California occurs in non-snowy areas where it rarely freezes. It can be expected that crash rates would be higher in the Sierra and this is reflected in that approximately 33 percent of intersection crashes in the study area occurred under snowy/icy road conditions. At the SR 28/Fabian Way intersection, half of the crashes occurred when it was snowing. The relatively high observed crash rates may also reflect the limited driver experience level of high school students' travel to/from the high school. As also discussed below, increasing traffic at locations exceeding the statewide average is not necessarily a significant impact.

Table 15: Intersection Crash Rates

2008 to 2017 Includes Crashes on Cross Streets Within 200 Feet of the Intersection

		Study Intersection Crashes		Estimated Crash Rate (Crashes per Million Vehicle Movements$_1$)		Statewide Average Crash Rate By Intersection Type$_2$	
Primary Road	Intersecting Road	Total	Injury or Fatality	Total	Injury or Fatality	Total	Injury or Fatal
SR 28	Fabian Way	14	6	**0.37**	**0.16**	0.16	0.07
SR 28	Old Mill Road	3	1	0.09	0.03	0.16	0.07
Old Mill Road	Polaris Road	4	1	**0.41**	0.10	0.33	0.17
Village Road	Polaris Road	1	1	0.14	**0.14**	0.22	0.10
STUDY INTERSECTION TOTAL		**22**	**9**				
Polaris Road	High School Parking Lot	2	0	**0.21**	0.00	0.16	0.07
Polaris Road	Heather Lane	3	1	**0.31**	**0.10**	0.16	0.07
OTHER SIGNIFICANT INTERSECTIONS		**5**	**1**				
STUDY AREA TOTAL		**27**	**10**				

Note 1: Bold indicates a crash rate higher than the average rate

Note 2: State Crash Rates from 2016 Collision Data on California State Highways

Source: LSC Transportation Consultants Inc. *2018 Tahoe XC.xlsx*

Roadway Segment Crash Data

Tables 16 and 17 summarize the roadway segment crash data. Key details of the crash data are as follows:

- There were a total of 11 crashes on roadway segments within the study area, with about half (5) occurring along Old Mill Road. All crashes along Old Mill Road and the majority of the other crashes resulted in property damage only, for a total of 9 crashes resulting in property damage only.

- The most common (27%) crash type is “Hit Object”, and the majority of the crashes occurred in the daylight.

- A total of 5 crashes occurred along Old Mill Road, with no injuries reported. None of the crashes on Old Mill Road were reported to involve pedestrians or bicyclists.

- The other 2 (of 11) crashes involved a bicyclist/pedestrian, and both crashes resulted in injuries. Both incidents involving a bike/pedestrian occurred on days when school was not in session.

Table 16: Summary of Crash Data by Roadway

2008 to 2017 Includes Crashes on Streets Greater than 200 Feet from the Intersections

					Crashes By Severity				Crashes by Type							Weather				Lighting				
Roadway	Between	And	Total Crashes	% Total Crashes	Property Damage Only	Injury	Fatality	Bike/Ped Involved	Broadside	Sideswipe	Rear End	Hit Object	Head-On	Auto/Ped	Other	Clear/Cloudy	Raining	Snowing	Other / Not Stated	Daylight	Dusk/Dawn	Dark- ST LTS	Dark- NO ST LTS	Other / Not Stated
Polaris Road	High School	Heather Lane	1	9%	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Polaris Road	Heather Lane	Old Mill Road	0	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polaris Road	Old Mill Road	Village Road	2	18%	1	1	0	1	0	0	0	0	0	1	1	2	0	0	0	1	0	0	0	1
Old Mill Road	SR-28	Polaris Road	5	45%	5	0	0	0	1	0	2	2	0	0	0	2	0	1	2	3	0	0	0	2
Village Road/Fabian Way	SR-28	Polaris Road	2	18%	1	1	0	1	1	0	0	0	0	0	1	1	0	1	0	2	0	0	0	0
Village Road	Polaris Road	Country Club Drive	1	9%	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
Country Club Drive	Village Road	Highlands Drive	0	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			11	**100%**	**9**	**2**	**0**	**2**	**2**	**1**	**2**	**3**	**0**	**1**	**2**	**7**	**0**	**2**	**2**	**6**	**0**	**0**	**0**	**5**
% Roadway Crashes					**82%**	**18%**	**0%**	**18%**	**18%**	**9%**	**18%**	**27%**	**0%**	**9%**	**18%**	**64%**	**0%**	**18%**	**18%**	**55%**	**0%**	**0%**	**0%**	**45%**

Source: LSC Transportation Consultants Inc.

2018 Tahoe XC.xlsx

Table 17: Roadway Crash Rates

2008 to 2017 Includes Crashes on Streets Greater than 200 Feet from the Intersections

			Roadway Crashes		Estimated Crash Rate (Crashes per Million Vehicle Miles)		Countywide Average Crash Rate By Roadway Type[1]	
Intersecting Street	Between	And	Total	Injury	Total	Injury or Fatality	Total	Injury or Fatality
Polaris Road	High School	Heather Lane	1	0	0.72	0.00	0.98	0.37
Polaris Road	Heather Lane	Old Mill Road	0	0	0.00	0.00	0.98	0.37
Polaris Road	Old Mill Road	Village Road	2	1	**1.91**	**0.96**	0.98	0.37
Old Mill Road	SR-28	Polaris Road	5	0	**2.47**	0.00	0.98	0.37
Village Road/Fabian Way	SR-28	Polaris Road	2	1	**1.44**	**0.72**	0.98	0.37
Village Road	Polaris Road	Country Club Drive	1	0	0.60	0.00	0.98	0.37
Country Club Drive	Village Road	Highlands Drive	0	0	0.00	0.00	0.98	0.37
TOTAL			**11**	**2**				

Note 1: Bold indicates a crash rate higher than the average rate

Note 2: County Crash Rates from 2016 Collision Data on California State Highways on 2 and 3 lane roadways in Placer County

Source: LSC Transportation Consultants Inc. *2018 Tahoe XC.xlsx*

- One crash occurred on Polaris Road just east of Old Mill Road early on Saturday morning, and it was recorded as a "pedestrian violation". The other crash occurred on

- Fabian Way about 90 feet east of Village Road on a summer weekday (mid-day), and it involved a vehicle traveling at an unsafe speed.

- No fatalities were reported in the study area over the 10-year period.

Table 17 provides a comparison of the actual crash rates with countywide average crash rates for 2 & 3 lane rural Caltrans highways within Placer County. As indicated, the following three roadway segments have total crash rates that exceed the countywide averages, including two segments with injury crash rates also exceeding the countywide averages:

- Polaris Road between Old Mill and Village (total crash rate almost double the average, injury rate about 2.5 times higher than average)

- Old Mill Road (total crash rate about 2.5 times higher than average)

- Fabian Way and Village Road between SR 28 and Polaris (total crash rate about 1.5 times the average rate, injury rate almost double the average)

It is worth noting that the statewide average crash rates are derived only from crashes occurring on State Highways in Placer County. They do not reflect crash data on local roads like the roads evaluated in this study. Due to the relatively low traffic volumes on the neighborhood roadways, each reported crash can dramatically affect the calculated crash rates.

TAHOE SAFETY STUDY FINDINGS

The Tahoe Regional Planning Agency recently retained a team led by Kittelson and Associates, Inc. to conduct the *Lake Tahoe Region Safety Strategy* (TRPA, February 2019). This study evaluated location of 2,672 reported crashes over a five year period across the Tahoe Region. The study did not identify any of the Tahoe XC study area roadways or intersections as priority locations for safety improvements.

PROPOSED DRIVEWAY SPACING

Properly located access points are essential to allow for the safe and orderly movement of traffic in and out of a site. Placer County recognizes this fact and has set forth minimum requirements to assure their proper placement. According to Placer Standard Drawing Plate 113, at least 22 feet of spacing shall be provided between commercial driveways for less than 200 feet of frontage, and 45 feet is required between driveways for greater than or equal to 200 feet of frontage. The distance between driveways is measured from edge of driveway, at the right-of-way line. The proposed driveway spacing at the site access point relative to the adjacent high school driveway on Polaris Road is evaluated. The site access driveway is

proposed to be located at a point on the north side of Polaris Road about 70 feet east of the high school driveway. The proposed driveway location therefore exceeds the requirement.

Note that the existing driveway spacing at the existing XC lodge site well exceeds the minimum requirements. As such, no driveway spacing concerns are identified with the potential community center at the existing site or with the project alternative (Site A).

SPEED SURVEYS

Speed surveys were conducted on Polaris Road near the high school and on Village Road near the existing XC Lodge during typical busy winter days, capturing both school-related traffic activity and cross-country skier traffic activity. Specifically, using radar counters, speed data was collected at the following two locations in the study area:

- On Polaris Road about 700 feet east of the high school access driveway
- On Village Road about 120 feet west of Country Club Drive

About 2,000 data points were collected at each location. The speed limit along both roads is 25 miles per hour. The speed survey results are presented in Table 18.

TABLE 18: Speed Survey Results in Highlands Community

	Speed (mph)						
	Eastbound		Westbound		Total		
Location	Average	85th%	Average	85th%	Average	85th%	Max
Polaris Road Immediately East of High School	27	31	26	30	26	30	42
Village Road Immediately West of Country Club Drive	18	20	18	20	18	20	33

Note: Based on speed surveys conducted during periods with good road conditions (not snowy/icy or raining) from Tuesday March 26 through Wednesday April 3, 2019.

Source: LSC Transportation Consultants, Inc. 2019 Tahoe XC.xls

Polaris Road Speeds (700 Feet East of Schools)

The majority of speeds recorded on Polaris Road are above the speed limit. The average speed at a point east of the high school is approximately 26 mph (average of both directions), and the 85th-percentile speed (the speed that is only exceeded by 15 percent of the vehicles) is calculated to be approximately 30 mph. The 85th-percentile of the distribution of observed speeds is the most frequently used measure of the operating speed associated with a particular roadway location. It is observed that the traffic leaving the school (eastbound) is generally slightly faster than those traveling toward the school. This could be attributed to the upgrade in

the westbound direction approaching the survey point. The maximum recorded speed was 42 mph.

Village Road Speeds (120 Feet West of Country Club Drive)

The speed limit along Village Road is 25 mph. The recorded speeds on Village Road were generally lower than the speed limit, likely due to the curvature along Village Road and the close proximity to Country Club Drive, where most vehicles make a turn. The average observed speed was 18 mph, and the 85th-percentile speed (20 mph) is about 5 mph below the speed limit. The maximum recorded speed was 33 mph.

DRIVER SIGHT DISTANCE

Driver sight distance is evaluated at the existing and proposed driveways. According to the Caltrans *Highway Design Manual*, there are two types of sight distance standards that should be met at driveways or intersections: stopping sight distance and corner sight distance.

Corner sight distance requirements are meant to ensure that adequate time is provided for the waiting driver at an unsignalized intersection or driveway to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. Corner sight distance requirements are based upon the need for a driver to discern a gap of up to 7.5 seconds in oncoming traffic to safely choose an adequate gap. The corner sight distance requirements along Country Club Drive and Polaris Road are based on the Caltrans Highway Design Manual as referenced in Placer Standard Drawing Plate 116, which specifies corner sight distances of 275 feet based upon a design speed of 25 miles per hour and 330 feet based upon 30 miles per hour.

Stopping sight distance is the distance an oncoming driver on the major roadway needs to perceive an object in the travel lane (such as a turning vehicle), react to the object, and come to a safe stop. The stopping sight distance requirement for drivers approaching the site along residential neighborhood streets is 150 feet assuming a 25 miles per hour design speed, or 200 feet assuming 30 miles per hour.

Driver Sight Distance at Proposed Site (Site D)

The following corner sight distance values are estimated to be provided at the proposed new driveway location on Polaris Road:

- Proposed driveway (Site D) on Polaris Road, looking east – **250 feet**
- Proposed driveway (Site D) on Polaris Road, looking west – at least 330 feet

Assuming a speed of 30 miles per hour (which is the calculated 85th-percentile speed) for traffic approaching along Polaris Road, the minimum corner sight distance value is 330 feet. The

corner sight distance looking west meets this value, although the sight distance to the east is about 80 feet short of the minimum value. The corner sight distance looking east is limited, primarily due to the horizontal curvature and existing embankments along Polaris Road. It may be possible to modify the embankment and vegetation along the north side of Polaris Road to improve the corner sight distance. The corner sight distance standards indicate that "*Where restrictive conditions do not allow compliance with the specified sight distance requirements, the Engineer may approve a reduction of the corner sight distance to no less than the minimum stopping sight distance as outlined in the Caltrans Highway Design Manual*." The minimum stopping sight distance value based on a speed of 30 miles per hour is 200 feet. The corner sight distance exceeds this value.

The stopping sight distance provided for drivers approaching the proposed driveway on Polaris Road is at least 200 feet from either direction. As this meets the minimum requirement, the stopping sight distance is considered adequate.

Driver Sight Distance at Existing Site

The following corner sight distance values are estimated to be provided at the existing XC lodge driveways on Country Club Drive:

- Existing northern driveway on Country Club Drive, looking north – at least 330 feet
- Existing northern driveway on Country Club Drive, looking south – at least 330 feet
- Existing southern driveway on Country Club Drive, looking north – **250 feet**
- Existing southern driveway on Country Club Drive, looking south – **190 feet**

Assuming a speed of 25 miles per hour along Country Club Drive, the minimum corner sight distance value is 275 feet. The corner sight distance at the northern driveway exceeds this value by at least 55 feet in either direction. However, the corner sight distance at the southern driveway does not meet the minimum value. Looking north from the southern driveway, the corner sight distance falls only 25 feet short of the minimum value. The corner sight distance looking north is limited by existing trees/vegetation. The sight distance improves as the driver on the driveway approaches the edge of the travel lane along Country Club Drive. Removal of several trees and vegetation would improve the corner sight distance looking north to the minimum value.

However, the corner sight distance looking south is about 85 feet short of the minimum value, primarily due to existing trees and vegetation. Removal of trees and vegetation would improve the corner sight distance looking south.

The stopping sight distance provided for drivers approaching the existing XC lodge driveways on Country Club Drive is at least 200 feet from either direction. The minimum stopping sight

distance value based on a speed of 25 miles per hour is 150 feet. As the minimum requirement is exceeded by at least 50 feet, adequate stopping sight distance is provided.

BICYCLE AND PEDESTRIAN CONDITIONS

No sidewalks exist along the study roadway segments. The pavement width on neighborhood roadways ranges from about 32 to 38 feet. Bicycle and pedestrian counts were conducted during the morning and afternoon peak periods of school-related traffic activity on Tuesday, September 11, 2018 at the following three intersection locations along Polaris Road:

- Village Road
- Old Mill Road
- High School driveway

Bicyclists and pedestrians were counted by intersection turning movement. A summary of the bicycle and pedestrian volumes can be found in Table 19. The intersection with the highest peak-hour total bicyclists was Polaris Road/Village Road, with a total of 13 bicyclists during the PM peak hour.

The intersection with the highest peak-hour total pedestrian traffic was Polaris Road/High School Driveway, with a total of 25 pedestrians during the PM peak hour, largely due to a high school running group of 18 people.

In addition, bicycles and pedestrians were counted at the Polaris Road/High School Driveway intersection during the AM and PM peak hours of school-related activity on Wednesday, January 30, 2019. Only 2 pedestrian crossings were recorded during the AM peak hour (which could have been 1 pedestrian crossing two legs of the intersection), and 22 pedestrian crossings were recorded during the PM peak hour. No bicyclists were observed on this cold winter day.

IMPACT ON SCHOOL ACCESS CONDITIONS

The project impact on circulation and vehicular delays at the school access points during student drop-off and pick-up times is evaluated. Traffic and bicyclists/pedestrian turning-movement counts were counted at the Polaris Road/High School Driveway intersection during the AM and PM peak hours of school-related activity on Tuesday, September 11, 2018 and on Wednesday, January 30, 2019. The count data is contained in Appendix A. Based on these counts, the maximum observed volumes on Polaris Road at the proposed XC Lodge driveway location during the AM and PM peak-hours of school-related activity are as follows:

- AM – 322 vehicles (118 eastbound and 204 westbound)
  4 bicyclists
  4 pedestrians

TABLE 19: Tahoe Cross Country Ski Area Summer Weekday Bike/Ped. Volumes

Scenario/Intersection	Begin Peak Hour	Northbound			Southbound			Eastbound			Westbound			Total
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
Existing -Bike AM														
Polaris Rd/Village Rd	7:00 AM	1	1	0	0	0	0	0	0	0	0	0	0	**2**
Polaris Rd/Old Mill Rd	7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	**1**
Polaris / HS Entrance	7:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	**4**
Existing - Pedestrian AM														
Polaris Rd/Village Rd	7:15 AM	1	2	0	0	2	0	2	0	0	0	0	0	**7**
Polaris Rd/Old Mill Rd	7:15 AM	3	0	0	0	0	0	0	0	0	0	2	0	**5**
Polaris / HS Entrance	7:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	**4**
Existing - Bike PM														
Polaris Rd/Village Rd	2:30 PM	3	2	0	0	0	0	2	0	4	2	0	0	**13**
Polaris Rd/Old Mill Rd	3:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	**2**
Polaris / HS Entrance	2:30 PM	0	0	0	0	0	0	0	5	0	0	3	0	**8**
Existing - Pedestrian PM														
Polaris Rd/Village Rd	3:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	**2**
Polaris Rd/Old Mill Rd	2:45 PM	0	0	0	0	0	0	0	0	20	0	0	0	**20**
Polaris / HS Entrance	2:45 PM	0	0	0	0	0	0	0	25	0	0	0	0	**25**

Note: 18 person running group was observed leaving the HS and going through Polaris/Old Mill Rd

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

- PM – 335 vehicles (210 eastbound and 125 westbound)
  8 bicyclists
  25 pedestrians (including an 18-person running group)

The proposed project (Site D) is estimated to generate approximately 54 one-way vehicle trips (37 entering and 17 exiting) turning to/from the proposed site driveway on Polaris Road during the school AM and PM peak hours. In other words, the project would generate an increase of 54 vehicle trips (17 eastbound and 37 westbound) on Polaris Road during the busiest hours. This equates to less than one additional car per minute, on average. The project would increase the total two-way volume on Polaris Road near the high school by about 17 percent in the AM and PM peak hours of school traffic activity. The majority of the project-generated vehicle trips would be made to/from the east on Polaris Road, and would therefore not impact the school access intersections to the west. As such, the project impact on vehicular delays at the school access points would be minimal. Furthermore, given that adequate spacing is provided between the existing high school access intersection and the proposed new driveway location, the project would not be expected to interfere with turns made to/from the school driveways or vehicular circulation conditions at the school driveways.

Considering the level of traffic generated by the proposed project during school peak periods, the fact that the crash data analysis does not indicate an existing safety deficiency, and that the speed survey indicates the prevailing speed on Polaris Road is within 5 mph of the speed limit, no undue transportation safety-related concerns (including traffic, bicyclist and pedestrian concerns) are expected to result with implementation of the proposed project, so long as the driver sight distance concerns at the proposed driveway location are addressed.

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Section 8
IMPACTS AND MITIGATION

The following areas of impacts are evaluated in this section:

- Daily Traffic Volumes
- Intersection Level of Service (LOS)
- Vehicle Miles Traveled (VMT)
- Parking
- Transportation Safety

IMPACT ON DAILY ROADWAY VOLUMES

Placer County considers maximum traffic volume for residential streets of the type in the study area to be 2,000 to 3,000 vehicles per day (ADT). This is specifically defined for streets serving largely residential areas with lots of 1/4 acre or larger, with front-on driveways. In addition to intersection volumes the daily number of vehicles traveling the roadway network was analyzed. Using the 24-hour roadway count volumes along with the intersection turning movements, the existing daily roadway volumes are estimated at the following roadway locations:

- Village Road -Near Tahoe XC
- Old Mill Road- North of SR 28
- Polaris Road – Between Village Road and Old Mill Road
- Polaris Road – Just East of the High School

As only two of the roadway locations listed above were actually counted, the roadway volumes of the non-counted roadway segments were calculated using the ratios of the various intersection turning movements. The resulting existing winter and summer daily traffic volumes are shown in Tables 20 and 21, respectively. Next, the daily volume impacts of the project alternatives are estimated. The resulting changes in daily roadway volumes are shown in the middle columns of the tables, and can be summarized as follows:

- The new lodge on the proposed site would shift traffic away from Village and to Polaris Road. Volumes on the northern portion of Village Road would be reduced by approximately 146 ADT on a winter weekday, 340 ADT on a winter weekend, and 354 ADT on a summer day.

- Volumes on Polaris west of Old Mill Road would be increased by 272 ADT on winter weekdays, 489 ADT on winter weekend days, and 513 ADT on summer days, assuming the new site. This equates to a 14 percent increase on winter weekdays, a 223 percent increase on weekend days, and a 280 percent increase on summer days. Winter

TABLE 20: Daily Winter 2-Way Roadway Volumes

Segment	Existing	With Project: Proposed Project (Site D)	With Project: Project Alternative (Site A)	# Impact of Project: Proposed Project (Site D)	# Impact of Project: Project Alternative (Site A)	% Impact of Project: Proposed Project (Site D)	% Impact of Project: Project Alternative (Site A)
Weekday							
Village Rd - Near XC	499	353	593	-146	94	-29%	19%
Old Mill - North of SR28	431	536	431	105	0	24%	0%
Polaris - Village to Old Mill	728	895	728	167	0	23%	0%
Polaris - Just East of High School	1,370	1,642	1,370	272	0	20%	0%
Weekend/Holiday							
Village Rd - Near XC	815	475	932	-340	117	-42%	14%
Old Mill - North of SR28	91	279	91	188	0	207%	0%
Polaris - Village to Old Mill	97	398	97	301	0	310%	0%
Polaris - Just East of High School	183	672	183	489	0	267%	0%

Source: LSC Transportation Consultants, Inc. 2019 Tahoe XC.xlsx

TABLE 21: Daily Summer 2-Way Roadway Volumes

Segment	Existing	With Project: Proposed Project (Site D)	With Project: Project Alternative (Site A)	# Impact of Project: Proposed Project (Site D)	# Impact of Project: Project Alternative (Site A)	% Impact of Project: Proposed Project (Site D)	% Impact of Project: Project Alternative (Site A)
Village Rd - Near XC	414	60	557	-354	143	-86%	35%
Old Mill - North of SR28	580	862	580	282	0	49%	0%
Polaris - Village to Old Mill	198	429	198	231	0	117%	0%
Polaris - Just East of High School	183	696	183	513	0	280%	0%

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

weekend traffic volumes (without school traffic) would still be substantially lower than current weekday volumes (with school traffic).

- With the new site, volumes on Old Mill Road would increase by 105 vehicles on winter weekdays, 188 vehicles on weekend days and 282 vehicles on busy summer days. In summer, this increase in traffic could occur on either a weekday or weekend day. In winter, weekend day volumes on Old Mill Road would remain well below existing weekday volumes. Traffic increases on this roadway are a particular concern given the steep grades (up to approximately 18 percent) and curves along this roadway.

- With the project alternative (Site A) at the existing site, the daily traffic volume increase on Village Road would be about 94 ADT on winter weekends, 117 ADT on winter weekdays and 143 ADT on summer days. This equates to an increase of approximately 14% to 19% in winter, and 35% in summer.

Comparing the volumes with the Placer County standard indicates that none of the resulting daily traffic volumes under either site alternative would exceed the Placer County standards for traffic volumes on a residential street. Even though traffic will increase in some areas under either site alternative, none of the resulting daily traffic volumes exceed even the lower of these maximum levels. No significant impact on roadway capacity results from either alternative.

IMPACTS ON INTERSECTION LEVEL OF SERVICE

As all study intersections would operate at a good LOS A or LOS B under all study scenarios with implementation of either project alternative, no intersection LOS concerns are identified.

VMT Impact

Impact on Vehicle Miles Traveled (VMT) within the Tahoe Region can best be established based upon project trip generation and distribution to the various portions of the Tahoe Region (including external access points). The change in VMT resulting from implementation of the project is estimated based upon the net increase in regional vehicle trips generated by the project factored by the average trip distance to each area. The VMT calculations are presented in Table 22. As shown in the right-hand columns of the table, the proposed project would reduce VMT at the existing site and increase VMT at the new site (Site D). Overall, the proposed project would result in a net increase of approximately 1,140 VMT over the course of a busy summer day.

When compared to the existing summer daily VMT in the Tahoe Basin of 1,937,070, the proposed project is estimated to result in a negligible increase in region-wide VMT from existing conditions. Implementation of the proposed project would result in VMT levels that are below the TRPA's threshold value of 2,030,938.

<u>VMT Impact of Project Alternative (Site A)</u>

As shown in the far right column of Table 22, under the project alternative (Site A) with the new lodge being built at the existing site, the net increase in VMT within the Basin would be 973. When compared to the existing summer daily VMT in the Tahoe Basin of 1,937,070, this alternative is estimated to result in a negligible increase in region-wide VMT from existing conditions.

TABLE 22: Tahoe XC Vehicle Miles Traveled - Summer

Origin/Destination	Trip Distribution: Existing Site	Trip Distribution: Proposed Site D	Daily 1-Way Vehicle Trips: Proposed Project (Site D): Net Impact at Existing Site	Daily 1-Way Vehicle Trips: Proposed Project (Site D): Proposed Site	Daily 1-Way Vehicle Trips: Proposed Project (Site D): Project Net Impact	Daily 1-Way Vehicle Trips: Project Alternative (Site A): Net Impact
Homewood/Tahoma	17%	17%	-60	87	27	24
Sunnyside	11%	11%	-39	56	17	16
Eastern Tahoe City	11%	11%	-39	56	17	16
Dollar Point/Lake Forest	8%	8%	-28	41	13	11
Carnelian Bay	11%	11%	-39	56	17	16
Tahoe Vista	18%	18%	-64	94	30	26
Kings Beach/Crystal Bay	7%	7%	-25	36	11	10
Incline Village/East Shore	9%	9%	-32	46	14	13
Squaw/Alpine	8%	8%	-28	41	13	11
Total	**100%**	**100%**	**-354**	**513**	**159**	**143**

	Trip Length (Miles): Existing Site	Trip Length (Miles): Proposed Site D	Impact on Daily Vehicle-Miles Traveled: Existing Site	Impact on Daily Vehicle-Miles Traveled: Proposed Site	Impact on Daily Vehicle-Miles Traveled: Project Net Impact	Impact on Daily Vehicle-Miles Traveled: Project Alternative (Site A)
Homewood/Tahoma	11.7	11.5	-702	1001	299	281
Sunnyside	5.3	5.5	-207	308	101	85
Eastern Tahoe City	2.9	2.7	-113	151	38	46
Dollar Point/Lake Forest	1.3	1.1	-36	45	9	14
Carnelian Bay	3.9	4.3	-152	241	89	62
Tahoe Vista	5.7	6.1	-365	573	209	148
Kings Beach/Crystal Bay	8.2	8.6	-205	310	105	82
Incline Village/East Shore	14.4	14.8	-461	681	220	187
Squaw/Alpine[1]	6.1	5.9	-171	242	71	67
Total			**-2,412**	**3,551**	**1,140**	**973**
PROJECT NET IMPACT ON VMT					**1,140**	**973**

Note 1: Distances shown represent the distance traveled in the Tahoe Basin

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

Parking Impacts

Winter Parking Impacts

The proposed project parking plans would accommodate the peak parking demand on 94% of the days during the winter season (with only 7 days per year of parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39. Up to 79 spaces are currently available at the high school lots on school days, potentially available for use by XC skiers. Note that this does not reflect special events at the school, such as a basketball game. No high school parking spaces would need to be used by Tahoe XC on the busiest day that is also a school day. Barring a special event at the high school or ski area, adequate overall

parking supply would be provided on school days without the potential for "spill-over" parking occurring on nearby residential streets.

On non-school days, the available high school spaces would provide more than adequate parking for Tahoe XC, barring a special event (like a Saturday basketball tournament). If the proposed new site is selected and limited onsite parking provided, there would need to be careful coordination between special events occurring at the high school and the ski area, and to ensure that high school special events do not coincide with expected days of peak ski area parking demand. The XC Project would be responsible for obtaining the schedule of high school events and planning XC activities accordingly.

Parking Balance at Community Center

Implementation of the potential community center at the existing XC site would result in a surplus of approximately 30 parking spaces at the existing site in the winter. As such, no parking concerns are identified at the community center.

Parking Balance Under Project Alternative (Site A)

If the new lodge is constructed at the existing site under the project alternative (Site A), the parking supply would accommodate the peak parking demand on 94% of the winter days (with only 7 winter days per season of parking off-site). The maximum number of cars that would need to park off-site is estimated to be 39. It is assumed that the existing parking arrangement where XC-related vehicles park in the on-street spaces on these days would continue.

Summer Parking Impacts

No parking concerns are identified on typical busy summer days with the project, given that the proposed parking supply would yield an excess of 38 spaces.

On a summer day with a large event at the high school, there may be a parking shortfall between the high school lots and XC lot of 13 spaces during peak periods. If the proposed new site is selected and limited onsite parking provided, there would need to be careful coordination between special events occurring at the high school and the XC lodge, to ensure that high school special events do not coincide with expected days of peak XC lodge parking demand. The XC Project would be responsible for obtaining the schedule of high school events and planning XC activities accordingly.

Parking Balance at Community Center

With the potential community center, there would be an excess of approximately 38 spaces at the existing site.

Parking Balance Under Project Alternative (Site A)

If the new lodge is constructed at the existing site under the project alternative (Site A), there would be an excess of at least 38 spaces on a typical busy summer day (with the peak period occurring in the late afternoon, when cars arrive for the gathering event).

On a summer day with a large event at the high school, there would be a parking surplus of 55 spaces on site during the peak mid-day period.

TRANSPORTATION SAFETY IMPACTS

No numerical adopted standards exist to define significant impact on transportation safety in most situations. A common standard is to consider a significant impact for a project that (1) substantially increases traffic hazards to bicyclists and pedestrians, or (2) substantially impacts existing bicycle/pedestrian facilities, or (3) substantially increases hazards due to a design feature or incompatible use. Based on best practices, this analysis evaluates existing roadway and intersection configuration, use patterns including traffic and bicycle and pedestrian use, vehicle speed, and existing crash data. It further identifies the increase in traffic expected by the proposed project and considers whether future projected conditions present increased safety concerns and to what degree.

Site D Project Impact on Traffic, Bicycle, and Pedestrian Safety Conditions

The following factors should be considered in assessing this site:

- The proposed driveway spacing is adequate.
- The prevailing speed on Polaris Road is within 5 mph of the speed limit, and speeds on Village Road near the existing XC Lodge are generally lower than the speed limit.
- Adequate stopping sight distance is provided at the proposed site driveway locations. However, the corner sight distance looking east from the proposed driveway (Site D) on Polaris Road is about 80 feet short of the minimum value. The corner sight distance at this location is primarily limited by the horizontal curvature and existing embankments along Polaris Road. It may be possible to modify the embankment and vegetation along the north side of Polaris Road to improve the corner sight distance. The sight distance standards indicate that "*Where restrictive conditions do not allow compliance with the specified sight distance requirements, the Engineer may approve a reduction of the corner sight distance to no less than the minimum stopping sight distance as outlined in the Caltrans Highway Design Manual."* The corner sight distance exceeds the minimum stopping sight distance value at this location.
- Conversely, the proposed project would reduce volumes on Village Road north of Polaris and on Country Club Drive. Reducing the traffic volumes at the existing XC southern driveway intersection would be beneficial to the existing corner sight distance issue.

- Within the neighborhood residential streets, there is no defined pattern of crashes. The intersection within the neighborhood with the greatest number of crashes over the ten-year period (Old Mill Road and Polaris Road) had a total of four crashes of three different types, and two that occurred during snow conditions. The neighborhood roadway segment with the greatest number of crashes (Old Mill Road) had a total of five reported crashes over the ten years, of three different types.

- The residential roadways that would have an increase in traffic volumes from the project on Site D (Polaris Road east of the site access and Old Mill Road) had a total of 16 reported crashes over a ten year period, or 1.6 per year. Over the course of a year, the project on Site D would increase total traffic on these roadways by approximately 46 percent. This indicates that this option would increase the annual forecast number of crashes along these residential streets by 0.74, or less than one per year.

- The increase in traffic exists along roadways with adequate width, appropriate prevailing speeds and sufficient sight distance for drivers traveling along the roadways to allow traffic, bicycles and pedestrians to share the roadway with an adequate level of safety.

Impact on School Access Conditions

The proposed project would generate an increase of 54 vehicle trips (17 eastbound and 37 westbound) on Polaris Road during the busiest hours. This equates to less than one additional car per minute, on average. The project would increase the total two-way volume on Polaris Road near the high school by about 17 percent in the AM and PM peak hours of school traffic activity. The majority of the project-generated vehicle trips would be made to/from the east on Polaris Road, and would therefore not impact the school access intersections to the west. As such, the project impact on vehicular delays at the school access points would be minimal. Furthermore, given that adequate spacing is provided between the existing high school access intersection and the proposed new driveway location, the project would not be expected to interfere with turns made to/from the school driveways or vehicular circulation conditions at the school driveways.

Conclusion

Considering the analysis presented above in comparison with the standard of significance, the proposed project on Site D would not result in a significant transportation safety impact, so long as the final driveway intersection design provides adequate driver sight distance.

Project Alternative (Site A) Impact on Safety Conditions

Implementation of the project alternative (Site A) would increase traffic volumes on Village Road and Country Club Drive, although it would not be expected to affect traffic levels on the other neighborhood roadways. The project would also reduce pedestrian activity in this area by

eliminating the overflow parking along these streets. Lower traffic and lower pedestrian volumes improve safety conditions in this location. The driveway spacing is adequate. As discussed above, there is a corner sight distance deficiency at the southern driveway at the existing XC lodge site. This would be exacerbated by the additional project traffic. If this deficiency is addressed through vegetation removal, no significant transportation safety impact would result from this option.

MITIGATION SUMMARY

- If the proposed new site is selected and the proposed 100 on-site parking spaces provided at the XC site, there would need to be careful coordination between special events occurring at the high school and the XC lodge in order to ensure that high school special events do not coincide with expected days of peak XC lodge parking demand. The XC management should be responsible for obtaining the schedule of high school events and planning XC activities accordingly.

- The driver sight distance concern at the proposed driveway (Site D) should be addressed. It may be possible to modify the embankment and vegetation along the north side of Polaris Road to improve the corner sight distance looking east from the proposed driveway. Additionally, the County Engineer may approve a reduction of the corner sight distance requirement, as the corner sight distance exceeds the minimum stopping sight distance value at this location.

- Removal of trees and vegetation along the west side of Country Club Drive north and south of the existing XC lodge southern driveway would improve the corner sight distance at this intersection.

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WINTER COUNTS

Village Dr/ Polaris Road

Date	From	to	Northbound Left	Northbound Through Village Rd	Northbound Right	Southbound Left	Southbound Through Village Rd	Southbound Right	Eastbound Left	Eastbound Through Polaris Rd	Eastbound Right	Westbound Left	Westbound Through Polaris Rd	Westbound Right	Total	Hourly
1/19/2016	1:15 PM	1:30 PM	4	9	1	0	9	0	0	0	13	0	0	0	36	94
Tuesday	1:30 PM	1:45 PM	3	2	0	0	14	0	0	0	3	0	0	0	22	124
	1:45 PM	2:00 PM	8	3	0	0	4	0	1	0	2	0	0	0	18	135
	2:00 PM	2:15 PM	10	1	0	0	5	1	0	0	1	0	0	0	18	185
	2:15 PM	2:30 PM	16	4	0	0	3	0	2	0	41	0	0	0	66	217
	2:30 PM	2:45 PM	12	6	0	0	5	0	0	0	10	0	0	0	33	
	2:45 PM	3:00 PM	16	19	0	0	6	2	0	0	25	0	0	0	68	
	3:00 PM	3:15 PM	9	8	0	0	9	0	2	0	22	0	0	0	50	

Polaris Road / Old Mill

			Northbound			Southbound			Eastbound			Westbound			
			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		Hourly
1/14/2016	1:30 PM	1:45 PM	3	0	1	0	0	0	0	3	5	0	2	0	14	108
Thursday	1:45 PM	2:00 PM	15	0	0	0	0	0	0	2	4	0	8	0	29	196
	2:00 PM	2:15 PM	5	0	1	0	0	0	0	7	2	1	7	0	23	211
	2:15 PM	2:30 PM	21	0	1	0	0	0	0	4	3	0	13	0	42	274
	2:30 PM	2:45 PM	15	0	0	0	0	0	0	44	27	0	16	0	102	311
	2:45 PM	3:00 PM	12	0	0	0	0	0	0	6	9	1	16	0	44	
	3:00 PM	3:15 PM	11	0	2	0	0	0	0	32	21	1	19	0	86	
	3:15 PM	3:30 PM	6	0	2	0	0	0	0	37	21	1	12	0	79	

Old Mill / SR 28

			Northbound			Southbound			Eastbound			Westbound			
			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		Hourly
							Old Mill Rd			SR 28			SR 28			
1/13/2016	1:30 PM	1:45 PM	0	0	0	0	0	7	8	58	0	0	46	1	120	546
Wednesday	1:45 PM	2:00 PM	0	0	0	1	0	2	2	57	0	0	62	1	125	598
	2:00 PM	2:15 PM	0	0	0	1	0	2	3	72	0	0	69	0	147	626
	2:15 PM	2:30 PM	0	0	0	1	0	4	12	85	0	0	51	1	154	679
	2:30 PM	2:45 PM	0	0	0	0	0	13	3	72	0	0	81	3	172	705
	2:45 PM	3:00 PM	0	0	0	1	0	3	10	59	0	0	78	2	153	
	3:00 PM	3:15 PM	0	0	0	0	0	9	19	102	0	0	68	2	200	
	3:15 PM	3:30 PM	0	0	0	1	0	19	8	79	0	0	73	0	180	
12/31/2015	2:00 PM	2:15 PM	0	0	0	0	0	9	6	133	0	0	112	1	261	1168
Thursday	2:15 PM	2:30 PM	0	0	0	1	0	9	2	144	0	0	123	0	279	1238
Day before	2:30 PM	2:45 PM	0	0	0	2	0	5	8	177	0	0	128	1	321	1297
	2:45 PM	3:00 PM	0	0	0	1	0	3	7	195	0	0	101	0	307	1258
	3:00 PM	3:15 PM	0	0	0	0	0	8	3	191	0	0	128	1	331	1256
	3:15 PM	3:30 PM	0	0	0	1	0	1	7	208	0	0	120	1	338	1263
	3:30 PM	3:45 PM	0	0	0	1	0	1	5	175	0	0	98	2	282	1260
	3:45 PM	4:00 PM	0	0	0	0	0	2	7	206	0	0	90	0	305	1293
	4:00 PM	4:15 PM	0	0	0	0	0	3	4	228	0	0	102	1	338	1298
	4:15 PM	4:30 PM	0	0	0	1	0	3	10	240	0	0	80	1	335	
	4:30 PM	4:45 PM	0	0	0	1	0	2	8	197	0	0	107	0	315	
	4:45 PM	5:00 PM	0	0	0	2	0	1	8	196	0	0	103	0	310	

Polaris / High School Driveway

1/30/2019

Time		Northbound				Southbound				Eastbound				Westbound					
Start	End	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total	1hr total
7:00 AM	7:15 AM	0	0	0	0	5	0	0	0	0	43	0	0	0	8	81	0	137	
7:15 AM	7:30 AM	0	0	0	0	4	0	0	0	0	33	0	0	0	12	42	0	91	
7:45 AM	8:00 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	4	11	0	18	
8:00 AM	8:15 AM	0	0	0	0	0	0	0	1	1	11	0	0	0	14	37	1	63	309
8:15 AM	8:30 AM	0	0	0	0	5	0	1	0	1	29	0	0	0	35	30	0	101	273
8:30 AM	8:45 AM	0	0	0	0	3	0	0	0	0	67	0	0	0	57	16	0	143	325

		Northbound				Southbound				Eastbound				Westbound					
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
14:00	14:15	0	0	0	0	5	0	0	0	0	3	0	0	0	2	6	0	16	
14:15	14:30	0	0	0	0	4	0	0	0	1	6	0	0	0	3	25	0	39	
14:30	14:45	0	0	0	5	64	0	0	0	1	33	0	1	0	3	14	0	115	
14:45	15:00	0	0	0	0	10	0	0	0	4	7	0	3	0	8	7	0	36	206
15:00	15:15	0	0	0	0	8	0	0	0	0	8	0	0	0	47	20	0	83	273
15:15	15:30	0	0	0	0	13	0	0	13	2	67	0	0	0	9	17	0	108	342

Fabian Way / SR 28

			Northbound			Southbound			Eastbound			Westbound			
			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		Hourly
1/12/2016	1:30 PM	1:45 PM	0	0	0	8	0	7	3	87	0	0	68	7	180	743
Tuesday	1:45 PM	2:00 PM	0	0	1	5	0	7	8	65	1	0	69	7	163	774
	2:00 PM	2:15 PM	0	0	0	8	0	5	8	93	0	0	55	11	180	833
	2:15 PM	2:30 PM	0	0	0	11	0	16	10	95	0	1	74	13	220	847
	2:30 PM	2:45 PM	0	0	0	35	0	12	13	85	0	0	53	13	211	856
	2:45 PM	3:00 PM	0	0	0	17	0	8	15	95	0	0	69	18	222	
	3:00 PM	3:15 PM	0	0	0	7	0	7	12	78	0	0	70	20	194	
	3:15 PM	3:30 PM	0	0	0	27	0	11	11	102	0	0	63	15	229	
12/31/2015	2:00 PM	2:15 PM	0	0	0	12	0	12	8	116	0	0	98	6	252	1147
Thursday	2:15 PM	2:30 PM	0	0	0	8	0	11	10	128	0	0	110	16	283	1237
Day before	2:30 PM	2:45 PM	0	0	0	14	0	9	8	144	0	0	104	13	292	1268
	2:45 PM	3:00 PM	0	0	0	19	0	10	9	184	0	0	90	8	320	1260
	3:00 PM	3:15 PM	0	0	0	10	0	13	10	179	0	0	115	15	342	1235
	3:15 PM	3:30 PM	0	0	0	11	0	10	9	178	0	0	97	9	314	1251
	3:30 PM	3:45 PM	0	0	0	11	0	7	10	156	0	0	94	6	284	1276
	3:45 PM	4:00 PM	0	0	0	16	0	9	5	179	0	0	79	7	295	1292
	4:00 PM	4:15 PM	0	0	0	10	0	16	11	210	0	0	106	5	358	1304
	4:15 PM	4:30 PM	0	0	0	12	0	6	7	228	0	0	82	4	339	
	4:30 PM	4:45 PM	0	0	0	10	0	12	4	181	0	0	87	6	300	
	4:45 PM	5:00 PM	0	0	0	11	0	11	9	176	0	0	91	9	307	

Village Dr/ Cedarwood Lane

3/30/2018

Time		Northbound-Village				Southbound-Village				Eastbound-Cedarwood				Westbound					
Start	End	Left	Thru	Right	Ped	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED		
2:00 PM	2:15 PM	0	5	0	0	0	2	0	0	0	0	2	0	1	0	0	0	10	56
2:15 PM	2:30 PM	1	3	0	0	0	4	0	0	1	0	1	0	0	0	0	0	10	59
2:30 PM	2:45 PM	2	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	12	71
2:45 PM	3:00 PM	9	7	0	0	0	4	0	0	0	0	4	0	0	0	0	0	24	77
3:00 PM	3:15 PM	0	5	0	0	0	5	1	0	1	0	1	1	0	0	0	0	13	68
3:15 PM	3:30 PM	2	11	0	0	0	7	0	0	1	0	1	3	0	0	0	0	22	
3:30 PM	3:45 PM	2	8	0	0	0	7	0	0	0	0	1	1	0	0	0	0	18	
3:45 PM	4:00 PM	4	6	0	0	0	5	0	0	0	0	0	0	0	0	0	0	15	

Village Dr/ Cedarwood Lane

3/26/2018

Time		Northbound				Southbound				Eastbound				Westbound			
Start	End	Left	Thru	Right	Ped	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
3:00 PM	3:15 PM	6	22	0	0	0	7	0	0	0	0	0	1	0	0	0	1
3:15 PM	3:30 PM	1	19	0	0	0	11	2	0	2	0	1	1	0	0	0	0

SR28/Fabian Way/Lakewood Lane

Date: 8/10/18

		Lakewood Lane Northbound				Fabian Way Southbound				SR28 Eastbound				SR28 Westbound					
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total	1hr total
4:00 PM	4:15 PM	5	0	3	0	9	0	0	0	8	185	13	0	1	110	9	0	343	1,264
4:15 PM	4:30 PM	2	0	4	0	6	0	7	1	5	151	6	0	1	123	5	0	310	1,240
4:30 PM	4:45 PM	1	1	2	0	8	2	11	0	6	158	3	0	2	105	7	0	306	1,220
4:45 PM	5:00 PM	1	0	5	4	5	1	7	0	11	153	7	0	0	111	4	0	305	1,173
5:00 PM	5:15 PM	5	0	4	2	5	0	6	1	7	171	4	0	2	110	5	0	319	1,134
5:15 PM	5:30 PM	3	1	2	2	4	0	6	0	5	161	6	0	0	94	8	0	290	
5:30 PM	5:45 PM	4	0	1	1	7	1	3	0	4	130	3	0	3	99	4	0	259	
5:45 PM	6:00 PM	2	0	2	3	2	0	7	0	8	129	7	0	2	99	8	0	266	

SR28/Old Mill Rd/Lake Forest Rd

Date: 8/10/18

		Lake Forest Rd Northbound				Old Mill Rd Southbound				SR28 Eastbound				SR28 Westbound					
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total	1hr total
4:00 PM	4:15 PM	9	0	15	0	0	0	5	0	12	184	9	0	19	96	2	0	351	1,290
4:15 PM	4:30 PM	8	2	14	0	1	0	11	0	8	144	8	1	14	113	0	0	323	1,257
4:30 PM	4:45 PM	5	3	21	3	0	1	5	0	6	148	9	0	15	94	2	0	309	1,245
4:45 PM	5:00 PM	6	2	14	1	1	0	4	0	11	146	7	2	10	106	0	0	307	1,192
5:00 PM	5:15 PM	11	0	19	2	1	0	6	0	6	148	11	2	13	103	0	0	318	1,174
5:15 PM	5:30 PM	8	2	13	9	1	1	3	0	10	155	17	1	15	86	0	0	311	
5:30 PM	5:45 PM	9	4	10	0	1	1	4	0	4	125	4	0	13	81	0	0	256	
5:45 PM	6:00 PM	10	6	17	3	2	0	3	0	12	119	10	0	12	98	0	0	289	

Old Mill Rd/Polaris Rd

Date: 8/10/18

		Old Mill Rd Northbound				Old Mill Rd Southbound				Polaris Rd Eastbound				Polaris Rd Westbound					
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total	1hr total
4:00 PM	4:15 PM	4	0	4	0	0	0	0	0	0	3	2	0	0	2	0	0	15	56
4:15 PM	4:30 PM	0	0	1	0	0	0	0	0	0	2	7	0	1	2	0	0	13	51
4:30 PM	4:45 PM	1	0	1	0	0	0	0	0	0	3	2	0	1	3	0	0	11	44
4:45 PM	5:00 PM	7	0	0	0	0	0	0	0	0	1	6	0	1	2	0	0	17	42
5:00 PM	5:15 PM	3	0	0	0	0	0	0	0	0	1	5	0	0	1	0	0	10	42
5:15 PM	5:30 PM	2	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	6	
5:30 PM	5:45 PM	4	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	9	
5:45 PM	6:00 PM	6	0	1	0	0	0	0	0	0	0	2	0	0	8	0	0	17	

Village Rd /Polaris Rd

Date: 8/10/18

		Village Rd Northbound				Village Rd Southbound				Polaris Rd Eastbound				Polaris Rd Westbound					
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total	1hr total
4:00 PM	4:15 PM	2	6	1	0	0	3	0	0	0	0	2	0	1	0	0	1	15	66
4:15 PM	4:30 PM	2	2	2	0	0	2	1	0	1	0	4	0	0	0	0	0	14	65
4:30 PM	4:45 PM	4	5	0	0	0	9	1	0	0	0	0	0	2	0	0	0	21	55
4:45 PM	5:00 PM	5	4	0	0	0	4	0	0	0	0	2	0	1	0	0	0	16	47
5:00 PM	5:15 PM	2	7	0	0	0	4	0	0	0	0	1	0	0	0	0	0	14	42
5:15 PM	5:30 PM	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	4	
5:30 PM	5:45 PM	2	6	0	0	0	2	0	0	0	0	3	0	0	0	0	0	13	
5:45 PM	6:00 PM	8	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	11	

On Polaris east of High School

9/11/2018

		High School Northbound				High School Southbound			Polaris Eastbound				Polaris Westbound					
From	To	Left	Through	Right	Ped	Left	Through	Right	Left	Through	Right	Ped	Left	Through	Right	Ped	Total	Total Hourly
7:00 AM	7:15 AM	0	0	0		0	0	0	0	7	0		0	25	1		33	
7:15 AM	7:30 AM	0	0	0		0	0	0	0	60	0		0	130	0		190	223
7:30 AM	7:45 AM	0	0	0		0	0	0	0	19	0		0	27	0		46	269
7:45 AM	8:00 AM	0	0	0		0	0	0	0	2	0		0	17	0		19	288
8:00 AM	8:15 AM	0	0	0		0	0	0	0	8	0		0	15	0		23	278
8:15 AM	8:30 AM	0	0	0		0	0	0	0	35	0		0	66	0		101	189
8:30 AM	8:45 AM	0	0	0		0	0	0	0	68	0		0	63	0		131	274
8:45 AM	9:00 AM	0	0	0		0	0	0	0	11	0		0	10	0		21	276
2:00 PM	2:15 PM	0	0	0		0	1	0	0	7	0		0	8	0		16	
2:15 PM	2:30 PM	0	0	0		1	0	0	0	14	0		0	24	0		39	
2:30 PM	2:45 PM	0	0	0		0	0	0	0	63	0		0	18	0		81	
2:45 PM	3:00 PM	0	0	0		0	0	0	0	18	0		0	16	0		34	170
3:00 PM	3:15 PM	0	0	0		0	0	0	0	15	0		0	46	0		61	215
3:15 PM	3:30 PM	0	0	0		0	0	0	1	71	0		0	38	0		110	286
3:30 PM	3:45 PM	0	0	0		0	0	0	0	31	0		0	19	0		50	255
3:45 PM	4:00 PM	0	0	0		0	0	0	0	16	0		0	7	0		23	244

TABLE X: Tahoe Cross Country Ski Area Winter Peak-Hour Traffic Volumes

Scenario/Intersection	Period	Northbound			Southbound			Eastbound			Westbound			Total
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
Existing No Project														
SR28/Fabian Way	Weekday	-	-	-	86	-	38	51	360	-	-	255	66	856
SR28/Old Mill Rd	Weekday	-	-	-	2	-	44	40	312	-	-	300	7	705
Polaris Rd/Old Mill Rd	Weekday	44	-	4	-	-	-	-	119	78	3	63	-	311
Polaris Rd/Village Rd	Weekday	53	37	0	0	23	2	4	0	98	0	0	0	217
SR28/Fabian Way	Holiday/Weekend	-	-	-	51	-	43	37	635	-	-	419	52	1,237
SR28/Old Mill Rd	Holiday/Weekend	-	-	-	4	-	26	23	649	-	-	464	2	1,168
Existing Plus New Lodge at New Site														
SR28/Fabian Way	Weekday	-	-	-	88	-	46	44	360	-	-	255	85	878
SR28/Old Mill Rd	Weekday	-	-	-	2	-	48	69	305	-	-	308	7	739
Polaris Rd/Old Mill Rd	Weekday	73	-	4	-	-	-	-	132	82	3	109	-	403
Polaris Rd/Village Rd	Weekday	99	3	0	0	20	2	4	0	111	0	0	0	239
SR28/Fabian Way	Holiday/Weekend	-	-	-	45	-	43	34	635	-	-	431	58	1,246
SR28/Old Mill Rd	Holiday/Weekend	-	-	-	4	-	48	48	646	-	-	464	14	1,224
Existing Plus Project at Existing Site														
SR28/Fabian Way	Weekday	-	-	-	87	-	39	74	360	-	-	255	84	899
SR28/Old Mill Rd	Weekday	-	-	-	2	-	44	40	335	-	-	301	7	729
Polaris Rd/Old Mill Rd	Weekday	44	-	4	-	-	-	-	119	78	3	63	-	311
Polaris Rd/Village Rd	Weekday	53	78	0	0	25	2	4	0	98	0	0	0	260
SR28/Fabian Way	Holiday/Weekend	-	-	-	54	-	46	59	635	-	-	419	70	1,283
SR28/Old Mill Rd	Holiday/Weekend	-	-	-	4	-	26	23	671	-	-	467	2	1,193
Future No Project														
SR28/Fabian Way	Weekday	-	-	-	96	-	48	71	454	-	-	318	82	1,069
SR28/Old Mill Rd	Weekday	-	-	-	2	-	45	41	417	-	-	381	7	893
Polaris Rd/Old Mill Rd	Weekday	44	-	4	-	-	-	-	119	78	3	63	-	311
Polaris Rd/Village Rd	Weekday	53	37	0	0	24	2	4	0	98	0	0	0	218
SR28/Fabian Way	Holiday/Weekend	-	-	-	61	-	53	57	783	-	-	514	68	1,536
SR28/Old Mill Rd	Holiday/Weekend	-	-	-	4	-	27	24	819	-	-	577	2	1,453
Future Plus New Lodge at New Site														
SR28/Fabian Way	Weekday	-	-	-	98	-	56	64	454	-	-	318	101	1,091
SR28/Old Mill Rd	Weekday	-	-	-	2	-	49	70	410	-	-	389	7	927
Polaris Rd/Old Mill Rd	Weekday	73	-	4	-	-	-	-	132	82	3	109	-	403
Polaris Rd/Village Rd	Weekday	99	3	0	0	21	2	4	0	111	0	0	0	240
SR28/Fabian Way	Holiday/Weekend	-	-	-	55	-	53	54	783	-	-	526	74	1,545
SR28/Old Mill Rd	Holiday/Weekend	-	-	-	4	-	49	49	816	-	-	577	14	1,509
Future Plus New Lodge at Existing Site														
SR28/Fabian Way	Weekday	-	-	-	97	-	49	94	454	-	-	318	100	1,112
SR28/Old Mill Rd	Weekday	-	-	-	2	-	45	41	440	-	-	382	7	917
Polaris Rd/Old Mill Rd	Weekday	44	-	4	-	-	-	-	119	78	3	63	-	311
Polaris Rd/Village Rd	Weekday	53	78	0	0	26	2	4	0	98	0	0	0	261
SR28/Fabian Way	Holiday/Weekend	-	-	-	64	-	56	79	783	-	-	514	86	1,582
SR28/Old Mill Rd	Holiday/Weekend	-	-	-	4	-	27	24	841	-	-	580	2	1,478

Note: Winter Volumes from original Study

Source: LSC Transportation Consultants, Inc.

2018 Tahoe XC.xlsx

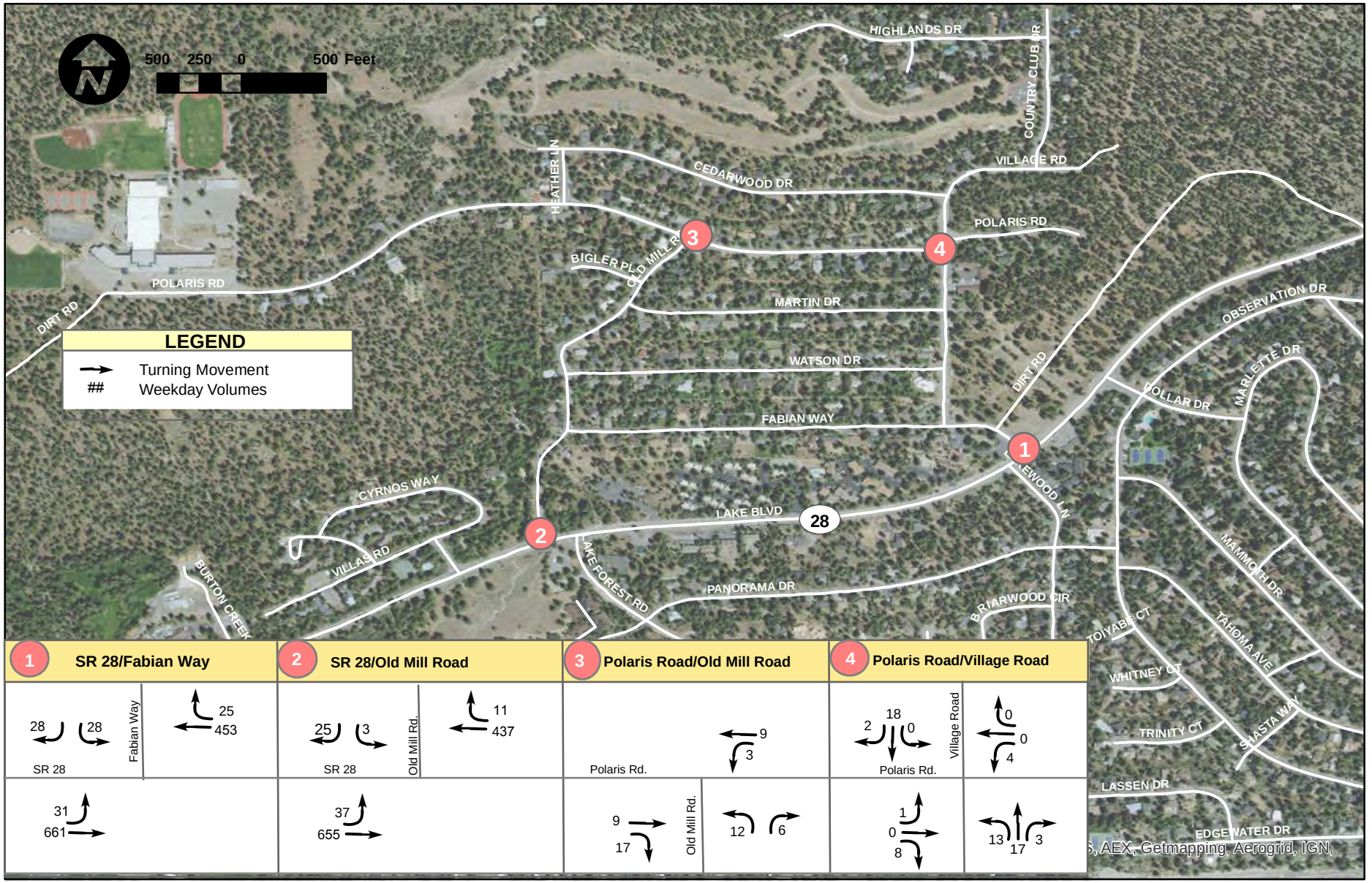
TABLE X: Tahoe Cross Country Ski Area Summer Peak-Hour Traffic Volumes

Scenario/Intersection	Period	Northbound			Southbound			Eastbound			Westbound			Total
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
Existing No Project														
SR28/Fabian Way	Weekday	-	-	-	28	-	28	31	661	-	-	453	25	1,226
SR28/Old Mill Rd	Weekday	-	-	-	3	-	25	37	655	-	-	437	11	1,168
Polaris Rd/Old Mill Rd	Weekday	12	-	6	-	-	-	-	9	17	3	9	-	56
Polaris Rd/Village Rd	Weekday	13	17	3	0	18	2	1	0	8	4	0	0	66
Existing Plus New Lodge at New Site														
SR28/Fabian Way	Weekday	-	-	-	48	-	24	22	661	-	-	453	54	1,262
SR28/Old Mill Rd	Weekday	-	-	-	3	-	55	79	646	-	-	433	11	1,227
Polaris Rd/Old Mill Rd	Weekday	54	-	6	-	-	-	-	33	47	3	46	-	189
Polaris Rd/Village Rd	Weekday	50	0	3	0	10	2	1	0	32	4	0	0	102
Existing Plus Project at Existing Site														
SR28/Fabian Way	Weekday	-	-	-	43	-	47	65	661	-	-	453	53	1,322
SR28/Old Mill Rd	Weekday	-	-	-	3	-	25	37	689	-	-	456	11	1,221
Polaris Rd/Old Mill Rd	Weekday	12	-	6	-	-	-	-	9	17	3	9	-	56
Polaris Rd/Village Rd	Weekday	13	79	3	0	52	2	1	0	8	4	0	0	162
Future No Project														
SR28/Fabian Way	Weekday	-	-	-	38	-	38	51	777	-	-	530	41	1,475
SR28/Old Mill Rd	Weekday	-	-	-	3	-	26	38	790	-	-	520	11	1,388
Polaris Rd/Old Mill Rd	Weekday	12	-	6	-	-	-	-	9	17	3	9	-	56
Polaris Rd/Village Rd	Weekday	13	17	3	0	19	2	1	0	8	4	0	0	67
Future Plus New Lodge at New Site														
SR28/Fabian Way	Weekday	-	-	-	58	-	34	42	777	-	-	530	70	1,511
SR28/Old Mill Rd	Weekday	-	-	-	3	-	56	80	781	-	-	516	11	1,447
Polaris Rd/Old Mill Rd	Weekday	54	-	6	-	-	-	-	33	47	3	46	-	189
Polaris Rd/Village Rd	Weekday	50	0	3	0	11	2	1	0	32	4	0	0	103
Future Plus New Lodge at Existing Site														
SR28/Fabian Way	Weekday	-	-	-	53	-	57	85	777	-	-	530	69	1,571
SR28/Old Mill Rd	Weekday	-	-	-	3	-	26	38	824	-	-	539	11	1,441
Polaris Rd/Old Mill Rd	Weekday	12	-	6	-	-	-	-	9	17	3	9	-	56
Polaris Rd/Village Rd	Weekday	13	79	3	0	53	2	1	0	8	4	0	0	163

Note: Winter Volumes from original Study

Source: LSC Transportation Consultants, Inc. *2018 Tahoe XC.xlsx*

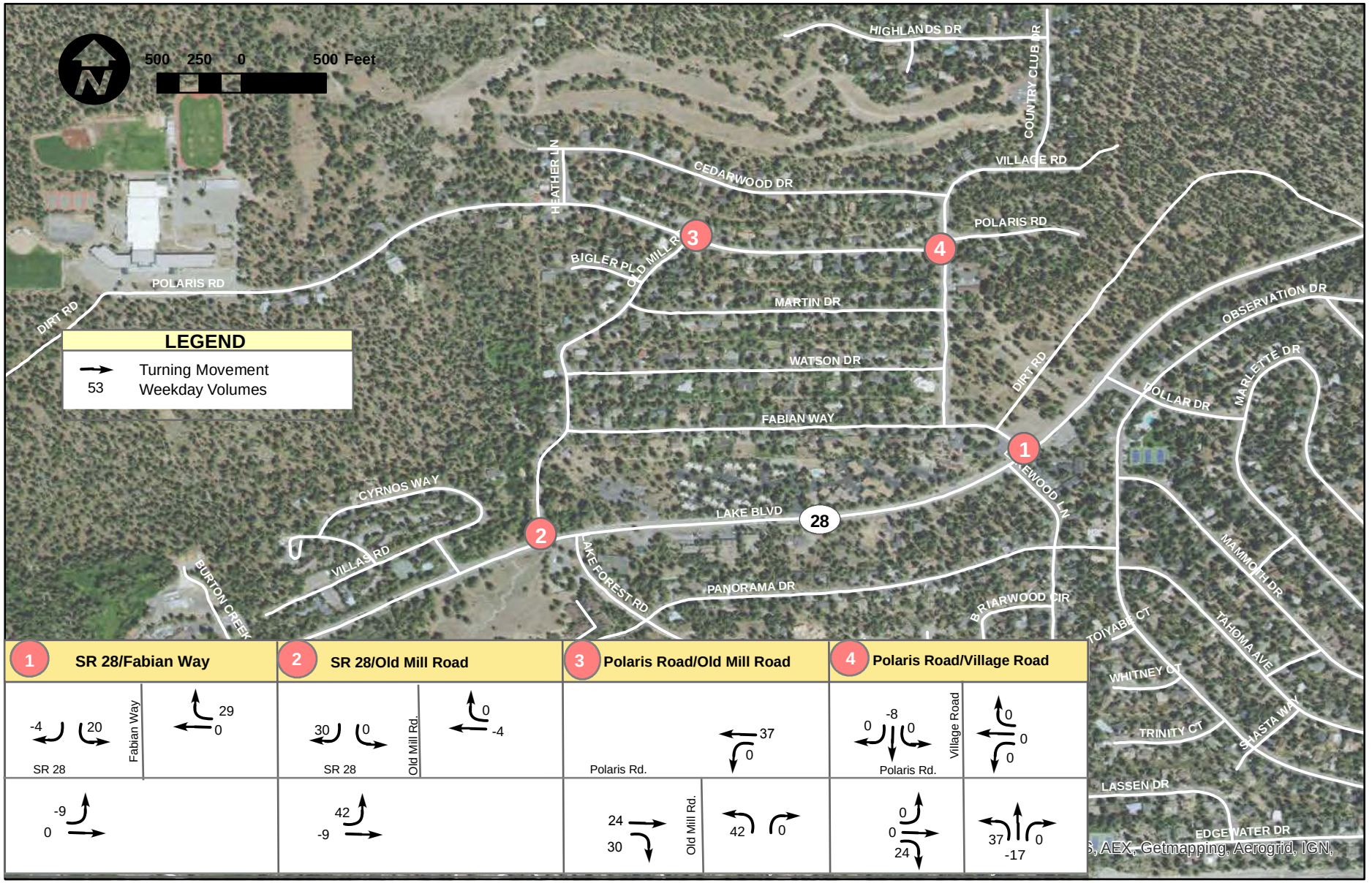
Figure B- 1
Summer Existing No Project Volumes



1 SR 28/Fabian Way	2 SR 28/Old Mill Road	3 Polaris Road/Old Mill Road	4 Polaris Road/Village Road
28 28 SR 28 Fabian Way 25 453	25 3 SR 28 Old Mill Rd. 11 437	Polaris Rd. 9 3	2 18 0 Polaris Rd. Village Road 0 0 4
31 661	37 655	9 17 Old Mill Rd. 12 6	1 0 8 13 17 3

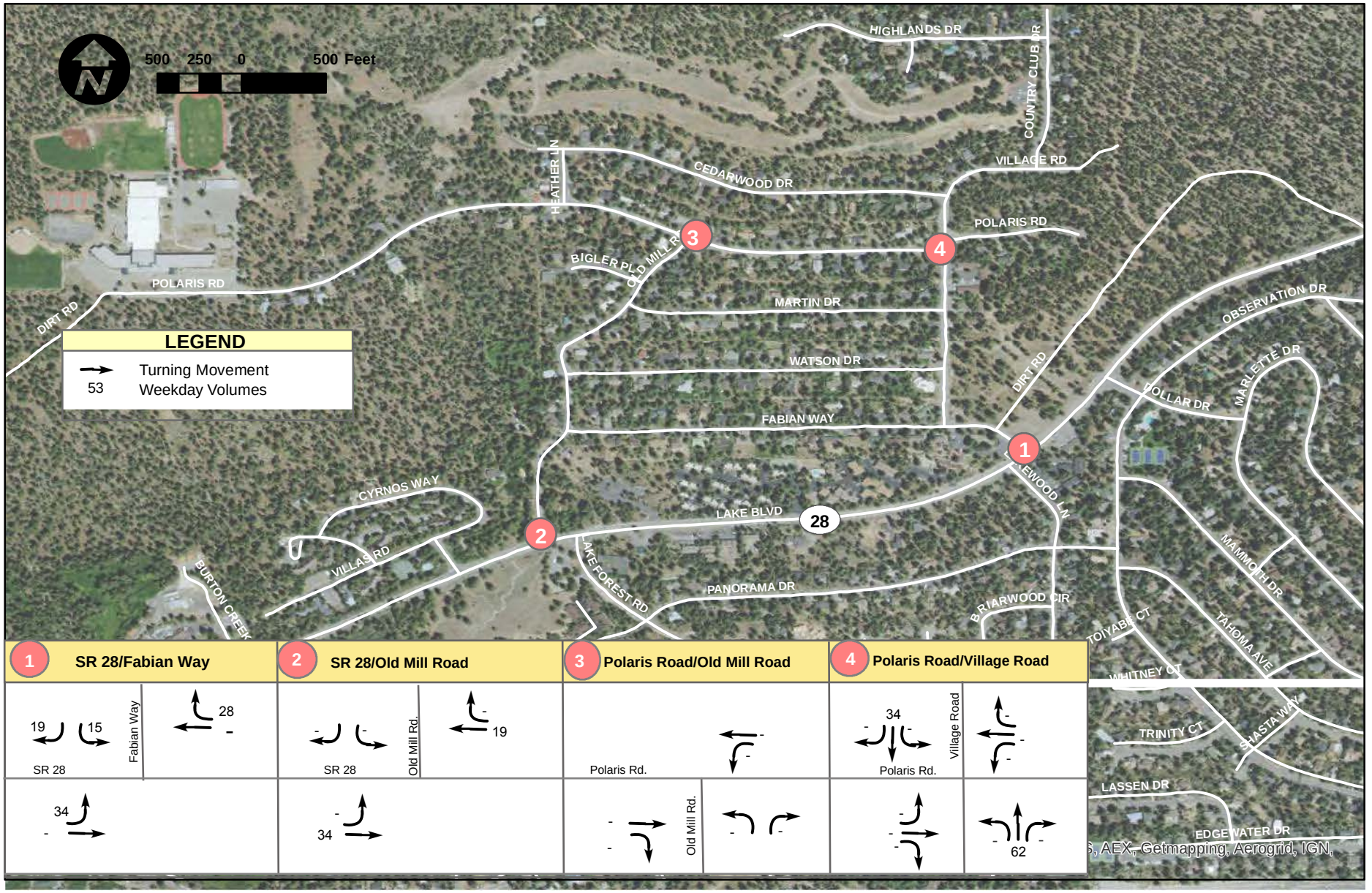
Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

Figure B-2
Summer Net impact - Proposed Project (Site D)



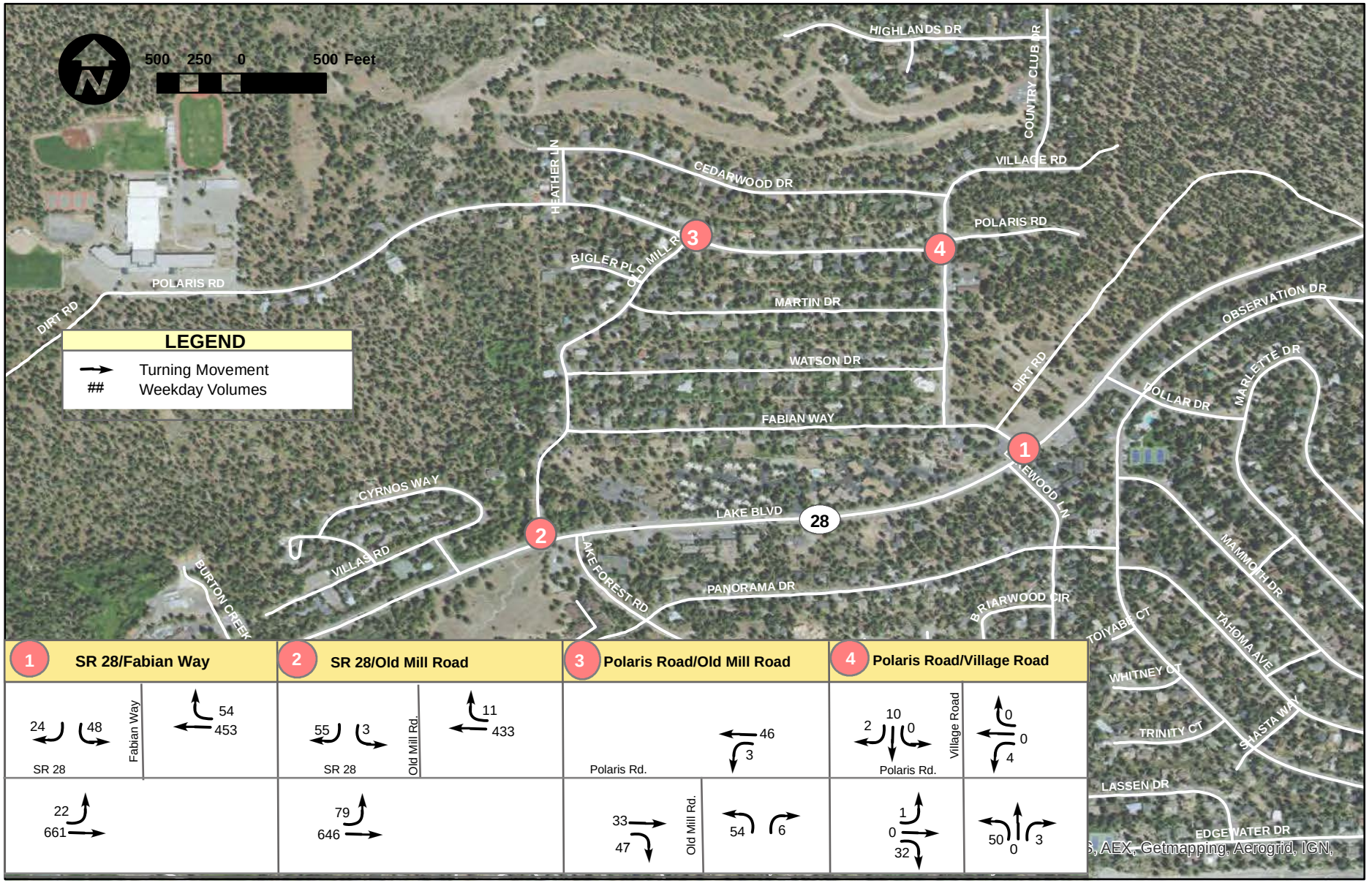
Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

Figure B-3
Summer Net impact - Project Alternative (Site A)



Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

Figure B- 4
Summer Existing With Proposed Project (Site D)



Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

Figure B- 5
Summer Existing With Project Alternative (Site A)

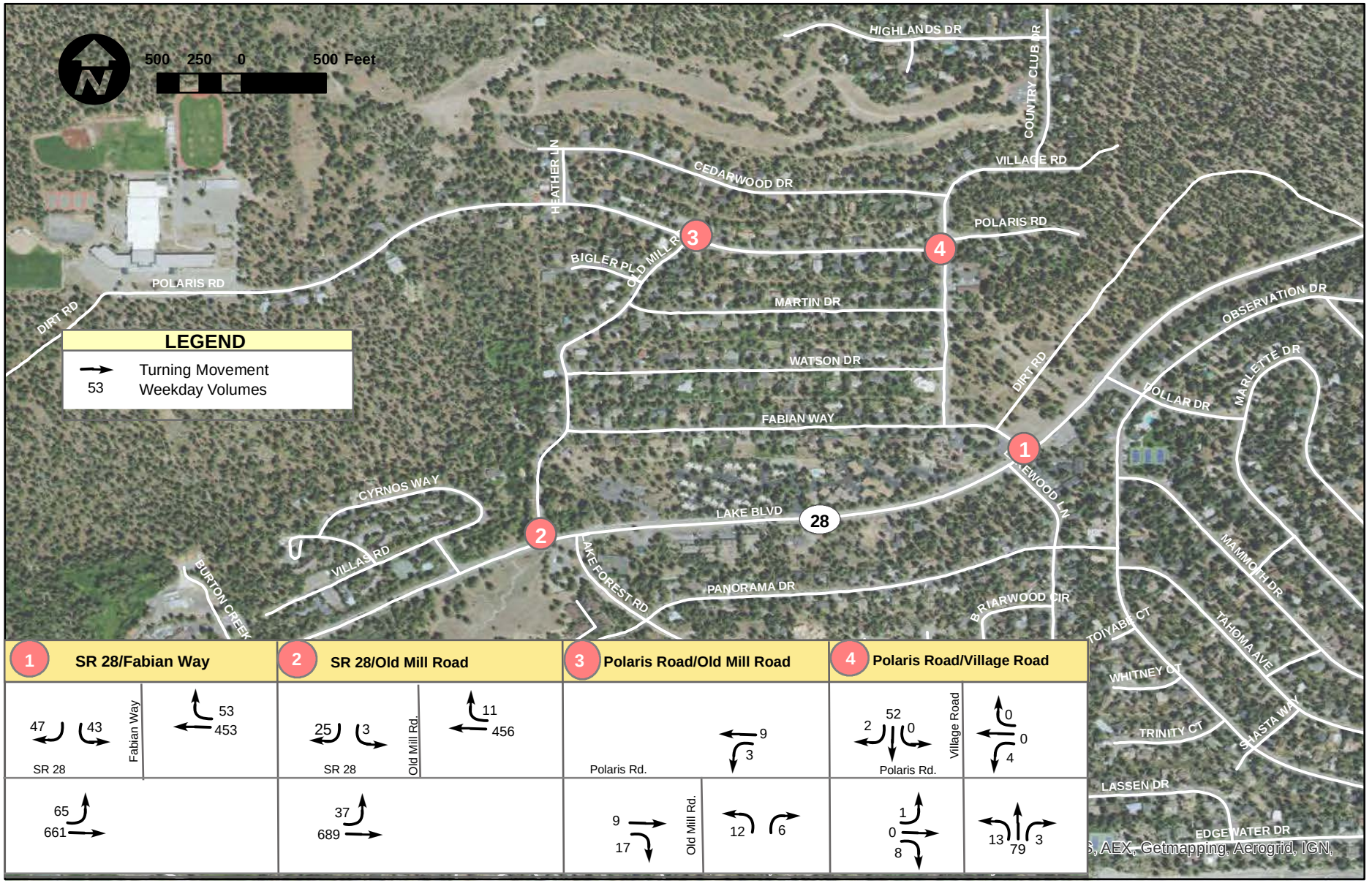
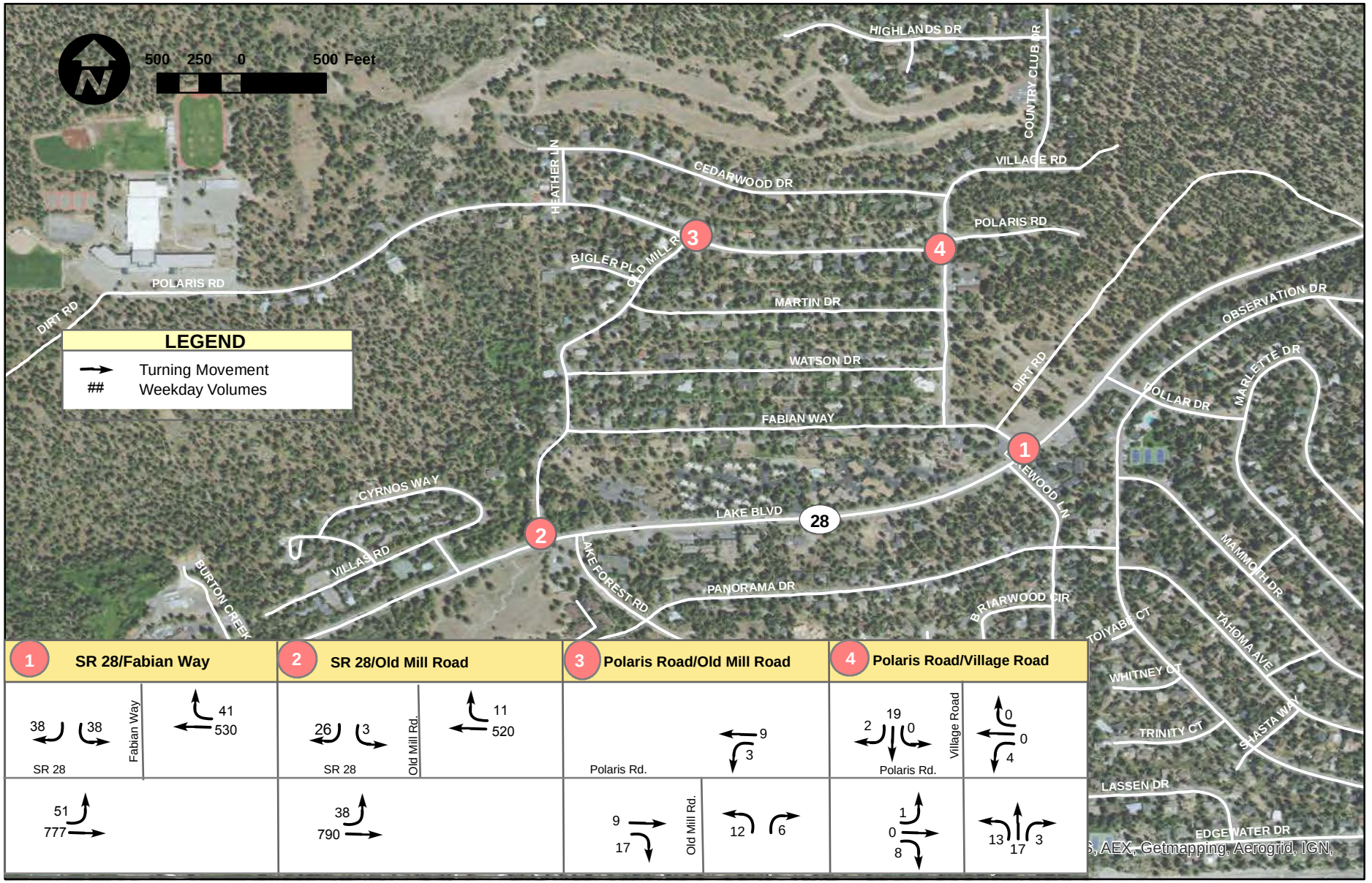
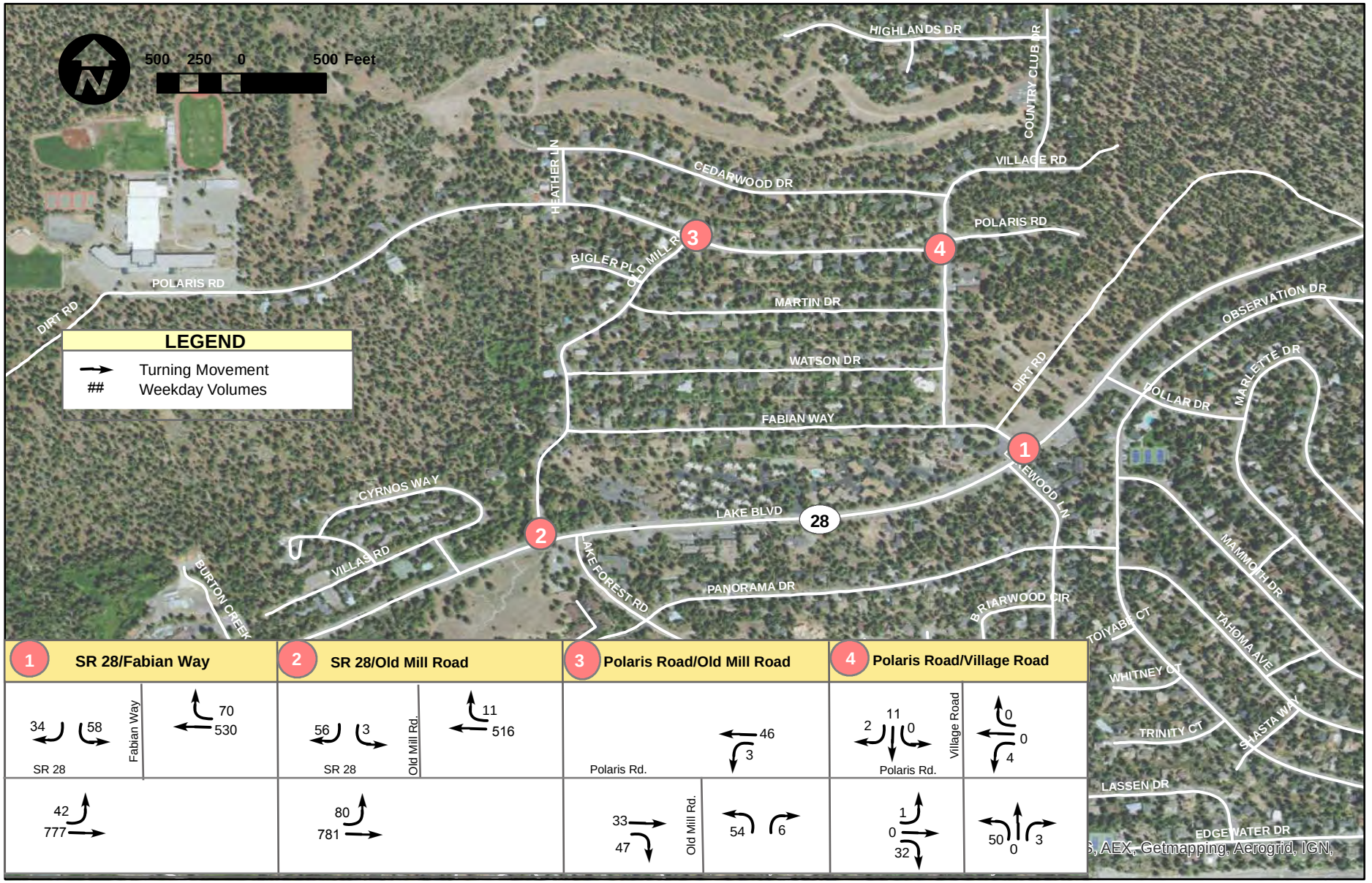


Figure B- 6
Summer Future No Project Volumes



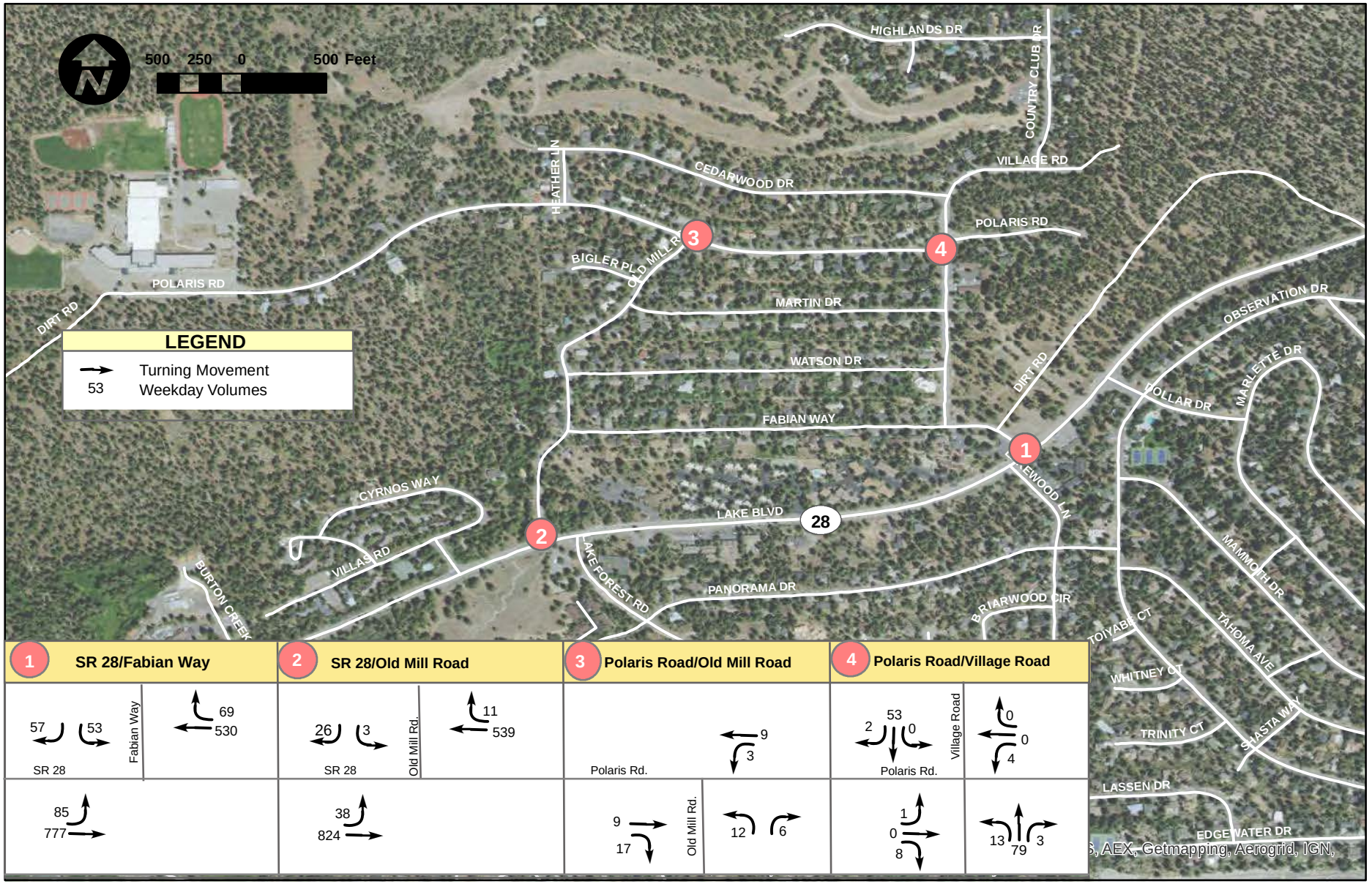
Note: These volumes are from a previous version that assumed more summer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

Figure B- 7
Summer Future With Proposed Project (Site D)



Note: These volumes are from a previous version that assumed more sumer activities occurring at the site. The summer volumes with the currently proposed project would be lower than these volumes

Figure B- 8
Summer Future With Project Alternative (Site A)



DESCRIPTIONS OF LEVELS OF SERVICE

The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with level of service A representing the best operating conditions and level of service F the worst.

Level of Service Definitions

In general, the various levels of service are defined as follows for uninterrupted flow facilities:

- **Level of service A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

- **Level of service B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

- **Level of service C** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

- **Level of Service D** represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

- **Level of service E** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

- **Level of service F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level of service F is an appropriate designation for such points.

HCS7 Two-Way Stop-Control Report

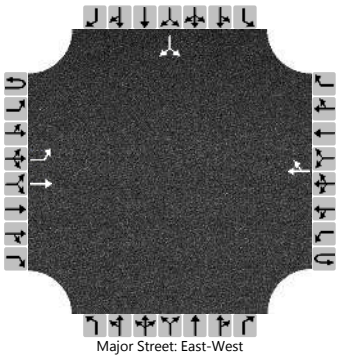
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2018
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Existing No Project

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		31	661				453	25						28		28
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		34													61	
Capacity, c (veh/h)		1038													892	
v/c Ratio		0.03													0.07	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		8.6													9.3	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)	0.4												9.3			
Approach LOS													A			

HCS7 Two-Way Stop-Control Report

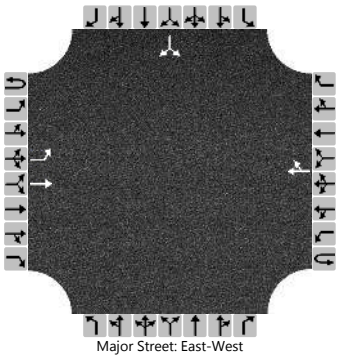
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/27/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing NP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		37	655				437	11						3		25
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		40													30	
Capacity, c (veh/h)		1071													738	
v/c Ratio		0.04													0.04	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
Control Delay (s/veh)		8.5													10.1	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		0.5												10.1		
Approach LOS														B		

HCS7 All-Way Stop Control Report

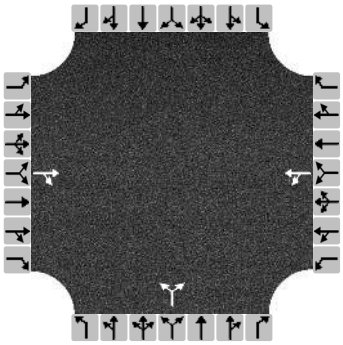
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Existing NP

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		9	17	3	9		12		6			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	28			13			20					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.025			0.012			0.017					
Final Departure Headway, hd (s)	3.61			4.07			3.97					
Final Degree of Utilization, x	0.028			0.015			0.022					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.61			2.07			1.97					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	28			13			20					
Capacity	996			885			908					
95% Queue Length, Q_{95} (veh)	0.1			0.0			0.1					
Control Delay (s/veh)	6.7			7.1			7.1					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	6.7			7.1			7.1					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	6.9						A					

HCS7 Two-Way Stop-Control Report

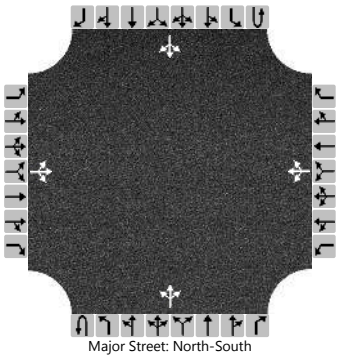
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	North-South
Project Description	Tahoe XC Existing NP

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	8		4	0	0		13	17	3		0	18	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10				4			14				0		
Capacity, c (veh/h)			1036				920			1587				1587		
v/c Ratio			0.01				0.00			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.0			0.0				0.0		
Control Delay (s/veh)			8.5				8.9			7.3				7.3		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.5				8.9				2.9				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

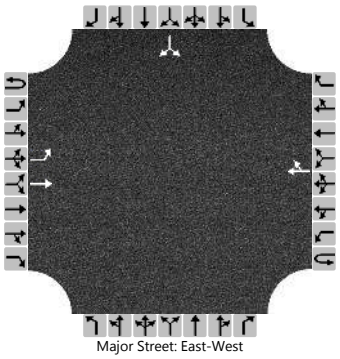
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Existing NP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		51	360				255	66						86		38
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												6.1		4.9
Critical Headway (sec)		4.13												3.83		4.13
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		55													135	
Capacity, c (veh/h)		1200													893	
v/c Ratio		0.05													0.15	
95% Queue Length, Q_{95} (veh)		0.1													0.5	
Control Delay (s/veh)		8.1													9.7	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)	1.0												9.7			
Approach LOS													A			

HCS7 Two-Way Stop-Control Report

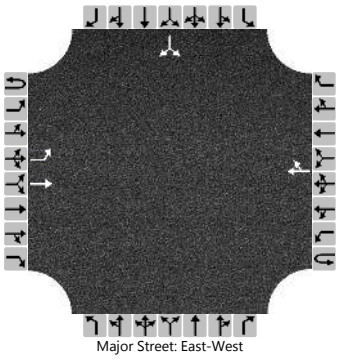
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/27/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing NP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		40	312				300	7						2		44
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		43													50	
Capacity, c (veh/h)		1220													803	
v/c Ratio		0.04													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		8.1													9.8	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)	0.9												9.8			
Approach LOS													A			

HCS7 All-Way Stop Control Report

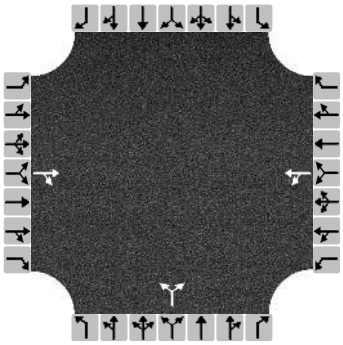
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Winter PM Existing NP

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		119	78	3	63		44		4			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	214			72			52					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.190			0.064			0.046					
Final Departure Headway, hd (s)	3.91			4.29			4.67					
Final Degree of Utilization, x	0.233			0.085			0.068					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.91			2.29			2.67					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	214			72			52					
Capacity	920			840			770					
95% Queue Length, Q_{95} (veh)	0.9			0.3			0.2					
Control Delay (s/veh)	8.1			7.7			8.0					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	8.1			7.7			8.0					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	8.0						A					

HCS7 Two-Way Stop-Control Report

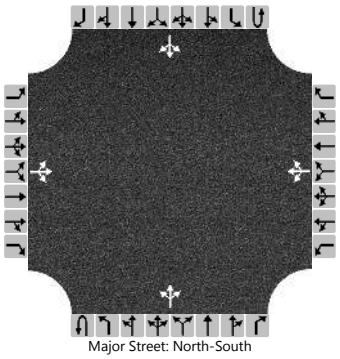
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	Tahoe XC - Existing Winter

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	98		0	0	0		55	37	0		0	23	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			111				0			60				0		
Capacity, c (veh/h)			1031							1580				1563		
v/c Ratio			0.11							0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.1				0.0		
Control Delay (s/veh)			8.9							7.4				7.3		
Level of Service (LOS)			A							A				A		
Approach Delay (s/veh)	8.9								4.5				0.0			
Approach LOS	A															

HCS7 Two-Way Stop-Control Report

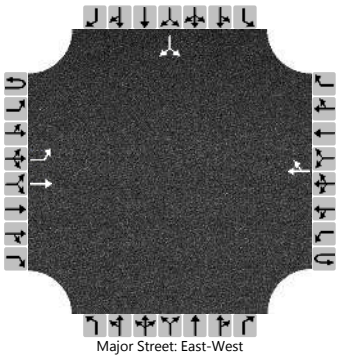
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Existing NP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		37	635				419	52						51		43
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		40													102	
Capacity, c (veh/h)		1044													833	
v/c Ratio		0.04													0.12	
95% Queue Length, Q_{95} (veh)		0.1													0.4	
Control Delay (s/veh)		8.6													9.9	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)	0.5												9.9			
Approach LOS													A			

HCS7 Two-Way Stop-Control Report

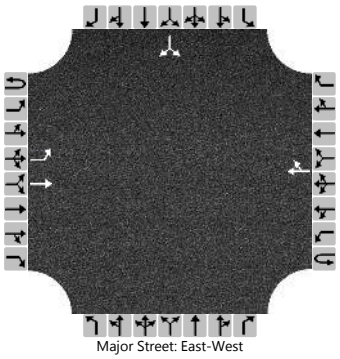
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/27/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing NP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		23	649				464	2						4		26
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		25													33	
Capacity, c (veh/h)		1053													741	
v/c Ratio		0.02													0.04	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
Control Delay (s/veh)		8.5													10.1	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		0.3												10.1		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

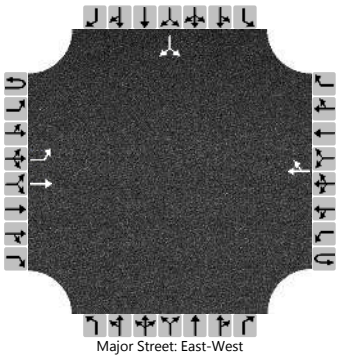
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2018
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing PP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		22	661				453	54						48		24
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		24													78	
Capacity, c (veh/h)		1010													676	
v/c Ratio		0.02													0.12	
95% Queue Length, Q_{95} (veh)		0.1													0.4	
Control Delay (s/veh)		8.7													11.0	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.3												11.0			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

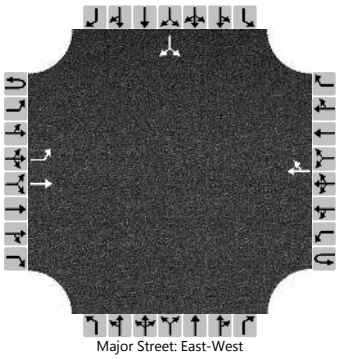
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/27/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing PP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		79	646				433	11						3		55
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		86													63	
Capacity, c (veh/h)		1075													698	
v/c Ratio		0.08													0.09	
95% Queue Length, Q_{95} (veh)		0.3													0.3	
Control Delay (s/veh)		8.6													10.7	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.9												10.7			
Approach LOS													B			

HCS7 All-Way Stop Control Report

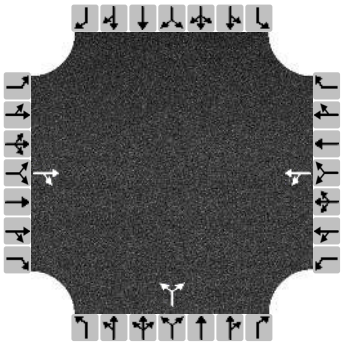
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Summer Existing PP

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		33	47	3	46		54		6			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	87			53			65					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.077			0.047			0.058					
Final Departure Headway, hd (s)	3.80			4.19			4.36					
Final Degree of Utilization, x	0.092			0.062			0.079					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.80			2.19			2.36					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	87			53			65					
Capacity	946			858			826					
95% Queue Length, Q_{95} (veh)	0.3			0.2			0.3					
Control Delay (s/veh)	7.2			7.5			7.7					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	7.2			7.5			7.7					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	7.4						A					

HCS7 Two-Way Stop-Control Report

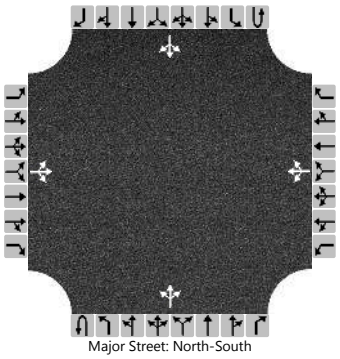
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	North-South
Project Description	Tahoe XC Summer Existing NP

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	32		4	0	0		50	0	3		0	10	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			36				4			54				0		
Capacity, c (veh/h)			1057				811			1599				1612		
v/c Ratio			0.03				0.01			0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.0			0.1				0.0		
Control Delay (s/veh)			8.5				9.5			7.3				7.2		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.5				9.5				6.9				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

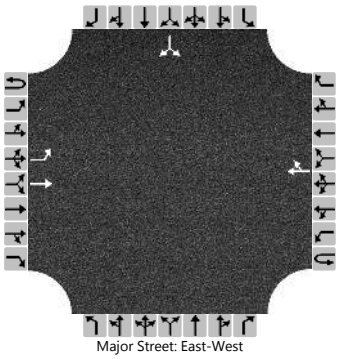
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Existing PP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		44	360				255	85						88		46
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												6.1		4.9
Critical Headway (sec)		4.13												3.83		4.13
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		48													146	
Capacity, c (veh/h)		1179													952	
v/c Ratio		0.04													0.15	
95% Queue Length, Q_{95} (veh)		0.1													0.5	
Control Delay (s/veh)		8.2													9.5	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		0.9												9.5		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

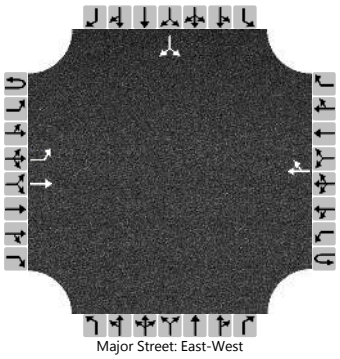
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/27/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Existing PP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		69	305				308	7						2		48
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

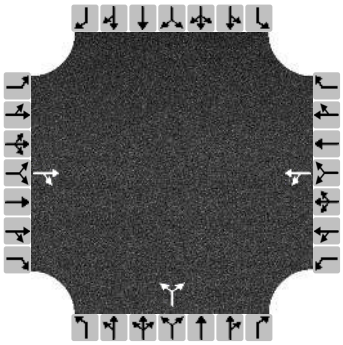
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		75													54	
Capacity, c (veh/h)		1211													793	
v/c Ratio		0.06													0.07	
95% Queue Length, Q_{95} (veh)		0.2													0.2	
Control Delay (s/veh)		8.2													9.9	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		1.5												9.9		
Approach LOS														A		

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Chris Hawkins	Intersection	Polaris/Old Mill Rd
Agency/Co.	LSC	Jurisdiction	
Date Performed	3/22/2019	East/West Street	Polaris
Analysis Year	2019	North/South Street	Old Mill
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed			
Project Description	Tahoe XC Winter PM Existing PP		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		132	82	3	109		73		4			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	233			122			84					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.207			0.108			0.074					
Final Departure Headway, hd (s)	4.07			4.41			4.88					
Final Degree of Utilization, x	0.263			0.149			0.113					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	2.07			2.41			2.88					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	233			122			84					
Capacity	884			817			738					
95% Queue Length, Q_{95} (veh)	1.1			0.5			0.4					
Control Delay (s/veh)	8.5			8.2			8.5					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	8.5			8.2			8.5					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	8.4						A					

HCS7 Two-Way Stop-Control Report

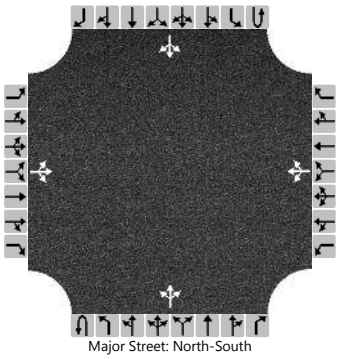
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	Tahoe XC - Winter Existing PP

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	111		0	0	0		99	3	0		0	20	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)			0				-5									
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			125				0			108				0		
Capacity, c (veh/h)			1031							1584				1612		
v/c Ratio			0.12							0.07				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.2				0.0		
Control Delay (s/veh)			9.0							7.4				7.2		
Level of Service (LOS)			A							A				A		
Approach Delay (s/veh)		9.0								7.2				0.0		
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

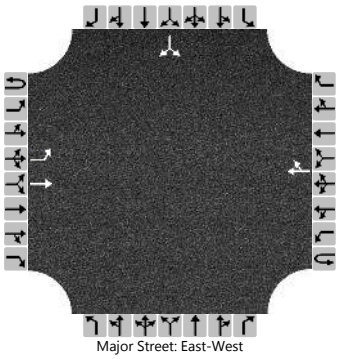
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Weekend Existing PP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		34	635				431	58						45		43
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		37													96	
Capacity, c (veh/h)		1027													883	
v/c Ratio		0.04													0.11	
95% Queue Length, Q_{95} (veh)		0.1													0.4	
Control Delay (s/veh)		8.6													9.6	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)	0.4												9.6			
Approach LOS													A			

HCS7 Two-Way Stop-Control Report

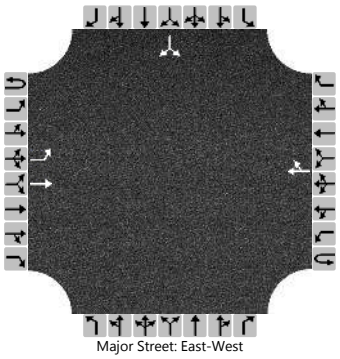
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/27/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Existing PP - Weekend

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		48	646				464	14						4		48
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		52													57	
Capacity, c (veh/h)		1041													691	
v/c Ratio		0.05													0.08	
95% Queue Length, Q_{95} (veh)		0.2													0.3	
Control Delay (s/veh)		8.6													10.7	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.6												10.7			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

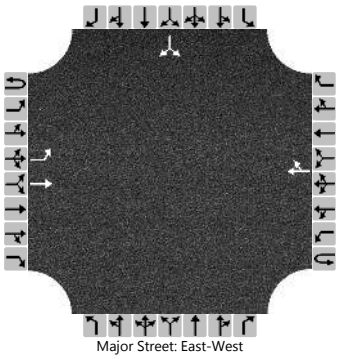
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2018
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing PP Ex Site

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		74	661				453	61						52		58
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage			Left Only								1					

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		80													120	
Capacity, c (veh/h)		1004													853	
v/c Ratio		0.08													0.14	
95% Queue Length, Q_{95} (veh)		0.3													0.5	
Control Delay (s/veh)		8.9													9.9	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		0.9												9.9		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

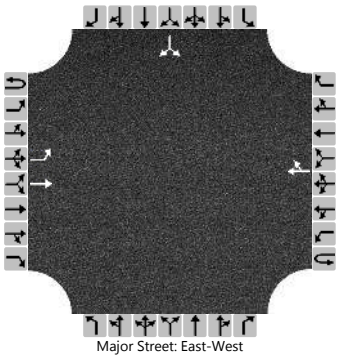
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing PP Ex Site

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		37	698				467	11						3		25
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		40													30	
Capacity, c (veh/h)		1041													713	
v/c Ratio		0.04													0.04	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
Control Delay (s/veh)		8.6													10.3	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.4												10.3			
Approach LOS													B			

HCS7 All-Way Stop Control Report

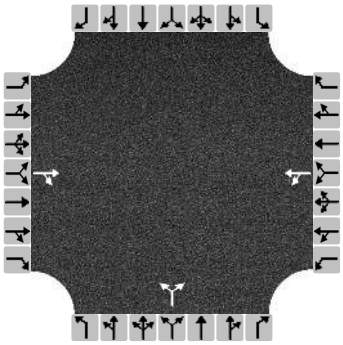
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Summer Existing PP Ex Site

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		9	17	3	9		12		6			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	28			13			20					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.025			0.012			0.017					
Final Departure Headway, hd (s)	3.61			4.07			3.97					
Final Degree of Utilization, x	0.028			0.015			0.022					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.61			2.07			1.97					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	28			13			20					
Capacity	996			885			908					
95% Queue Length, Q_{95} (veh)	0.1			0.0			0.1					
Control Delay (s/veh)	6.7			7.1			7.1					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	6.7			7.1			7.1					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	6.9						A					

HCS7 Two-Way Stop-Control Report

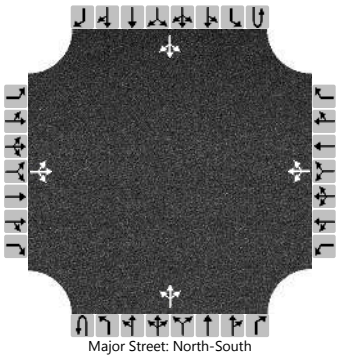
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	North-South
Project Description	Tahoe XC Summer Existing PP Ex Site

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	8		4	0	0		13	96	3		0	72	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10				4			14				0		
Capacity, c (veh/h)			944				769			1511				1477		
v/c Ratio			0.01				0.01			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.0			0.0				0.0		
Control Delay (s/veh)			8.9				9.7			7.4				7.4		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.9				9.7				0.9				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

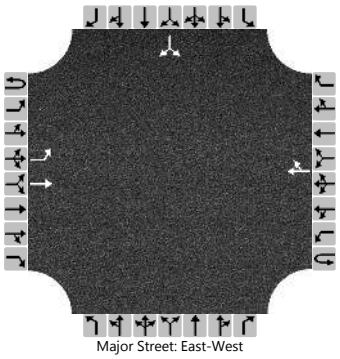
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing PP Ex Site

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		92	360				255	100						94		47
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												6.1		4.9
Critical Headway (sec)		4.13												3.83		4.13
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		100													153	
Capacity, c (veh/h)		1163													847	
v/c Ratio		0.09													0.18	
95% Queue Length, Q_{95} (veh)		0.3													0.7	
Control Delay (s/veh)		8.4													10.2	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	1.7												10.2			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

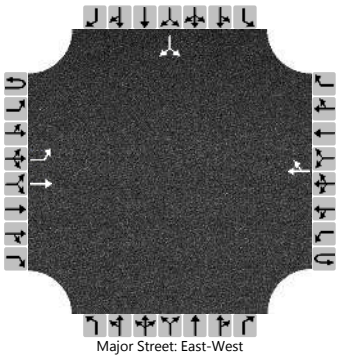
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Existing PP Ex Site

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		40	353				309	7						2		44
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		43													50	
Capacity, c (veh/h)		1210													795	
v/c Ratio		0.04													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		8.1													9.8	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		0.8												9.8		
Approach LOS														A		

HCS7 All-Way Stop Control Report

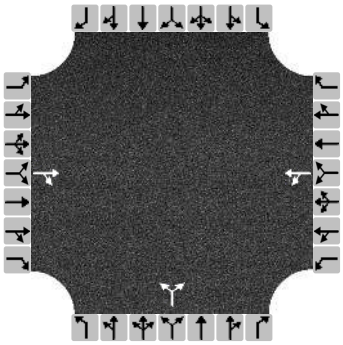
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Winter PM Existing PP Ex Site

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		119	78	3	63		44		4			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	214			72			52					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.190			0.064			0.046					
Final Departure Headway, hd (s)	3.91			4.29			4.67					
Final Degree of Utilization, x	0.233			0.085			0.068					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.91			2.29			2.67					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	214			72			52					
Capacity	920			840			770					
95% Queue Length, Q_{95} (veh)	0.9			0.3			0.2					
Control Delay (s/veh)	8.1			7.7			8.0					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	8.1			7.7			8.0					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	8.0						A					

HCS7 Two-Way Stop-Control Report

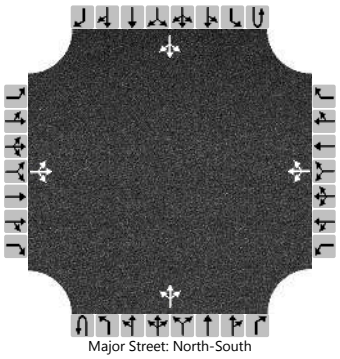
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	Tahoe XC Winter PM Existing PP Ex Site

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	98		0	0	0		53	112	0		0	40	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			111				0			58				0		
Capacity, c (veh/h)			1000							1556				1459		
v/c Ratio			0.11							0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.1				0.0		
Control Delay (s/veh)			9.0							7.4				7.5		
Level of Service (LOS)			A							A				A		
Approach Delay (s/veh)	9.0								2.6				0.0			
Approach LOS	A															

HCS7 Two-Way Stop-Control Report

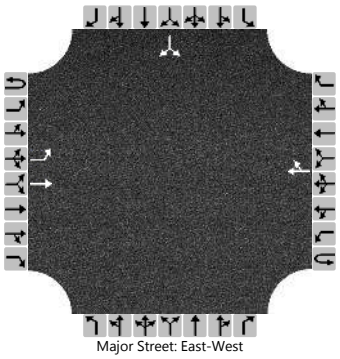
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter PM Existing PP Ex Site

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		72	635				419	81						70		66
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage			Left Only								1					

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		78													148	
Capacity, c (veh/h)		1017													810	
v/c Ratio		0.08													0.18	
95% Queue Length, Q_{95} (veh)		0.2													0.7	
Control Delay (s/veh)		8.8													10.4	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		0.9												10.4		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

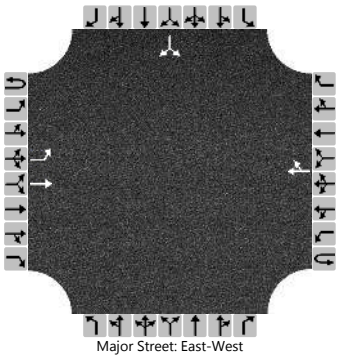
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Existing PP - Weekend Ex Site

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		23	684				487	2						4		26
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		25													33	
Capacity, c (veh/h)		1031													722	
v/c Ratio		0.02													0.05	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
Control Delay (s/veh)		8.6													10.2	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		0.3												10.2		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

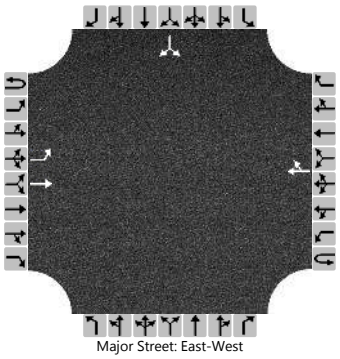
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/26/2019
Analysis Year	2018
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Future NP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		51	777				530	41						38		38
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		55													83	
Capacity, c (veh/h)		952													763	
v/c Ratio		0.06													0.11	
95% Queue Length, Q_{95} (veh)		0.2													0.4	
Control Delay (s/veh)		9.0													10.3	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.6												10.3			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

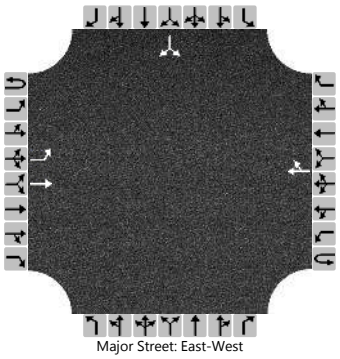
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Future NP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		38	790				520	11						3		26
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		41													32	
Capacity, c (veh/h)		991													669	
v/c Ratio		0.04													0.05	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
Control Delay (s/veh)		8.8													10.6	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		0.4												10.6		
Approach LOS														B		

HCS7 All-Way Stop Control Report

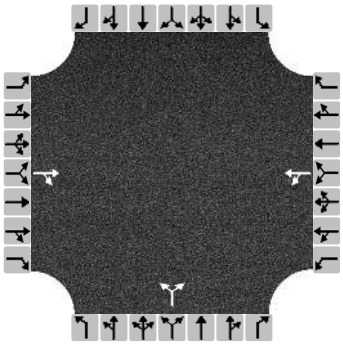
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Summer Future NP

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		9	17	3	9		12		6			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	28			13			20					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.025			0.012			0.017					
Final Departure Headway, hd (s)	3.61			4.07			3.97					
Final Degree of Utilization, x	0.028			0.015			0.022					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.61			2.07			1.97					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	28			13			20					
Capacity	996			885			908					
95% Queue Length, Q_{95} (veh)	0.1			0.0			0.1					
Control Delay (s/veh)	6.7			7.1			7.1					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	6.7			7.1			7.1					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	6.9						A					

HCS7 Two-Way Stop-Control Report

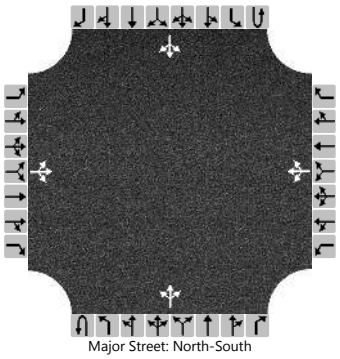
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	North-South
Project Description	Tahoe XC Summer Future NP

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	8		4	0	0		13	17	3		0	19	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10				4			14				0		
Capacity, c (veh/h)			1035				918			1586				1587		
v/c Ratio			0.01				0.00			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.0			0.0				0.0		
Control Delay (s/veh)			8.5				8.9			7.3				7.3		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.5				8.9				2.9				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

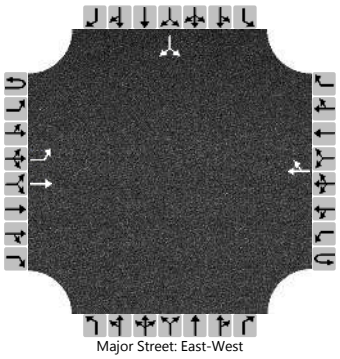
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future NP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		71	454				318	82						96		48
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												6.1		4.9
Critical Headway (sec)		4.13												3.83		4.13
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		77													157	
Capacity, c (veh/h)		1116													819	
v/c Ratio		0.07													0.19	
95% Queue Length, Q_{95} (veh)		0.2													0.7	
Control Delay (s/veh)		8.5													10.4	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	1.1												10.4			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

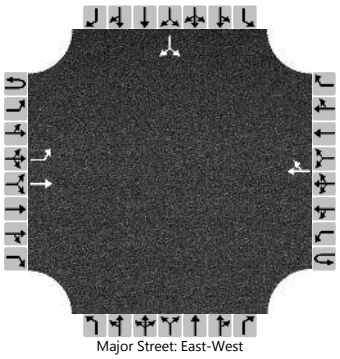
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future NP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		41	417				381	7						2		45
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

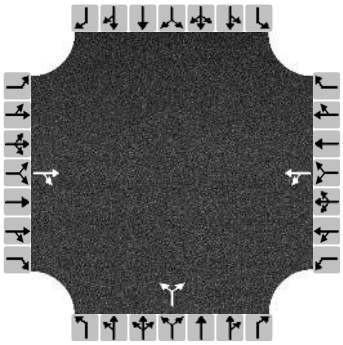
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45													51	
Capacity, c (veh/h)		1132													734	
v/c Ratio		0.04													0.07	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		8.3													10.3	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.7												10.3			
Approach LOS													B			

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Chris Hawkins	Intersection	Polaris/Old Mill Rd
Agency/Co.	LSC	Jurisdiction	
Date Performed	3/22/2019	East/West Street	Polaris
Analysis Year	2019	North/South Street	Old Mill
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed			
Project Description	Tahoe XC Winter PM Future NP		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		119	78	3	63		44		4			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	214			72			52					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.190			0.064			0.046					
Final Departure Headway, hd (s)	3.91			4.29			4.67					
Final Degree of Utilization, x	0.233			0.085			0.068					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.91			2.29			2.67					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	214			72			52					
Capacity	920			840			770					
95% Queue Length, Q_{95} (veh)	0.9			0.3			0.2					
Control Delay (s/veh)	8.1			7.7			8.0					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	8.1			7.7			8.0					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	8.0						A					

HCS7 Two-Way Stop-Control Report

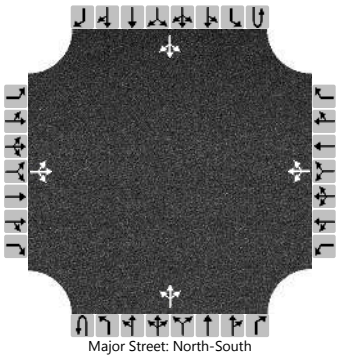
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	Tahoe XC - Winter Existing NP

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	98		0	0	0		55	37	0		0	24	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			111				0			60				0		
Capacity, c (veh/h)			1029							1579				1563		
v/c Ratio			0.11							0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.1				0.0		
Control Delay (s/veh)			8.9							7.4				7.3		
Level of Service (LOS)			A							A				A		
Approach Delay (s/veh)	8.9								4.5				0.0			
Approach LOS	A															

HCS7 Two-Way Stop-Control Report

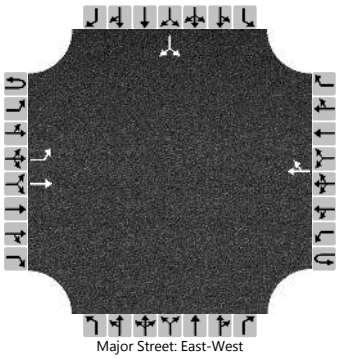
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Weekend Future NP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		57	783				514	68						61		53
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		62													124	
Capacity, c (veh/h)		942													701	
v/c Ratio		0.07													0.18	
95% Queue Length, Q_{95} (veh)		0.2													0.6	
Control Delay (s/veh)		9.1													11.2	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.6												11.2			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

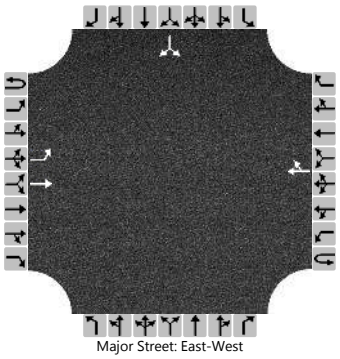
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future NP - Weekend

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		24	819				577	2						4		27
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26													34	
Capacity, c (veh/h)		948													650	
v/c Ratio		0.03													0.05	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		8.9													10.8	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.3												10.8			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

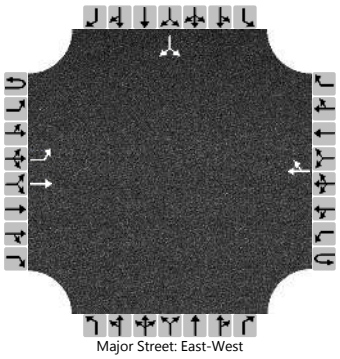
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Future PP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		42	777				530	70						58		34
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage			Left Only								1					

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		46													100	
Capacity, c (veh/h)		926													612	
v/c Ratio		0.05													0.16	
95% Queue Length, Q_{95} (veh)		0.2													0.6	
Control Delay (s/veh)		9.1													12.0	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		0.5												12.0		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

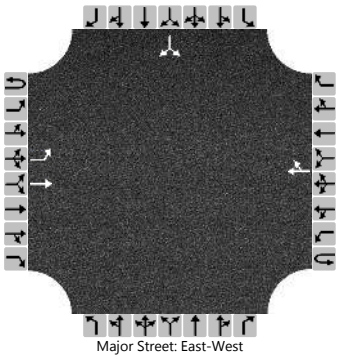
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Future PP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		80	781				516	11						3		56
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		87													64	
Capacity, c (veh/h)		995													635	
v/c Ratio		0.09													0.10	
95% Queue Length, Q_{95} (veh)		0.3													0.3	
Control Delay (s/veh)		9.0													11.3	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.8												11.3			
Approach LOS													B			

HCS7 All-Way Stop Control Report

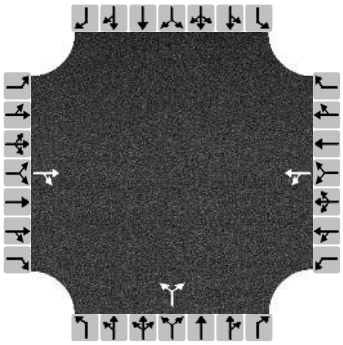
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Summer Future PP

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		33	47	3	46		54		6			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	87			53			65					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.077			0.047			0.058					
Final Departure Headway, hd (s)	3.80			4.19			4.36					
Final Degree of Utilization, x	0.092			0.062			0.079					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.80			2.19			2.36					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	87			53			65					
Capacity	946			858			826					
95% Queue Length, Q_{95} (veh)	0.3			0.2			0.3					
Control Delay (s/veh)	7.2			7.5			7.7					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	7.2			7.5			7.7					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	7.4						A					

HCS7 Two-Way Stop-Control Report

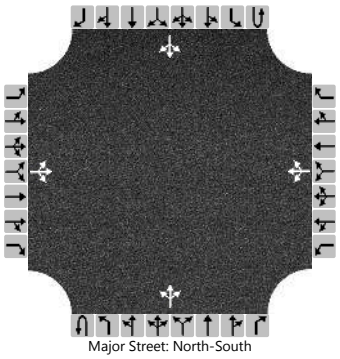
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	North-South
Project Description	Tahoe XC Summer Future PP

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	32		4	0	0		50	0	3		0	11	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				-5										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			36				4			54				0		
Capacity, c (veh/h)			1055				810			1597				1612		
v/c Ratio			0.03				0.01			0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.0			0.1				0.0		
Control Delay (s/veh)			8.5				9.5			7.3				7.2		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.5				9.5				6.9				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

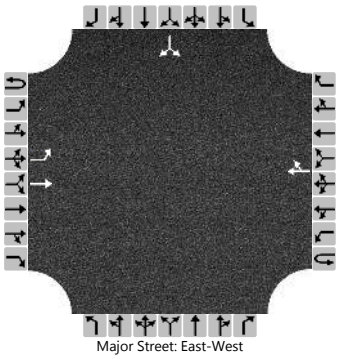
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future NP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		64	454				318	101						98		56
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												6.1		4.9
Critical Headway (sec)		4.13												3.83		4.13
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		70													167	
Capacity, c (veh/h)		1096													867	
v/c Ratio		0.06													0.19	
95% Queue Length, Q_{95} (veh)		0.2													0.7	
Control Delay (s/veh)		8.5													10.1	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		1.1												10.1		
Approach LOS														B		

HCS7 All-Way Stop Control Report

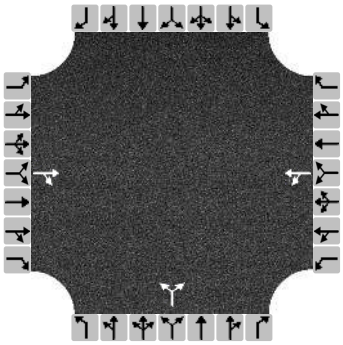
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/22/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	
Project Description	Tahoe XC Winter PM Future PP

Site Information

Intersection	Polaris/Old Mill Rd
Jurisdiction	
East/West Street	Polaris
North/South Street	Old Mill
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		132	82	3	109		73		4			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	233			122			84					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.207			0.108			0.074					
Final Departure Headway, hd (s)	4.07			4.41			4.88					
Final Degree of Utilization, x	0.263			0.149			0.113					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	2.07			2.41			2.88					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	233			122			84					
Capacity	884			817			738					
95% Queue Length, Q_{95} (veh)	1.1			0.5			0.4					
Control Delay (s/veh)	8.5			8.2			8.5					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	8.5			8.2			8.5					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	8.4						A					

HCS7 Two-Way Stop-Control Report

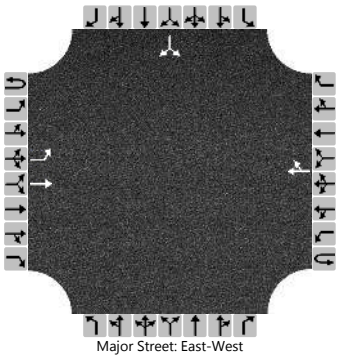
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future PP

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		70	410				389	7						2		49
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		76													55	
Capacity, c (veh/h)		1124													725	
v/c Ratio		0.07													0.08	
95% Queue Length, Q_{95} (veh)		0.2													0.2	
Control Delay (s/veh)		8.4													10.4	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	1.2												10.4			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

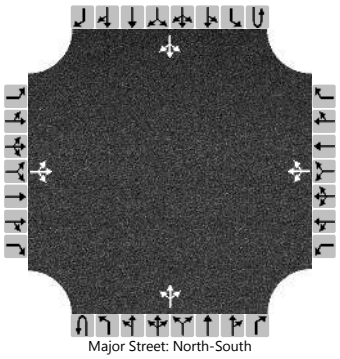
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	Tahoe XC - Winter Existing PP

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	111		0	0	0		99	3	0		0	21	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)			0				-5									
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			125				0			108				0		
Capacity, c (veh/h)			1030							1583				1612		
v/c Ratio			0.12							0.07				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.2				0.0		
Control Delay (s/veh)			9.0							7.4				7.2		
Level of Service (LOS)			A							A				A		
Approach Delay (s/veh)		9.0								7.2				0.0		
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

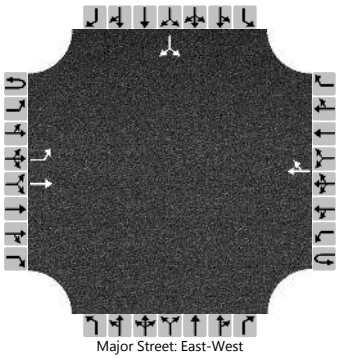
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Weekend Future PP

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		54	783				526	74						55		53
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		59													117	
Capacity, c (veh/h)		926													736	
v/c Ratio		0.06													0.16	
95% Queue Length, Q_{95} (veh)		0.2													0.6	
Control Delay (s/veh)		9.1													10.8	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.6												10.8			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

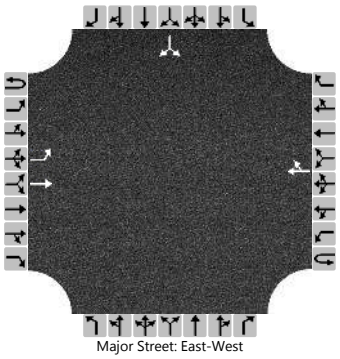
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	2/28/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future PP - Weekend

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		49	816				577	14						4		49
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		53													58	
Capacity, c (veh/h)		937													608	
v/c Ratio		0.06													0.09	
95% Queue Length, Q_{95} (veh)		0.2													0.3	
Control Delay (s/veh)		9.1													11.5	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.5												11.5			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

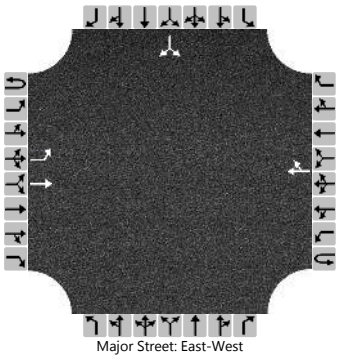
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Future PP Ex Site

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		94	777				530	77						62		68
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		102													141	
Capacity, c (veh/h)		920													720	
v/c Ratio		0.11													0.20	
95% Queue Length, Q_{95} (veh)		0.4													0.7	
Control Delay (s/veh)		9.4													11.2	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	1.0												11.2			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

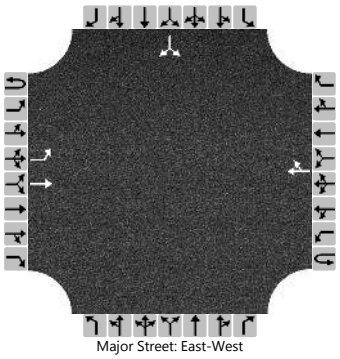
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Summer Future PP Ex Site

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		38	833				550	11						3		26
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

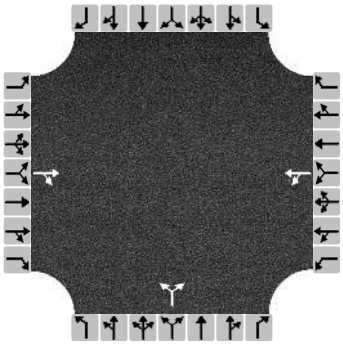
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		41													32	
Capacity, c (veh/h)		964													647	
v/c Ratio		0.04													0.05	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		8.9													10.8	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.4												10.8			
Approach LOS													B			

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Chris Hawkins	Intersection	Polaris/Old Mill Rd
Agency/Co.	LSC	Jurisdiction	
Date Performed	3/22/2019	East/West Street	Polaris
Analysis Year	2019	North/South Street	Old Mill
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed			
Project Description	Tahoe XC Summer Future PP Ex Site		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		9	17	3	9		12		6			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	28			13			20					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.025			0.012			0.017					
Final Departure Headway, hd (s)	3.61			4.07			3.97					
Final Degree of Utilization, x	0.028			0.015			0.022					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.61			2.07			1.97					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	28			13			20					
Capacity	996			885			908					
95% Queue Length, Q_{95} (veh)	0.1			0.0			0.1					
Control Delay (s/veh)	6.7			7.1			7.1					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	6.7			7.1			7.1					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	6.9						A					

HCS7 Two-Way Stop-Control Report

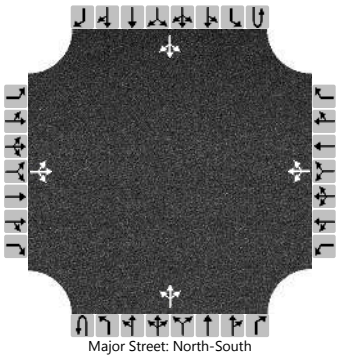
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	North-South
Project Description	Tahoe XC Summer Future PP Ex Site

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	8		4	0	0		13	96	3		0	73	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10				4			14				0		
Capacity, c (veh/h)			942				768			1510				1477		
v/c Ratio			0.01				0.01			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.0			0.0				0.0		
Control Delay (s/veh)			8.9				9.7			7.4				7.4		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)	8.9				9.7				0.9				0.0			
Approach LOS	A				A											

HCS7 Two-Way Stop-Control Report

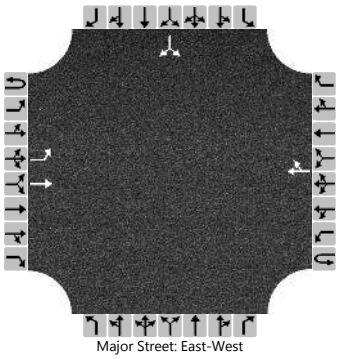
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future PP Ex Site

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		112	454				318	116						104		57
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage			Left Only								1					

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												6.1		4.9
Critical Headway (sec)		4.13												3.83		4.13
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		122													175	
Capacity, c (veh/h)		1081													767	
v/c Ratio		0.11													0.23	
95% Queue Length, Q_{95} (veh)		0.4													0.9	
Control Delay (s/veh)		8.8													11.1	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		1.7												11.1		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

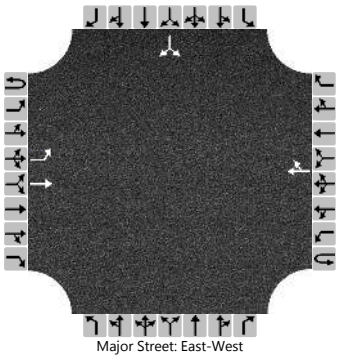
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future PP Ex Site

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		41	458				390	7						2		45
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

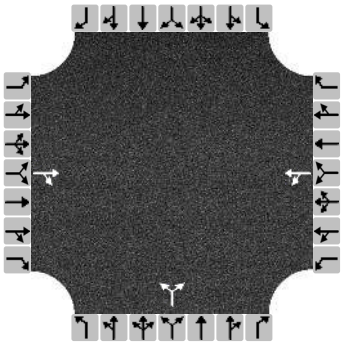
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45													51	
Capacity, c (veh/h)		1123													726	
v/c Ratio		0.04													0.07	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		8.3													10.3	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.7												10.3			
Approach LOS													B			

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Chris Hawkins	Intersection	Polaris/Old Mill Rd
Agency/Co.	LSC	Jurisdiction	
Date Performed	3/22/2019	East/West Street	Polaris
Analysis Year	2019	North/South Street	Old Mill
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed			
Project Description	Tahoe XC Winter PM Future PP Ex Site		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume		119	78	3	63		44		4			
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	TR			LT			LR					
Flow Rate, v (veh/h)	214			72			52					
Percent Heavy Vehicles	3			3			3					

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20					
Initial Degree of Utilization, x	0.190			0.064			0.046					
Final Departure Headway, hd (s)	3.91			4.29			4.67					
Final Degree of Utilization, x	0.233			0.085			0.068					
Move-Up Time, m (s)	2.0			2.0			2.0					
Service Time, ts (s)	1.91			2.29			2.67					

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	214			72			52					
Capacity	920			840			770					
95% Queue Length, Q_{95} (veh)	0.9			0.3			0.2					
Control Delay (s/veh)	8.1			7.7			8.0					
Level of Service, LOS	A			A			A					
Approach Delay (s/veh)	8.1			7.7			8.0					
Approach LOS	A			A			A					
Intersection Delay, s/veh | LOS	8.0						A					

HCS7 Two-Way Stop-Control Report

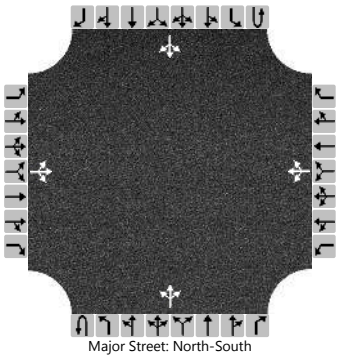
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	Tahoe XC - Winter Existing PP Ex Site

Site Information

Intersection	Village/Polaris Rd
Jurisdiction	
East/West Street	Polaris rd
North/South Street	Village Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	98		0	0	0		53	112	0		0	41	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				-5											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		6.13	5.53	5.73		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			111				0			58				0		
Capacity, c (veh/h)			998							1554				1459		
v/c Ratio			0.11							0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.4							0.1				0.0		
Control Delay (s/veh)			9.1							7.4				7.5		
Level of Service (LOS)			A							A				A		
Approach Delay (s/veh)	9.1								2.6				0.0			
Approach LOS	A															

HCS7 Two-Way Stop-Control Report

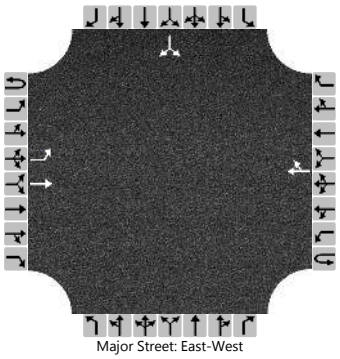
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	2
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Weekend Future PP Ex Site

Site Information

Intersection	SR28Fabian
Jurisdiction	
East/West Street	SR 28
North/South Street	Fabian Way
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		92	783				514	97						80		76
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-8		
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.83		5.43
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		100													170	
Capacity, c (veh/h)		917													672	
v/c Ratio		0.11													0.25	
95% Queue Length, Q_{95} (veh)		0.4													1.0	
Control Delay (s/veh)		9.4													12.2	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	1.0												12.2			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

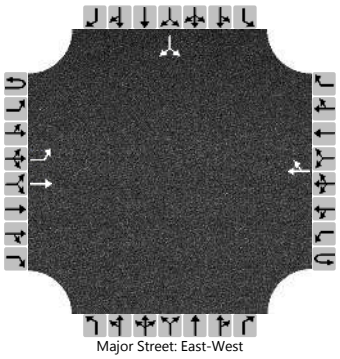
General Information

Analyst	Chris Hawkins
Agency/Co.	LSC
Date Performed	3/5/2019
Analysis Year	2019
Time Analyzed	
Intersection Orientation	East-West
Project Description	Tahoe XC Winter Future PP - Weekend Ex Site

Site Information

Intersection	Old Mill/SR 28
Jurisdiction	
East/West Street	SR28
North/South Street	Old Mill
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		24	854				600	2						4		27
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														-10		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												4.43		5.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26													34	
Capacity, c (veh/h)		928													633	
v/c Ratio		0.03													0.05	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		9.0													11.0	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.2												11.0			
Approach LOS													B			

Appendix E

Air Quality and Greenhouse Gas Emissions Modeling Outputs

Tahoe Cross Country Ski Lodge Site D

Placer-Lake Tahoe County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.03	1000sqft	0.07	3,030.00	0
Parking Lot	100.00	Space	0.90	59,624.00	0
Health Club	10.15	1000sqft	0.23	10,150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	913.9	**CH4 Intensity (lb/MWhr)**	0.036	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Climate Zone Based on 96145 zip code. Liberty Utility emissions factors based on CAMX region eGRID 2014v2 values: https://www.epa.gov/sites/production/files/2017-02/documents/egrid2014_summarytables_v2.pdf.

Land Use - Land uses reflect 100 new parking spaces and driveway (59,624 sf total), 3,030 sf of basement, and 10,154 sf of building.

Construction Phase - No demolition would occur under Site D. Construction would commence May 1 2020 thu early 2023. Construction would be limited to 5 days a week.

Off-road Equipment - Addition of one excavator during site preparation for basement.

Demolition - Includes demolition of existing lodge

Architectural Coating - Consistent with PCAPCD Rule 218

Vehicle Trips - Adjusted to reflect VMT value of 487,000

Energy Use - Adjusted to reflect a 30 percent reduction associated with nonresidential 2019 Title 24 1.15

Water And Wastewater - CalEEMod Defaults

Solid Waste - CalEEMod Defaults

Tahoe Cross Country Ski Lodge Site D - Placer-Lake Tahoe County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	200.00	650.00
tblConstructionPhase	NumDays	4.00	16.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	8.00
tblConstructionPhase	PhaseEndDate	4/9/2021	3/22/2023
tblConstructionPhase	PhaseEndDate	3/12/2021	11/30/2022
tblConstructionPhase	PhaseEndDate	6/5/2020	6/3/2020
tblConstructionPhase	PhaseEndDate	3/26/2021	1/25/2023
tblConstructionPhase	PhaseEndDate	6/1/2020	5/12/2020
tblConstructionPhase	PhaseStartDate	3/27/2021	1/26/2023
tblConstructionPhase	PhaseStartDate	6/6/2020	6/4/2020
tblConstructionPhase	PhaseStartDate	6/2/2020	5/13/2020
tblConstructionPhase	PhaseStartDate	3/13/2021	12/1/2022
tblConstructionPhase	PhaseStartDate	5/29/2020	5/1/2020
tblGrading	AcresOfGrading	6.00	1.50
tblGrading	AcresOfGrading	4.00	1.00
tblLandUse	LandUseSquareFeet	40,000.00	59,624.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.036
tblProjectCharacteristics	CO2IntensityFactor	0	913.9
tblProjectCharacteristics	N2OIntensityFactor	0	0.004
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	20.87	14.00
tblVehicleTrips	SU_TR	26.73	20.00
tblVehicleTrips	WD_TR	32.93	31.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1856	1.4229	1.1898	2.3700e-003	0.0936	0.0695	0.1631	0.0411	0.0667	0.1078			201.6684	0.0324	0.0000	202.4789
2021	0.2594	1.9575	1.8534	3.7500e-003	0.0586	0.0900	0.1486	0.0158	0.0869	0.1027			317.4627	0.0452	0.0000	318.5921
2022	0.2246	1.7165	1.7590	3.5600e-003	0.0552	0.0745	0.1297	0.0149	0.0718	0.0866			302.1978	0.0442	0.0000	303.3031
2023	0.0669	0.0828	0.1224	2.1000e-004	2.8900e-003	4.2100e-003	7.1000e-003	7.7000e-004	3.9900e-003	4.7600e-003			17.9118	3.7100e-003	0.0000	18.0045
Maximum	**0.2594**	**1.9575**	**1.8534**	**3.7500e-003**	**0.0936**	**0.0900**	**0.1631**	**0.0411**	**0.0869**	**0.1078**			**317.4627**	**0.0452**	**0.0000**	**318.5921**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1856	1.4229	1.1898	2.3700e-003	0.0936	0.0695	0.1631	0.0411	0.0667	0.1078			201.6682	0.0324	0.0000	202.4787
2021	0.2594	1.9575	1.8534	3.7500e-003	0.0586	0.0900	0.1486	0.0158	0.0869	0.1027			317.4624	0.0452	0.0000	318.5918
2022	0.2246	1.7165	1.7590	3.5600e-003	0.0552	0.0745	0.1297	0.0149	0.0718	0.0866			302.1976	0.0442	0.0000	303.3028
2023	0.0669	0.0828	0.1224	2.1000e-004	2.8900e-003	4.2100e-003	7.1000e-003	7.7000e-004	3.9900e-003	4.7600e-003			17.9118	3.7100e-003	0.0000	18.0045
Maximum	**0.2594**	**1.9575**	**1.8534**	**3.7500e-003**	**0.0936**	**0.0900**	**0.1631**	**0.0411**	**0.0869**	**0.1078**			**317.4624**	**0.0452**	**0.0000**	**318.5918**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2020**	**7-31-2020**	0.5982	0.5982
2	**8-1-2020**	**10-31-2020**	0.6075	0.6075
3	**11-1-2020**	**1-31-2021**	0.5917	0.5917
4	**2-1-2021**	**4-30-2021**	0.5402	0.5402
5	**5-1-2021**	**7-31-2021**	0.5577	0.5577
6	**8-1-2021**	**10-31-2021**	0.5580	0.5580
7	**11-1-2021**	**1-31-2022**	0.5435	0.5435
8	**2-1-2022**	**4-30-2022**	0.4963	0.4963

9	**5-1-2022**	**7-31-2022**	0.5124	0.5124
10	**8-1-2022**	**10-31-2022**	0.5127	0.5127
11	**11-1-2022**	**1-31-2023**	0.3239	0.3239
12	**2-1-2023**	**4-30-2023**	0.0773	0.0773
		Highest	0.6075	0.6075

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Energy	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			54.3009	1.9300e-003	3.8000e-004	54.4620
Mobile	0.0634	0.4170	0.6326	2.4900e-003	0.1829	1.7600e-003	0.1846	0.0492	1.6500e-003	0.0508			229.1957	8.8000e-003	0.0000	229.4158
Waste						0.0000	0.0000		0.0000	0.0000			11.7451	0.6941	0.0000	29.0979
Water						0.0000	0.0000		0.0000	0.0000			2.0708	0.0196	4.7000e-004	2.7018
Total	**0.1137**	**0.4262**	**0.6414**	**2.5500e-003**	**0.1829**	**2.4600e-003**	**0.1853**	**0.0492**	**2.3500e-003**	**0.0515**			**297.3144**	**0.7245**	**8.5000e-004**	**315.6796**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Energy	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			54.3009	1.9300e-003	3.8000e-004	54.4620
Mobile	0.0634	0.4170	0.6326	2.4900e-003	0.1829	1.7600e-003	0.1846	0.0492	1.6500e-003	0.0508			229.1957	8.8000e-003	0.0000	229.4158
Waste						0.0000	0.0000		0.0000	0.0000			11.7451	0.6941	0.0000	29.0979
Water						0.0000	0.0000		0.0000	0.0000			2.0708	0.0196	4.7000e-004	2.7018
Total	**0.1137**	**0.4262**	**0.6414**	**2.5500e-003**	**0.1829**	**2.4600e-003**	**0.1853**	**0.0492**	**2.3500e-003**	**0.0515**			**297.3144**	**0.7245**	**8.5000e-004**	**315.6796**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2020	5/12/2020	5	8	
2	Grading	Grading	5/13/2020	6/3/2020	5	16	
3	Building Construction	Building Construction	6/4/2020	11/30/2022	5	650	
4	Paving	Paving	12/1/2022	1/25/2023	5	40	
5	Architectural Coating	Architectural Coating	1/26/2023	3/22/2023	5	40	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,225; Non-Residential Outdoor: 5,075; Striped Parking Area: 3,759 (Architectural Coating – sqft)

OffRoad Equipment

Tahoe Cross Country Ski Lodge Site D - Placer-Lake Tahoe County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	6.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	31.00	12.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0216	0.0000	0.0216	0.0116	0.0000	0.0116			0.0000	0.0000	0.0000	0.0000
Off-Road	6.5200e-003	0.0734	0.0308	7.0000e-005		3.2800e-003	3.2800e-003		3.0200e-003	3.0200e-003			6.0506	1.9600e-003	0.0000	6.0995
Total	**6.5200e-003**	**0.0734**	**0.0308**	**7.0000e-005**	**0.0216**	**3.2800e-003**	**0.0249**	**0.0116**	**3.0200e-003**	**0.0147**			**6.0506**	**1.9600e-003**	**0.0000**	**6.0995**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004			0.3338	1.0000e-005	0.0000	0.3340
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.1000e-004**			**0.3338**	**1.0000e-005**	**0.0000**	**0.3340**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0216	0.0000	0.0216	0.0116	0.0000	0.0116			0.0000	0.0000	0.0000	0.0000
Off-Road	6.5200e-003	0.0734	0.0308	7.0000e-005		3.2800e-003	3.2800e-003		3.0200e-003	3.0200e-003			6.0506	1.9600e-003	0.0000	6.0995
Total	**6.5200e-003**	**0.0734**	**0.0308**	**7.0000e-005**	**0.0216**	**3.2800e-003**	**0.0249**	**0.0116**	**3.0200e-003**	**0.0147**			**6.0506**	**1.9600e-003**	**0.0000**	**6.0995**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004			0.3338	1.0000e-005	0.0000	0.3340
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.1000e-004**			**0.3338**	**1.0000e-005**	**0.0000**	**0.3340**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0369	0.0000	0.0369	0.0200	0.0000	0.0200			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1207	0.0516	1.1000e-004		5.4800e-003	5.4800e-003		5.0400e-003	5.0400e-003			9.9117	3.2100e-003	0.0000	9.9918
Total	**0.0108**	**0.1207**	**0.0516**	**1.1000e-004**	**0.0369**	**5.4800e-003**	**0.0424**	**0.0200**	**5.0400e-003**	**0.0250**			**9.9117**	**3.2100e-003**	**0.0000**	**9.9918**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.3000e-004	2.4000e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004			0.6676	2.0000e-005	0.0000	0.6680
Total	**3.1000e-004**	**2.3000e-004**	**2.4000e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**			**0.6676**	**2.0000e-005**	**0.0000**	**0.6680**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0369	0.0000	0.0369	0.0200	0.0000	0.0200			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1207	0.0516	1.1000e-004		5.4800e-003	5.4800e-003		5.0400e-003	5.0400e-003			9.9117	3.2100e-003	0.0000	9.9918
Total	**0.0108**	**0.1207**	**0.0516**	**1.1000e-004**	**0.0369**	**5.4800e-003**	**0.0424**	**0.0200**	**5.0400e-003**	**0.0250**			**9.9117**	**3.2100e-003**	**0.0000**	**9.9918**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.3000e-004	2.4000e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004			0.6676	2.0000e-005	0.0000	0.6680
Total	**3.1000e-004**	**2.3000e-004**	**2.4000e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**			**0.6676**	**2.0000e-005**	**0.0000**	**0.6680**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1533	1.1165	0.9957	1.6600e-003		0.0601	0.0601		0.0581	0.0581			137.0643	0.0254	0.0000	137.7004
Total	**0.1533**	**1.1165**	**0.9957**	**1.6600e-003**		**0.0601**	**0.0601**		**0.0581**	**0.0581**			**137.0643**	**0.0254**	**0.0000**	**137.7004**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.1600e-003	0.1036	0.0204	2.4000e-004	5.3500e-003	4.3000e-004	5.7800e-003	1.5500e-003	4.1000e-004	1.9600e-003			23.2262	1.2200e-003	0.0000	23.2565
Worker	0.0114	8.3800e-003	0.0876	2.7000e-004	0.0286	1.8000e-004	0.0288	7.6000e-003	1.7000e-004	7.7700e-003			24.4142	5.8000e-004	0.0000	24.4287
Total	**0.0145**	**0.1120**	**0.1080**	**5.1000e-004**	**0.0339**	**6.1000e-004**	**0.0345**	**9.1500e-003**	**5.8000e-004**	**9.7300e-003**			**47.6404**	**1.8000e-003**	**0.0000**	**47.6852**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1533	1.1165	0.9957	1.6600e-003		0.0601	0.0601		0.0581	0.0581			137.0642	0.0254	0.0000	137.7003
Total	**0.1533**	**1.1165**	**0.9957**	**1.6600e-003**		**0.0601**	**0.0601**		**0.0581**	**0.0581**			**137.0642**	**0.0254**	**0.0000**	**137.7003**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.1600e-003	0.1036	0.0204	2.4000e-004	5.3500e-003	4.3000e-004	5.7800e-003	1.5500e-003	4.1000e-004	1.9600e-003			23.2262	1.2200e-003	0.0000	23.2565
Worker	0.0114	8.3800e-003	0.0876	2.7000e-004	0.0286	1.8000e-004	0.0288	7.6000e-003	1.7000e-004	7.7700e-003			24.4142	5.8000e-004	0.0000	24.4287
Total	**0.0145**	**0.1120**	**0.1080**	**5.1000e-004**	**0.0339**	**6.1000e-004**	**0.0345**	**9.1500e-003**	**5.8000e-004**	**9.7300e-003**			**47.6404**	**1.8000e-003**	**0.0000**	**47.6852**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2365	1.7795	1.6834	2.8800e-003		0.0893	0.0893		0.0862	0.0862			236.9197	0.0423	0.0000	237.9771
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0893**	**0.0893**		**0.0862**	**0.0862**			**236.9197**	**0.0423**	**0.0000**	**237.9771**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-003	0.1650	0.0314	4.2000e-004	9.2500e-003	3.6000e-004	9.6100e-003	2.6800e-003	3.4000e-004	3.0200e-003			39.8299	1.9900e-003	0.0000	39.8796
Worker	0.0183	0.0130	0.1387	4.5000e-004	0.0494	3.1000e-004	0.0497	0.0131	2.8000e-004	0.0134			40.7131	8.9000e-004	0.0000	40.7354
Total	**0.0229**	**0.1780**	**0.1701**	**8.7000e-004**	**0.0587**	**6.7000e-004**	**0.0593**	**0.0158**	**6.2000e-004**	**0.0165**			**80.5431**	**2.8800e-003**	**0.0000**	**80.6150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2365	1.7795	1.6834	2.8800e-003		0.0893	0.0893		0.0862	0.0862			236.9194	0.0423	0.0000	237.9768
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0893**	**0.0893**		**0.0862**	**0.0862**			**236.9194**	**0.0423**	**0.0000**	**237.9768**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-003	0.1650	0.0314	4.2000e-004	9.2500e-003	3.6000e-004	9.6100e-003	2.6800e-003	3.4000e-004	3.0200e-003			39.8299	1.9900e-003	0.0000	39.8796
Worker	0.0183	0.0130	0.1387	4.5000e-004	0.0494	3.1000e-004	0.0497	0.0131	2.8000e-004	0.0134			40.7131	8.9000e-004	0.0000	40.7354
Total	**0.0229**	**0.1780**	**0.1701**	**8.7000e-004**	**0.0587**	**6.7000e-004**	**0.0593**	**0.0158**	**6.2000e-004**	**0.0165**			**80.5431**	**2.8800e-003**	**0.0000**	**80.6150**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1962	1.4879	1.5145	2.6200e-003		0.0701	0.0701		0.0677	0.0677			216.0765	0.0376	0.0000	217.0174
Total	**0.1962**	**1.4879**	**1.5145**	**2.6200e-003**		**0.0701**	**0.0701**		**0.0677**	**0.0677**			**216.0765**	**0.0376**	**0.0000**	**217.0174**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.9000e-003	0.1430	0.0265	3.8000e-004	8.4300e-003	2.8000e-004	8.7100e-003	2.4400e-003	2.7000e-004	2.7100e-003			36.0238	1.7100e-003	0.0000	36.0666
Worker	0.0157	0.0107	0.1166	4.0000e-004	0.0450	2.7000e-004	0.0453	0.0120	2.5000e-004	0.0122			35.7646	7.3000e-004	0.0000	35.7829
Total	**0.0196**	**0.1537**	**0.1432**	**7.8000e-004**	**0.0535**	**5.5000e-004**	**0.0540**	**0.0144**	**5.2000e-004**	**0.0150**			**71.7884**	**2.4400e-003**	**0.0000**	**71.8494**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1962	1.4879	1.5144	2.6200e-003		0.0701	0.0701		0.0677	0.0677			216.0763	0.0376	0.0000	217.0171
Total	**0.1962**	**1.4879**	**1.5144**	**2.6200e-003**		**0.0701**	**0.0701**		**0.0677**	**0.0677**			**216.0763**	**0.0376**	**0.0000**	**217.0171**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	3.9000e-003	0.1430	0.0265	3.8000e-004	8.4300e-003	2.8000e-004	8.7100e-003	2.4400e-003	2.7000e-004	2.7100e-003			36.0238	1.7100e-003	0.0000	36.0666
Worker	0.0157	0.0107	0.1166	4.0000e-004	0.0450	2.7000e-004	0.0453	0.0120	2.5000e-004	0.0122			35.7646	7.3000e-004	0.0000	35.7829
Total	**0.0196**	**0.1537**	**0.1432**	**7.8000e-004**	**0.0535**	**5.5000e-004**	**0.0540**	**0.0144**	**5.2000e-004**	**0.0150**			**71.7884**	**2.4400e-003**	**0.0000**	**71.8494**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.5600e-003	0.0745	0.0969	1.5000e-004		3.8200e-003	3.8200e-003		3.5300e-003	3.5300e-003			12.9466	4.1000e-003	0.0000	13.0492
Paving	6.5000e-004					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**8.2100e-003**	**0.0745**	**0.0969**	**1.5000e-004**		**3.8200e-003**	**3.8200e-003**		**3.5300e-003**	**3.5300e-003**			**12.9466**	**4.1000e-003**	**0.0000**	**13.0492**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.1000e-004	4.5200e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7600e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.3864	3.0000e-005	0.0000	1.3871
Total	**6.1000e-004**	**4.1000e-004**	**4.5200e-003**	**2.0000e-005**	**1.7500e-003**	**1.0000e-005**	**1.7600e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.3864**	**3.0000e-005**	**0.0000**	**1.3871**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.5600e-003	0.0745	0.0969	1.5000e-004		3.8200e-003	3.8200e-003		3.5300e-003	3.5300e-003			12.9466	4.1000e-003	0.0000	13.0492
Paving	6.5000e-004					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**8.2100e-003**	**0.0745**	**0.0969**	**1.5000e-004**		**3.8200e-003**	**3.8200e-003**		**3.5300e-003**	**3.5300e-003**			**12.9466**	**4.1000e-003**	**0.0000**	**13.0492**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	4.1000e-004	4.5200e-003	2.0000e-005	1.7500e-003	1.0000e-005	1.7600e-003	4.6000e-004	1.0000e-005	4.7000e-004			1.3864	3.0000e-005	0.0000	1.3871
Total	**6.1000e-004**	**4.1000e-004**	**4.5200e-003**	**2.0000e-005**	**1.7500e-003**	**1.0000e-005**	**1.7600e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**			**1.3864**	**3.0000e-005**	**0.0000**	**1.3871**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8000e-003	0.0561	0.0792	1.2000e-004		2.7800e-003	2.7800e-003		2.5600e-003	2.5600e-003			10.5952	3.3600e-003	0.0000	10.6792
Paving	5.3000e-004					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**6.3300e-003**	**0.0561**	**0.0792**	**1.2000e-004**		**2.7800e-003**	**2.7800e-003**		**2.5600e-003**	**2.5600e-003**			**10.5952**	**3.3600e-003**	**0.0000**	**10.6792**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.0000e-004	3.4100e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004			1.0911	2.0000e-005	0.0000	1.0916
Total	**4.7000e-004**	**3.0000e-004**	**3.4100e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**			**1.0911**	**2.0000e-005**	**0.0000**	**1.0916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8000e-003	0.0561	0.0792	1.2000e-004		2.7800e-003	2.7800e-003		2.5600e-003	2.5600e-003			10.5952	3.3600e-003	0.0000	10.6791
Paving	5.3000e-004					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**6.3300e-003**	**0.0561**	**0.0792**	**1.2000e-004**		**2.7800e-003**	**2.7800e-003**		**2.5600e-003**	**2.5600e-003**			**10.5952**	**3.3600e-003**	**0.0000**	**10.6791**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.0000e-004	3.4100e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004			1.0911	2.0000e-005	0.0000	1.0916
Total	**4.7000e-004**	**3.0000e-004**	**3.4100e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**			**1.0911**	**2.0000e-005**	**0.0000**	**1.0916**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0558					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003			5.1065	3.1000e-004	0.0000	5.1142
Total	**0.0596**	**0.0261**	**0.0362**	**6.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**			**5.1065**	**3.1000e-004**	**0.0000**	**5.1142**

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.1000e-004	3.5000e-003	1.0000e-005	1.4700e-003	1.0000e-005	1.4700e-003	3.9000e-004	1.0000e-005	4.0000e-004			1.1191	2.0000e-005	0.0000	1.1196
Total	**4.8000e-004**	**3.1000e-004**	**3.5000e-003**	**1.0000e-005**	**1.4700e-003**	**1.0000e-005**	**1.4700e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**			**1.1191**	**2.0000e-005**	**0.0000**	**1.1196**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0558					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003			5.1065	3.1000e-004	0.0000	5.1141
Total	**0.0596**	**0.0261**	**0.0362**	**6.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**			**5.1065**	**3.1000e-004**	**0.0000**	**5.1141**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.1000e-004	3.5000e-003	1.0000e-005	1.4700e-003	1.0000e-005	1.4700e-003	3.9000e-004	1.0000e-005	4.0000e-004			1.1191	2.0000e-005	0.0000	1.1196
Total	**4.8000e-004**	**3.1000e-004**	**3.5000e-003**	**1.0000e-005**	**1.4700e-003**	**1.0000e-005**	**1.4700e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**			**1.1191**	**2.0000e-005**	**0.0000**	**1.1196**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0634	0.4170	0.6326	2.4900e-003	0.1829	1.7600e-003	0.1846	0.0492	1.6500e-003	0.0508			229.1957	8.8000e-003	0.0000	229.4158
Unmitigated	0.0634	0.4170	0.6326	2.4900e-003	0.1829	1.7600e-003	0.1846	0.0492	1.6500e-003	0.0508			229.1957	8.8000e-003	0.0000	229.4158

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	314.65	142.10	203.00	491,768	491,768
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	314.65	142.10	203.00	491,768	491,768

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Other Non-Asphalt Surfaces	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Parking Lot	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000			44.2046	1.7400e-003	1.9000e-004	44.3058
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000			44.2046	1.7400e-003	1.9000e-004	44.3058
NaturalGas Mitigated	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562
NaturalGas Unmitigated	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	189196	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**1.0200e-003**	**9.2700e-003**	**7.7900e-003**	**6.0000e-005**		**7.0000e-004**	**7.0000e-004**		**7.0000e-004**	**7.0000e-004**			**10.0962**	**1.9000e-004**	**1.9000e-004**	**10.1562**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	189196	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**1.0200e-003**	**9.2700e-003**	**7.7900e-003**	**6.0000e-005**		**7.0000e-004**	**7.0000e-004**		**7.0000e-004**	**7.0000e-004**			**10.0962**	**1.9000e-004**	**1.9000e-004**	**10.1562**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	85767.5	35.5539	1.4000e-003	1.6000e-004	35.6353
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20868.4	8.6508	3.4000e-004	4.0000e-005	8.6706
Total		**44.2046**	**1.7400e-003**	**2.0000e-004**	**44.3058**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	85767.5	35.5539	1.4000e-003	1.6000e-004	35.6353
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20868.4	8.6508	3.4000e-004	4.0000e-005	8.6706
Total		**44.2046**	**1.7400e-003**	**2.0000e-004**	**44.3058**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Unmitigated	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5800e-003					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0437					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Total	**0.0494**	**1.0000e-005**	**1.0400e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0200e-003**	**1.0000e-005**	**0.0000**	**2.1500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5800e-003					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0437					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Total	**0.0494**	**1.0000e-005**	**1.0400e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0200e-003**	**1.0000e-005**	**0.0000**	**2.1500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.0708	0.0196	4.7000e-004	2.7018
Unmitigated	2.0708	0.0196	4.7000e-004	2.7018

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	0.600303 / 0.367928	2.0708	0.0196	4.7000e-004	2.7018
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.0708**	**0.0196**	**4.7000e-004**	**2.7018**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	0.600303 / 0.367928	2.0708	0.0196	4.7000e-004	2.7018
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.0708**	**0.0196**	**4.7000e-004**	**2.7018**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.7451	0.6941	0.0000	29.0979
Unmitigated	11.7451	0.6941	0.0000	29.0979

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	57.86	11.7451	0.6941	0.0000	29.0979
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**11.7451**	**0.6941**	**0.0000**	**29.0979**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	57.86	11.7451	0.6941	0.0000	29.0979
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**11.7451**	**0.6941**	**0.0000**	**29.0979**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tahoe Cross Country Ski Lodge Site D

Placer-Lake Tahoe County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.03	1000sqft	0.07	3,030.00	0
Parking Lot	100.00	Space	0.90	59,624.00	0
Health Club	10.15	1000sqft	0.23	10,150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	913.9	**CH4 Intensity (lb/MWhr)**	0.036	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Tahoe Cross Country Ski Lodge Site D - Placer-Lake Tahoe County, Summer

Project Characteristics - Climate Zone Based on 96145 zip code. Liberty Utility emissions factors based on CAMX region eGRID 2014v2 values: https://www.epa.gov/sites/production/files/2017-02/documents/egrid2014_summarytables_v2.pdf.

Land Use - Land uses reflect 100 new parking spaces and driveway (59,624 sf total), 3,030 sf of basement, and 10,154 sf of building.

Construction Phase - No demolition would occur under Site D. Construction would commence May 1 2020 thu early 2023. Construction would be limited to 5 days a week.

Off-road Equipment - Addition of one excavator during site preparation for basement.

Demolition - Includes demolition of existing lodge

Architectural Coating - Consistent with PCAPCD Rule 218

Vehicle Trips - Adjusted to reflect VMT value of 487,000

Energy Use - Adjusted to reflect a 30 percent reduction associated with nonresidential 2019 Title 24 1.15

Water And Wastewater - CalEEMod Defaults

Solid Waste - CalEEMod Defaults

Tahoe Cross Country Ski Lodge Site D - Placer-Lake Tahoe County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	200.00	650.00
tblConstructionPhase	NumDays	4.00	16.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	8.00
tblConstructionPhase	PhaseEndDate	4/9/2021	3/22/2023
tblConstructionPhase	PhaseEndDate	3/12/2021	11/30/2022
tblConstructionPhase	PhaseEndDate	6/5/2020	6/3/2020
tblConstructionPhase	PhaseEndDate	3/26/2021	1/25/2023
tblConstructionPhase	PhaseEndDate	6/1/2020	5/12/2020
tblConstructionPhase	PhaseStartDate	3/27/2021	1/26/2023
tblConstructionPhase	PhaseStartDate	6/6/2020	6/4/2020
tblConstructionPhase	PhaseStartDate	6/2/2020	5/13/2020
tblConstructionPhase	PhaseStartDate	3/13/2021	12/1/2022
tblConstructionPhase	PhaseStartDate	5/29/2020	5/1/2020
tblGrading	AcresOfGrading	6.00	1.50
tblGrading	AcresOfGrading	4.00	1.00
tblLandUse	LandUseSquareFeet	40,000.00	59,624.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.036
tblProjectCharacteristics	CO2IntensityFactor	0	913.9
tblProjectCharacteristics	N2OIntensityFactor	0	0.004
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	20.87	14.00
tblVehicleTrips	SU_TR	26.73	20.00
tblVehicleTrips	WD_TR	32.93	31.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.2342	18.3716	14.7751	0.0293	5.5041	0.8216	6.3257	2.9379	0.7764	3.6937			2,736.3139	0.5417	0.0000	2,746.2528
2021	1.9985	14.9741	14.3498	0.0291	0.4695	0.6894	1.1589	0.1262	0.6655	0.7917			2,719.9290	0.3815	0.0000	2,729.4651
2022	1.8227	13.7719	14.0694	0.0289	0.4695	0.5935	1.0629	0.1262	0.5732	0.6993			2,703.6755	0.4144	0.0000	2,712.9524
2023	3.0054	6.2656	9.2455	0.0150	0.1661	0.3094	0.4754	0.0440	0.2855	0.3295			1,444.1897	0.4142	0.0000	1,454.5450
Maximum	**3.0054**	**18.3716**	**14.7751**	**0.0293**	**5.5041**	**0.8216**	**6.3257**	**2.9379**	**0.7764**	**3.6937**			**2,736.3139**	**0.5417**	**0.0000**	**2,746.2528**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.2342	18.3716	14.7751	0.0293	5.5041	0.8216	6.3257	2.9379	0.7764	3.6937			2,736.3139	0.5417	0.0000	2,746.2528
2021	1.9985	14.9741	14.3498	0.0291	0.4695	0.6894	1.1589	0.1262	0.6655	0.7917			2,719.9290	0.3815	0.0000	2,729.4651
2022	1.8227	13.7719	14.0694	0.0289	0.4695	0.5935	1.0629	0.1262	0.5732	0.6993			2,703.6755	0.4144	0.0000	2,712.9524
2023	3.0054	6.2656	9.2455	0.0150	0.1661	0.3094	0.4754	0.0440	0.2855	0.3295			1,444.1897	0.4142	0.0000	1,454.5450
Maximum	**3.0054**	**18.3716**	**14.7751**	**0.0293**	**5.5041**	**0.8216**	**6.3257**	**2.9379**	**0.7764**	**3.6937**			**2,736.3139**	**0.5417**	**0.0000**	**2,746.2528**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Mobile	0.4973	2.5799	4.1790	0.0167	1.2055	0.0111	1.2165	0.3231	0.0104	0.3334			1,693.8987	0.0603		1,695.4062
Total	**0.7739**	**2.6309**	**4.2332**	**0.0170**	**1.2055**	**0.0150**	**1.2204**	**0.3231**	**0.0143**	**0.3373**			**1,754.9053**	**0.0615**	**1.1200e-003**	**1,756.7768**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Mobile	0.4973	2.5799	4.1790	0.0167	1.2055	0.0111	1.2165	0.3231	0.0104	0.3334			1,693.8987	0.0603		1,695.4062
Total	**0.7739**	**2.6309**	**4.2332**	**0.0170**	**1.2055**	**0.0150**	**1.2204**	**0.3231**	**0.0143**	**0.3373**			**1,754.9053**	**0.0615**	**1.1200e-003**	**1,756.7768**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2020	5/12/2020	5	8	
2	Grading	Grading	5/13/2020	6/3/2020	5	16	
3	Building Construction	Building Construction	6/4/2020	11/30/2022	5	650	
4	Paving	Paving	12/1/2022	1/25/2023	5	40	
5	Architectural Coating	Architectural Coating	1/26/2023	3/22/2023	5	40	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,225; Non-Residential Outdoor: 5,075; Striped Parking Area: 3,759 (Architectural Coating – sqft)

OffRoad Equipment

Tahoe Cross Country Ski Lodge Site D - Placer-Lake Tahoe County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	6.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	31.00	12.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4019	0.0000	5.4019	2.9108	0.0000	2.9108			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553			1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.4019**	**0.8210**	**6.2228**	**2.9108**	**0.7553**	**3.6660**			**1,667.4119**	**0.5393**		**1,680.8937**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4019	0.0000	5.4019	2.9108	0.0000	2.9108			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553			1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.4019**	**0.8210**	**6.2228**	**2.9108**	**0.7553**	**3.6660**			**1,667.4119**	**0.5393**		**1,680.8937**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6160	0.0000	4.6160	2.4934	0.0000	2.4934			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296			1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.6160**	**0.6844**	**5.3004**	**2.4934**	**0.6296**	**3.1230**			**1,365.7183**	**0.4417**		**1,376.7609**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6160	0.0000	4.6160	2.4934	0.0000	2.4934			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296			1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.6160**	**0.6844**	**5.3004**	**2.4934**	**0.6296**	**3.1230**			**1,365.7183**	**0.4417**		**1,376.7609**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688			2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**			**2,001.1595**	**0.3715**		**2,010.4467**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0408	1.3544	0.2445	3.2900e-003	0.0735	5.6300e-003	0.0791	0.0212	5.3800e-003	0.0266			344.3237	0.0167		344.7422
Worker	0.1628	0.0977	1.3425	3.9200e-003	0.3960	2.4100e-003	0.3984	0.1050	2.2200e-003	0.1072			390.8308	9.3200e-003		391.0638
Total	**0.2037**	**1.4521**	**1.5870**	**7.2100e-003**	**0.4695**	**8.0400e-003**	**0.4775**	**0.1262**	**7.6000e-003**	**0.1338**			**735.1544**	**0.0261**		**735.8060**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688			2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**			**2,001.1595**	**0.3715**		**2,010.4467**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0408	1.3544	0.2445	3.2900e-003	0.0735	5.6300e-003	0.0791	0.0212	5.3800e-003	0.0266			344.3237	0.0167		344.7422
Worker	0.1628	0.0977	1.3425	3.9200e-003	0.3960	2.4100e-003	0.3984	0.1050	2.2200e-003	0.1072			390.8308	9.3200e-003		391.0638
Total	**0.2037**	**1.4521**	**1.5870**	**7.2100e-003**	**0.4695**	**8.0400e-003**	**0.4775**	**0.1262**	**7.6000e-003**	**0.1338**			**735.1544**	**0.0261**		**735.8060**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608			2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**			**2,001.2200**	**0.3573**		**2,010.1517**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0343	1.2504	0.2166	3.2600e-003	0.0735	2.7000e-003	0.0762	0.0212	2.5800e-003	0.0238			341.6542	0.0158		342.0496
Worker	0.1517	0.0876	1.2338	3.7800e-003	0.3960	2.3400e-003	0.3983	0.1050	2.1600e-003	0.1072			377.0548	8.3600e-003		377.2637
Total	**0.1860**	**1.3381**	**1.4504**	**7.0400e-003**	**0.4695**	**5.0400e-003**	**0.4745**	**0.1262**	**4.7400e-003**	**0.1309**			**718.7090**	**0.0242**		**719.3134**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608			2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**			**2,001.2200**	**0.3573**		**2,010.1517**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0343	1.2504	0.2166	3.2600e-003	0.0735	2.7000e-003	0.0762	0.0212	2.5800e-003	0.0238			341.6542	0.0158		342.0496
Worker	0.1517	0.0876	1.2338	3.7800e-003	0.3960	2.3400e-003	0.3983	0.1050	2.1600e-003	0.1072			377.0548	8.3600e-003		377.2637
Total	**0.1860**	**1.3381**	**1.4504**	**7.0400e-003**	**0.4695**	**5.0400e-003**	**0.4745**	**0.1262**	**4.7400e-003**	**0.1309**			**718.7090**	**0.0242**		**719.3134**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689			2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**			**2,001.5429**	**0.3486**		**2,010.2581**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0319	1.1899	0.2010	3.2400e-003	0.0735	2.3000e-003	0.0758	0.0212	2.2000e-003	0.0234			338.9184	0.0150		339.2921
Worker	0.1422	0.0790	1.1420	3.6400e-003	0.3960	2.2900e-003	0.3983	0.1050	2.1100e-003	0.1071			363.2143	7.5200e-003		363.4023
Total	**0.1741**	**1.2689**	**1.3430**	**6.8800e-003**	**0.4695**	**4.5900e-003**	**0.4741**	**0.1262**	**4.3100e-003**	**0.1305**			**702.1326**	**0.0225**		**702.6944**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689			2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**			**2,001.5429**	**0.3486**		**2,010.2581**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0319	1.1899	0.2010	3.2400e-003	0.0735	2.3000e-003	0.0758	0.0212	2.2000e-003	0.0234			338.9184	0.0150		339.2921
Worker	0.1422	0.0790	1.1420	3.6400e-003	0.3960	2.2900e-003	0.3983	0.1050	2.1100e-003	0.1071			363.2143	7.5200e-003		363.4023
Total	**0.1741**	**1.2689**	**1.3430**	**6.8800e-003**	**0.4695**	**4.5900e-003**	**0.4741**	**0.1262**	**4.3100e-003**	**0.1305**			**702.1326**	**0.0225**		**702.6944**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205			1,297.3789	0.4113		1,307.6608
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7466**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**			**1,297.3789**	**0.4113**		**1,307.6608**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0596	0.0331	0.4789	1.5300e-003	0.1661	9.6000e-004	0.1670	0.0440	8.8000e-004	0.0449			152.3157	3.1500e-003		152.3945
Total	**0.0596**	**0.0331**	**0.4789**	**1.5300e-003**	**0.1661**	**9.6000e-004**	**0.1670**	**0.0440**	**8.8000e-004**	**0.0449**			**152.3157**	**3.1500e-003**		**152.3945**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205			1,297.3789	0.4113		1,307.6608
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7466**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**			**1,297.3789**	**0.4113**		**1,307.6608**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0596	0.0331	0.4789	1.5300e-003	0.1661	9.6000e-004	0.1670	0.0440	8.8000e-004	0.0449			152.3157	3.1500e-003		152.3945
Total	**0.0596**	**0.0331**	**0.4789**	**1.5300e-003**	**0.1661**	**9.6000e-004**	**0.1670**	**0.0440**	**8.8000e-004**	**0.0449**			**152.3157**	**3.1500e-003**		**152.3945**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846			1,297.6880	0.4114		1,307.9725
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7036**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**			**1,297.6880**	**0.4114**		**1,307.9725**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0560	0.0299	0.4432	1.4700e-003	0.1661	9.4000e-004	0.1670	0.0440	8.7000e-004	0.0449			146.5017	2.8300e-003		146.5725
Total	**0.0560**	**0.0299**	**0.4432**	**1.4700e-003**	**0.1661**	**9.4000e-004**	**0.1670**	**0.0440**	**8.7000e-004**	**0.0449**			**146.5017**	**2.8300e-003**		**146.5725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846			1,297.6880	0.4114		1,307.9725
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7036**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**			**1,297.6880**	**0.4114**		**1,307.9725**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0560	0.0299	0.4432	1.4700e-003	0.1661	9.4000e-004	0.1670	0.0440	8.7000e-004	0.0449			146.5017	2.8300e-003		146.5725
Total	**0.0560**	**0.0299**	**0.4432**	**1.4700e-003**	**0.1661**	**9.4000e-004**	**0.1670**	**0.0440**	**8.7000e-004**	**0.0449**			**146.5017**	**2.8300e-003**		**146.5725**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.7878					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708			281.4481	0.0168		281.8690
Total	**2.9795**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**			**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0259	0.0138	0.2045	6.8000e-004	0.0766	4.3000e-004	0.0771	0.0203	4.0000e-004	0.0207			67.6162	1.3100e-003		67.6489
Total	**0.0259**	**0.0138**	**0.2045**	**6.8000e-004**	**0.0766**	**4.3000e-004**	**0.0771**	**0.0203**	**4.0000e-004**	**0.0207**			**67.6162**	**1.3100e-003**		**67.6489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.7878					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708			281.4481	0.0168		281.8690
Total	**2.9795**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**			**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0259	0.0138	0.2045	6.8000e-004	0.0766	4.3000e-004	0.0771	0.0203	4.0000e-004	0.0207			67.6162	1.3100e-003		67.6489
Total	**0.0259**	**0.0138**	**0.2045**	**6.8000e-004**	**0.0766**	**4.3000e-004**	**0.0771**	**0.0203**	**4.0000e-004**	**0.0207**			**67.6162**	**1.3100e-003**		**67.6489**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4973	2.5799	4.1790	0.0167	1.2055	0.0111	1.2165	0.3231	0.0104	0.3334			1,693.8987	0.0603		1,695.4062
Unmitigated	0.4973	2.5799	4.1790	0.0167	1.2055	0.0111	1.2165	0.3231	0.0104	0.3334			1,693.8987	0.0603		1,695.4062

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	314.65	142.10	203.00	491,768	491,768
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	314.65	142.10	203.00	491,768	491,768

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Other Non-Asphalt Surfaces	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Parking Lot	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
NaturalGas Unmitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	518.345	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**5.5900e-003**	**0.0508**	**0.0427**	**3.0000e-004**		**3.8600e-003**	**3.8600e-003**		**3.8600e-003**	**3.8600e-003**			**60.9818**	**1.1700e-003**	**1.1200e-003**	**61.3442**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	0.518345	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**5.5900e-003**	**0.0508**	**0.0427**	**3.0000e-004**		**3.8600e-003**	**3.8600e-003**		**3.8600e-003**	**3.8600e-003**			**60.9818**	**1.1700e-003**	**1.1200e-003**	**61.3442**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Unmitigated	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0306					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2394					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0700e-003	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Total	**0.2710**	**1.1000e-004**	**0.0116**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**			**0.0248**	**6.0000e-005**		**0.0264**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0306					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2394					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0700e-003	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Total	**0.2710**	**1.1000e-004**	**0.0116**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**			**0.0248**	**6.0000e-005**		**0.0264**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tahoe Cross Country Ski Lodge Site A

Placer-Lake Tahoe County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.03	1000sqft	0.07	3,030.00	0
Parking Lot	100.00	Space	0.90	59,624.00	0
Health Club	10.15	1000sqft	0.23	10,150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	913.9	**CH4 Intensity (lb/MWhr)**	0.036	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Tahoe Cross Country Ski Lodge Site A - Placer-Lake Tahoe County, Annual

Project Characteristics - Climate Zone Based on 96145 zip code. Liberty Utility emissions factors based on CAMX region eGRID 2014v2 values: https://www.epa.gov/sites/production/files/2017-02/documents/egrid2014_summarytables_v2.pdf.

Land Use - Land uses reflect 100 new parking spaces and driveway (59,624 sf total), 3,030 sf of basement, and 10,154 sf of building.

Construction Phase - Site A includes demolition of the existing lodge. Construction would commence May 1 2020 thu early 2023. Construction would be limited to 5 days a week.

Off-road Equipment - Addition of one excavator during site preparation for basement.

Demolition - Includes demolition of existing lodge

Architectural Coating - Consistent with PCAPCD Rule 218

Vehicle Trips - Adjusted to reflect VMT value of 487,000

Energy Use - Adjusted to reflect a 30 percent reduction associated with nonresidential 2019 Title 24 1.15

Water And Wastewater - CalEEMod Defaults

Solid Waste - CalEEMod Defaults

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	200.00	650.00
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	4.00	16.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	8.00
tblConstructionPhase	PhaseEndDate	4/9/2021	7/12/2023
tblConstructionPhase	PhaseEndDate	3/12/2021	3/22/2023
tblConstructionPhase	PhaseEndDate	5/28/2020	8/20/2020
tblConstructionPhase	PhaseEndDate	6/5/2020	9/23/2020
tblConstructionPhase	PhaseEndDate	3/26/2021	5/17/2023
tblConstructionPhase	PhaseEndDate	6/1/2020	9/1/2020
tblConstructionPhase	PhaseStartDate	3/27/2021	5/18/2023
tblConstructionPhase	PhaseStartDate	6/6/2020	9/24/2020
tblConstructionPhase	PhaseStartDate	6/2/2020	9/2/2020
tblConstructionPhase	PhaseStartDate	3/13/2021	3/23/2023
tblConstructionPhase	PhaseStartDate	5/29/2020	8/21/2020
tblGrading	AcresOfGrading	6.00	1.50
tblGrading	AcresOfGrading	4.00	1.00
tblLandUse	LandUseSquareFeet	40,000.00	59,624.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.036
tblProjectCharacteristics	CO2IntensityFactor	0	913.9
tblProjectCharacteristics	N2OIntensityFactor	0	0.004
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1843	1.6134	1.2110	2.2500e-003	0.0835	0.0835	0.1669	0.0381	0.0787	0.1169			193.9732	0.0398	0.0000	194.9681
2021	0.2594	1.9575	1.8534	3.7500e-003	0.0586	0.0900	0.1486	0.0158	0.0869	0.1027			317.4627	0.0452	0.0000	318.5921
2022	0.2357	1.7933	1.8108	3.7100e-003	0.0584	0.0772	0.1356	0.0158	0.0745	0.0903			314.4742	0.0438	0.0000	315.5688
2023	0.1237	0.5227	0.6209	1.1900e-003	0.0177	0.0226	0.0403	4.7500e-003	0.0216	0.0264			101.8632	0.0173	0.0000	102.2944
Maximum	**0.2594**	**1.9575**	**1.8534**	**3.7500e-003**	**0.0835**	**0.0900**	**0.1669**	**0.0381**	**0.0869**	**0.1169**			**317.4627**	**0.0452**	**0.0000**	**318.5921**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1843	1.6134	1.2110	2.2500e-003	0.0835	0.0835	0.1669	0.0381	0.0787	0.1169			193.9730	0.0398	0.0000	194.9679
2021	0.2594	1.9575	1.8534	3.7500e-003	0.0586	0.0900	0.1486	0.0158	0.0869	0.1027			317.4624	0.0452	0.0000	318.5918
2022	0.2357	1.7933	1.8108	3.7100e-003	0.0584	0.0772	0.1356	0.0158	0.0745	0.0903			314.4740	0.0438	0.0000	315.5685
2023	0.1237	0.5227	0.6209	1.1900e-003	0.0177	0.0226	0.0403	4.7500e-003	0.0216	0.0264			101.8632	0.0173	0.0000	102.2943
Maximum	**0.2594**	**1.9575**	**1.8534**	**3.7500e-003**	**0.0835**	**0.0900**	**0.1669**	**0.0381**	**0.0869**	**0.1169**			**317.4624**	**0.0452**	**0.0000**	**318.5918**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2020**	**7-31-2020**	0.7631	0.7631
2	**8-1-2020**	**10-31-2020**	0.6326	0.6326
3	**11-1-2020**	**1-31-2021**	0.5917	0.5917
4	**2-1-2021**	**4-30-2021**	0.5402	0.5402
5	**5-1-2021**	**7-31-2021**	0.5577	0.5577
6	**8-1-2021**	**10-31-2021**	0.5580	0.5580
7	**11-1-2021**	**1-31-2022**	0.5435	0.5435
8	**2-1-2022**	**4-30-2022**	0.4963	0.4963

9	**5-1-2022**	**7-31-2022**	0.5124	0.5124
10	**8-1-2022**	**10-31-2022**	0.5127	0.5127
11	**11-1-2022**	**1-31-2023**	0.5007	0.5007
12	**2-1-2023**	**4-30-2023**	0.3564	0.3564
13	**5-1-2023**	**7-31-2023**	0.1291	0.1291
		Highest	0.7631	0.7631

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Energy	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			54.3009	1.9300e-003	3.8000e-004	54.4620
Mobile	0.0712	0.4682	0.7104	2.7900e-003	0.2053	1.9800e-003	0.2073	0.0552	1.8500e-003	0.0571			257.3904	9.8900e-003	0.0000	257.6376
Waste						0.0000	0.0000		0.0000	0.0000			11.7451	0.6941	0.0000	29.0979
Water						0.0000	0.0000		0.0000	0.0000			2.0708	0.0196	4.7000e-004	2.7018
Total	**0.1215**	**0.4775**	**0.7193**	**2.8500e-003**	**0.2053**	**2.6800e-003**	**0.2080**	**0.0552**	**2.5500e-003**	**0.0578**			**325.5091**	**0.7256**	**8.5000e-004**	**343.9014**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Energy	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			54.3009	1.9300e-003	3.8000e-004	54.4620
Mobile	0.0712	0.4682	0.7104	2.7900e-003	0.2053	1.9800e-003	0.2073	0.0552	1.8500e-003	0.0571			257.3904	9.8900e-003	0.0000	257.6376
Waste						0.0000	0.0000		0.0000	0.0000			11.7451	0.6941	0.0000	29.0979
Water						0.0000	0.0000		0.0000	0.0000			2.0708	0.0196	4.7000e-004	2.7018
Total	**0.1215**	**0.4775**	**0.7193**	**2.8500e-003**	**0.2053**	**2.6800e-003**	**0.2080**	**0.0552**	**2.5500e-003**	**0.0578**			**325.5091**	**0.7256**	**8.5000e-004**	**343.9014**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Tahoe Cross Country Ski Lodge Site A - Placer-Lake Tahoe County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2020	8/20/2020	5	80	
2	Site Preparation	Site Preparation	8/21/2020	9/1/2020	5	8	
3	Grading	Grading	9/2/2020	9/23/2020	5	16	
4	Building Construction	Building Construction	9/24/2020	3/22/2023	5	650	
5	Paving	Paving	3/23/2023	5/17/2023	5	40	
6	Architectural Coating	Architectural Coating	5/18/2023	7/12/2023	5	40	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,225; Non-Residential Outdoor: 5,075; Striped Parking Area: 3,759 (Architectural Coating – sqft)

OffRoad Equipment

Tahoe Cross Country Ski Lodge Site A - Placer-Lake Tahoe County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	6.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	31.00	12.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	12.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3400e-003	0.0000	1.3400e-003	2.0000e-004	0.0000	2.0000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0851	0.8379	0.5863	9.6000e-004		0.0461	0.0461		0.0431	0.0431			84.2707	0.0217	0.0000	84.8122
Total	**0.0851**	**0.8379**	**0.5863**	**9.6000e-004**	**1.3400e-003**	**0.0461**	**0.0474**	**2.0000e-004**	**0.0431**	**0.0433**			**84.2707**	**0.0217**	**0.0000**	**84.8122**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.6600e-003	2.7000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005			0.4667	2.0000e-005	0.0000	0.4671
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.5200e-003	1.8600e-003	0.0195	6.0000e-005	6.3500e-003	4.0000e-005	6.3900e-003	1.6900e-003	4.0000e-005	1.7300e-003			5.4242	1.3000e-004	0.0000	5.4274
Total	**2.5700e-003**	**3.5200e-003**	**0.0197**	**6.0000e-005**	**6.4500e-003**	**5.0000e-005**	**6.5000e-003**	**1.7200e-003**	**5.0000e-005**	**1.7600e-003**			**5.8910**	**1.5000e-004**	**0.0000**	**5.8946**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3400e-003	0.0000	1.3400e-003	2.0000e-004	0.0000	2.0000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0851	0.8379	0.5863	9.6000e-004		0.0461	0.0461		0.0431	0.0431			84.2706	0.0217	0.0000	84.8121
Total	**0.0851**	**0.8379**	**0.5863**	**9.6000e-004**	**1.3400e-003**	**0.0461**	**0.0474**	**2.0000e-004**	**0.0431**	**0.0433**			**84.2706**	**0.0217**	**0.0000**	**84.8121**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.6600e-003	2.7000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005			0.4667	2.0000e-005	0.0000	0.4671
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.5200e-003	1.8600e-003	0.0195	6.0000e-005	6.3500e-003	4.0000e-005	6.3900e-003	1.6900e-003	4.0000e-005	1.7300e-003			5.4242	1.3000e-004	0.0000	5.4274
Total	**2.5700e-003**	**3.5200e-003**	**0.0197**	**6.0000e-005**	**6.4500e-003**	**5.0000e-005**	**6.5000e-003**	**1.7200e-003**	**5.0000e-005**	**1.7600e-003**			**5.8910**	**1.5000e-004**	**0.0000**	**5.8946**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0216	0.0000	0.0216	0.0116	0.0000	0.0116			0.0000	0.0000	0.0000	0.0000
Off-Road	6.5200e-003	0.0734	0.0308	7.0000e-005		3.2800e-003	3.2800e-003		3.0200e-003	3.0200e-003			6.0506	1.9600e-003	0.0000	6.0995
Total	**6.5200e-003**	**0.0734**	**0.0308**	**7.0000e-005**	**0.0216**	**3.2800e-003**	**0.0249**	**0.0116**	**3.0200e-003**	**0.0147**			**6.0506**	**1.9600e-003**	**0.0000**	**6.0995**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004			0.3338	1.0000e-005	0.0000	0.3340
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.1000e-004**			**0.3338**	**1.0000e-005**	**0.0000**	**0.3340**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0216	0.0000	0.0216	0.0116	0.0000	0.0116			0.0000	0.0000	0.0000	0.0000
Off-Road	6.5200e-003	0.0734	0.0308	7.0000e-005		3.2800e-003	3.2800e-003		3.0200e-003	3.0200e-003			6.0506	1.9600e-003	0.0000	6.0995
Total	**6.5200e-003**	**0.0734**	**0.0308**	**7.0000e-005**	**0.0216**	**3.2800e-003**	**0.0249**	**0.0116**	**3.0200e-003**	**0.0147**			**6.0506**	**1.9600e-003**	**0.0000**	**6.0995**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004			0.3338	1.0000e-005	0.0000	0.3340
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.1000e-004**			**0.3338**	**1.0000e-005**	**0.0000**	**0.3340**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0369	0.0000	0.0369	0.0200	0.0000	0.0200			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1207	0.0516	1.1000e-004		5.4800e-003	5.4800e-003		5.0400e-003	5.0400e-003			9.9117	3.2100e-003	0.0000	9.9918
Total	**0.0108**	**0.1207**	**0.0516**	**1.1000e-004**	**0.0369**	**5.4800e-003**	**0.0424**	**0.0200**	**5.0400e-003**	**0.0250**			**9.9117**	**3.2100e-003**	**0.0000**	**9.9918**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.3000e-004	2.4000e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004			0.6676	2.0000e-005	0.0000	0.6680
Total	**3.1000e-004**	**2.3000e-004**	**2.4000e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**			**0.6676**	**2.0000e-005**	**0.0000**	**0.6680**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0369	0.0000	0.0369	0.0200	0.0000	0.0200			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1207	0.0516	1.1000e-004		5.4800e-003	5.4800e-003		5.0400e-003	5.0400e-003			9.9117	3.2100e-003	0.0000	9.9918
Total	**0.0108**	**0.1207**	**0.0516**	**1.1000e-004**	**0.0369**	**5.4800e-003**	**0.0424**	**0.0200**	**5.0400e-003**	**0.0250**			**9.9117**	**3.2100e-003**	**0.0000**	**9.9918**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.3000e-004	2.4000e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004			0.6676	2.0000e-005	0.0000	0.6680
Total	**3.1000e-004**	**2.3000e-004**	**2.4000e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**			**0.6676**	**2.0000e-005**	**0.0000**	**0.6680**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0721	0.5250	0.4682	7.8000e-004		0.0283	0.0283		0.0273	0.0273			64.4475	0.0120	0.0000	64.7466
Total	**0.0721**	**0.5250**	**0.4682**	**7.8000e-004**		**0.0283**	**0.0283**		**0.0273**	**0.0273**			**64.4475**	**0.0120**	**0.0000**	**64.7466**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	1.4900e-003	0.0487	9.5900e-003	1.2000e-004	2.5200e-003	2.0000e-004	2.7200e-003	7.3000e-004	1.9000e-004	9.2000e-004			10.9209	5.7000e-004	0.0000	10.9352
Worker	5.3400e-003	3.9400e-003	0.0412	1.3000e-004	0.0134	9.0000e-005	0.0135	3.5800e-003	8.0000e-005	3.6500e-003			11.4795	2.7000e-004	0.0000	11.4863
Total	**6.8300e-003**	**0.0527**	**0.0508**	**2.5000e-004**	**0.0160**	**2.9000e-004**	**0.0162**	**4.3100e-003**	**2.7000e-004**	**4.5700e-003**			**22.4005**	**8.4000e-004**	**0.0000**	**22.4215**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0721	0.5250	0.4682	7.8000e-004		0.0283	0.0283		0.0273	0.0273			64.4474	0.0120	0.0000	64.7465
Total	**0.0721**	**0.5250**	**0.4682**	**7.8000e-004**		**0.0283**	**0.0283**		**0.0273**	**0.0273**			**64.4474**	**0.0120**	**0.0000**	**64.7465**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	1.4900e-003	0.0487	9.5900e-003	1.2000e-004	2.5200e-003	2.0000e-004	2.7200e-003	7.3000e-004	1.9000e-004	9.2000e-004			10.9209	5.7000e-004	0.0000	10.9352
Worker	5.3400e-003	3.9400e-003	0.0412	1.3000e-004	0.0134	9.0000e-005	0.0135	3.5800e-003	8.0000e-005	3.6500e-003			11.4795	2.7000e-004	0.0000	11.4863
Total	**6.8300e-003**	**0.0527**	**0.0508**	**2.5000e-004**	**0.0160**	**2.9000e-004**	**0.0162**	**4.3100e-003**	**2.7000e-004**	**4.5700e-003**			**22.4005**	**8.4000e-004**	**0.0000**	**22.4215**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2365	1.7795	1.6834	2.8800e-003		0.0893	0.0893		0.0862	0.0862			236.9197	0.0423	0.0000	237.9771
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0893**	**0.0893**		**0.0862**	**0.0862**			**236.9197**	**0.0423**	**0.0000**	**237.9771**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-003	0.1650	0.0314	4.2000e-004	9.2500e-003	3.6000e-004	9.6100e-003	2.6800e-003	3.4000e-004	3.0200e-003			39.8299	1.9900e-003	0.0000	39.8796
Worker	0.0183	0.0130	0.1387	4.5000e-004	0.0494	3.1000e-004	0.0497	0.0131	2.8000e-004	0.0134			40.7131	8.9000e-004	0.0000	40.7354
Total	**0.0229**	**0.1780**	**0.1701**	**8.7000e-004**	**0.0587**	**6.7000e-004**	**0.0593**	**0.0158**	**6.2000e-004**	**0.0165**			**80.5431**	**2.8800e-003**	**0.0000**	**80.6150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2365	1.7795	1.6834	2.8800e-003		0.0893	0.0893		0.0862	0.0862			236.9194	0.0423	0.0000	237.9768
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0893**	**0.0893**		**0.0862**	**0.0862**			**236.9194**	**0.0423**	**0.0000**	**237.9768**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-003	0.1650	0.0314	4.2000e-004	9.2500e-003	3.6000e-004	9.6100e-003	2.6800e-003	3.4000e-004	3.0200e-003			39.8299	1.9900e-003	0.0000	39.8796
Worker	0.0183	0.0130	0.1387	4.5000e-004	0.0494	3.1000e-004	0.0497	0.0131	2.8000e-004	0.0134			40.7131	8.9000e-004	0.0000	40.7354
Total	**0.0229**	**0.1780**	**0.1701**	**8.7000e-004**	**0.0587**	**6.7000e-004**	**0.0593**	**0.0158**	**6.2000e-004**	**0.0165**			**80.5431**	**2.8800e-003**	**0.0000**	**80.6150**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2143	1.6254	1.6544	2.8700e-003		0.0766	0.0766		0.0740	0.0740			236.0500	0.0411	0.0000	237.0778
Total	**0.2143**	**1.6254**	**1.6544**	**2.8700e-003**		**0.0766**	**0.0766**		**0.0740**	**0.0740**			**236.0500**	**0.0411**	**0.0000**	**237.0778**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.2600e-003	0.1562	0.0290	4.1000e-004	9.2100e-003	3.1000e-004	9.5200e-003	2.6700e-003	2.9000e-004	2.9600e-003			39.3537	1.8700e-003	0.0000	39.4005
Worker	0.0171	0.0116	0.1274	4.3000e-004	0.0492	3.0000e-004	0.0495	0.0131	2.7000e-004	0.0134			39.0706	8.0000e-004	0.0000	39.0905
Total	**0.0214**	**0.1679**	**0.1564**	**8.4000e-004**	**0.0584**	**6.1000e-004**	**0.0590**	**0.0158**	**5.6000e-004**	**0.0163**			**78.4243**	**2.6700e-003**	**0.0000**	**78.4910**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2143	1.6254	1.6544	2.8700e-003		0.0766	0.0766		0.0740	0.0740			236.0497	0.0411	0.0000	237.0775
Total	**0.2143**	**1.6254**	**1.6544**	**2.8700e-003**		**0.0766**	**0.0766**		**0.0740**	**0.0740**			**236.0497**	**0.0411**	**0.0000**	**237.0775**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	4.2600e-003	0.1562	0.0290	4.1000e-004	9.2100e-003	3.1000e-004	9.5200e-003	2.6700e-003	2.9000e-004	2.9600e-003			39.3537	1.8700e-003	0.0000	39.4005
Worker	0.0171	0.0116	0.1274	4.3000e-004	0.0492	3.0000e-004	0.0495	0.0131	2.7000e-004	0.0134			39.0706	8.0000e-004	0.0000	39.0905
Total	**0.0214**	**0.1679**	**0.1564**	**8.4000e-004**	**0.0584**	**6.1000e-004**	**0.0590**	**0.0158**	**5.6000e-004**	**0.0163**			**78.4243**	**2.6700e-003**	**0.0000**	**78.4910**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0442	0.3396	0.3657	6.4000e-004		0.0149	0.0149		0.0144	0.0144			52.6638	8.9400e-003	0.0000	52.8873
Total	**0.0442**	**0.3396**	**0.3657**	**6.4000e-004**		**0.0149**	**0.0149**		**0.0144**	**0.0144**			**52.6638**	**8.9400e-003**	**0.0000**	**52.8873**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	7.3000e-004	0.0290	5.6100e-003	9.0000e-005	2.0500e-003	3.0000e-005	2.0800e-003	5.9000e-004	3.0000e-005	6.2000e-004			8.6210	3.1000e-004	0.0000	8.6286
Worker	3.5900e-003	2.3400e-003	0.0262	9.0000e-005	0.0110	7.0000e-005	0.0110	2.9200e-003	6.0000e-005	2.9800e-003			8.3835	1.6000e-004	0.0000	8.3875
Total	**4.3200e-003**	**0.0313**	**0.0318**	**1.8000e-004**	**0.0130**	**1.0000e-004**	**0.0131**	**3.5100e-003**	**9.0000e-005**	**3.6000e-003**			**17.0045**	**4.7000e-004**	**0.0000**	**17.0161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0442	0.3396	0.3657	6.4000e-004		0.0149	0.0149		0.0144	0.0144			52.6637	8.9400e-003	0.0000	52.8873
Total	**0.0442**	**0.3396**	**0.3657**	**6.4000e-004**		**0.0149**	**0.0149**		**0.0144**	**0.0144**			**52.6637**	**8.9400e-003**	**0.0000**	**52.8873**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	7.3000e-004	0.0290	5.6100e-003	9.0000e-005	2.0500e-003	3.0000e-005	2.0800e-003	5.9000e-004	3.0000e-005	6.2000e-004			8.6210	3.1000e-004	0.0000	8.6286
Worker	3.5900e-003	2.3400e-003	0.0262	9.0000e-005	0.0110	7.0000e-005	0.0110	2.9200e-003	6.0000e-005	2.9800e-003			8.3835	1.6000e-004	0.0000	8.3875
Total	**4.3200e-003**	**0.0313**	**0.0318**	**1.8000e-004**	**0.0130**	**1.0000e-004**	**0.0131**	**3.5100e-003**	**9.0000e-005**	**3.6000e-003**			**17.0045**	**4.7000e-004**	**0.0000**	**17.0161**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0129	0.1247	0.1761	2.7000e-004		6.1700e-003	6.1700e-003		5.6900e-003	5.6900e-003			23.5449	7.4600e-003	0.0000	23.7315
Paving	1.1800e-003					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0141**	**0.1247**	**0.1761**	**2.7000e-004**		**6.1700e-003**	**6.1700e-003**		**5.6900e-003**	**5.6900e-003**			**23.5449**	**7.4600e-003**	**0.0000**	**23.7315**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	6.8000e-004	7.5800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004			2.4246	5.0000e-005	0.0000	2.4258
Total	**1.0400e-003**	**6.8000e-004**	**7.5800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**2.0000e-005**	**8.6000e-004**			**2.4246**	**5.0000e-005**	**0.0000**	**2.4258**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0129	0.1247	0.1761	2.7000e-004		6.1700e-003	6.1700e-003		5.6900e-003	5.6900e-003			23.5448	7.4600e-003	0.0000	23.7314
Paving	1.1800e-003					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0141**	**0.1247**	**0.1761**	**2.7000e-004**		**6.1700e-003**	**6.1700e-003**		**5.6900e-003**	**5.6900e-003**			**23.5448**	**7.4600e-003**	**0.0000**	**23.7314**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	6.8000e-004	7.5800e-003	3.0000e-005	3.1700e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004			2.4246	5.0000e-005	0.0000	2.4258
Total	**1.0400e-003**	**6.8000e-004**	**7.5800e-003**	**3.0000e-005**	**3.1700e-003**	**2.0000e-005**	**3.1900e-003**	**8.4000e-004**	**2.0000e-005**	**8.6000e-004**			**2.4246**	**5.0000e-005**	**0.0000**	**2.4258**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0558					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003			5.1065	3.1000e-004	0.0000	5.1142
Total	**0.0596**	**0.0261**	**0.0362**	**6.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**			**5.1065**	**3.1000e-004**	**0.0000**	**5.1142**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.1000e-004	3.5000e-003	1.0000e-005	1.4700e-003	1.0000e-005	1.4700e-003	3.9000e-004	1.0000e-005	4.0000e-004			1.1191	2.0000e-005	0.0000	1.1196
Total	**4.8000e-004**	**3.1000e-004**	**3.5000e-003**	**1.0000e-005**	**1.4700e-003**	**1.0000e-005**	**1.4700e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**			**1.1191**	**2.0000e-005**	**0.0000**	**1.1196**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0558					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Off-Road	3.8300e-003	0.0261	0.0362	6.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003			5.1065	3.1000e-004	0.0000	5.1141
Total	**0.0596**	**0.0261**	**0.0362**	**6.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**			**5.1065**	**3.1000e-004**	**0.0000**	**5.1141**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.1000e-004	3.5000e-003	1.0000e-005	1.4700e-003	1.0000e-005	1.4700e-003	3.9000e-004	1.0000e-005	4.0000e-004			1.1191	2.0000e-005	0.0000	1.1196
Total	**4.8000e-004**	**3.1000e-004**	**3.5000e-003**	**1.0000e-005**	**1.4700e-003**	**1.0000e-005**	**1.4700e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**			**1.1191**	**2.0000e-005**	**0.0000**	**1.1196**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0712	0.4682	0.7104	2.7900e-003	0.2053	1.9800e-003	0.2073	0.0552	1.8500e-003	0.0571			257.3904	9.8900e-003	0.0000	257.6376
Unmitigated	0.0712	0.4682	0.7104	2.7900e-003	0.2053	1.9800e-003	0.2073	0.0552	1.8500e-003	0.0571			257.3904	9.8900e-003	0.0000	257.6376

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	334.24	211.83	271.31	552,263	552,263
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	334.24	211.83	271.31	552,263	552,263

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Other Non-Asphalt Surfaces	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Parking Lot	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000			44.2046	1.7400e-003	1.9000e-004	44.3058
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000			44.2046	1.7400e-003	1.9000e-004	44.3058
NaturalGas Mitigated	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562
NaturalGas Unmitigated	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	189196	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**1.0200e-003**	**9.2700e-003**	**7.7900e-003**	**6.0000e-005**		**7.0000e-004**	**7.0000e-004**		**7.0000e-004**	**7.0000e-004**			**10.0962**	**1.9000e-004**	**1.9000e-004**	**10.1562**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Health Club	189196	1.0200e-003	9.2700e-003	7.7900e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004			10.0962	1.9000e-004	1.9000e-004	10.1562
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**1.0200e-003**	**9.2700e-003**	**7.7900e-003**	**6.0000e-005**		**7.0000e-004**	**7.0000e-004**		**7.0000e-004**	**7.0000e-004**			**10.0962**	**1.9000e-004**	**1.9000e-004**	**10.1562**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	85767.5	35.5539	1.4000e-003	1.6000e-004	35.6353
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20868.4	8.6508	3.4000e-004	4.0000e-005	8.6706
Total		**44.2046**	**1.7400e-003**	**2.0000e-004**	**44.3058**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	85767.5	35.5539	1.4000e-003	1.6000e-004	35.6353
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20868.4	8.6508	3.4000e-004	4.0000e-005	8.6706
Total		**44.2046**	**1.7400e-003**	**2.0000e-004**	**44.3058**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Unmitigated	0.0494	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5800e-003					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0437					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Total	**0.0494**	**1.0000e-005**	**1.0400e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0200e-003**	**1.0000e-005**	**0.0000**	**2.1500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.5800e-003					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0437					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000			2.0200e-003	1.0000e-005	0.0000	2.1500e-003
Total	**0.0494**	**1.0000e-005**	**1.0400e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0200e-003**	**1.0000e-005**	**0.0000**	**2.1500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.0708	0.0196	4.7000e-004	2.7018
Unmitigated	2.0708	0.0196	4.7000e-004	2.7018

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	0.600303 / 0.367928	2.0708	0.0196	4.7000e-004	2.7018
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.0708**	**0.0196**	**4.7000e-004**	**2.7018**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	0.600303 / 0.367928	2.0708	0.0196	4.7000e-004	2.7018
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.0708**	**0.0196**	**4.7000e-004**	**2.7018**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.7451	0.6941	0.0000	29.0979
Unmitigated	11.7451	0.6941	0.0000	29.0979

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	57.86	11.7451	0.6941	0.0000	29.0979
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**11.7451**	**0.6941**	**0.0000**	**29.0979**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	57.86	11.7451	0.6941	0.0000	29.0979
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**11.7451**	**0.6941**	**0.0000**	**29.0979**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tahoe Cross Country Ski Lodge Site A

Placer-Lake Tahoe County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.03	1000sqft	0.07	3,030.00	0
Parking Lot	100.00	Space	0.90	59,624.00	0
Health Club	10.15	1000sqft	0.23	10,150.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	913.9	**CH4 Intensity (lb/MWhr)**	0.036	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Tahoe Cross Country Ski Lodge Site A - Placer-Lake Tahoe County, Summer

Project Characteristics - Climate Zone Based on 96145 zip code. Liberty Utility emissions factors based on CAMX region eGRID 2014v2 values: https://www.epa.gov/sites/production/files/2017-02/documents/egrid2014_summarytables_v2.pdf.

Land Use - Land uses reflect 100 new parking spaces and driveway (59,624 sf total), 3,030 sf of basement, and 10,154 sf of building.

Construction Phase - Site A includes demolition of the existing lodge. Construction would commence May 1 2020 thu early 2023. Construction would be limited to 5 days a week.

Off-road Equipment - Addition of one excavator during site preparation for basement.

Demolition - Includes demolition of existing lodge

Architectural Coating - Consistent with PCAPCD Rule 218

Vehicle Trips - Adjusted to reflect VMT value of 487,000

Energy Use - Adjusted to reflect a 30 percent reduction associated with nonresidential 2019 Title 24 1.15

Water And Wastewater - CalEEMod Defaults

Solid Waste - CalEEMod Defaults

Tahoe Cross Country Ski Lodge Site A - Placer-Lake Tahoe County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	200.00	650.00
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	4.00	16.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	8.00
tblConstructionPhase	PhaseEndDate	4/9/2021	7/12/2023
tblConstructionPhase	PhaseEndDate	3/12/2021	3/22/2023
tblConstructionPhase	PhaseEndDate	5/28/2020	8/20/2020
tblConstructionPhase	PhaseEndDate	6/5/2020	9/23/2020
tblConstructionPhase	PhaseEndDate	3/26/2021	5/17/2023
tblConstructionPhase	PhaseEndDate	6/1/2020	9/1/2020
tblConstructionPhase	PhaseStartDate	3/27/2021	5/18/2023
tblConstructionPhase	PhaseStartDate	6/6/2020	9/24/2020
tblConstructionPhase	PhaseStartDate	6/2/2020	9/2/2020
tblConstructionPhase	PhaseStartDate	3/13/2021	3/23/2023
tblConstructionPhase	PhaseStartDate	5/29/2020	8/21/2020
tblGrading	AcresOfGrading	6.00	1.50
tblGrading	AcresOfGrading	4.00	1.00
tblLandUse	LandUseSquareFeet	40,000.00	59,624.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.036
tblProjectCharacteristics	CO2IntensityFactor	0	913.9
tblProjectCharacteristics	N2OIntensityFactor	0	0.004
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.2342	21.0278	15.2266	0.0293	5.5041	1.1536	6.3257	2.9379	1.0772	3.6937			2,736.3139	0.6013	0.0000	2,746.2528
2021	1.9985	14.9741	14.3498	0.0291	0.4695	0.6894	1.1589	0.1262	0.6655	0.7917			2,719.9290	0.3815	0.0000	2,729.4651
2022	1.8227	13.7719	14.0694	0.0289	0.4695	0.5935	1.0629	0.1262	0.5732	0.6993			2,703.6755	0.3711	0.0000	2,712.9524
2023	3.0054	12.7735	13.8436	0.0287	0.4695	0.5178	0.9872	0.1262	0.4999	0.6260			2,683.9625	0.4142	0.0000	2,692.9035
Maximum	**3.0054**	**21.0278**	**15.2266**	**0.0293**	**5.5041**	**1.1536**	**6.3257**	**2.9379**	**1.0772**	**3.6937**			**2,736.3139**	**0.6013**	**0.0000**	**2,746.2528**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.2342	21.0278	15.2266	0.0293	5.5041	1.1536	6.3257	2.9379	1.0772	3.6937			2,736.3139	0.6013	0.0000	2,746.2528
2021	1.9985	14.9741	14.3498	0.0291	0.4695	0.6894	1.1589	0.1262	0.6655	0.7917			2,719.9290	0.3815	0.0000	2,729.4651
2022	1.8227	13.7719	14.0694	0.0289	0.4695	0.5935	1.0629	0.1262	0.5732	0.6993			2,703.6755	0.3711	0.0000	2,712.9524
2023	3.0054	12.7735	13.8436	0.0287	0.4695	0.5178	0.9872	0.1262	0.4999	0.6260			2,683.9625	0.4142	0.0000	2,692.9035
Maximum	**3.0054**	**21.0278**	**15.2266**	**0.0293**	**5.5041**	**1.1536**	**6.3257**	**2.9379**	**1.0772**	**3.6937**			**2,736.3139**	**0.6013**	**0.0000**	**2,746.2528**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Mobile	0.5282	2.7406	4.4392	0.0177	1.2805	0.0118	1.2923	0.3432	0.0110	0.3542			1,799.3576	0.0641		1,800.9589
Total	**0.8049**	**2.7915**	**4.4934**	**0.0180**	**1.2805**	**0.0157**	**1.2962**	**0.3432**	**0.0149**	**0.3581**			**1,860.3641**	**0.0653**	**1.1200e-003**	**1,862.3295**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Energy	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Mobile	0.5282	2.7406	4.4392	0.0177	1.2805	0.0118	1.2923	0.3432	0.0110	0.3542			1,799.3576	0.0641		1,800.9589
Total	**0.8049**	**2.7915**	**4.4934**	**0.0180**	**1.2805**	**0.0157**	**1.2962**	**0.3432**	**0.0149**	**0.3581**			**1,860.3641**	**0.0653**	**1.1200e-003**	**1,862.3295**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2020	8/20/2020	5	80	
2	Site Preparation	Site Preparation	8/21/2020	9/1/2020	5	8	
3	Grading	Grading	9/2/2020	9/23/2020	5	16	
4	Building Construction	Building Construction	9/24/2020	3/22/2023	5	650	
5	Paving	Paving	3/23/2023	5/17/2023	5	40	
6	Architectural Coating	Architectural Coating	5/18/2023	7/12/2023	5	40	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,225; Non-Residential Outdoor: 5,075; Striped Parking Area: 3,759 (Architectural Coating – sqft)

OffRoad Equipment

Tahoe Cross Country Ski Lodge Site A - Placer-Lake Tahoe County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	6.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	31.00	12.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	12.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0335	0.0000	0.0335	5.0700e-003	0.0000	5.0700e-003			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761			2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**0.0335**	**1.1525**	**1.1860**	**5.0700e-003**	**1.0761**	**1.0812**			**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1900e-003	0.0406	6.4000e-003	1.2000e-004	2.6200e-003	1.4000e-004	2.7700e-003	7.2000e-004	1.4000e-004	8.6000e-004			12.9887	4.1000e-004		12.9989
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0683	0.0410	0.5630	1.6400e-003	0.1661	1.0100e-003	0.1671	0.0440	9.3000e-004	0.0450			163.8968	3.9100e-003		163.9945
Total	**0.0695**	**0.0815**	**0.5694**	**1.7600e-003**	**0.1687**	**1.1500e-003**	**0.1698**	**0.0448**	**1.0700e-003**	**0.0458**			**176.8855**	**4.3200e-003**		**176.9935**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0335	0.0000	0.0335	5.0700e-003	0.0000	5.0700e-003			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761			2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**0.0335**	**1.1525**	**1.1860**	**5.0700e-003**	**1.0761**	**1.0812**			**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1900e-003	0.0406	6.4000e-003	1.2000e-004	2.6200e-003	1.4000e-004	2.7700e-003	7.2000e-004	1.4000e-004	8.6000e-004			12.9887	4.1000e-004		12.9989
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0683	0.0410	0.5630	1.6400e-003	0.1661	1.0100e-003	0.1671	0.0440	9.3000e-004	0.0450			163.8968	3.9100e-003		163.9945
Total	**0.0695**	**0.0815**	**0.5694**	**1.7600e-003**	**0.1687**	**1.1500e-003**	**0.1698**	**0.0448**	**1.0700e-003**	**0.0458**			**176.8855**	**4.3200e-003**		**176.9935**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4019	0.0000	5.4019	2.9108	0.0000	2.9108			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553			1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.4019**	**0.8210**	**6.2228**	**2.9108**	**0.7553**	**3.6660**			**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4019	0.0000	5.4019	2.9108	0.0000	2.9108			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553			1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.4019**	**0.8210**	**6.2228**	**2.9108**	**0.7553**	**3.6660**			**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6160	0.0000	4.6160	2.4934	0.0000	2.4934			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296			1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.6160**	**0.6844**	**5.3004**	**2.4934**	**0.6296**	**3.1230**			**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6160	0.0000	4.6160	2.4934	0.0000	2.4934			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296			1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.6160**	**0.6844**	**5.3004**	**2.4934**	**0.6296**	**3.1230**			**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0420	0.0252	0.3464	1.0100e-003	0.1022	6.2000e-004	0.1028	0.0271	5.7000e-004	0.0277			100.8596	2.4100e-003		100.9197
Total	**0.0420**	**0.0252**	**0.3464**	**1.0100e-003**	**0.1022**	**6.2000e-004**	**0.1028**	**0.0271**	**5.7000e-004**	**0.0277**			**100.8596**	**2.4100e-003**		**100.9197**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688			2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**			**2,001.1595**	**0.3715**		**2,010.4467**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0408	1.3544	0.2445	3.2900e-003	0.0735	5.6300e-003	0.0791	0.0212	5.3800e-003	0.0266			344.3237	0.0167		344.7422
Worker	0.1628	0.0977	1.3425	3.9200e-003	0.3960	2.4100e-003	0.3984	0.1050	2.2200e-003	0.1072			390.8308	9.3200e-003		391.0638
Total	**0.2037**	**1.4521**	**1.5870**	**7.2100e-003**	**0.4695**	**8.0400e-003**	**0.4775**	**0.1262**	**7.6000e-003**	**0.1338**			**735.1544**	**0.0261**		**735.8060**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688			2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**			**2,001.1595**	**0.3715**		**2,010.4467**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0408	1.3544	0.2445	3.2900e-003	0.0735	5.6300e-003	0.0791	0.0212	5.3800e-003	0.0266			344.3237	0.0167		344.7422
Worker	0.1628	0.0977	1.3425	3.9200e-003	0.3960	2.4100e-003	0.3984	0.1050	2.2200e-003	0.1072			390.8308	9.3200e-003		391.0638
Total	**0.2037**	**1.4521**	**1.5870**	**7.2100e-003**	**0.4695**	**8.0400e-003**	**0.4775**	**0.1262**	**7.6000e-003**	**0.1338**			**735.1544**	**0.0261**		**735.8060**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608			2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**			**2,001.2200**	**0.3573**		**2,010.1517**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0343	1.2504	0.2166	3.2600e-003	0.0735	2.7000e-003	0.0762	0.0212	2.5800e-003	0.0238			341.6542	0.0158		342.0496
Worker	0.1517	0.0876	1.2338	3.7800e-003	0.3960	2.3400e-003	0.3983	0.1050	2.1600e-003	0.1072			377.0548	8.3600e-003		377.2637
Total	**0.1860**	**1.3381**	**1.4504**	**7.0400e-003**	**0.4695**	**5.0400e-003**	**0.4745**	**0.1262**	**4.7400e-003**	**0.1309**			**718.7090**	**0.0242**		**719.3134**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608			2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**			**2,001.2200**	**0.3573**		**2,010.1517**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0343	1.2504	0.2166	3.2600e-003	0.0735	2.7000e-003	0.0762	0.0212	2.5800e-003	0.0238			341.6542	0.0158		342.0496
Worker	0.1517	0.0876	1.2338	3.7800e-003	0.3960	2.3400e-003	0.3983	0.1050	2.1600e-003	0.1072			377.0548	8.3600e-003		377.2637
Total	**0.1860**	**1.3381**	**1.4504**	**7.0400e-003**	**0.4695**	**5.0400e-003**	**0.4745**	**0.1262**	**4.7400e-003**	**0.1309**			**718.7090**	**0.0242**		**719.3134**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689			2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**			**2,001.5429**	**0.3486**		**2,010.2581**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0319	1.1899	0.2010	3.2400e-003	0.0735	2.3000e-003	0.0758	0.0212	2.2000e-003	0.0234			338.9184	0.0150		339.2921
Worker	0.1422	0.0790	1.1420	3.6400e-003	0.3960	2.2900e-003	0.3983	0.1050	2.1100e-003	0.1071			363.2143	7.5200e-003		363.4023
Total	**0.1741**	**1.2689**	**1.3430**	**6.8800e-003**	**0.4695**	**4.5900e-003**	**0.4741**	**0.1262**	**4.3100e-003**	**0.1305**			**702.1326**	**0.0225**		**702.6944**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689			2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**			**2,001.5429**	**0.3486**		**2,010.2581**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0319	1.1899	0.2010	3.2400e-003	0.0735	2.3000e-003	0.0758	0.0212	2.2000e-003	0.0234			338.9184	0.0150		339.2921
Worker	0.1422	0.0790	1.1420	3.6400e-003	0.3960	2.2900e-003	0.3983	0.1050	2.1100e-003	0.1071			363.2143	7.5200e-003		363.4023
Total	**0.1741**	**1.2689**	**1.3430**	**6.8800e-003**	**0.4695**	**4.5900e-003**	**0.4741**	**0.1262**	**4.3100e-003**	**0.1305**			**702.1326**	**0.0225**		**702.6944**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968			2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**			**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0243	0.9919	0.1758	3.1800e-003	0.0735	1.0100e-003	0.0745	0.0212	9.7000e-004	0.0221			332.8247	0.0110		333.0987
Worker	0.1336	0.0713	1.0568	3.5000e-003	0.3960	2.2400e-003	0.3982	0.1050	2.0700e-003	0.1071			349.3502	6.7600e-003		349.5191
Total	**0.1579**	**1.0632**	**1.2325**	**6.6800e-003**	**0.4695**	**3.2500e-003**	**0.4727**	**0.1262**	**3.0400e-003**	**0.1292**			**682.1748**	**0.0177**		**682.6178**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968			2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**			**2,001.7877**	**0.3399**		**2,010.2858**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0243	0.9919	0.1758	3.1800e-003	0.0735	1.0100e-003	0.0745	0.0212	9.7000e-004	0.0221			332.8247	0.0110		333.0987
Worker	0.1336	0.0713	1.0568	3.5000e-003	0.3960	2.2400e-003	0.3982	0.1050	2.0700e-003	0.1071			349.3502	6.7600e-003		349.5191
Total	**0.1579**	**1.0632**	**1.2325**	**6.6800e-003**	**0.4695**	**3.2500e-003**	**0.4727**	**0.1262**	**3.0400e-003**	**0.1292**			**682.1748**	**0.0177**		**682.6178**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846			1,297.6880	0.4114		1,307.9725
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7036**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**			**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0560	0.0299	0.4432	1.4700e-003	0.1661	9.4000e-004	0.1670	0.0440	8.7000e-004	0.0449			146.5017	2.8300e-003		146.5725
Total	**0.0560**	**0.0299**	**0.4432**	**1.4700e-003**	**0.1661**	**9.4000e-004**	**0.1670**	**0.0440**	**8.7000e-004**	**0.0449**			**146.5017**	**2.8300e-003**		**146.5725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846			1,297.6880	0.4114		1,307.9725
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7036**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**			**1,297.6880**	**0.4114**		**1,307.9725**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0560	0.0299	0.4432	1.4700e-003	0.1661	9.4000e-004	0.1670	0.0440	8.7000e-004	0.0449			146.5017	2.8300e-003		146.5725
Total	**0.0560**	**0.0299**	**0.4432**	**1.4700e-003**	**0.1661**	**9.4000e-004**	**0.1670**	**0.0440**	**8.7000e-004**	**0.0449**			**146.5017**	**2.8300e-003**		**146.5725**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.7878					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708			281.4481	0.0168		281.8690
Total	**2.9795**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**			**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0259	0.0138	0.2045	6.8000e-004	0.0766	4.3000e-004	0.0771	0.0203	4.0000e-004	0.0207			67.6162	1.3100e-003		67.6489
Total	**0.0259**	**0.0138**	**0.2045**	**6.8000e-004**	**0.0766**	**4.3000e-004**	**0.0771**	**0.0203**	**4.0000e-004**	**0.0207**			**67.6162**	**1.3100e-003**		**67.6489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.7878					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708			281.4481	0.0168		281.8690
Total	**2.9795**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**			**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0259	0.0138	0.2045	6.8000e-004	0.0766	4.3000e-004	0.0771	0.0203	4.0000e-004	0.0207			67.6162	1.3100e-003		67.6489
Total	**0.0259**	**0.0138**	**0.2045**	**6.8000e-004**	**0.0766**	**4.3000e-004**	**0.0771**	**0.0203**	**4.0000e-004**	**0.0207**			**67.6162**	**1.3100e-003**		**67.6489**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5282	2.7406	4.4392	0.0177	1.2805	0.0118	1.2923	0.3432	0.0110	0.3542			1,799.3576	0.0641		1,800.9589
Unmitigated	0.5282	2.7406	4.4392	0.0177	1.2805	0.0118	1.2923	0.3432	0.0110	0.3542			1,799.3576	0.0641		1,800.9589

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	334.24	211.83	271.31	552,263	552,263
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	334.24	211.83	271.31	552,263	552,263

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Health Club	14.70	6.60	6.60	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Other Non-Asphalt Surfaces	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058
Parking Lot	0.504187	0.038691	0.220388	0.121642	0.020356	0.005773	0.031759	0.047089	0.001411	0.001172	0.005719	0.000756	0.001058

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
NaturalGas Unmitigated	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	518.345	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**5.5900e-003**	**0.0508**	**0.0427**	**3.0000e-004**		**3.8600e-003**	**3.8600e-003**		**3.8600e-003**	**3.8600e-003**			**60.9818**	**1.1700e-003**	**1.1200e-003**	**61.3442**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Health Club	0.518345	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003			60.9818	1.1700e-003	1.1200e-003	61.3442
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**5.5900e-003**	**0.0508**	**0.0427**	**3.0000e-004**		**3.8600e-003**	**3.8600e-003**		**3.8600e-003**	**3.8600e-003**			**60.9818**	**1.1700e-003**	**1.1200e-003**	**61.3442**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Unmitigated	0.2710	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0306					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2394					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0700e-003	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Total	**0.2710**	**1.1000e-004**	**0.0116**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**			**0.0248**	**6.0000e-005**		**0.0264**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0306					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2394					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0700e-003	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005			0.0248	6.0000e-005		0.0264
Total	**0.2710**	**1.1000e-004**	**0.0116**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**			**0.0248**	**6.0000e-005**		**0.0264**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tahoe Cross-Country Lodge
Annual VMT Calcs

From LSC:

Summer 1-Way Daily VMT (one event):	1,993	Per LSC, this # reflects one up to 80 person private gathering
Summer Event Day PM Peak-Hour Trips:	108	
Winter Weekend Day PM Peak-Hour Trips:	58	
Winter Week Day PM Peak-Hour Trips:	55	

Total events 115
(from PD, Table 2-3)
~ 50% of events happen during summer and 50% during winter
Because the # of trips without an event are roughly equivalent (difference of 2 trips/PM peak hour), the summer daily VMT for an event day is used for both seasons.

Ascent Calcs:

Est. Summer PM Peak Hour Trip Gen minus events:	56	
Est. Annual VMT associated with event days:	229,195	- Assumes 115 event days
Est. Number of Days with Events:	115	- Assumes max days if all events on different days
Est. Number of Summer Days w/o Events:	125	
Est. Number of Winter Days:	125	
Est. Summer VMT w/o Events:	1,033	
Est. Winter Weekend Day VMT w/o Events:	1,070	
Est. Winter Week Day VMT w/o Events:	1,015	
Fraction of Winter Days that are Weekend Days:	0.29	
Fraction of Winter Days that are Week Days:	0.71	
Est. Annual VMT associated with Summer non-event days:		129,176
Est. Annual VMT associated with Winter non-event days:		128,846
Est. Annual VMT:	**487,217**	
Ave. Daily VMT	**1,335**	

Appendix F

Noise Measurement Data and
Noise Modeling Calculations

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: Location 2: Site A
Measurement Date: 8/26/2018-8/27/2018
Project Name: Tahoe XC

Computation of CNEL

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Period of 24-Hour Day (1=included, 0=not)			Sound Power Breakdown by Period of Day		
			Day	Evening	Night	Day	Evening	Night
0:00	27.2	525	0	0	1	0	0	525
1:00	28.0	631	0	0	1	0	0	631
2:00	29.6	912	0	0	1	0	0	912
3:00	31.0	1,259	0	0	1	0	0	1,259
4:00	29.7	933	0	0	1	0	0	933
5:00	30.9	1,230	0	0	1	0	0	1,230
6:00	38.7	7,413	0	0	1	0	0	7,413
7:00	39.7	9,333	1	0	0	9,333	0	0
8:00	38.1	6,457	1	0	0	6,457	0	0
9:00	45.1	32,359	1	0	0	32,359	0	0
10:00	40.3	10,715	1	0	0	10,715	0	0
11:00	42.1	16,218	1	0	0	16,218	0	0
12:00	40.5	11,220	1	0	0	11,220	0	0
13:00	39.0	7,943	1	0	0	7,943	0	0
14:00	37.9	6,166	1	0	0	6,166	0	0
15:00	38.7	7,413	1	0	0	7,413	0	0
16:00	39.3	8,511	1	0	0	8,511	0	0
17:00	40.2	10,471	1	0	0	10,471	0	0
18:00	45.6	36,308	1	0	0	36,308	0	0
19:00	42.9	19,498	0	1	0	0	19,498	0
20:00	40.0	10,000	0	1	0	0	10,000	0
21:00	35.9	3,890	0	1	0	0	3,890	0
22:00	32.6	1,820	0	0	1	0	0	1,820
23:00	32.3	1,698	0	0	1	0	0	1,698
Sum of Sound Power during Period wo/penalty						163,115	33,389	16,421
Log Factor for CNEL Penalty (i.e., 10*log(x))						1	3	10
Sound Power during Period with penalty						163,115	100,167	164,213

Total Daily Sound Power, with penalties	427,494
Hours per Day	24
Average Hourly Sound Power, with penalties	17,812
CNEL	42.5

Ldn computation on next page.

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	525
0	1	0	631
0	1	0	912
0	1	0	1,259
0	1	0	933
0	1	0	1,230
0	1	0	7,413
1	0	9,333	0
1	0	6,457	0
1	0	32,359	0
1	0	10,715	0
1	0	16,218	0
1	0	11,220	0
1	0	7,943	0
1	0	6,166	0
1	0	7,413	0
1	0	8,511	0
1	0	10,471	0
1	0	36,308	0
1	0	19,498	0
1	0	10,000	0
1	0	3,890	0
0	1	0	1,820
0	1	0	1,698
Sum of Sound Power during Period wo/penalty		196,504	16,421
Log Factor for Penalty (i.e., 10*log(x))		1	10
Sound Power during Period with penalty		196,504	164,213

Total Daily Sound Power, with penalties	360,716
Hours per Day	24
Average Hourly Sound Power, with penalties	15,030
Ldn	41.8

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.
Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.
Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

Source:
California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November). *2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: Location 2: Site A
Measurement Date: 8/26/2018-8/27/2018
Project Name: Tahoe XC

Computation of CNEL

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Period of 24-Hour Day (1=included, 0=not)			Sound Power Breakdown by Period of Day		
			Day	Evening	Night	Day	Evening	Night
0:00	31.7	1,479	0	0	1	0	0	1,479
1:00	29.4	871	0	0	1	0	0	871
2:00	23.0	200	0	0	1	0	0	200
3:00	25.3	339	0	0	1	0	0	339
4:00	24.6	288	0	0	1	0	0	288
5:00	29.0	794	0	0	1	0	0	794
6:00	34.2	2,630	0	0	1	0	0	2,630
7:00	39.0	7,943	1	0	0	7,943	0	0
8:00	38.6	7,244	1	0	0	7,244	0	0
9:00	40.9	12,303	1	0	0	12,303	0	0
10:00	37.9	6,166	1	0	0	6,166	0	0
11:00	40.1	10,233	1	0	0	10,233	0	0
12:00	44.3	26,915	1	0	0	26,915	0	0
13:00	46.0	39,811	1	0	0	39,811	0	0
14:00	39.9	9,772	1	0	0	9,772	0	0
15:00	41.6	14,454	1	0	0	14,454	0	0
16:00	42.1	16,218	1	0	0	16,218	0	0
17:00	41.9	15,488	1	0	0	15,488	0	0
18:00	41.4	13,804	1	0	0	13,804	0	0
19:00	40.9	12,303	0	1	0	0	12,303	0
20:00	34.2	2,630	0	1	0	0	2,630	0
21:00	33.7	2,344	0	1	0	0	2,344	0
22:00	32.4	1,738	0	0	1	0	0	1,738
23:00	33.6	2,291	0	0	1	0	0	2,291
Sum of Sound Power during Period wo/penalty						180,352	17,277	10,630
Log Factor for CNEL Penalty (i.e., 10*log(x))						1	3	10
Sound Power during Period with penalty						180,352	51,832	106,301

Total Daily Sound Power, with penalties	338,485
Hours per Day	24
Average Hourly Sound Power, with penalties	14,104
CNEL	41.5

Ldn computation on next page.

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	1,479
0	1	0	871
0	1	0	200
0	1	0	339
0	1	0	288
0	1	0	794
0	1	0	2,630
1	0	7,943	0
1	0	7,244	0
1	0	12,303	0
1	0	6,166	0
1	0	10,233	0
1	0	26,915	0
1	0	39,811	0
1	0	9,772	0
1	0	14,454	0
1	0	16,218	0
1	0	15,488	0
1	0	13,804	0
1	0	12,303	0
1	0	2,630	0
1	0	2,344	0
0	1	0	1,738
0	1	0	2,291
Sum of Sound Power during Period wo/penalty		197,629	10,630
Log Factor for Penalty (i.e., 10*log(x))		1	10
Sound Power during Period with penalty		197,629	106,301

Total Daily Sound Power, with penalties	303,930
Hours per Day	24
Average Hourly Sound Power, with penalties	12,664
Ldn	41.0

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.
Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.
Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

Source:
California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November). *2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: Location 1: Site D
Measurement Date: 8/23/2018-8/24/2018
Project Name: Tahoe XC

Computation of CNEL

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Period of 24-Hour Day (1=included, 0=not)			Sound Power Breakdown by Period of Day		
			Day	Evening	Night	Day	Evening	Night
0:00	29.6	912	0	0	1	0	0	912
1:00	27.7	589	0	0	1	0	0	589
2:00	27.9	617	0	0	1	0	0	617
3:00	24.1	257	0	0	1	0	0	257
4:00	27.5	562	0	0	1	0	0	562
5:00	32.5	1,778	0	0	1	0	0	1,778
6:00	35.6	3,631	0	0	1	0	0	3,631
7:00	38.5	7,079	1	0	0	7,079	0	0
8:00	38.2	6,607	1	0	0	6,607	0	0
9:00	42.9	19,498	1	0	0	19,498	0	0
10:00	41.1	12,882	1	0	0	12,882	0	0
11:00	44.1	25,704	1	0	0	25,704	0	0
12:00	46.4	43,652	1	0	0	43,652	0	0
13:00	40.8	12,023	1	0	0	12,023	0	0
14:00	42.6	18,197	1	0	0	18,197	0	0
15:00	44.7	29,512	1	0	0	29,512	0	0
16:00	42.7	18,621	1	0	0	18,621	0	0
17:00	41.9	15,488	1	0	0	15,488	0	0
18:00	42.2	16,596	1	0	0	16,596	0	0
19:00	39.6	9,120	0	1	0	0	9,120	0
20:00	34.9	3,090	0	1	0	0	3,090	0
21:00	35.6	3,631	0	1	0	0	3,631	0
22:00	32.8	1,905	0	0	1	0	0	1,905
23:00	29.6	912	0	0	1	0	0	912
Sum of Sound Power during Period wo/penalty						225,860	15,841	11,163
Log Factor for CNEL Penalty (i.e., 10*log(x))						1	3	10
Sound Power during Period with penalty						225,860	47,524	111,634

Total Daily Sound Power, with penalties	385,017
Hours per Day	24
Average Hourly Sound Power, with penalties	16,042
CNEL	42.1

Ldn computation on next page.

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	912
0	1	0	589
0	1	0	617
0	1	0	257
0	1	0	562
0	1	0	1,778
0	1	0	3,631
1	0	7,079	0
1	0	6,607	0
1	0	19,498	0
1	0	12,882	0
1	0	25,704	0
1	0	43,652	0
1	0	12,023	0
1	0	18,197	0
1	0	29,512	0
1	0	18,621	0
1	0	15,488	0
1	0	16,596	0
1	0	9,120	0
1	0	3,090	0
1	0	3,631	0
0	1	0	1,905
0	1	0	912
Sum of Sound Power during Period wo/penalty		241,701	11,163
Log Factor for Penalty (i.e., 10*log(x))		1	10
Sound Power during Period with penalty		241,701	111,634

Total Daily Sound Power, with penalties	353,334
Hours per Day	24
Average Hourly Sound Power, with penalties	14,722
Ldn	41.7

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.
Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.
Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

Source:
California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November). *2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: Location 1: Site D
Measurement Date: 8/24/2018-8/25/2018
Project Name: Tahoe XC

Computation of CNEL

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Period of 24-Hour Day (1=included, 0=not)			Sound Power Breakdown by Period of Day		
			Day	Evening	Night	Day	Evening	Night
0:00	30.2	1,047	0	0	1	0	0	1,047
1:00	38.4	6,918	0	0	1	0	0	6,918
2:00	23.1	204	0	0	1	0	0	204
3:00	24.6	288	0	0	1	0	0	288
4:00	26.4	437	0	0	1	0	0	437
5:00	31.4	1,380	0	0	1	0	0	1,380
6:00	34.0	2,512	0	0	1	0	0	2,512
7:00	35.4	3,467	1	0	0	3,467	0	0
8:00	34.0	2,512	1	0	0	2,512	0	0
9:00	34.7	2,951	1	0	0	2,951	0	0
10:00	38.1	6,457	1	0	0	6,457	0	0
11:00	38.7	7,413	1	0	0	7,413	0	0
12:00	42.6	18,197	1	0	0	18,197	0	0
13:00	47.1	51,286	1	0	0	51,286	0	0
14:00	55.1	323,594	1	0	0	323,594	0	0
15:00	42.8	19,055	1	0	0	19,055	0	0
16:00	44.0	25,119	1	0	0	25,119	0	0
17:00	40.8	12,023	1	0	0	12,023	0	0
18:00	40.3	10,715	1	0	0	10,715	0	0
19:00	39.5	8,913	0	1	0	0	8,913	0
20:00	34.4	2,754	0	1	0	0	2,754	0
21:00	34.1	2,570	0	1	0	0	2,570	0
22:00	34.0	2,512	0	0	1	0	0	2,512
23:00	29.5	891	0	0	1	0	0	891
Sum of Sound Power during Period wo/penalty						482,788	14,237	16,190
Log Factor for CNEL Penalty (i.e., 10*log(x))						1	3	10
Sound Power during Period with penalty						482,788	42,711	161,899

Total Daily Sound Power, with penalties	687,399
Hours per Day	24
Average Hourly Sound Power, with penalties	28,642
CNEL	44.6

Ldn computation on next page.

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	1,047
0	1	0	6,918
0	1	0	204
0	1	0	288
0	1	0	437
0	1	0	1,380
0	1	0	2,512
1	0	3,467	0
1	0	2,512	0
1	0	2,951	0
1	0	6,457	0
1	0	7,413	0
1	0	18,197	0
1	0	51,286	0
1	0	323,594	0
1	0	19,055	0
1	0	25,119	0
1	0	12,023	0
1	0	10,715	0
1	0	8,913	0
1	0	2,754	0
1	0	2,570	0
0	1	0	2,512
0	1	0	891
Sum of Sound Power during Period wo/penalty		497,025	16,190
Log Factor for Penalty (i.e., 10*log(x))		1	10
Sound Power during Period with penalty		497,025	161,899

Total Daily Sound Power, with penalties	658,925
Hours per Day	24
Average Hourly Sound Power, with penalties	27,455
Ldn	44.4

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.
Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.
Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

Source:
California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November). *2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site:	Location 1: Site D
Measurement Date:	8/25/2018-8/26/2018
Project Name:	Tahoe XC

Computation of CNEL

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Period of 24-Hour Day (1=included, 0=not)			Sound Power Breakdown by Period of Day		
			Day	Evening	Night	Day	Evening	Night
0:00	28.5	708	0	0	1	0	0	708
1:00	26.9	490	0	0	1	0	0	490
2:00	25.3	339	0	0	1	0	0	339
3:00	25.3	339	0	0	1	0	0	339
4:00	27.7	589	0	0	1	0	0	589
5:00	29.1	813	0	0	1	0	0	813
6:00	34.0	2,512	0	0	1	0	0	2,512
7:00	35.3	3,388	1	0	0	3,388	0	0
8:00	40.2	10,471	1	0	0	10,471	0	0
9:00	39.7	9,333	1	0	0	9,333	0	0
10:00	42.7	18,621	1	0	0	18,621	0	0
11:00	47.4	54,954	1	0	0	54,954	0	0
12:00	43.6	22,909	1	0	0	22,909	0	0
13:00	40.9	12,303	1	0	0	12,303	0	0
14:00	40.2	10,471	1	0	0	10,471	0	0
15:00	42.7	18,621	1	0	0	18,621	0	0
16:00	43.4	21,878	1	0	0	21,878	0	0
17:00	41.5	14,125	1	0	0	14,125	0	0
18:00	42.2	16,596	1	0	0	16,596	0	0
19:00	41.4	13,804	0	1	0	0	13,804	0
20:00	35.3	3,388	0	1	0	0	3,388	0
21:00	32.8	1,905	0	1	0	0	1,905	0
22:00	35.7	3,715	0	0	1	0	0	3,715
23:00	30.6	1,148	0	0	1	0	0	1,148
Sum of Sound Power during Period wo/penalty						213,670	19,098	10,652
Log Factor for CNEL Penalty (i.e., 10*log(x))						1	3	10
Sound Power during Period with penalty						213,670	57,293	106,525

Total Daily Sound Power, with penalties	377,488
Hours per Day	24
Average Hourly Sound Power, with penalties	15,729
CNEL	42.0

Ldn computation on next page.

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	708
0	1	0	490
0	1	0	339
0	1	0	339
0	1	0	589
0	1	0	813
0	1	0	2,512
1	0	3,388	0
1	0	10,471	0
1	0	9,333	0
1	0	18,621	0
1	0	54,954	0
1	0	22,909	0
1	0	12,303	0
1	0	10,471	0
1	0	18,621	0
1	0	21,878	0
1	0	14,125	0
1	0	16,596	0
1	0	13,804	0
1	0	3,388	0
1	0	1,905	0
0	1	0	3,715
0	1	0	1,148
Sum of Sound Power during Period wo/penalty		232,767	10,652
Log Factor for Penalty (i.e., 10*log(x))		1	10
Sound Power during Period with penalty		232,767	106,525

Total Daily Sound Power, with penalties	339,292
Hours per Day	24
Average Hourly Sound Power, with penalties	14,137
Ldn	41.5

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.
Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.
Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

Source:
California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November). *2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: Location 1: Site D
Measurement Date: 8/26/2018-8/27/2018
Project Name: Tahoe XC

Computation of CNEL

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Period of 24-Hour Day (1=included, 0=not)			Sound Power Breakdown by Period of Day		
			Day	Evening	Night	Day	Evening	Night
0:00	28.2	661	0	0	1	0	0	661
1:00	27.0	501	0	0	1	0	0	501
2:00	25.8	380	0	0	1	0	0	380
3:00	22.0	158	0	0	1	0	0	158
4:00	23.8	240	0	0	1	0	0	240
5:00	30.2	1,047	0	0	1	0	0	1,047
6:00	39.2	8,318	0	0	1	0	0	8,318
7:00	37.6	5,754	1	0	0	5,754	0	0
8:00	40.6	11,482	1	0	0	11,482	0	0
9:00	40.0	10,000	1	0	0	10,000	0	0
10:00	42.1	16,218	1	0	0	16,218	0	0
11:00	41.3	13,490	1	0	0	13,490	0	0
12:00	40.5	11,220	1	0	0	11,220	0	0
13:00	44.8	30,200	1	0	0	30,200	0	0
14:00	46.7	46,774	1	0	0	46,774	0	0
15:00	48.0	63,096	1	0	0	63,096	0	0
16:00	47.8	60,256	1	0	0	60,256	0	0
17:00	44.7	29,512	1	0	0	29,512	0	0
18:00	43.0	19,953	1	0	0	19,953	0	0
19:00	35.3	3,388	0	1	0	0	3,388	0
20:00	33.8	2,399	0	1	0	0	2,399	0
21:00	34.1	2,570	0	1	0	0	2,570	0
22:00	33.7	2,344	0	0	1	0	0	2,344
23:00	29.0	794	0	0	1	0	0	794
Sum of Sound Power during Period wo/penalty						317,953	8,358	14,444
Log Factor for CNEL Penalty (i.e., 10*log(x))						1	3	10
Sound Power during Period with penalty						317,953	25,073	144,438

Total Daily Sound Power, with penalties	487,464
Hours per Day	24
Average Hourly Sound Power, with penalties	20,311
CNEL	43.1

Ldn computation on next page.

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	661
0	1	0	501
0	1	0	380
0	1	0	158
0	1	0	240
0	1	0	1,047
0	1	0	8,318
1	0	5,754	0
1	0	11,482	0
1	0	10,000	0
1	0	16,218	0
1	0	13,490	0
1	0	11,220	0
1	0	30,200	0
1	0	46,774	0
1	0	63,096	0
1	0	60,256	0
1	0	29,512	0
1	0	19,953	0
1	0	3,388	0
1	0	2,399	0
1	0	2,570	0
0	1	0	2,344
0	1	0	794
Sum of Sound Power during Period wo/penalty		326,311	14,444
Log Factor for Penalty (i.e., 10*log(x))		1	10
Sound Power during Period with penalty		326,311	144,438

Total Daily Sound Power, with penalties	470,749
Hours per Day	24
Average Hourly Sound Power, with penalties	19,615
Ldn	42.9

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.
Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.
Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

Source:
California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November). *2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Construction Source Noise Prediction Model: Tuolumne

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	1,218	50.0
Residence 1	370	61.8
Alt A	120	74.7
NT School	335	62.9

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Front End Loader	80	0.4
Grader	85	0.4
Dozer	85	0.4

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Front End Loader	76.0
Grader	81.0
Dozer	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
84.7

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction Source Noise Prediction Model

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	1,757	50.0
Residence 1	370	65.8
Alt A	120	78.6
NT School	335	66.9

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	1
Front End Loader	80	1
Dozer	85	1
		1
		1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	85.0
Front End Loader	80.0
Dozer	85.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.6

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS s	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jac	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0
Mounted Impact Hammer (	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzl	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Vacuum Excavator (Vac-tru	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1
U.S. Department of Transportation
CA/T Construction Spec. 721.560

Construction Source Noise Prediction Model: Tuolumne

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	1,218	50.0
Residence 1	200	68.8
	120	74.7

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Front End Loader	80	0.4
Grader	85	0.4
Dozer	85	0.4

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Front End Loader	76.0
Grader	81.0
Dozer	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
84.7

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction Source Noise Prediction Model

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	1,757	50.0
Residence 1	200	72.8
	120	78.6

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	1
Front End Loader	80	1
Dozer	85	1
		1
		1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	85.0
Front End Loader	80.0
Dozer	85.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.6

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS s	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jac	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0
Mounted Impact Hammer (	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzl	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Vacuum Excavator (Vac-tru	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1
U.S. Department of Transportation
CA/T Construction Spec. 721.560

Distance Propagation Calculations for Stationary Sources of Ground Vibration

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.

— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.

— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
large bull dozer	87.0	@	25	79.3	@	45

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
large bull dozer	0.089	@	25	0.191	@	15

Notes:

Computation of propagated vibration levels is based on the equations presented on pg. 12-11 of FTA 2006. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor		
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Speaker (facing toward SR)	76.0	@	75	soft	12	5	0.60	59.1	@	335
Speaker (facing toward SR)	76.0	@	75	soft	12	5	0.60	58.0	@	370
Speaker (facing toward SR)	76.0	@	75	soft	12	5	0.60	70.7	@	120
Speaker Facing away MM (Alt A)	59.0	@	50.00	soft	12	5	0.60	49.1	@	120
Speaker Facing away MM (Project)	71.0	@	50.00	soft	12	5	0.60	49.5	@	335
Speaker Facing away MM (Project)	72.0	@	50	soft	12	5	0.60	49.4	@	370
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 12-3 and 12-4 of FTA 2006.

Computation of the ground factor is based on the equation presentd in Figure 6-23 on pg. 6-23 of FTA 2006, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Traffic Noise Spreadsheet Calculator

Project:

Number	Segment Description and Location: Name	From	To	Existing	Existing + Project Conditions	Change	Cumulative Conditions	Cumulative +Project Conditions	Δ Cumulative – Cumulative + Project
Summary of Project Net Changes									
Winter Weekday									
1	Village Road, between Polaris Road and Country Club Drive			45.1	43.6	-1.5	#REF!	#REF!	#REF!
2	Old Mill Rd, North of SR 28			44.4	45.4	0.9	#REF!	#REF!	#REF!
3	Polaris Road from Village Drive to Old Mill Road			46.7	47.6	0.9	#REF!	#REF!	#REF!
4	Polaris Road , east of North Tahoe High School			49.5	50.3	0.8	#REF!	#REF!	#REF!
Winter Weekend							#REF!	#REF!	#REF!
1	Village Road, between Polaris Road and Country Club Drive			47.2	44.9	-2.3	#REF!	#REF!	#REF!
2	Old Mill Rd, North of SR 28			37.7	42.6	4.9	#REF!	#REF!	#REF!
3	Polaris Road from Village Drive to Old Mill Road			38.0	44.1	6.1	#REF!	#REF!	#REF!
4	Polaris Road , east of North Tahoe High School			40.7	46.4	5.6	#REF!	#REF!	#REF!
Summer Daily							#REF!	#REF!	#REF!
1	Village Road, between Polaris Road and Country Club Drive			44.3	36.9	-7.4	#REF!	#REF!	#REF!
2	Old Mill Rd, North of SR 28			45.7	44.6	-1.2	#REF!	#REF!	#REF!
3	Polaris Road from Village Drive to Old Mill Road			41.1	43.7	2.6	#REF!	#REF!	#REF!
4	Polaris Road , east of North Tahoe High School			40.7	47.2	6.4	#REF!	#REF!	#REF!
5	SR 28 in project vicinity			59.7	59.7	0.027	#REF!	#REF!	#REF!

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project:

Number	Segment Description and Location: Name	From	To	Existing	Existing + Alt	Change	Cumulative Conditions	Cumulative +Project Conditions	Δ Cumulative – Cumulative + Project
Summary of Project Net Changes									
Winter Weekday									
1	Village Road, between Polaris Road and Country Club Drive			45.1	45.8	0.7	#REF!	#REF!	#REF!
2	Old Mill Rd, North of SR 28			44.4	44.4	0.0	#REF!	#REF!	#REF!
3	Polaris Road from Village Drive to Old Mill Road			46.7	46.7	0.0	#REF!	#REF!	#REF!
4	Polaris Road , east of North Tahoe High School			49.5	49.5	0.0	#REF!	#REF!	#REF!
Winter Weekend							#REF!	#REF!	#REF!
1	Village Road, between Polaris Road and Country Club Drive			47.2	47.8	0.6	#REF!	#REF!	#REF!
2	Old Mill Rd, North of SR 28			37.7	37.7	0.0	#REF!	#REF!	#REF!
3	Polaris Road from Village Drive to Old Mill Road			38.0	38.0	0.0	#REF!	#REF!	#REF!
4	Polaris Road , east of North Tahoe High School			40.7	40.7	0.0	#REF!	#REF!	#REF!
						0.0			
Summer Daily							#REF!	#REF!	#REF!
1	Village Road, between Polaris Road and Country Club Drive			44.3	46.4	2.1	#REF!	#REF!	#REF!
2	Old Mill Rd, North of SR 28			45.7	45.7	0.0	#REF!	#REF!	#REF!
3	Polaris Road from Village Drive to Old Mill Road			41.1	41.1	0.0	#REF!	#REF!	#REF!
4	Polaris Road , east of North Tahoe High School			40.7	40.7	0.0	#REF!	#REF!	#REF!
5	SR 28 in project vicinity			59.7	59.7	0.0	#REF!	#REF!	#REF!

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

ASCENT ENVIRONMENTAL

Traffic Noise Spreadsheet Calculator

Project:

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

Number	Name (Segment Description and Location)	From	To	ADT	Speed (mph)	Distance to Directional Centerline, (feet)$_4$ Near	Far	Traffic Distribution Characteristics % Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)$_{5,6,7}$	Distance to Contour, (feet)$_3$ 70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
Weekday																		
1	Village Road, between Polaris Road and Country Club Drive			499	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	45.1	2	5	10	22
2	Old Mill Rd, North of SR 28			431	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	44.4	2	4	9	20
3	Polaris Road from Village Drive to Old Mill Road			728	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	46.7	3	6	13	28
4	Polaris Road , east of North Tahoe High School			1,370	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.5	4	9	20	43
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
Weekend					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
1	Village Road, between Polaris Road and Country Club Drive			815	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	47.2	3	7	14	30
2	Old Mill Rd, North of SR 28			91	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	37.7	1	2	3	7
3	Polaris Road from Village Drive to Old Mill Road			97	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	38.0	1	2	3	7
4	Polaris Road , east of North Tahoe High School			183	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	40.7	1	2	5	11
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project:

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

				Input										Output				
	Segment Description and Location					Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
Weekday																		
1	Village Road, between Polaris Road and Country Club Drive			353	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	43.6	2	4	8	17
2	Old Mill Rd, North of SR 28			536	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	45.4	2	5	11	23
3	Polaris Road from Village Drive to Old Mill Road			895	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	47.6	3	7	15	32
4	Polaris Road , east of North Tahoe High School			1,642	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	50.3	5	10	22	48
5					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
Weekend					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
1	Village Road, between Polaris Road and Country Club Drive			475	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	44.9	2	5	10	21
2	Old Mill Rd, North of SR 28			279	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	42.6	1	3	7	15
3	Polaris Road from Village Drive to Old Mill Road			398	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	44.1	2	4	9	19
4	Polaris Road , east of North Tahoe High School			672	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	46.4	3	6	12	27
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project:

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)4		Traffic Distribution Characteristics							Distance to Contour, (feet)3			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)5,6,7	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
Weekday																		
1	Village Road, between Polaris Road and Country Club Drive			593	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	45.8	2	5	11	24
2	Old Mill Rd, North of SR 28			431	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	44.4	2	4	9	20
3	Polaris Road from Village Drive to Old Mill Road			728	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	46.7	3	6	13	28
4	Polaris Road , east of North Tahoe High School			1,370	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.5	4	9	20	43
5					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
Weekend					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
1	Village Road, between Polaris Road and Country Club Drive			932	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	47.8	3	7	15	33
2	Old Mill Rd, North of SR 28			91	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	37.7	1	2	3	7
3	Polaris Road from Village Drive to Old Mill Road			97	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	38.0	1	2	3	7
4	Polaris Road , east of North Tahoe High School			183	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	40.7	1	2	5	11
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project:

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
Daily																		
1	Village Road, between Polaris Road and Country Club Drive			414	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	44.3	2	4	9	19
2	Old Mill Rd, North of SR 28			580	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	45.7	2	5	11	24
3	Polaris Road from Village Drive to Old Mill Road			198	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	41.1	1	3	5	12
4	Polaris Road , east of North Tahoe High School			183	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	40.7	1	2	5	11
5	SR 28 in project vicinity			14,500	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.716	21	44	96	206
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project:

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location: Number	Name	From	To	Input: ADT	Speed (mph)	Distance to Directional Centerline, (feet)[4]: Near	Far	Traffic Distribution Characteristics: % Auto	% Medium	% Heavy	% Day	% Eve	% Night	Output: Ldn, (dBA)[5,6,7]	Distance to Contour, (feet)[3]: 70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
Daily																		
1	Village Road, between Polaris Road and Country Club Drive			76	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	36.9	1	1	3	6
2	Old Mill Rd, North of SR 28			444	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	44.6	2	4	9	20
3	Polaris Road from Village Drive to Old Mill Road			364	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	43.7	2	4	8	18
4	Polaris Road , east of North Tahoe High School			808	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	47.2	3	6	14	30
5	SR 28 in project vicinity			14,590	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.743	21	45	96	207
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project:

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	**Name**	**From**	**To**	**ADT**	**Speed (mph)**	**Near**	**Far**	**% Auto**	**% Medium**	**% Heavy**	**% Day**	**% Eve**	**% Night**	**Ldn, (dBA)[5,6,7]**	**70 dBA**	**65 dBA**	**60 dBA**	**55 dBA**
Existing Conditions																		
Daily																		
1	Village Road, between Polaris Road and Country Club Drive			669	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	46.4	3	6	12	27
2	Old Mill Rd, North of SR 28			580	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	45.7	2	5	11	24
3	Polaris Road from Village Drive to Old Mill Road			198	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	41.1	1	3	5	12
4	Polaris Road , east of North Tahoe High School			183	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	40.7	1	2	5	11
5	SR 28 in project vicinity			14,580	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.7	21	45	96	207
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					
					35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%					

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Citation #	Citations	
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Table (4-2),
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Equation (4-
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.	FHWA 2004 TNM Version 2.5
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.	FHWA 2004 TNM Version 2.5
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.	Caltrans Technical Noise Supplement. 2013 (September). Pg 2-57.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.	FHWA 2004 TNM Version 2.5
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.	FHWA 2004 TNM Version 2.5
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.	FHWA 2004 TNM Version 2.5
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.	FHWA 2004 TNM Version 2.5
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.	FHWA 2004 TNM Version 2.5
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67	
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69	
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69	

References

California Department of Transportation (Caltrans). 2009 (November). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. A
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Pg 4-17.
-5), Pg 4-17.

-23), Pg 2-5
-24), Pg 2-5

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Appendix G

Energy Calculations

Building Energy Consumption Summary

Land Use	Electricity (MWh/year)	Natural Gas (MMBtu/year)
Health Club	86	189
Total	**86**	**189**

1. Electricity and Natural Gas Values Derived from CalEEMod Defaults.

Energy Calculations Summary

Operational Fuel Use Summary

Vehicle Class	Diesel Gallons	Gasoline Gallons
Passenger	63	8,390
Truck	3,091	7,372
Bus	146	152
Other	9	39
Total	**3,309**	**15,953**

1. Fleet mix calculated from CalEEMod default values.
2. Gallons per mile calculated from EMFAC 2014.
3. Annual VMT obtained from CalEEMod output file.

Energy Calculations Summary

Construction Fuel Usage Summary

Construction Phase	Diesel Off-road Equipment (gallons)	Gasoline On-road (gallons)	Diesel On-road (gallons)	Diesel Total
2020	13,981	2,884	2,267	**16,248**
2021	22,422	4,908	3,972	**26,393**
2022	22,022	5,051	3,622	**25,643**
2023	612	172	0	**612**
TOTAL	**59,037**	**13,015**	**9,860**	**68,897**

Total Gasoline	**13,015**	**gallons**
Total Diesel	**68,897**	**gallons**

Phase 1 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Site Prep	Graders	1	8	187	0.41	5	153
Site Prep	Tractors/Loaders/Backhoes	1	8	97	0.37	5	72
Site Prep	Rubber Tired Dozers	1	7.00	247	0.40	5	173
Grading	Rubber Tired Dozers	1	6.00	247	0.40	12	356
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37	12	151
Grading	Graders	1	6.00	187	0.41	12	276
Building Construction	Generator Sets	1	8.00	84	0.74	149	3,705
Building Construction	Cranes	1	6.00	231	0.29	149	2,994
Building Construction	Forklifts	1	6.00	89	0.20	149	796
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37	149	1,604
Building Construction	Welders	3	8.00	46	0.45	149	3,701
						TOTAL	13,981

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Number of days accounts for weekend where construction would not occur.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Hauling Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Total gallons of gasoline	Total gallons of diesel
Site Prep	8	0	0	5	40	0	0	16.80	6.60	20.00	672	0	-	24	0
Grading	8	0	0	12	96	0	0	16.80	6.60	20.00	1,612.80	0.00	-	58	0
Building Construction	31	12	0	149	4,619	1,788	0	16.80	6.60	20.00	77,599.20	11,800.80	-	2,802	2,267
													TOTAL	2,884	2,267

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Phase 2 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Building Construction	Generator Sets	1	8.00	84	0.74	261	6,490
Building Construction	Cranes	1	6.00	231	0.29	261	5,245
Building Construction	Forklifts	1	6.00	89	0.20	261	1,394
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37	261	2,810
Building Construction	Welders	3	8.00	46	0.45	261	6,483
						TOTAL	22,422

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Number of days accounts for weekend where construction would not occur.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Building Construction	31	12	0	261	8091	3132	0	16.80	6.60	20.00	135928.8	20671.2	-	4,908	3,972
													TOTAL	4,908	3,972

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Phase 3 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Building Construction	Generator Sets	1	8.00	84	0.74	238	5,918
Building Construction	Cranes	1	6.00	231	0.29	238	4,783
Building Construction	Forklifts	1	6.00	89	0.20	238	1,271
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37	238	2,563
Building Construction	Welders	3	8.00	46	0.45	238	5,912
Paving	Cement and Mortar Mixers	1	6.00	78	0.48	22	247
Paving	Pavers	1	6.00	130	0.42	22	360
Paving	Rollers	1	7.00	80	0.38	22	234
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37	22	316
Paving	Paving Equipment	1	8.00	132	0.36	22	418
						TOTAL	22,022

1,576 20,446

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Total gallons of gasoline	Total gallons of diesel
Building Construction	31	12	0	238	7378	2856	0	16.80	6.60	20.00	123950.4	18849.6	-	4,475	3,622
Paving	13	0	0	73	949	0	0	16.80	6.60	20.00	15,943.20	0.00	-	576	0
													TOTAL	5,051	3,622

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Phase 4 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Paving	Cement and Mortar Mixers	1	6.00	78	0.48	4	45
Paving	Pavers	1	6.00	130	0.42	4	66
Paving	Rollers	1	7.00	80	0.38	4	43
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37	4	57
Paving	Paving Equipment	1	8.00	132	0.36	4	76
Architectural Coating	Air Compressors	1	6.00	78	0.48	29	326
						TOTAL	612

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Paving	13	0	0	4	52	0	0	16.80	6.60	20.00	873.6	0	-	32	0
Architectural Coating	8	0	0	29	232	0	0	16.80	6.60	20.00	3,897.60	0.00	-	141	0
													TOTAL	172	0

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Placer	2020	LDA	Aggregated	Aggregated	GAS	123597.5	4664456.208	581628.8323	153.8271243	0.00	30.32	27.70	5.20
Placer	2020	LDT1	Aggregated	Aggregated	GAS	16642.318	626084.2598	76034.21315	23.81591686	0.00	26.29		
Placer	2020	LDT2	Aggregated	Aggregated	GAS	57708.41	2240153.802	268117.2551	93.91602595	0.00	23.85		
Placer	2020	T7 tractor construction	Aggregated	Aggregated	DSL	212.23472	14914.88116	959.5049136	0.00	2.865558861	5.20		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Placer County
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	Class	MdlYr	Speed	Fuel	Population	VMT (mi/day)	Trips	Fuel_Consumption (1000 gal/day)	Fuel (gal/day)	mi/gal	CO2_RUNEX (tons/day)	CO2 (lb/day)	% of vehicle class EMFAC	% vehicle class CalEEMod	% vehicle class project	VMT by project vehicle class (mi/yr)	Gallons of fuel
Placer County	2023	HHDT	Truck	Aggregated	Aggregated	GAS	1.065954	122.0828989	21.32762	0.027596354	27.59635441	4.423877771	0.260362491	521	0.000265515	0.026318	6.98782E-06	3.4363866	0.776781543
Placer County	2023	HHDT	Truck	Aggregated	Aggregated	DSL	3506.046	459674.7378	37937.27	67.9383034	67938.3034	6.766061481	699.690865	1,399,382	0.999734485	0.026318	0.026311012	12938.91384	1912.325786
Placer County	2023	LDA	Passenger	Aggregated	Aggregated	GAS	132178.4	4954812.364	623632.7	150.2956601	150295.6601	32.96710204	1386.820732	2,773,641	0.963315969	0.578893	0.557656871	274237.8044	8318.529303
Placer County	2023	LDA	Passenger	Aggregated	Aggregated	DSL	1587.314	59257.12168	7426.461	1.144674712	1144.674712	51.76765161	12.84375886	25,688	0.011520786	0.578893	0.006669302	3279.749413	63.35519019
Placer County	2023	LDA	Passenger	Aggregated	Aggregated	ELEC	3080.207	129427.0631	15303.4	0	0	#DIV/0!	0	0	0.025163245	0.578893	0.014566826	7163.499042	0
Placer County	2023	LDT1	Truck	Aggregated	Aggregated	GAS	17890.71	670060.7943	82138.75	23.64089264	23640.89264	28.343295	218.17655	436,353	0.990901867	0.033999	0.033689673	16567.5029	584.5298826
Placer County	2023	LDT1	Truck	Aggregated	Aggregated	DSL	11.79198	156.6784806	38.82522	0.006258466	6.258466357	25.03464454	0.070222773	140	0.0002317	0.033999	7.87756E-06	3.873933835	0.154742913
Placer County	2023	LDT1	Truck	Aggregated	Aggregated	ELEC	136.824	5995.598065	688.729	0	0	#DIV/0!	0	0	0.008866433	0.033999	0.00030145	148.243397	0
Placer County	2023	LDT2	Truck	Aggregated	Aggregated	GAS	60986.92	2312977.096	282812.6	88.05869377	88058.69377	26.26631168	812.3637929	1,624,728	0.99239405	0.21284	0.21122115	103871.8023	3954.563686
Placer County	2023	LDT2	Truck	Aggregated	Aggregated	DSL	393.6116	17727.22017	1921.311	0.459611148	459.6111477	38.57003961	5.157041288	10,314	0.00760595	0.21284	0.00161885	796.0988079	20.64034199
Placer County	2023	LHDT1	Truck	Aggregated	Aggregated	GAS	4694.391	158360.3553	69939.43	18.77613039	18776.13039	8.434131637	175.7752688	351,551	0.446682363	0.010628	0.00474734	2334.589972	276.8026482
Placer County	2023	LHDT1	Truck	Aggregated	Aggregated	DSL	5968.202	196165.2953	75072.47	10.96152472	10961.52472	17.89580375	122.0864863	244,173	0.553317637	0.010628	0.00588066	2891.920332	161.5976779
Placer County	2023	LHDT2	Truck	Aggregated	Aggregated	GAS	623.3406	21897.12202	9286.846	2.95650149	2956.50149	7.406430233	27.69349585	55,387	0.246856666	0.004325	0.001067655	525.0386046	70.88956327
Placer County	2023	LHDT2	Truck	Aggregated	Aggregated	DSL	1906.707	66806.66846	23983.97	4.163674791	4163.674791	16.04512163	46.25707761	92,514	0.753143334	0.004325	0.003257345	1601.857995	99.83458101
Placer County	2023	MCY	Passenger	Aggregated	Aggregated	GAS	9536.966	62900.06748	19073.93	1.699545777	1699.545777	37.00992838	14.75098032	29,502	1	0.005392	0.005392	2651.613056	71.64599262
Placer County	2023	MDV	Truck	Aggregated	Aggregated	GAS	44435.89	1470908.444	202964.3	69.72914077	69729.14077	21.09460159	641.1142636	1,282,229	0.970312562	0.104491	0.10138893	49859.8313	2363.629911
Placer County	2023	MDV	Truck	Aggregated	Aggregated	DSL	1189.577	45003.54272	5668.986	1.589193773	1589.193773	28.31847411	17.83146024	35,663	0.029687438	0.104491	0.00310207	1525.498788	53.86938512
Placer County	2023	MH	Other	Aggregated	Aggregated	GAS	1136.869	9543.989561	113.7324	1.995925212	1995.925212	4.781737064	18.90591176	37,812	0.675824754	0.000566	0.000382517	188.1095269	39.33916156
Placer County	2023	MH	Other	Aggregated	Aggregated	DSL	554.596	4577.999179	55.4596	0.470994554	470.994554	9.719855868	5.284768164	10,570	0.324175246	0.000566	0.000183483	90.23116111	9.283178921
Placer County	2023	MHDT	Truck	Aggregated	Aggregated	GAS	332.1513	17609.05577	6645.683	3.564768206	3564.768206	4.939747762	33.2990667	66,598	0.064620861	0.018736	0.001210736	595.4014472	120.5327632
Placer County	2023	MHDT	Truck	Aggregated	Aggregated	DSL	3707.31	254888.9485	36021.81	24.91161314	24911.61314	10.23173197	275.9089097	551,818	0.935379139	0.018736	0.017525264	8618.363801	842.317198
Placer County	2023	OBUS	Bus	Aggregated	Aggregated	GAS	108.9212	4964.381014	2179.295	1.033235102	1033.235102	4.804696438	9.679706427	19,359	0.525076353	0.001852	0.000972441	478.2155655	99.53085937
Placer County	2023	OBUS	Bus	Aggregated	Aggregated	DSL	57.73606	4490.207796	576.2379	0.575886687	575.8866871	7.797033507	6.262566866	12,525	0.474923647	0.001852	0.000879559	432.5387705	55.47478668
Placer County	2023	SBUS	Bus	Aggregated	Aggregated	GAS	26.32923	1149.753935	105.3169	0.118990098	118.9900985	9.662601763	1.049307029	2,099	0.121668394	0.000598	7.27577E-05	35.77990852	3.702926955
Placer County	2023	SBUS	Bus	Aggregated	Aggregated	DSL	266.0477	8300.144222	3070.153	1.042043817	1042.043817	7.96525452	10.5831553	21,166	0.878331606	0.000598	0.000525242	258.2973555	32.42801029
Placer County	2023	UBUS	Bus	Aggregated	Aggregated	GAS	34.35819	2762.519854	137.4328	0.655327132	655.3271317	4.215482194	6.194782681	12,390	0.30436708	0.001362	0.000414548	203.8614225	48.36016692
Placer County	2023	UBUS	Bus	Aggregated	Aggregated	DSL	59.88331	6313.756909	239.5332	0.78822697	788.2269698	8.010074701	8.84425682	17,689	0.69563292	0.001362	0.000947452	465.9265935	58.16757157

Gasoline Sum	15,953
Diesel Sum	3,309

Project VMT (mi/yr)	491,768	From CalEEMod output
Project Mobile Emissions (MT/yr)	229	From CalEEMod output

	Gas (gal)	Diesel (gal)
Passenger	8,390	63
Truck	7,372	3,091
Bus	152	146
Other	39	9
Total	15,953	3,309

Building Energy Consumption Summary

Land Use	Electricity (MWh/year)	Natural Gas (MMBtu/year)
Health Club	86	189
Total	**86**	**189**

1. Electricity and Natural Gas Values Derived from CalEEMod Defaults.

Energy Calculations Summary

Construction Fuel Usage Summary

Construction Phase	Diesel Off-road Equipment (gallons)	Gasoline On-road (gallons)	Diesel On-road (gallons)	Diesel Total
2020	13,017	1,867	3,709	**16,726**
2021	22,422	4,908	3,972	**26,393**
2022	22,422	4,908	3,972	**26,393**
2023	5,595	1,263	883	**6,477**
TOTAL	**63,456**	**12,945**	**12,534**	**75,990**

Total Gasoline	**12,945**	**gallons**
Total Diesel	**75,990**	**gallons**

Phase 1 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Demolition	Concrete/Industrial Saws	1	8	81	0.71	57	1,311
Demolition	Rubber Tired Dozers	1	7.00	247	0.40	57	1,971
Demolition	Tractors/Loaders/Backhoes	3	8	97	0.37	57	2,455
Site Prep	Graders	1	8	187	0.41	5	153
Site Prep	Tractors/Loaders/Backhoes	1	8	97	0.37	5	72
Site Prep	Rubber Tired Dozers	1	7.00	247	0.40	5	173
Grading	Rubber Tired Dozers	1	6.00	247	0.40	12	356
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37	12	151
Grading	Graders	1	6.00	187	0.41	12	276
Building Construction	Generator Sets	1	8.00	84	0.74	71	1,765
Building Construction	Cranes	1	6.00	231	0.29	71	1,427
Building Construction	Forklifts	1	6.00	89	0.20	71	379
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37	71	764
Building Construction	Welders	3	8.00	46	0.45	71	1,764
						TOTAL	13,017

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Number of days accounts for weekend where construction would not occur.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Hauling Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Total gallons of gasoline	Total gallons of diesel
Demolition	13	0	12	57	741	0	684	16.80	6.60	20.00	12,449	0	13,680.00	449	2,628
Site Prep	8	0	0	5	40	0	0	16.80	6.60	20.00	672	0	-	24	0
Grading	8	0	0	12	96	0	0	16.80	6.60	20.00	1,613	0	-	58	0
Building Construction	31	12	0	71	2,201	852	0	16.80	6.60	20.00	36,977	5,623	-	1,335	1,080
													TOTAL	1,867	3,709

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Phase 2 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Building Construction	Generator Sets	1	8.00	84	0.74	261	6,490
Building Construction	Cranes	1	6.00	231	0.29	261	5,245
Building Construction	Forklifts	1	6.00	89	0.20	261	1,394
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37	261	2,810
Building Construction	Welders	3	8.00	46	0.45	261	6,483
						TOTAL	22,422

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Number of days accounts for weekend where construction would not occur.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Building Construction	31	12	0	261	8091	3132	0	16.80	6.60	20.00	135928.8	20671.2	-	4,908	3,972
													TOTAL	4,908	3,972

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Phase 3 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Building Construction	Generator Sets	1	8.00	84	0.74	261	6,490
Building Construction	Cranes	1	6.00	231	0.29	261	5,245
Building Construction	Forklifts	1	6.00	89	0.20	261	1,394
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37	261	2,810
Building Construction	Welders	3	8.00	46	0.45	261	6,483
						TOTAL	22,422

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	Total gallons of gasoline	Total gallons of diesel
Building Construction	31	12	0	261	8091	3132	0	16.80	6.60	20.00	135928.8	20671.2	-	4,908	3,972
													TOTAL	4,908	3,972

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

Phase 4 Construction Offroad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of days	Diesel Fuel Usage
Building Construction	Generator Sets	1	8.00	84	0.74	58	1,442
Building Construction	Cranes	1	6.00	231	0.29	58	1,166
Building Construction	Forklifts	1	6.00	89	0.20	58	310
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37	58	624
Building Construction	Welders	3	8.00	46	0.45	58	1,441
Paving	Cement and Mortar Mixers	1	6.00	78	0.48	4	45
Paving	Pavers	1	6.00	130	0.42	4	66
Paving	Rollers	1	7.00	80	0.38	4	43
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37	4	57
Paving	Paving Equipment	1	8.00	132	0.36	4	76
Architectural Coating	Air Compressors	1	6.00	78	0.48	29	326
						TOTAL	5,595

Notes: Equipment assumptions are consistent with CalEEMod. Fuel usage average of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

Trips and VMT

Phase Name	Daily Worker Trip	Daily Vendor Trip	Daily Haul Trip	Days per Year	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Worker Trip Length (miles)	Vendor Trip Length (miles)	Haul Trip Length (miles)	Total Worker Trip Length (miles)	Total Vendor Trip Length (miles)	Total Haul Trip Length (miles)	**Total gallons of gasoline**	**Total gallons of diesel**
Building Construction	31	12	0	58	1798	696	0	16.80	6.60	20.00	30206.4	4593.6	-	1,091	883
Paving	13	0	0	4	52	0	0	16.80	6.60	20.00	873.6	0	-	32	0
Architectural Coating	8	0	0	29	232	0	0	16.80	6.60	20.00	3,897.60	0.00	-	141	0
													TOTAL	1,263	883

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Sacramento
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed miles/hr	Fuel	Population vehicles	VMT miles/day	Trips trips/day	Fuel gas 1,000 gallons/day	Diesel gas 1,000 gallons/day	Miles per gallon	Gasoline miles per gallon	Diesel miles per gallon
Placer	2020	LDA	Aggregated	Aggregated	GAS	123597.5	4664456.208	581628.8323	153.8271243	0.00	30.32	27.70	5.20
Placer	2020	LDT1	Aggregated	Aggregated	GAS	16642.318	626084.2598	76034.21315	23.81591686	0.00	26.29		
Placer	2020	LDT2	Aggregated	Aggregated	GAS	57708.41	2240153.802	268117.2551	93.91602595	0.00	23.85		
Placer	2020	T7 tractor construction	Aggregated	Aggregated	DSL	212.23472	14914.88116	959.5049136	0.00	2.865558861	5.20		

Notes: Consistent with CalEEMod, worker vehicles assumed to be gasoline and 50% LDA, 25% LDT1, and 25% LDT2. Vendor trips are assumed to be 100% diesel Heavy-Duty Trucks (T7).