3.0 ENVIRONMENTAL SETTING AND IMPACT ANALYSIS

The following environmental analysis has been prepared using the CEQA Guidelines Appendix H: Environmental Checklist Form to complete an Initial Study (IS). This checklist also includes analysis of environmental impacts required in the TRPA Initial Environmental Checklist (IEC) found at:

http://www.trpa.org/documents/currentapps/Initial_Environmental_Checklist_Web.pdf.

3.1 EVALUATION OF ENVIRONMENTAL IMPACTS

3.1.1 CEQA

CEQA requires a brief explanation for answers to the Appendix G: Environmental Checklist except "No Impact" responses that are adequately supported by noted information sources. Answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

Table 3 defines CEQA direction applicable to each checklist question.

Table 3

CEQA Defined Levels of Impact Significance

Impact Severity	Definition
No Impact	A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
Less than Significant Impact	“Less than Significant Impact” applies where the Project’s impact creates no significant impacts based on the criterion or criteria that sets the level of impact to a resource and require no mitigation to avoid or reduce impacts.
Less than Significant Impact after Mitigation	“Less than Significant Impact after Mitigation" applies where the incorporation of mitigation measures has reduced an effect from potentially "Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
Significant Impact	"Significant Impact" is appropriate if there is substantial evidence that an effect is potentially significant, as based on the criterion or criteria that sets the level of impact to a resource. If there are one of more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

Source: CEQA Appendix G Environmental Checklist Form 2010

3.1.2 TRPA

Article VI of the TRPA Rules of Procedures presents the rules governing the preparation and processing of environmental documents pursuant to Article VII of the Compact and revised Code of Ordinance (revised Code) Chapter 3.

TRPA uses an IEC, in conjunction with other available information, to determine whether an EIS will be prepared for a project or other matter. This could include preparation of an Environmental Assessment, in accordance with Section 3.4 of the TRPA revised Code, when TRPA determines that an IEC will not provide sufficient information to make the necessary findings for a project.

Based on an initial review of the Project, TRPA staff determined that an IEC would provide sufficient information regarding the Project to make one of the findings below. As set forth in revised Code Subsection 3.3.1, based on the information submitted in the IEC, and other information known to TRPA, TRPA shall make one of the following findings and take the identified action:

1. The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.
2. The proposed project could have a significant effect on the environment, but due to the listed mitigation measures which have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.
3. The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with this Chapter and TRPA's Rules of Procedure.

When completed, TRPA reviews the IEC to determine the adequacy and objectivity of the responses. When appropriate, TRPA consults informally with federal, state, or local agencies with jurisdiction over the project or with special expertise on applicable environmental impacts.

3.2 ENVIRONMENTAL SETTINGS AND CEQA, TRPA AND NEPA IMPACTS

The sections that follow present the environmental impact analyses following the CEQA Appendix G Checklist supplemented to also reflect the questions included in the TRPA IEC. The analyses generally follow this format:

1. Setting - A summary including physical and regulatory setting necessary to identify and analyze potentially significant impacts;
2. Environmental Analysis and Mitigation Measures – For each CEQA and TRPA checklist question, this section: begins with a statement of criteria used to determine level of significance; then provides impact analysis.
3. Impact analysis for short-term, long-term, direct and indirect impacts, as applicable, and then includes mitigation measures if needed to reduce impacts to a less than significant level. To avoid excessive duplication where inclusion of both CEQA and TRPA checklist questions address similar impacts, the analysis provides full evaluation in one location only and specific references in related sections.

Section 3.2.18, Mandatory Findings of Significance, addresses cumulative effects to specific environmental resources.

Table 4 lists the Placer County supplemental documents, including public documents and site-specific studies prepared to evaluate in detail the effects or impacts associated with the Project. Some documents are attached as appendices to the IS/IEC, while County documents are available for public review on request, Monday through Friday, 8am to 5pm, at the Placer County Public Works Department, Tahoe Engineering Division, 7717 North Lake Boulevard (SR 28), Kings Beach, CA 96143.

Table 4

Placer County Supplemental Documents

County Documents		☐ Community Plan
		☐ Environmental Review Ordinance
		☒ General Plan – Placer County General Plan
		☒ Grading Ordinance – Placer County
		☐ Land Development Manual
		☐ Land Division Ordinance
		☒ Stormwater Management Manual – Placer County
		☒ APCD Rule 228 – Fugitive Dust Standards
		☒ Noise Ordinance – Placer County
Trustee Agency Documents		☒ TRPA Handbook of Best Management Practices (www.trpa.org)
		☒ TRPA Code of Ordinances, as Effective 03/01/2012 (www.trpa.org)
		☒ TRPA Air Quality Plan (www.trpa.org)
Site-Specific Studies	Planning Department	☒ Biological Study – Natural Environment Study (Appendix H)
		☒ Cultural Resources Pedestrian Survey (Appendix I)
		☒ Cultural Resources Records Search (Appendix I)
		☐ Lighting and Photometric Plan
		☐ Paleontological Survey
		☐ Tree Survey and Arborist Report
		☐ Visual Impact Analysis
		☒ Wetland Delineation (Appendix H)
		☒ Traffic Study (Appendices A and D)
		☒ Crossing Study – State Route 28 Crossing Memo (Appendix B)
	Department of Public Works	☐ Phasing Plan
		☒ Preliminary Grading and Design Plans (Appendix C)
		☐ Preliminary Geotechnical Report
		☐ Preliminary Drainage Report
		☒ Stormwater and Surface Water Quality BMP Plan – On Design Plans
		☒ Cultural Resources Pedestrian Survey and Records Search (Appendix I)
		☒ Noxious Weed Risk Assessment (NWRA) (Appendix H)
		☒ Botanical Baseline Assessment (Appendix H)
		☒ Fish and Wildlife Baseline Assessment (Appendix H)
		☒ Water Quality Memorandum (Appendix L)

		☐
	Environmental Health Services	☐ Groundwater Contamination Report
		☐ Hydro-Geological Study
		☐ Acoustical Analysis
		☐ Phase I Environmental Site Assessment
		☐ Soils Screening
		☐ Preliminary Endangerment Assessment
		☒ Initial Site Assessment (Appendix K)
	Air Pollution Control District	☐ CALINE4 Carbon Monoxide Analysis
		☒ Construction Emission and Dust Control Plan (Appendix G)
		☐ Geotechnical Report (for naturally occurring asbestos)
		☐ Health Risk Assessment
		☒ Air Quality Assessment (Appendix G)
		☐
	Fire Department	☐ Emergency Response and/or Evacuation Plan
		☐ Traffic and Circulation Plan
		☐
	Mosquito Abatement District	☐ Guidelines and Standards for Vector Prevention in Proposed Developments
		☐

3.2.1 Aesthetics (CEQA), Scenic Resources/Community Design and Light and Glare (TRPA)

This section presents the analyses for potential impacts to aesthetics, scenic resources/community design and light and glare. Table 5 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 5

Aesthetics, Scenic Resources/Community Design and Light and Glare

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
1. Have a substantial adverse effect on a scenic vista? (CEQA Ia)			X	
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway? (CEQA Ib)				X
3. Substantially degrade the existing visual character or quality of the site and its surroundings? (CEQA Ic)			X	
4. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (CEQA Id)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
5. Be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe? (TRPA item 18a)	X			
6. Be visible from any public recreation area or TRPA designated bicycle trail? (TRPA item 18b)	X			
7. Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area? (TRPA item 18c)				X
8. Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan? (TRPA item 18d)				X

9. Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines? (TRPA item 18e)		**X**		
10. Include new or modified sources of exterior lighting? (TRPA item 7a)				**X**
11. Create new illumination which is more substantial than other lighting, if any, within the surrounding area? (TRPA item 7b)				**X**
12. Cause light from exterior sources to be cast off-site or onto public lands? (TRPA item 7c)				**X**
13. Create new sources of glare through the siting of the improvements or through the use of reflective materials? (TRPA item 7d)				**X**

3.2.1.1 Environmental Setting

The project area includes a mixture of undeveloped land, Caltrans roadway ROWs, and a North Tahoe Public Utility District (NTPUD) utility easement. Nearby land uses include single family and multi-family homes, undeveloped areas, community recreation facilities, and some retail/commercial areas.

Views from the project area consist of forest, utility corridors, meadow/riparian, Dollar Reservoir and Dollar Creek, a boulder field, low and medium density residential and light commercial. Views of the project area exist from State Route (SR) 28 and adjacent land uses including residential, conservation and limited commercial development. Views of project features from the adjacent residential areas, specifically from those residential areas with most direct visual access to the Project features, are most sensitive to change.

CEQA defines scenic vistas as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public as defined by local plans or policies (e.g., TRPA Scenic Guidelines).

No federally-designated scenic highways exist within the project area. The Project is not visible from federal highways or from Lake Tahoe. Lake Tahoe cannot be seen from the project area. The project area crosses State Route 28, a State of California highway and TRPA-designated scenic highway (TRPA Scenic Resources Inventory 1982) and thus a short portion of the Project is visible from SR 28, as shown in Figures 16 and 17.

Figure 16. View of Project Crossing of SR 28

Figure 17. View of Project Area from SR 28 Looking Northeast

TRPA Lake Tahoe Basin Scenic Resource Inventory. In 1982, TRPA surveyed the Lake Tahoe Basin's major roadways and assigned each roadway unit a travel route rating and a scenic quality rating. The travel route rating considers views of man-made features, roadway distractions, road structure, lake views, landscape views, and variety for each roadway unit. The scenic quality ratings include an inventory of visual subcomponents and specific scenic resources within each roadway unit. This rating system provides an assessment of the natural landscape based on four qualities; intactness, unity, vividness, and variety. The primary goal of both the travel route and scenic quality rating systems is to maintain or upgrade the scenic quality of the view from the road. TRPA Scenic Quality Threshold standards require roadway travel routes to attain a minimum travel route rating of 15.5 and to maintain the 1982 scenic quality rating.

The Project is located within TRPA Scenic Roadway Unit 16 – Lake Forest. Scenic Roadway Unit 16 is a Rural Transition Visual Environment. The 1982 travel route rating was 13 and the area was not in attainment; however, since 2001, the area has been in attainment with a threshold composite score of 16.5, primarily due to improvements in man-made features and roadway distractions. The Project is also located in Scenic Bikeway Unit 2 – Tahoe City to Dollar Point.

TRPA Lake Tahoe Scenic Resource Evaluation. In 1993, TRPA prepared the Lake Tahoe Basin Scenic Resources Evaluation to add specific beach and bike trail resources to the roadway unit scenic resource evaluations conducted in 1982.

3.2.1.2 Environmental Analysis and Mitigation Measures

1. Would the Project have a substantial adverse effect on a scenic vista? (CEQA Ia)

Standard of Significance: Creating visually dominant features that are out of scale with the surrounding landscape constitutes a significant impact to scenic vistas under CEQA (note: Project effects associated with TRPA scenic features are discussed below and not repeated here). Points of significance include: 1) creation of strong visual contrast; 2) reduction in scenic vista area viewed from foreground or middleground; and/or 3) non-compliance with scenic resource goals, policies or standards of federal, state of local agencies. CEQA relies on local policies to define scenic vistas.

The project area contains no scenic vistas visible from public roadways or recreational areas. Project effects include trail features, tree removal and trail users. The Project constructs a flat asphalt concrete surface constructed at or near grade at a minimum height above ground surface to assure protection of soil, water and biological resources, typically never more than three inches above grade. The low profile and complimentary colors of the shared-use trail do not block or significantly alter views. Trail features stay entirely subordinate in the landscaping. The Project constructs a bridge with railings over Dollar Creek. The bridge is located in a densely forested area where riparian habitat exists along the streambanks. Based on the proposed location of the bridge deck and railings, no effect to scenic vistas results because views to and from this location of Dollar Creek consist of limited foreground views due to the presence of existing vegetation.

An increase in trail users creates limited changes to scenic vistas. The shared-use trail users offer movement and colors that contrast with vegetative backgrounds; although the meandering alignment that reduces vegetation and tree removal helps obscure both the trail and trail users from view.

This evaluation concludes that the Project facility features and design, as specified in Section 2.6.2, avoid and minimize potential impacts to scenic vistas through minimization of tree and vegetation removal, site-specific design features that minimize ground disturbance, screening, and the use of earth tone colors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

2. Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (CEQA Ib)

Standard of Significance: The significance criteria outlined for Question 1 (CEQA checklist item Ia) also apply to Question 2 (CEQA checklist item Ib).

No state scenic highways exist within nor are directly visible from the project area. Therefore, the Project has no impact on state designated scenic highways.

Environmental Analysis: *No Impact.*

Required Mitigation: **None**.

3. Would the Project substantially degrade the existing visual character or quality of the site and its surroundings? (CEQA Ic)

Standard of Significance: Degradation in visual quality or elimination of a specific scenic resource results in a significant impact to scenic resources.

The existing visual character of a majority of the project area consists of undeveloped forest and unpaved trail networks.

The Project features are proposed low to the ground in muted colors and avoid degrading the existing visual character or quality of the project area. Where project features include vertical elements, such as the Dollar Creek bridge railings, densely forested areas minimize the locations from which such features are viewed. In the most natural areas within the project area, the changes to visual character do not rise to the level of substantial degradation as documented in Question 1 above. Visual screening and safety barriers add visual variety and reduce the visual presence of the trail. Questions 5 through 9 analyzed for TRPA Checklist items include more stringent quantitative analysis from designated scenic resources. Based on the analysis of TRPA Roadway Units and Scenic Resources, the Project does not create a change in visual quality that degrades the current ratings, and therefore creates no significant impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

4. Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (CEQA Id)

Standard of Significance: An increase in night lighting or glare sufficient to enter adjacent residences constitutes a significant impact to day or nighttime views in the project area.

The Project proposal includes no new permanent light sources or reflective materials and fixtures that create glare. Because the Project proposes no new light sources along the trail alignment, no impact to nighttime views results. Since no materials that cause glare are used, no impact to daytime views results.

Installation of signage, benches, and trash receptacles along the alignment conforms to TRPA Design Guidelines for color and material to avoid creating sources of glare. A lighted pedestrian signal that

produces light when activated is necessary at one roadway crossing at Dollar Drive and SR 28. This signal is located along a heavily travelled roadway, but is located where existing street lighting is already present. The addition of a pedestrian signal neither substantially increases light levels nor causes a substantial change to existing views.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

5. Would the Project be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe? (TRPA 18a)

Yes. Standard of Significance: A degradation of adopted TRPA scenic thresholds including scenic travel route or scenic quality ratings constitutes a significant impact on scenic resources.

The Project is not visible from federal highways, Pioneer Trail or Lake Tahoe. Technical studies identify no rock outcroppings, historic buildings or other scenic resources in this portion of the project area.

The Project extends an existing TCPUD multi-use trail at Dollar Drive and SR 28. SR 28 is a State of California Highway and the Project intersection at Dollar Drive and SR 28, which is a visual feature necessary for public safety, will be visible. SR 28 is a "Transition" scenic highway corridor. In "Transition Corridors", the built environment is not the dominant visual feature, but is integrated into the landscape. Project features visible from SR 28 include asphalt concrete trail surface, a parking lot access road, vehicle barriers, tree removal and revegetation plantings. The majority of the trail is not visible, but the portion of the trail at the SR 28 crossing and parallel to SR 28 is visible as the trail either crosses or is immediately adjacent to the roadway. The trail is at grade at the crossing location with no cut or fill slopes. Likewise a portion of the parking lot access road is visible where the access road meets SR 28. Following this intersection, the access road then meanders behind existing trees and is not visually prevalent from SR 28. The parking lot near the SR 28 crossing is obscured from view as it is a flat surface at grade, is setback over 200 feet from the roadway, and is separated from the roadway by existing trees that will be maintained. TRPA revised Code Section 66.2 states, "All projects, excluding signs, driveways, parking for scenic vista points, trailheads, and pedestrian/bicycle paths, shall be sited in such a manner that they are not visually evident from the scenic highway." Therefore, the Project is exempt from this requirement and the visibility of a portion of the Project along SR 28 is not subject to the Visual Magnitude/Contrast Ratings of the Design Review Guidelines.

TRPA designates this section of state highway as portions of Scenic Roadway Unit 16, which is in attainment with the TRPA scenic threshold. The Project affects no mapped scenic features in this area. The TRPA 2006 Threshold Evaluation rated Roadway Unit 16 (Lake Forest) with a composite travel route rating of 16.5 and a scenic resource threshold rating of 4. The Project provides for a designated route for bicyclists and pedestrians and reduces the distractions for viewers of the road related to these users. While the addition of a pedestrian crossing across SR 28 produces slight improvements for roadway distractions, these design elements also increase the prominence of linear clearing of vegetation and man-made features visible from SR 28. Natural and man-made barriers can provide visual screening. As discussed in Section 2.6.2.9 of the Project Description, the installation of physical barriers and screening effectively reduces the scenic contrast of the trail and trail use. Existing boulders and log fencing along SR 28 at this location shall be retained and replaced following construction. Vegetative screening established near the trailhead parking access road and parking area, as stated in Section 2.6.2.9, minimizes views of the trail and parking access road from SR 28. The placement of visual screening elements, such as vegetation, boulders and log fencing, between the parking access road, SR 28, and the trail provides visual screening as well as visual interest through roadway distractions and variety.

The Project removes trees at the SR 28 crossing. As discussed in Question 41, a detailed tree survey and tree health evaluations have not been completed for the project area. As construction plans develop, the additional data will refine the tree removal proposal; however, of the 41 trees identified for removal for the trailhead parking area and access roadway there are nine (9) trees of 30-inch dbh and greater that will be avoided by slight realignment of the final trail design. The trail and parking access road construction require removal of some of the smaller trees that cannot be avoided, and the removal of these trees potentially increases views of the trail and parking access road. The trailhead parking area is located in an existing forest clearing, minimizing tree removal. .

The Project implements TRPA planning recommendations (e.g., Scenic Quality Improvement Program), such as minimized signage and larger setbacks to screen and visually soften the urban appearance, for improving scenic quality. While the visual changes are confined to the area near the Dollar Drive/SR 28 intersection and are not sufficient to reduce the overall roadway unit rating, particularly to a non-attainment level, tree preservation measures should be implemented in addition to the revegetation plan (See section 2.6.3.1) to reduce tree loss and other vegetation removal.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

SR-1. Tree Protection and Avoidance Measures

Tree Survey and Evaluation: Prior to completion of final construction drawings, the County shall complete a detailed tree survey identifying the precise number, size and species of trees to be removed for construction of facility features. Evaluation of nearby trees will determine if they pose a hazard to high traffic areas, or risk to structures, are disease ridden, contribute to the expansion of disease or result in increased fire danger. Final project plans shall demonstrate compliance with TRPA revised Code Chapter 61 for tree removal provisions.

Avoidance: If required by TRPA at the time final project plans are prepared for permit acknowledgment, trees identified within the existing trail alignment 30-inches diameter at breast height (dbh) or larger shall be retained and avoided. If necessary, the trail alignment shall be modified or re-routed in order to prevent any damage to trees larger than 30-inches dbh. The Project design avoids tree removal when reasonable alternative routing opportunities exist. Where site conditions allow, the trail winds through the trees, retaining the character of a forest trail. On these sites, the trail alignment passes within the drip-line of mature trees, reducing threats to long-term tree survival by encroaching on one side only and setting trail surface grades to reduce excavation or fill.

Tree Protection Measures: Final construction drawings shall identify trees requiring protection during construction. Trees are to be fenced at the drip-line in accordance with TRPA revised Code Subsection 33.6.10. If the Project must be located within the drip-line of a tree, two by four (2x4) lumber secured with banding around the trunk of the tree shall protect the tree bole from construction equipment damage. Alternative protections shall be identified for areas of dense tree stands. No material storage or equipment parking shall occur within the drip-lines of retained trees. Maintenance of tree protection measures shall occur throughout the construction period the originally installed condition. A qualified professional (i.e. certified Arborist or equivalent) shall perform the cutting or pruning of tree roots. To minimize root damage, actions of root pruning shall be hand dug. Hand pruning of roots shall utilize clean and sharp tools and saws. Roots shall be cleanly cut to prevent disease introduction. Exposed roots shall be covered to prevent drying. The Tree Protection Plan shall include monitoring of the trees slated for retention for a period of

three years. Mortality of any of the retained trees shall require the replacement of trees lost utilizing the same species and relative location.

SR-2. Visual Screening

Boulders or log fencing, as discussed in Section 2.6.2.9 shall be utilized in the vicinity of the SR 28 crossing and trailhead access roadway intersection. Existing boulders along SR 28 that inhibit construction shall be retained and replaced onsite between the trail and SR 28 following construction to provide both a physical and visual barrier. In addition, vegetative screening in the form of replacement trees and native shrubs shall be located in the vicinity of the trail and optional trailhead parking access road at SR 28. Vegetation shall be located along both the trail and parking access road, particularly in the area between the two routes, north of the existing bus shelter and shall separate the trail and parking access road from SR 28. Installation of vegetative screening shall occur following trail construction, as part of the Restoration and Revegetation Plans (RRPs) outlined in Appendix E.

6. Would the Project be visible from any public recreation area or TRPA designated bicycle trail? (TRPA 18b)

Yes. Standard of Significance: A reduction in scenic vista area viewed from foreground or middleground from a public recreation area or degradation in visual quality or elimination of a TRPA designated scenic resource constitutes a significant impact to scenic resources.

Project planning and technical studies identify Project visibility from the TCPUD multi-use trail and no visibility from public recreation areas.

The Lake Tahoe Scenic Resource Evaluation (TRPA 2006) and the 1993 Lake Tahoe Basin Scenic Resource Evaluation state that the existing multi-use trail between Tahoe City and Dollar Drive has a low scenic quality rating and medium density residential (e.g., townhouses, apartments and condominiums) and commercial development block views and detract from the natural character of the landscape. The rating status of this trail has not changed since 1993. From Lake Forest Road to Dollar Drive where the bike trail currently ends, commercial and residential development block both foreground and middleground views of the mountains to the west and north, and the lake to the east. The Project is located at the northernmost end of this bike trail. Installing a shared-use trail extension across the road from the existing TCPUD multi-use trail creates little visible change with the exception of the Project's intersection with SR 28. The intersection includes a crossing detail designed to ensure the safety of trail users. The crossing design proposes use of a marked crosswalk, "Yield here to pedestrians" advanced warning signs, and push-button activated Rectangular Rapid Flashing Beacons to warn automobiles of crossing bicyclists and pedestrians. The crossing signals and lights are consistent with the adjacent roadway features and nearby traffic lights and will not adversely impact scenic quality ratings or the quality of scenic vistas in the vicinity.

Although the Project is visible from the existing TCPUD multi-use trail because it connects to and extends the existing trail to the north, it provides a visual continuation of the trail and leads trail users into other parts of the community. As an extension of the existing multi-use trail system, the Project does not visually detract from the existing TCPUD trail.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

7. Would the Project block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area? (TRPA 18c)

No. Standard of Significance: Creating visually dominant features that are out of scale with the surrounding landscape constituents a significant impact to Lake Tahoe or other scenic vistas. Points of significance include: 1) creation of strong visual contrast; 2) reduction in scenic vista area viewed from foreground or middleground; and/or 3) non-compliance with scenic resource goals, policies or standards of federal, state of local agencies.

The project area contains no views of Lake Tahoe and thus the Project affects no views of Lake Tahoe. As discussed above for Question 1 (CEQA Checklist item Ia), the project area contains no scenic vistas visible from public roadways or recreational areas. As documented in Question 1 above, the Project does not create a new visibly dominant man-made feature that is out of scale with the surroundings landscape.

Environmental Analysis: *No Impact*.

Required Mitigation: **None**.

8. Would the Project be inconsistent with the height and design standards required by the applicable ordinance or Community Plan? (TRPA 18d)

No. Standard of Significance: The TRPA Regional Plan and Code of Ordinances provide standards that are applicable to the Project. Revised Code Chapter 37 sets forth standards for building height and are not applicable to the Project. Revised Code Chapters 36 (Design Standards) and 66 (Scenic Quality) set forth standards to ensure projects are designed and constructed consistent with Community Design Subelement of the Regional Plan Land Use Element. An inconsistency with these standards would result in a significant impact.

Project proposals are analyzed in accordance to the appropriate regulations, standards, and guidelines of each jurisdiction. Analysis omits discussions of regulations, standards, or guidelines not applicable to the Project._Applicable revised Code standards include:

- Section 36.5 requires integration into the surrounding environment – The Project complies and the alignment follows contours and avoids tree removal wherever possible. The Project incorporates retaining walls or other armoring to limit necessary disturbance and tree removal in hillside areas.
- Section 36.5 requires use of previously disturbed areas – The Project complies either through the use of disturbed areas and/or by following existing unpaved trails whenever possible
- Section 36.12 requires soil and vegetation protection and restoration – Some vegetation removal occurs, including riparian vegetation removal. The bridge span across Dollar Creek reduces impacts to riparian areas and Stream Environmental Zones (SEZs) and allows for reestablishment and restoration of vegetation and continuation of hydrologic functions. The Project restores areas disturbed during construction and some existing trails. The Project retrofits some existing trails and neighborhood connectors with BMPs.
- Section 66.1 requires maintenance of or improvement to scenic quality ratings, scenic roadway unit ratings, and recreation area threshold ratings – As discussed above for Question 5, scenic quality ratings, scenic roadway unit ratings and recreational threshold ratings will be retained.
- Subsection 66.2.4.A.1 requires the undergrounding of new utility lines – Project features do not include new utility lines or the undergrounding of existing utility lines. However, the Project relocates a utility pole and consultation with utility companies will determine if conduit can be placed beneath the trail for these lines.

- In terms of visibility from scenic roadways revised Code Subsection 66.2.4.C states that shared-use trails are excluded from the requirement that they be sited so as to not be visually evident. Specifically, this standard states, "All projects, excluding signs, …and pedestrian/bicycle paths, shall be sited in such a manner that they are not visually evident from the scenic highway."

The Project creates no negative affects to scenic roadways. The Project and trail features comply with TRPA goals, policies, standards, and guidelines for design and the visual quality along scenic corridors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

9. Would the Project be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines? (TRPA 18e)

No, with Mitigation. Standard of Significance: The SQIP requires that scenic roadway unit ratings be maintained. Six criteria define the ratings: 1) manmade features, 2) roadway physical distractions; 3) road structure; 4) views of Lake Tahoe; 5) landscape views and 6) variety. Impacts to these criteria may decrease scenic quality rating. The TRPA SQIP presents the prescriptions for scenic restoration required to attain and maintain the scenic quality thresholds. The program includes design review guidelines and development standards for different visual environments, assigns implementation responsibilities, and identifies potential funding sources.

The SQIP addresses the segment of SR 28 where the Project intersects with the existing TCPUD multi-use trail and crosses SR 28, identifying it as Roadway Unit 16 (Lake Forest) with a 16.5 Threshold Composite rating since 2001. The unit is in attainment. The SQIP promotes restoration of disturbed areas and requires that visual quality ratings be maintained and that non-attainment areas improve. Therefore, development that degrades this rating constitutes a significant impact.

The evaluation presented above for Question 5 concludes that while the Project produces some visibility of man-made features for a short portion of the scenic unit (approximately 260 feet), the effect is at a single intersection at an existing bus shelter area and not sufficient to reduce the overall unit rating (e.g., degradation of any of the rating criteria). However, a tree preservation mitigation measure is proposed to fully comply with SQIP recommendations for improving the scenic quality of Unit 16.

TRPA planning recommendations (Appendix B of the TRPA SQIP) for improving the scenic quality in the project area include improved landscaping near structures, specifically the commercial development at Dollar Drive, reforestation of large barren areas to the southwest of the commercial development, and addition of screening to the residential development on the opposite side of the road to reduce visibility of the units from the roadway. Wherever possible, overhead utility lines should be placed underground. These recommendations do not address the project area specifically. The Project implements these provisions at the intersection crossing with SR 28, in the parking area, and on revegetation areas that improve habitat functionality. Implementation of mitigation measures SR-1 and SR-2 ensure full compliance with the SQIP.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 5 for descriptions):

SR-1. Tree Protection and Avoidance Measures

SR-2. Visual Screening

10. Would the Project include new or modified sources of exterior lighting? (TRPA 7a)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact*.

Required Mitigation: **None**.

11. Would the Project create new illumination, which is more substantial than other lighting, if any, within the surrounding area? (TRPA 7b)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact*.

Required Mitigation: **None**.

12. Would the Project cause light from exterior sources to be cast off-site or onto public lands? (TRPA 7c)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact.*

Required Mitigation: **None**.

13. Would the Project create new sources of glare through the siting of the improvements or through the use of reflective materials? (TRPA 7d)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact.*

Required Mitigation: **None.**

3.2.2 Agriculture and Forestry Resources

This section presents the analyses for potential impacts to agriculture and forestry resources. Some TRPA checklist items concern impacts to vegetation, which are addressed in Section 3.2.4, Biological Resources. Table 6 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 6

Agriculture and Forestry Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
14. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the CA Resources Agency, to a non-agricultural use? (CEQA IIa)				X
15. Conflict with existing zoning for agricultural use, or a Williamson Act contract? (CEQA IIb)				X
16. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g), timberland (as defined by Public Resource Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (CEQA IIc)			X	
17. Result in the loss of forest land or conversion of forest land to non-forest use? (CEQA IId)		X		
18. 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 conversion of forest land to non-forest use? (CEQA IIe)			X	

3.2.2.1 Environmental Setting

The project area contains no lands identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, zoned for agricultural use, or a Williamson Act contract.

The project area contains forestland, or timberlands, as defined by Public Resource Code (PRC) Section 4526.

The project area contains no timberland or timberland zoned Timberland Production, as defined by Government Code Section 51104(g).

3.2.2.2 Environmental Analysis and Mitigation Measures

14. Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to a non-agricultural use? (CEQA IIa)

Standard of Significance: Conversion of Prime Farmland, Unique Farmland or Farmland of Statewide importance (i.e., Farmland) to a non-agricultural use constitutes a significant impact.

The Project is not located in an area identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, and therefore poses no impact to such lands.

Environmental Analysis: *No Impact.*

Required Mitigation: **None**.

15. Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract? (CEQA IIb)

Standard of Significance: A conflict with areas zones for agricultural use under a Williamson Act contract constitutes a significant impact.

The Project creates no conflicts with zoning for agricultural use or a Williamson Act contract because no contracts exist within the project area.

Environmental Analysis: *No Impact.*

Required Mitigation: **None**.

16. Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g), timberland (as defined by Public Resource Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (CEQA IIc)

Standard of Significance: A conflict with existing zoning for forest land or timberland creates a significant impact. PRC Section 12220, Article 3 (g) defines "Forest land" as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows

for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. PRC Section 4526 defines "Timberland" as land, other than land owned by the federal government and land designated by the board as experimental forestland, which is available for, and capable of, growing a crop of tree of any commercial species used to produce lumber and other forest products, including Christmas trees.

The Project conflicts with no zoning of and causes no rezoning of forest land, timberland or timberland zoned Timberland Production because the portion of the Project requiring tree removal is a small subset of the total project area and tree removal is not concentrated, but instead spread out along the 2.2 mile Project area and trail corridor.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

17. Would the Project result in the loss of forest land or conversion of forest land to non-forest use? (CEQA IId)

Standard of Significance: The loss of substantial forest land, defined above for Question 16, or conversion of forest land to non-forest use creates a significant if appropriate permits are not obtained.

The Project transects forested lands and provides access, but results in no loss of areas designated as forest land or conversion of forest land to non-forest use by nature of passing through such areas. Question 41 provides analysis of tree removal within the project area. However, because the Project affects more than three (3) acres, as described below in mitigation measure AGR-1, compliance with Calfire exemption requirements will be necessary to reduce potential impacts to forest land to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation*

Required Mitigation:

AGR-1. Public Agency Right-Of-Way Exemption with Calfire

The Project Applicant shall file a Public Agency Right-of-Way exemption with Calfire to comply with requirements for conversion of Timberland for installation of public service projects. Tree removal shall occur along the trail corridor and be completed within one year of filing by a Registered Professional Forester and a Licensed Timber Operator.

18. Would the Project 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 conversion of forest land to non-forest use? (CEQA IIe)

Standard of Significance: See analyses for Questions 15, 16 and 17, which address CEQA checklist items IIb, IIc, and IId, respectively, and conclude no impacts to farmland and less than significant impacts to forest land after mitigation.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

3.2.3 Air Quality

This section presents the analyses for potential impacts to air quality. Table 7 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 7

Air Quality

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
19. Conflict with or obstruct implementation of the applicable air quality plan? (CEQA IIIa)			X	
20. Violate any air quality standards or contribute substantially to an existing or projected air quality violation? (CEQA IIIb)		X		
21. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors? (CEQA IIIc)			X	
22. Expose sensitive receptors to substantial pollutant concentrations? (CEQA IIId)			X	
23. Create objectionable odors affecting a substantial number of people? (CEQA IIIe)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
24. Substantial air pollutant emissions? (TRPA 2a)				X
25. Deterioration of ambient (existing) air quality? (TRPA 2b)		X		

26. Creation of objectionable odors? (TRPA 2c)				**X**
27. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)				**X**
28. Increased use of diesel fuel? (TRPA 2e)		**X**		

3.2.3.1 Environmental Setting

Federal, State, and regional standards apply to protect air quality within this project area, which is contained within the Lake Tahoe Air Basin. The air quality management agencies in the Lake Tahoe portion of Placer County include the US Environmental Protection Agency (USEPA), California Air Resources Board (CARB), Placer County Air Pollution Control District (PCAPCD) and TRPA. The USEPA establishes National Ambient Air Quality Standards (NAAQS) for which the CARB and PCAPCD have primary implementation responsibility.

Placer County. Under authority granted by the CARB, the PCAPCD manages air quality within Placer County, ensuring that California Ambient Air Quality Standards (CAAQS) are met. The PCAPCD is a special district created by state law to enforce air pollution regulations developed at the federal, state and local level and is one of 35 local air districts established pursuant to Section 40002 of the California Health and Safety Code (HSC). Placer County's Environmental Review Ordinance (County Ordinance Chapter 18) provides guidance regarding assessment of air quality impacts under CEQA.

District Rule 228, Fugitive Dust, establishes standards that must be met by activities generating fugitive dust. Rule 228 applies to the entire County and addresses fugitive dust generated by construction and grading activities and by other land use practices including recreational uses. Examples of dust sources that are subject to Rule 228 are excavating and trenching, drilling, boring, earthmoving and grading operations, pavement cutting operations, brush clearing, travel on unpaved roads within construction sites and wind-blown dust from unprotected grading areas and stockpiles. Rule 228 prohibits visible dust crossing project area boundaries, generation of high levels of visible dust (i.e., dust sufficient to obscure vision by 40%) and places controls on the track-out of dirt and mud on public roads. The rule also established minimum dust mitigation and control requirements that must be uses for all construction and grading activities.

TRPA. TRPA implements its own set of air quality standards and ordinances, including eight air quality standards and indicators adopted to protect air quality in the Lake Tahoe Air Basin. The TRPA/Tahoe Metropolitan Planning Organization (TMPO) RTP adopted in 2008 and called Mobility 2030, establishes policies, project implementation plans, and funding strategies to shape the Tahoe Region's transportation network so that environmental goals and thresholds are met. The RTP includes an analysis of its conformity with the California State Implementation Plan (SIP) to ensure that the RTP remains consistent with state and local air quality planning efforts to achieve and/or maintain the National Ambient Air Quality Standards (NAAQS).

TRPA Code provisions establish regulatory controls to implement Regional Plan policies. Code provisions relevant to the Project include TRPA revised Code Chapter 65 which establishes air quality control requirements to aid in the implementation of TRPA air quality goals and policies for the purpose of attaining and maintaining applicable federal and state air quality standards and TRPA thresholds.

U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB). The federal Clean Air Act (CAA), enacted in 1963 and amended several times thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. In response to the CAA, federal and state governments have established ambient air quality standards for seven criteria pollutants, all of which occur in the LTAB: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than or equal to 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). Air quality regulations focus on the following air pollutants because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as "criteria air pollutants." Monitoring stations are located at the South Lake Tahoe Airport (1901 Airport Rd South Lake Tahoe CA 96150), South Lake Tahoe –Sandy Way (3337 Sandy Way, South Lake Tahoe CA 96150), and Truckee (10046 Donner Pass Road, Truckee CA 96161 – located north of the project area in the Mountain Counties Air Basin).

Monitoring results report occasional violations of the 8-hour ozone and $PM_{2.5}$ ambient air quality standards during a three-year period from 2006-2008, the most recent and available data representation of existing air quality conditions within the Lake Tahoe Air Basin.

National and California ambient air quality standards (NAAQS and CAAQS, respectively) are shown in Table 8. Given the unique climatic conditions within the Lake Tahoe Air Basin, the TRPA has established a standard for 8-hour CO, which is more stringent than both state and national regulations.

Ozone and NO_2 (an ozone precursor) are considered regional pollutants because they affect air quality on a regional scale; oxides of nitrogen (NO_X), including NO_2, react photochemically with reactive organic gases (ROG) to form ozone some distance downwind of the source of pollutants. Pollutants such as CO, PM_{10}, and $PM_{2.5}$ are local pollutants because they tend to disperse rapidly with distance from the source. PM_{10}, and $PM_{2.5}$ are regional pollutants that travel and impact downwind areas.

Table 8

Ambient Air Quality Standards Applicable in California

Pollutant	Symbol	Average Time[a]	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Ozone[b]	O_3	1 hour	0.09	NA	180	NA	If exceeded	NA
		8 hours	0.070	0.075	137	147	If exceeded	If fourth highest 8-hour concentration in a year, averaged over 3 years, is greater than the standard
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year

Pollutant	Symbol	Average Time[a]	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
(Lake Tahoe only)		8 hours	6	NA	7,000	NA	If equaled or exceeded	NA
Nitrogen dioxide	NO_2	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.18	0.100	339	188	If exceeded	NA
Sulfur dioxide	SO_2	3 hour	NA	0.5	NA	1,3000	NA	If exceeded
		24 hours	0.04	NA	105	NA	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	0.075	655	196	If exceeded	NA
Hydrogen sulfide	H_2S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C_2H_3Cl	24 hours	0.01	NA	26	NA	If equaled or exceeded	NA
Inhalable particulate matter	PM10	Annual arithmetic mean	NA	NA	20	NA	If exceeded	NA
		24 hours	NA	NA	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual arithmetic mean	NA	NA	12	15.0	If exceeded	If 3-year average of the weighted annual mean from single or multiple community-oriented monitors exceeds the standard
		24 hours	NA	NA	NA	35	NA	If less than 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard
Sulfate particles	SO_4	24 hours	NA	NA	25	NA	If equaled or exceeded	NA
Lead particles	Pb	Calendar quarter	NA	NA	NA	1.5	NA	If exceeded no more than 1 day per year
		30-day average	NA	NA	1.5	NA	If equaled or exceeded	NA
		Rolling 3-Month average	NA	NA	NA	0.15	NA	Averaged over a rolling 3-month period

Source: CARB 2008

Notes: National standards shown are the primary (Public Health) standards. Equivalent units are based upon a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr; parts per million in this table refers to parts per million by volumes or micromoles of pollutant per mole of gas.

NA = not applicable.

[a] Time period over which air pollutant concentrations are averaged for the purpose of determining attainment with the NAAQS and CAAQS.

[b] The EPA replaced the 1-hour O_3 standards with an 8-hour standard of 0.08 ppm. EPA issued a final rule that revoked the 1-hour standard on June 15, 2005. However, the California 1-hour O_3 standard remains in effect.

3.2.3.2 Environmental Analysis and Mitigation Measures

19. Would the Project conflict with or obstruct implementation of the applicable air quality plan? (CEQA IIIa)

Standard of Significance: A significant impact occurs if the Project conflicts with standards identified by the PCAPCD or in the RTP (TRPA/TMPO 2008).

The RTP includes an analysis of its conformity with the California SIP to ensure that the RTP remains consistent with State and local air quality planning efforts to achieve and/or maintain the NAAQS. The SIP demonstrates how the Lake Tahoe Air Basin will continue to maintain compliance with the federal 8-hour CO standard. A project is typically deemed inconsistent with air quality plans if it results in population and/or employment growth that exceed growth estimates included in the applicable planning documents and therefore generates emissions not accounted for in the emissions budget. The Project does not result in additional population or employment growth.

The Project does not conflict with or obstruct implementation of applicable air quality plans and therefore has a less than significant impact.

Construction Emissions. Analysis presented for Question 20 below demonstrates that Project construction will not exceed emission thresholds through conformance to District Rule 228.

Operational Emissions. Analysis presented for Question 142 demonstrates that the Project operation will not significantly increase overall VMT and therefore maintains long-term operational emissions and avoids impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

20. Would the Project violate any air quality standards or contribute substantially to an existing or projected air quality violation? (CEQA IIIb)

Standard of Significance: A significant long-term (e.g. operational) impact results if the Project causes violations of air quality standards listed in Table 8 or contributes substantially to an existing or projected air quality violation. As identified by CARB, the District and TRPA, a significant short-term (e.g., construction related) air quality impact results if construction-generated emissions of ROG (reactive organic gases), NO_X (oxides of nitrogen), PM_{10} (particulate matter less than 10 microns in size), or SO_2 exceed mass emissions of 82 lb/day, or construction-generated emissions of CO (carbon monoxide) exceed mass emissions of 550 lb/day.

Short-term. Short-term, temporary effects to air quality occur during construction activities. Construction of the Project involves use of equipment and paving materials that emit ozone precursor emissions (ROG and NOx), as well as the emission of other criteria pollutants from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for these activities vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NOx from these emission sources incrementally add to the regional atmospheric loading of ozone precursors during Project construction. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod; accessed at www.caleemod.com/). Table 9 presents the modeling results and significance conclusions and Appendix G outlines model assumptions and information. Daily construction emissions were calculated and compared to the threshold criteria for a 2.2-mile shared-use trail for determination of any increase above District air quality standards emissions greater than 82 pounds per day of ROG, NO_x, SO_2 and PM_{10} and emissions greater than 550 pounds per day of CO. The Project produces no daily emissions that will exceed construction emission limits.

Table 9

Peak Day Construction-Related Emissions (lbs/day)[1]

	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2
Construction Emissions (Unmitigated)	12	80	53	12	9	<1
PCAPCD Threshold	82	82	550	82	N/A	N/A
Exceed Threshold?	**No**	**No**	**No**	**No**	**N/A**	**N/A**

Source: ESA 2012

1 Emissions were modeled using CalEEMod and assume default equipment and worker assumptions for the grading (2.2 miles long by 30 feet wide) and paving (2.2 miles long by 14 feet wide) of the Project area. Duration of construction is assumed to be over approximately 132 work days through the summer, based on the assumption that 100 linear feet of trail would be completed per day.

Although the Project will not generate emissions during construction that exceeds the PCAPCD thresholds, due to the non-attainment status of the air basin with respect to ozone and PM10, the PCAPCD recommends that projects implement a set of construction mitigation measures as best management practices regardless of the significance determination. Construction along the trail alignment is subject to District Rule 228 - Fugitive Dust construction requirements. To avoid or minimize potential air quality impacts during construction, conformance to District Rule 228 will be required through implementation of mitigation measure AQ-1. Within the project area, few limitations to typical dust control plan elements exist.

Long-term. The Project constructs an alternative transportation route that is not accessible to motorized vehicles or other modes of transportation that emit emissions outlined in Table 8 and thus results in no long-term or operational impacts to air quality, as supported by VMT and daily trip calculations demonstrated in Question 142. The exception would be a North Tahoe Fire Protection District (NTFPD) emergency response vehicle should it be necessary to access an accident.

The Project results in a net increase of 117 vehicle-miles travelled (VMT) per day (Appendix D) resulting from the portion of trail users expected to drive to trail access areas. Operational emissions were estimated using CalEEMod. Table 10 presents the modeling results and significance conclusions and

Appendix G outlines model assumptions and information. Long-term operational emissions of the Project are less than significant.

Table 10

Peak Day Operation-Related Emissions (lbs/day)[1]

	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2
Construction Emissions (Unmitigated)	<1	<1	2	<1	<1	0
PCAPCD Threshold	82	82	550	82	N/A	82
Exceed Threshold?	**No**	**No**	**No**	**No**	**N/A**	**No**

Source: ESA 2012

1 Emissions were modeled using CalEEMod and assume default equipment and worker assumptions for the grading (2.2 miles long by 30 feet wide) and paving (2.2 miles long by 14 feet wide) of the Project area. Duration of construction is assumed to be over approximately 132 workdays through the summer, based on the assumption that 100 linear feet of trail is constructed each day.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

The Project Applicant shall implement standard dust mitigation and controls required by Placer County Air Pollution Control District Rule 228 - Fugitive Dust. Rule 228 applies to the entire County and addresses fugitive dust generated by construction and grading activities and by other land use practices including recreational uses. Examples of dust sources that are subject to Rule 228 are excavating and trenching, drilling, boring, earthmoving and grading operations, pavement cutting operations, brush clearing, travel on unpaved roads within construction sites and wind-blown dust from unprotected grading areas and stockpiles. Rule 228 prohibits visible dust crossing project area boundaries, generation of high levels of visible dust (i.e., dust sufficient to obscure vision by 40%) and places controls on the track-out of dirt and mud on public roads. The rule also established minimum dust mitigation and control requirements that must be uses for all construction and grading activities.

When an area to be disturbed is greater than one acre, and if required by a Condition of Approval of a discretionary permit, a dust control plan (DCP) shall be submitted to and approved by the District prior to construction that identifies fugitive dust control strategies and construction BMPs to avoid track-out, protect existing vegetation and properly maintain stockpiles. The dust control plan instructions shall contain a DCP Application form. Completion of this application and subsequent approval by the District shall satisfy requirements to have a dust control plan. Failure to implement the plan is subject to enforcement through the Conditions of Approval, and by the District through Rule 228.

Within the project area, few limitations to typical DCP elements exist. Site watering shall occur to avoid spray beyond the project area in those locations with narrow right-of-way (e.g. where residences or other structures lie close to the project area). Additionally, equipment washing shall

occur on high capability land with the discharge contained to avoid runoff. AQ-1 shall also meet the requirements stated in mitigation measure GEO-5.

AQ-2. PCAPCD Recommended Construction Measures

The County shall require the construction contractor(s) to implement the following construction control measures:

- Site watering shall occur to avoid spray beyond the project area in those locations with narrow right-of-way (e.g. where residences or other structures lie close to the project area). Additionally, equipment washing shall occur on high capability land with the discharge contained to avoid runoff.
- Construction equipment exhaust emissions shall not exceed PCAPCD Rule 202 Visible Emission limitations. Operators of vehicles and equipment found to exceed opacity limits shall cease operations immediately.
- The prime contractor shall be responsible for keeping adjacent public thoroughfares clean of silt, dirt, mud, and debris, and shall "wet broom" the streets (or use another method to control dust as approved by the individual jurisdiction) if silt, dirt, mud or debris is carried over to adjacent public thoroughfares.
- During construction, traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less.
- In order to minimize wind driven dust during construction, the prime contractor shall apply methods such as surface stabilization, establishment of a vegetative cover, paving, (or use another method to control dust as approved by the lead agency).
- The prime contractor shall suspend all grading operations when wind speeds (including instantaneous gusts) are excessive and dust is impacting adjacent properties.
- Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.
- During construction, no open burning of removed vegetation shall be allowed unless permitted with PCAPCD. All removed vegetative material shall be either chipped on site or taken to an appropriate recycling site, or if a site is not available, a licensed disposal site.
- Processes that discharge two (2) pounds per day or more of air contaminants, as defined by Health and Safety Code Section 39013, to the atmosphere may require a permit. Developers/contractors shall contact the PCAPCD prior to construction or use of equipment and obtain any necessary permits.
- Prior to approval of Grading or Improvement Plans, (whichever occurs first), on project sites greater than one acre, the applicant shall submit a Construction Emission / Dust Control Plan to the PCAPCD. If the PCAPCD does not respond within twenty (20) days of the plan being accepted as complete, the plan shall be considered approved. The applicant shall provide written evidence, provided by the PCAPCD, to the local jurisdiction (city or county) that the plan has been submitted to the PCAPCD. It is the responsibility of the applicant to deliver the approved plan to the local jurisdiction. The applicant shall not break ground prior to receiving PCAPCD approval, of the Construction Emission / Dust Control Plan, and delivering that approval to the local jurisdiction issuing the permit.

- Include the following standard note on the Grading Plan or Improvement Plans: The prime contractor shall submit to the PCAPCD a comprehensive inventory (e.g., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that will be used in aggregate of 40 or more hours for the construction project. If any new equipment is added after submission of the inventory, the prime contractor shall contact the PCAPCD prior to the new equipment being utilized. At least three business days prior to the use of subject heavy-duty off-road equipment, the Project representative shall provide the PCAPCD with the anticipated construction timeline including start date, name, and phone number of the property owner, project manager, and on-site foreman.
- Prior to approval of Grading or Improvement Plans, whichever occurs first, the applicant shall provide a written calculation to the PCAPCD for approval 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 of 20% of NOx and 45% of DPM reduction 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.
- Include the following standard note on the Improvement/Grading Plan: During construction the contractor shall utilize existing power sources (e.g., power poles) or clean fuel (e.g., gasoline, biodiesel, natural gas) generators rather than temporary diesel power generators.
- Include the following standard note on the Improvement/Grading Plan: During construction, the contractor shall minimize idling time to a maximum of 5 minutes for diesel-powered equipment.

21. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (CEQA IIIc)

Standard of Significance: The Region is in non-attainment for Ozone and PM_{10}, as presented in Table 11. A significant cumulative impact results if the Project causes an increase in PM_{10} and Ozone.

Table 11

Federal and State Attainment Status for the Lake Tahoe Air Basin

Pollutant	State Status	Federal Status
8-Hour Ozone	Nonattainment	Attainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Attainment	Attainment
CO	Attainment	Attainment/Moderate Maintenance for the North Lake Tahoe Shore

Source: EPA 2011; ARB 2010b.

In the Lake Tahoe Region, these pollutants relate to automobile use and potential impacts measured with VMT calculations. According to the PCAPCD, no single project is sufficient in size to, by itself, result in

nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The LTAB is in non-attainment with respect to ozone and PM10. As discussed for Question 20, criteria pollutant emissions associated with construction and operation of the Project result in less than significant impacts based on the individual Project thresholds. In addition, the PCAPCD has adopted an operational cumulative threshold of 10 lbs/day of ROG or NOx (applies during summer months only). Long-term operational emissions of the Project are less than significant. Therefore, the Project does not contribute to cumulatively considerable increase in criteria pollutants and the impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

22. Would the Project expose sensitive receptors to substantial pollutant concentrations? (CEQA IIId)

Standard of Significance: A sensitive receptor defines a location where human populations, especially children, seniors, and sick persons are found with a reasonable expectation of continuous human exposure according to the averaging period for ambient air quality standards. Typical sensitive receptors include residences, hospitals, and schools. A significant impact results from increases in CO that cause exceedance of NAASQS and CAAQS and diesel exhaust emissions (DPM) (note that there is no quatitative threshold for DPM).

Short-term. Construction of the Project results in short-term emissions of air pollutants from temporary ground disturbance associated with site excavation, construction equipment exhaust operating at the construction site(s), construction worker vehicles and supply trucks, and from traffic impacts resulting from construction worker vehicle and construction equipment movements along streets. These emissions are temporary and localized and cease once construction activities have been completed in the specific project area location. Construction creates short-term DPM, which are toxic air contaminants (TACs), from on-site heavy-duty equipment. Project construction generates DPM emissions from the use of off-road diesel equipment required for construction activities.

Exposure of sensitive receptors is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. A longer exposure period results in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project. Thus, the duration of the proposed construction activities (approximately 6 months) constitutes a small percentage of the total 70-year exposure period. DPM from construction activities are not anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards and it is not anticipated that the construction of the Project results in significant short-term impacts to sensitive receptors.

Long-term. The North Tahoe High School is approximately one-mile west of the project area and more than one-mile from the proposed crossing at Dollar Drive and SR 28. The Project, as a non-motorized transportation feature, introduces no new emission sources associated with use of the shared-use trail and thus creates no impact to this sensitive receptor.

Implementation of the Project results in little to no vehicle delay or queuing. The nearest sensitive receptors to this location are residences located in the Dollar Drive subdivision, immediately west and east of the trail crossing. At this low volume of queuing associated with the Project, there is no measureable change to existing 24-hour air quality emissions. In addition, the long-term operation of the Project results in no sources of toxic air emissions. As a result, the Project will not expose sensitive receptors to substantial TAC emissions and the impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

23. Would the Project create objectionable odors affecting a substantial number of people? (CEQA IIIe)

Standard of Significance: A significant impact results if Project construction or operation creates objectionable odors affecting a substantial number of people.

The occurrence and severity of odor effects depend on the nature, frequency, and intensity of the odor source, wind speed and direction, and the presence of sensitive receptors. Offensive odors rarely cause physical harm, but odors can be unpleasant and generate citizen complaints to regulatory agencies and local governments. Typical sensitive receptors include residences, hospitals, and schools. There are residences along a portion of the Project alignment and commercial located at the proposed intersection at SR 28 and Dollar Drive.

As a general matter, the types of land use development that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities and transfer stations. No such uses occupy the project area. Over the long-term, CEQA checklist item III-e is not applicable to the Project because there are no sources of objectionable odors associated with Project operations.

In the short-term, odor impacts occur from the use of diesel engines and asphalt concrete paving during construction. As stated in the discussion of short-term impacts to sensitive receptors under Question 22 above, these odors are both temporary and localized, affecting only the area immediately adjacent to the active construction area. Construction activities along the 2.2-mile project area generate odors during initial grading and site preparation and during paving at the completion of construction. Diesel exhaust emissions and asphalt concrete paving odors dissipate rapidly away from the source and cease upon completion of construction activities. Thus, the Project does not result in substantial direct or indirect exposure of sensitive receptors to offensive odors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

24. Would the Project result in substantial air pollutant emissions? (TRPA 2a)

No. See analysis for Question 22, which addresses CEQA checklist item IIId and concludes a less than significant impact on air pollutant emissions.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

25. Would the Project result in deterioration of ambient (existing) air quality? (TRPA 2b)

No, with mitigation. See analysis for Question 20, which addresses CEQA checklist Item IIIb and concludes a less than significant impact to ambient air quality after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (see Question 20 for description):

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

AQ-2. PCAPCD Recommended Construction Measures

26. Would the Project result in creation of objectionable odors? (TRPA 2c)

No. See analysis for Question 23, which addresses CEQA checklist item IIIe for the creation of objectionable odors and concludes a less than significant odor impact to short-term and long-term effects to sensitive receptors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

27. Would the Project result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)

No. Standard of Significance: A significant impact occurs if the Project CO_2 or methane emissions exceed 500 tons/year and/or the concentration of resultant tree removal changes habitat categorization.

Greenhouse Gas Emissions (GHGs) associated with Project construction and operations were modeled with CalEEMod, as detailed in Appendix G. Construction equipment, haul trucks, and worker vehicles generate GHGs. Model results estimate a maximum annual GHGs of approximately 477 metric tons of CO_2e emitted during the year of construction.

As recommended by the PCAPCD (PCAPCD 2012) for long-term operations, the BAAQMD threshold of 1,100 metric tons per year CO_2e from sources other than permitted stationary sources (BAAQMD 2011) was applied to this Project. As shown in Appendix G, GHG emissions generated by on-road mobile sources associated with trailhead parking equate to approximately 21 metric tons of CO_2 per year. Project operations will not exceed the applied BAAQMD GHG threshold and are less than significant.

The Project includes no activities or facilities that generate heat or moisture.

Question 41 addresses tree removal as an effect to habitat alterations, concluding that tree removal within the project area creates no impact to habitat categorization. The removal of select trees along the shared-use trail does not create reductions in forest canopy sufficient to increase local solar gain, raise temperatures or create microclimate changes.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

28. Would the Project result in increased use of diesel fuel? (TRPA 2e)

No, with mitigation. Standard of Significance: The increased use of diesel fuel that results in objectionable odors results in a significant impact to sensitive receptors within and downwind of the project area.

See the analysis for Question 23, which addresses CEQA checklist item IIIe for the creation of objectionable odors and concludes that the level of impact from the Project is less than significant to short-term and long-term odor impacts to sensitive receptors.

Diesel exhaust is produced when an engine burns diesel fuel. It is a complex mixture of thousands of gases and fine particles (commonly known as soot) that contains more than 40 toxic air contaminants. These include many known or suspected cancer-causing substances, such as benzene, arsenic and formaldehyde. It also contains other harmful pollutants, including nitrogen oxides. Diesel exhaust particles and gases are suspended in the air, so exposure to this pollutant occurs whenever a person breathes air that contains these substances. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

Some Project construction activities use diesel-powered equipment, creating a short-term increase in diesel fuel usage over the active construction period, as discussed for Question 20. This short-term increase does not contribute significantly towards violations of air quality standards or create concentrations of adverse odors since construction equipment must pass vehicle emissions standards and the Project implements PCAPCD recommended construction measures (mitigation measure AQ-2).

TRPA Checklist Item 2c is not applicable to the Project during the operational phase because of the subsequent project-related reduction in fossil fuel use upon implementation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 20 for description):

AQ-2. PCAPCD Recommended Construction Measures

3.2.4 Biological Resources (Stream Environment Zones, Wetlands, Wildlife and Vegetation)

This section presents the analyses for potential impacts to biological resources, including impacts to SEZs, wetlands, wildlife and vegetation. Table 12 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 12

Biological Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
29. Have a substantial adverse effect, either directly or through habitat modifications, on 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? (CEQA IVa)		X		
30. 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? (CEQA IVb)			X	
31. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (CEQA IVc)		X		
32. 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? (CEQA IVd)		X		
33. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? (CEQA IVe)			X	
34. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (CEQA IVf)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
35. Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system? (TRPA 4a)				X
36. Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table? (TRPA 4b)		X		
37. Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species? (TRPA 4c)		X		
38. Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)? (TRPA 4d)				X
39. Reduction of the numbers of any unique, rare or endangered species of plants? (TRPA 4e)		X		
40. Removal of streambank and/or backshore vegetation, including woody vegetation such as willows? (TRPA 4f)	X			
41. Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications? (TRPA 4g)		X		
42. A change in the natural functioning of an old growth ecosystem? (TRPA 4h)				X
43. Change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)? (TRPA 5a)				X
44. Reduction of the number of any unique, rare or endangered species of animals? (TRPA 5b)		X		
45. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? (TRPA 5c)		X		
46. Deterioration of existing fish or wildlife habitat quantity or quality? (TRPA 5d)		X		

3.2.4.1 Environmental Setting

Natural Environment Study. Appendix H contains the Natural Environment Study (NES) for the Biological Study Area (BSA). The BSA aligns with the project area defined in Chapter 2, Project Description. A NES describes the existing biological environment and how project alternatives affect that

environment. The NES summarizes technical documents (e.g., focused species studies, wetland assessments, biological assessments, etc.) related to effects on biological resources in the (BSA for use in environmental documentation. The environmental setting subsections below summarize the findings of the NES.

Physical Conditions. Elevations in the BSA range from approximately 6,500 ft above msl to approximately 6,700 above msl. Adjacent land use is characterized by rural residential development to the south and east, Burton State Park to the west and National Forest Land to the north of the BSA. Within the BSA, natural topography gently slopes from west to east and drains to the east through Dollar Creek.

The Tahoe Basin, situated east of the Sierra Nevada Crest, lies within the eastern portion of the Sierra Nevada Geomorphic Province. The Sierra is a tilted fault block nearly 645 km (400 mi) long. Its east face is a high, rugged multiple scarp, contrasting with the gentle western slope. Cenozoic volcanic rocks predominate in this subsection. There are some Mesozoic granitic rocks, Jurassic marine sedimentary rocks, and Jurassic and older metavolcanic rocks. The Cenozoic volcanic rocks are mostly Pliocene andesite, basalt and pyroclastic rocks and Pleistocene basalt (USDA Forest Service 1997).

Dollar Creek, a natural, perennial waterway, flows in a southeasterly direction from the eastern flank of Mt. Watson. Dollar Creek crosses SR 28 to the east of the BSA and flows into Lake Tahoe. The outflow of water from Lake Tahoe is confined to the Truckee River. The Truckee River originates at the outlet of the dam at Lake Tahoe near Tahoe City and flows eastward to its terminus at the topographically closed Pyramid Lake in Nevada. The Truckee River headwaters, where altitudes exceed 3,049 m (10,000 ft) above msl, flow into Lake Tahoe. Runoff generated in the Lake Tahoe and upper Truckee River subunit supplies most of the water to the Truckee River system. Truckee River flows are heavily dependent on the yearly snowpack of the Sierra Nevada, with high flows generally occurring in the spring or early summer.

Biological Conditions. HBA biologists Garth Alling and botanist Amy Parravano conducted a reconnaissance survey of the BSA in June of 2011. Calculated areas of wildlife habitats and vegetation communities delineated within the BSA are shown in Table 13. Within the BSA natural topography gently slopes from west to east. Overall, the BSA has been relatively undisturbed with the exception of unpaved trails and roadways and installation of the dam on Dollar Creek to create a reservoir that was used for ice harvesting in the early 1900's.

Wildlife habitats were classified using the CDFG's *A Guide to Wildlife Habitats* (Mayer and Laudenslayer 1988), which is integrated with the California Wildlife Habitat Relationships (CWHR) System. Wildlife habitats generally correspond to plant communities. Plant communities are assemblages of plant species that occur together and are repeated across landscapes, and each community type is defined by plant species composition and relative abundance. The wildlife habitat types were converted to natural community types (using *Preliminary Descriptions of the Terrestrial Natural Communities of California* – Holland 1986) in order to facilitate the impact analysis of any rare natural communities that may be present in the BSA. Wildlife habitats in the BSA include Jeffery pine forest, montane chaparral, and montane riparian. The BSA also includes portions of the perennial Dollar Creek, and associated/adjacent riparian wetlands.

Table 13

Habitat Types within the Biological Study Area

CDFG/CWHR Habitat Type	Area (ac)	Percentage of BSA Area
Sierran Mixed Coniferous Forest	252.98	98%
Montane Chaparral	3.76	1.4%
Montane Riparian (Wetland)	0.52	0.3%
Riverine (Dollar Creek)	0.83	0.3%
Total	258.09	100%

Source: HBA 2012

Sierran Mixed Coniferous Forest Vegetation. Sierran mixed montane coniferous forest occurs on shallow, well-drained granitic soils in montane habitats up to approximately 7,000 ft msl. Within the BSA, this community is generally dominated by Jeffrey pine (*Pinus jeffreyi*) and white fir (*Abies concolor*), with occasional sugar pine (*Pinus lambertiana*), ponderosa pine (*Pinus ponderosa*), red fir (*Abies magnifica*), and incense cedar (*Calocedrus decurrens*) in the overstory, and lodgepole pine (*Pinus contorta* ssp. *murrayana*) in the subcanopy. Common understory herbaceous species include mule's ears (*Wyethia mollis*), mountain snowberry (*Symphoricarpos rotunidifolius* var. *rotundifolius*), diffuse gayophytum (*Gayophytum diffusum* var. *parviflorum*), squirreltail (*Elymus elmoides*), and blue wildrye (*Elymus glaucus*). The forest structure tends to be characterized by several age classes and has a well-developed understory. Mammals associated with this habitat include black-tail deer (*Odocoileus hemionus columbianus*), mule deer (*Odocoileus hemionus*), white-tailed jackrabbit (*Lepus townsendii*), black bear (*Ursus americanus*), mountain lion (*Puma concolor*), coyote (*Canis latrans*), bobcat (*Lynx rufus)*, porcupine (*Erethizon dorsatum)*, and various bat species. Common birds include the red-tailed hawk (*Buteo jamaicensis*), stellar jay (*Cyanocitta stelleri*), California quail (*Callipepla californica*), and mountain chickadee (*Poecile gambeli)*

Montane Chaparral. Montane chaparral habitat type typically occurs on rocky, granitic southern and western exposures, and is located along the west facing slopes on the east most portion of the BSA. Montane chaparral plants possess the typical characteristics of drought-adapted species: small, leathery, often evergreen leaves and deep taproot systems that exploit fissures in the weathering bedrock to access groundwater after surface moisture has disappeared. Patches of montane chaparral occur in forest canopy openings in the BSA, including species such as pinemat manzanita (*Arctostaphylos nevadensis*), greenleaf manzanita (*A. patula*), tobacco brush (*Ceanothus velutinus*), mountain whitethorn (*C. cordulata*), and bitterbrush (*Purshia tridentata*), with occasional Sierra chinquapin (*Chrysolepis sempervirens*) and huckleberry oak (*Quercus vaccinifolia*) occurring among occasional rock outcrops. Animals associated with this habitat are similar to the Jeffrey pine habitat.

Riverine (Perennial Drainage). Riverine habitat within the BSA is located along Dollar Creek within the BSA. Riverine habitat associated with the Dollar Creek supports adjacent riparian and seasonal wetlands. Dollar Creek has suitable habitat for the Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi*). This federally threatened species historically occurred in all accessible cold waters of the Lahontan Basin in a

wide variety of water temperatures and conditions, and requires gravel riffles in streams for spawning. Other native fish species include the Tahoe sucker (*Catostomus tahoensis*) and the speckled dace (*Rhinichthys osculus*). Nonnative introduced salmonids also occur within Lake Tahoe and associated tributaries including rainbow trout (*Oncorhynchus mykiss*), brook trout (*Salvelinus fontinalis*), and brown trout (*Salmo trutta*).

Montane Riparian. The vegetation of montane riparian zones is quite variable and often structurally diverse. At the project area the montane riparian zone occurs as a narrow, dense grove of broad-leaved, winter deciduous trees and shrubs as well as occasional evergreen trees with a grassy understory along the banks of Dollar Creek. Streamside riparian vegetation is composed of mountain alder (*Alnus incana ssp. tenuifolia*) and creek dogwood (*Cornus sericea ssp. sericea*). Wetland vegetation along the perennial stream benches in the BSA provides patchy tree and shrub layers dominated by willow and interspersed by hydrophytic sedge and grass species such as creeping bentgrass (*Agrostis stolonifera*), and Nebraska sedge (*Carex nebrascensis*), Baltic rush (*Juncus balticus*).

Riparian habitats have an exceptionally high value for many wildlife species. Such areas provide water, thermal cover, migration corridors, and diverse nesting and feeding opportunities. The shape of many riparian zones, particularly the linear nature of streams, maximizes the development of ecotones, which are highly productive for wildlife. A wide range of amphibians, reptiles, birds, and mammals utilize montane riparian habitat for food, cover and reproduction. Riparian wetland provides forage and cover for reptiles, such as lizards and common garter snakes (*Thamnophis sirtalis*), as well as birds, including yellow warbler (*Dendroica petechia*), American robin (*Turdus migratorius*), and mountain chickadee. Small mammals such as voles and mice may also use this habitat.

Special-Status Species. Special-status wildlife and fish species (Table 14) are species that have been afforded special recognition and protection by federal, State, or local resource conservation agencies and organizations. These species are generally considered rare, threatened, or endangered due to declining or limited populations. Special-status species include:

- Animals that are legally protected or proposed for protection under the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA);
- Animals defined as endangered or rare under CEQA;
- Animals designated as species of special concern by the CDFG;
- Animals designated as species of concern by the USFWS;
- Animals listed as “fully protected” in the Fish and Game Code of California (Sections 3511, 4700, 5050 and 5515);
- Animals designated as special interest species by the TRPA;
- Plants that are legally protected or proposed for protection under the CESA or FESA;
- Plants defined as endangered or rare under CEQA;
- Plants designated as species of concern by the USFWS;
- Plants listed in the California Native Plant Society’s Inventory of Rare and Endangered Plants of California (2001); and
- Plants designated as special interest species by the TRPA.

Figure 18. Project Area Habitats

Prior to conducting the field survey as noted in the Natural Environment Study (NES) (Appendix H), a list of special-status plants and wildlife known to potentially occur within the vicinity of the Project was reviewed. Sources consulted in preparation of the list of target plant taxa included the California Natural Diversity Database (CNDDB) (CDFG 2011), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2011). Sources consulted for fish and wildlife species included the CNDDB (Appendix H attachment), a USFWS list of potentially affected federally threatened and endangered species (USFWS 2010a), and Zeiner (1988, 1990). The list was then used to focus the botanical and wildlife field investigations on the targeted species and the habitats known to support these species. Additional reference data used in the preparation of this report includes the following:

- Tahoe City, California 7.5-minute topographic quadrangle (USGS)
- Special Plants List (CDFG 2009a)
- Special Animals List (CDFG 2009b)
- Federally listed threatened, endangered, or candidate species
- TRPA special interest, threatened, endangered or rare species (TRPA revised Code Chapter 62)

Project-level Surveys. The following surveys have been completed for the project area:

- Special-status plants;
- Noxious and invasive weeds;
- California spotted owl;
- Northern goshawk;
- Yellow warbler; and
- Sierra Nevada yellow-legged frog;

The environmental analysis presents the surveys results where appropriate.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Fish				
Gila bicolor pectinifer Lahontan Lake tui chub	DSS	Occurs in Pyramid Lake and in Lake Tahoe to a lesser extent. Also occurs in the Stampede Reservoir on the Lower Truckee River.	A	No suitable habitat within the BSA. Species confined to Lake Tahoe and Pyramid Lake, and a few reservoirs.
Hypomesus transpacificus Delta smelt	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchus clarkiihen shawi Lahontan cutthroat trout	FT	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temps & conditions. Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	HP	Limited suitable spawning habitat in the BSA. Introduced predatory salmonids occur within Dollar Creek in the BSA. Species likely extirpated from Dollar Creek because the culvert conveying the channel under SR 28 creates a blockage to fish (California State Parks 2005).
Oncorhynchus mykissirideus Steelhead – Central Valley DPS	FT	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchu stshawytscha Chinook salmon – Central Valley spring-run ESU	FT/ST	Populations in the Sacramento River and its tributaries.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchus tshawytscha Chinook salmon – Sacramento River winter-run ESU	FE/SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Amphibians				
Ambystoma californiense California tiger salamander, central population	FT/ST/ CSC	Needs vernal pools or other seasonal water sources for breeding. Uses underground refuges, especially ground squirrel burrows.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Lithobate spipiens Northern leopard frog (native populations only)	CSC	Highly aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics. Native range is east of the Sierra Nevada-Cascade crest.	A	No suitable habitat within the BSA. Potential habitat adjacent to BSA at Dollar Creek Reservoir. However, species likely introduced to the Tahoe Basin. Species does not appear to have established a population in the Tahoe Basin, and have not been recorded in the basin since the 1940s.
Rana draytonii California red-legged frog	FT/CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Rana sierrae Sierra Nevada yellow-legged frog	FC/SC/ CSC	Streams, lakes, and ponds in montane riparian habitats. Always encountered within a few feet of water. Tadpoles may require 2 - 4 years to complete their aquatic development.	HP	Limited suitable habitat in the Project vicinity. Introduced predatory salmonids occur within the stream channels in the BSA.
Reptiles				
Thamnophis gigas Giant garter snake	FT/ST	The most aquatic of the garter snakes in California. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Birds				
Accipiter gentilis Northern goshawk	CSC	Within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Dense stands of mature red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest tree sites.	HP	Suitable nesting and foraging habitat present within the BSA. Species not identified during protocol surveys.
Dendroica petechia Yellow warbler	CSC	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	HP	Suitable habitat within the BSA at the along Dollar Creek. Species not identified during birds surveys.
Empidonax traillii Sierra Nevada willow flycatcher	SE	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	A	Suitable habitat not present in the BSA.
Pandion haliaetus Osprey	CSC/TRPA	Inhabits areas associated with rivers, lakes and coastlines. Builds nest in large trees adjacent to waterbodies.	HP	Suitable nesting habitat located within BSA.
Strix occidentalis occidentalis California spotted owl	CSC	Nesting habitat is characterized by dense canopy closure (>70%) with medium to large trees and multi-storied structure stands.	HP	Suitable nesting and foraging habitat present within the BSA.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Mammals				
Aplodontia rufa Mountain beaver	CSC	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	HP	Suitable habitat present below Dollar Creek Reservoir along Dollar Creek.
Gulo gulo California wolverine	ST	Typically found in very remote areas of the northern North America and high elevation areas of the Sierra Nevada and Rocky Mountains.	A	The presence of a populated area in and near the BSA precludes the use of the area by wolverine.
Lepus americanus tahoensis *Sierra* Nevada snowshoe hare	CSC	Boreal riparian areas in the Sierra Nevada. Thickets of deciduous trees in riparian areas and thickets of young conifers.	A	Limited suitable habitat in the BSA.
Lepus townsendii White-tailed jackrabbit	CSC	Sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland east of the Sierra Crest.	A	Limited suitable habitat in the BSA.
Martes americana sierrae Sierra marten	CSC	Preferred habitat is characterized by dense, multi-storied coniferous forest that includes a high percentage of snags and downed logs in proximity to riparian corridors.	HP	Suitable habitat present within the BSA.
Martes pennanti Pacific fisher	FC	Extensive forested areas with continuous canopy in higher elevations. Avoids entering open areas that have no overstory or shrub cover.	A	No suitable habitat within the BSA.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Vulpes vulpes necator Sierra Nevada red fox	ST	Found in a variety of alpine habitats from wet meadows to forested areas. Use dense vegetation & rocky areas for cover & den sites. Prefer forests interspersed with meadows or alpine fell-fields.	A	Limited suitable habitat within the BSA
Invertebrates				
Branchinecta conservatio Conservancy fairy shrimp	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, lasting until June.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Branchinecta lynchi vernal pool fairy shrimp	FT	Endemic to the grasslands of the Central Valley, central Coast Mountains, and south Coast Mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassland swale, earth slump, or basalt-flow depression pools.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Capnia lacustra *Lake Tahoe benthic stonefly*	DSS	Endemic to Lake Tahoe. Found at depths of 95-400 feet. Associated with deepwater plant communities of algae, mosses and liverworts.	A	No suitable habitat within the BSA. BSA does not include Lake Tahoe.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California, in association with elderberry (*Sambucus*spp.).	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Helisoma newberryi Great Basin ram's-horn	DSS	Occurs in larger lakes and rivers, including larger spring sources and spring fed creeks, where it burrows into soft mud.	A	No suitable habitat within the BSA.
Lepidurus packardi Vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Plants and Fungi				
Arabis rigidissima var. *demota* Galena Creek rock-cress	TRPA, 1B.2	Fir- pine-quaking aspen associations, meadow edges, usually on north-facing slopes and rocky outcrops. Typically found on well-drained, stony soil underlain by basic volcanic rock. Elevation 2,255 to 2,560 m (7,400 to 8,400 ft). Blooms August..	A	No suitable habitat within the BSA. BSA outside the known elevational range of the species.
Botrychium ascendens upswept moonwort	2.3	Moist habitats near springs and streams. Elevation 1,500 to 2,060 m (4,920 to 6,760 ft). Fertile in August.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium crenulatum scalloped moonwort	2.2	Marshes, meadows, seeps, bogs and fens, streambanks and other moist habitats. Elevation 1,500 to 2,670 m (4,920 to 8,760 ft). Fertile July-August.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium lunaria common moonwort	2.3	Meadows, seeps, and other moist habitats. Elevation 2,740 to 3,400 m (8,990 to 11,150 ft). Fertile period not specified in the literature.	A	No suitable habitat within the BSA. BSA is below the documented elevation range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Botrychium minganense mingan moonwort	2.2	Streambanks, meadows and other moist habitats. Elevation 1,500 to 2,275 m (4,920 to 7,460 ft). Fertile period not specified in the literature.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium montanum western goblin	2.1	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest/mesic. Streambanks in old-growth forest. Elevation 1,500 to 1,830 m (4,920 to 6,000 ft). Fertile period not specified in the literature.	A	No suitable habitat within the BSA. BSA is above the documented elevation range of the species.
Carex davyi Davy's sedge	1.B	Known to occur in moist meadows and rocky slopes in subalpine coniferous forest and upper montane coniferous forest. Blooms May-August.	HP	Suitable habitat along banks of Dollar Creek.
Carex lasiocarpa woolly-fruited sedge	2.3	Generally in standing water in sphagnum bogs, freshwater marsh, lakes, and ponds. Elevation 1,800 to 2,100 m (5,900 to 6,900 ft). Blooms June-July.	HP	Suitable habitat along banks of Dollar Creek.
Carex mariposana Mariposa sedge	TRPA	Red fir and subalpine coniferous forest, montane meadows; 1,200-3,200 m (3,937-10,500 ft). Blooms July-September.	HP	Suitable habitat along banks of Dollar Creek.
Carex praticola Northern meadow sedge	2.2	Moist to wet meadows from sea level to 10,400'. Blooms May-July.	HP	Suitable habitat along banks of Dollar Creek.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Epilobium oreganum Oregon fireweed	1B.2	Upper montane coniferous forest, lower montane coniferous forest, in or near streams, bogs, or fens; 500-2,240 m (1,640-7,350 ft). Blooms June – September.	HP	Suitable habitat along banks of Dollar Creek.
Erigeron eatonii var. nevadincola Nevada daisy	2.3	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland, and rocky substrates. Only information for nearby collection is 1915 collection by Brainerd and Baird. 1,400-2,900 m (4,600-9,514 ft). Blooms May–July.	A	No suitable habitat within the BSA.
Erigeron miser starved daisy	1B.3	Rocky, granitic outcrops in upper montane coniferous forest. Elevation 1,755 to 2,260 m (5,760 to 7,415 ft). Blooms June-October.	A	No suitable habitat within the BSA.
Eriogonum umbellatum var. *torreyanum* Donner Pass buckwheat	1B.2	Rocky, volcanic soils on steep slopes and ridgetops, usually in bare or sparsely vegetated areas. Elevation 1,840 to 2,620 m (6,040 to 8,600 ft). Blooms July-September.	A	No suitable habitat on steep slopes or ridgetops within the BSA.
Glyceria grandis American managrass	2.3	Wet meadows, ditches, streams, and ponds. Elevation 15 to 1,980 m (50 to 6,500 ft). Blooms June-August.	HP	Suitable habitat within and along banks of Dollar Creek.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Ivesia sericoleuca Plumas ivesia	1B.2	Vernally mesic areas, usually on volcanic substrates, within Great Basin scrub, lower montane coniferous forest, meadows, and vernal pools. Elevation 1,450 to 2,000 m (4,755 to 6,560 ft). Blooms May-October.	A	No suitable habitat within the BSA.
Juncus luciensis Santa Lucia rush	1B.2	Vernal pools, ephemeral drainages, wet meadows, and stream banks. Elevation 300 to 2,040 m (985 to 6,690 ft). Blooms April-July.	HP	Suitable habitat along banks of Dollar Creek.
Lewisia longipetala *long-petaled lewisia*	TRPA, 1B.3	Alpine boulder and rock field, Subalpine coniferous forest (mesic, rocky)/granitic. Known from fewer than twenty occurrences. Possibly threatened by horticultural collecting; 2,500-2,925 m (8,200-9,600 ft). Blooms July-August.	A	No suitable habitat within the BSA.
Meesia uliginosa Broad-nerved hump moss	2.3	Bogs and fens, meadows and seeps, upper montane coniferous forest on mesic soil; 1,300-2,500 m. Fertile period not specified in the literature.	HP	Suitable habitat along banks of Dollar Creek.
Rhamnus alnifolia alder buckthorn	2.2	Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, montane riparian scrub. Elevation 1,370 to 2,130 m (4,495 to 6,990 ft). Blooms May-July.	HP	Suitable habitat along banks of Dollar Creek.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Rorippa subumbellata Tahoe yellow-cress	FC/SE/ 1B.1	On decomposed granite sand on beaches and lakeside margins and in riparian communities. Known only from the shores of Lake Tahoe. Elevation 1,885 to 1,900 m (6,185 to 6,235 ft). Blooms May-September.	A	No suitable habitat within the BSA. Species is known only from the shoreline of Lake Tahoe.
Scutellaria galericulata marsh skullcap	2.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevations 0 to 2,100 m (0 to 6,890 ft). Blooms June-September.	HP	Suitable habitat along Dollar Creek and the edges of Dollar Reservoir in the BSA.
Sphaeralcea munroana Munro's desert mallow	2.2	Dry, open sites in Great Basin scrub. Elevation 2,000 m (6,560 ft). Blooms May-June.	A	Suitable habitat not present within the BSA.
Stuckenia filiformis Slender-leaved pondweed	2.2	Marshes and swamps, clear water of lakes and drainage channels (assorted shallow water); 15-2,310 m (50 to 7,575 ft). Blooms May-July.	HP	Suitable habitat within Dollar Reservoir, directly adjacent to the BSA.

Source: ESA/HBA 2012

Status Codes: Federal Threatened (FT); Federal Candidate (FC); State Endangered (SE); State Threatened (ST); California Species of Special Concern (CSC); TRPA Sensitive Species (TRPA); California Native Plant Society (CNPS) 1B.1 – Rare, threatened, or endangered in California and elsewhere, seriously threatened in California; 1B.2 – Rare, threatened, or endangered in California and elsewhere, fairly threatened in California; 2.1 – Rare, threatened, or endangered in California, but more common elsewhere, and seriously threatened in California; 2.2 – Rare, threatened, or endangered in California, but more common elsewhere, and fairly threatened in California; 2.3 – Rare, threatened, or endangered in California, but more common elsewhere, and not very threatened in California.

Habitat Present / Absent Code: Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. The species may be present. Present [P] - the species is present.

Stream Environment Zones. The TRPA defines a SEZ as a biological community that derives its characteristics from the presence of surface water or a seasonal high groundwater table. Stream environment zones exhibit the ability to rapidly incorporate nutrients into the usually dense vegetation and moist to saturated soils. A SEZ is delineated by the presence of drainage ways and floodplains, including adjacent marshes, meadows, and riparian areas.

SEZs are important because they make up a natural system of runoff conveyance, provide wildlife habitat, and can filter and treat (through soils and vegetative complexes) spring snowmelt, stormwater runoff, and other forms of surface runoff before discharge to Lake Tahoe. SEZs have been verified using the criteria described below and are shown on plan sheets in Appendix C.

CardnoEntrix staff delineated two (2) SEZ areas in the summer of 2011. Appendix J details methods and results for delineation of SEZ areas: one follows the Dollar Creek drainage and the other is an ephemeral seep located at the northern end of the project area. Figure 18 illustrates SEZ and wetland locations within the project area.

Wetlands and Waters of the U.S The USACE regulates activities in wetlands and waters of the U.S. in accordance with Section 404 of the Clean Water Act. To determine the potential for impacts to this resource, HBA performed preliminary wetland delineation in the summer of 2011. Appendix H contains results and incorporates conclusions from the draft report. The delineation identified four (4) wetland types within the project area, including: other waters, emergent floodplain, montane riparian wetland, and groundwater seep wetland. Appendix H provides descriptions, figures, and maps of potential wetlands and waters of the U.S. identified within the project area.

3.2.4.2 Environmental Analysis and Mitigation Measures

29. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on 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? (CEQA IVa)

Standard of Significance: The loss of greater than zero endangered, threatened or rare fish or wildlife individuals or disturbance of greater than zero acres of occupied or designed critical habitat constitute a significant impact as defined by CEQA Article 5, Section 15065, CESA Sections 2062 and 2067, CDFG Code Sections 1900-1913, and TRPA Thresholds.

The following 20 species, as listed in Table 14, have suitable habitat present in the project area: Lahontan cutthroat trout, Sierra Nevada yellow-legged frog, Northern goshawk, Yellow warbler, Osprey, California spotted owl, mountain beaver, Sierra marten, upswept moonwort, scalloped moonwort, mingan moonwort, wooly-fruited sedge, Mariposa sedge, northern meadow sedge, Oregon fireweed, American managrass, broad-nerved hump moss, alder buckthorn, marsh skullcap, and slender-leaved pondweed.

Appendix H contains the detailed analysis for each of the species listed above. Analysis determines that mitigation measure BIO-1 is required to offset potential impacts to seven (7) species, including: Lahontan cutthroat trout, Sierra Nevada yellow-legged frog, northern goshawk, yellow warbler, osprey, California spotted owl and American marten to levels of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation*

Required Mitigation:

BIO-1. Pre-Construction Surveys for Wildlife Species

A. Northern goshawk. TRPA revised Code Section 62.4 requires the determination of 0.5-mile radius disturbance zones, as based on the presence of nest sites. To determine the presence of nest sites within and in the vicinity of the project area, pre-construction surveys for northern goshawk shall be conducted in the spring prior to commencement of construction activities in accordance with applicable protocol (USFS August 2000).

A qualified biologist, as determined by TRPA or CDFG, shall follow applicable protocol to conduct pre-construction surveys within suitable nesting habitat for northern goshawk within 0.5 miles of the project area. If nests are encountered, the biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. TRPA biologists shall be consulted to determine if and when construction activities can be initiated. The nest(s) shall be monitored by the qualified biologist during active construction. If the biologist determines that construction activities significantly affect the nest and roosting individuals, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from TRPA or CDFG.

B. Yellow warbler. As required by the MBTA, pre-construction surveys for tree-nesting raptors and migratory songbirds shall be conducted within 30 days prior to construction activities that occur between March 15 and August 31 nesting period.

A qualified biologist, as determined by CDFG, shall conduct pre-construction surveys within suitable nesting habitat for tree nesting raptors and migratory songbirds within 250 feet of the project area. If nests are encountered, the qualified biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. The nest(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist, construction activities significantly affect the nest, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from CDFG.

C. Osprey. TRPA revised Code Section 62.4 requires the determination of 0.25-mile radius disturbance zones, as based on the presence of nest sites. To determine the presence of nest sites within and in the vicinity of the project area, pre-construction surveys for osprey shall be conducted no more than two weeks prior to commencement of construction activities in accordance with applicable protocol.

A qualified biologist, as determined by TRPA, shall conduct pre-construction surveys within suitable nesting habitat for osprey within 0.25 miles of the project area. If nests are encountered, TRPA shall be notified and appropriate actions taken to avoid and minimize significant effects to a nest and roosting individuals, which may include creation of a buffer zone to protect the active nest from construction activities.

The biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. TRPA biologists shall be consulted to determine if and when construction activities can be initiated. The nest(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist,, construction

activities significantly affect the nest and roosting individuals, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from TRPA.

D. California spotted owl. As required by CDFG, pre-construction surveys for California spotted owl shall be conducted in the spring (i.e., March, April and May) prior to commencement of construction activities.

A qualified biologist, as determined by CDFG, shall follow applicable protocol (USFS February 1993) and conduct pre-construction surveys within suitable nesting habitat for California spotted owl within 0.5 miles of the project area. Should California spotted owls be discovered nesting within 0.5 miles of the project area, CDFG shall be notified and appropriate actions taken to avoid and minimize significant effects to a nest and roosting individuals, which may include creation of a buffer zone to protect the nest from construction activities.

The biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. CDFG shall be consulted to determine if and when construction activities can be initiated. The nest(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist, construction activities significantly affect the nest and roosting individuals, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from CDFG.

E. American marten. TRPA revised Code Section 62.3 requires protection of American marten den sites.

A qualified biologist, as determined by TRPA, shall follow applicable protocol (PSW GTR157, USFS 1995) and conduct a pre-construction survey for American marten den sites within 100 feet from the shared-use trail corridor.

Should a den be discovered, TRPA and CDFG shall be notified and appropriate actions taken to avoid impacts to the den site and individuals, which may include creation of a buffer zone to protect the den from construction activities. The den(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist, construction activities significantly affect the den, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities in the den vicinity based on CDFG direction.

30. Would the Project 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? (CEQA IVb)

Standard of Significance*:* Direct or indirect impact greater than zero acres for State or Federal sensitive natural communities, direct or indirect impact greater than zero acres to SEZ including riparian habitat constitute a significant impact.

Sensitive Natural Communities. The Project impacts no listed sensitive natural communities because the project area contains no such communities. Database searches covering the project area include the CDFG's CNDDB and USFWS (species list dated September 2011) for the Kings Beach, Tahoe City,

Homewood, Meeks Bay, Truckee and Martis Peak 7.5 min quad maps. The USFWS identifies no critical habitat within the project area.

TRPA designates uncommon plant communities in TRPA revised Code Subsection 61.3.6.C, which are as follows: the deepwater plants of Lake Tahoe, Grass Lake (sphagnum fen), Osgood Swamp, Hell Hole (sphagnum fen), Pope Marsh, Taylor Creek Marsh, Upper Truckee Marsh, and the Freel Peak cushion plant community. These communities lie outside of and distant from the project area.

Riparian Habitat. TRPA SEZ designations encompass riparian habitats within the Lake Tahoe Basin. The following discussion of SEZ evaluates Project effects on riparian habitat. In addition, the project area encompasses riparian wetland as defined by Section 404 of the Clean Water Act. Question 31 analysis presents Project effects on this and other wetland types related to CWA 404 permit requirements and potential CWA 401 water quality certification.

Stream Environment Zones. TRPA maintains the Regional Plan elements that establish SEZ as a sensitive natural community protected by standards and regulations. Lahontan also maintains standards in the Lahontan Basin Plan related to activities in SEZ. Construction of the Project results in direct and indirect impacts to SEZs. Direct impacts to SEZs include trimming of riparian vegetation. Trimming of vegetation in SEZs directly impacts the quality and functionality of the riparian system and threatens temporary degradation to surface water quality. Riparian vegetation provides modifications to SEZs by regulating microclimates and water temperature of adjacent water bodies. Removal of vegetation can result in changes in the microclimate by reducing the shading abilities of plants. Moisture retention ability of soils decreases after vegetation removal and often results in xeric conditions, thereby creating inhospitable environment for adjacent riparian vegetation. Removal of riparian vegetation increases sun exposure to shallow surface water areas to increase water temperatures, which can decrease habitat suitability.

Installation of the bridge span over Dollar Creek requires the trimming of riparian vegetation along the banks and adjacent slopes. Indirect impacts noted above that can result in loss of moisture in the impact area through increased solar radiation thereby desiccating soils will likely be offset through the shading provided by the new bridge span. The majority of the riparian vegetation along the banks of Dollar Creek is located within 20 feet of the creek bank. The 100-foot bridge span will average approximately 3 feet off the surface of the ground in these locations. This height, which allows for sunlight and sufficient moisture, is sufficient for the continued support of riparian vegetation. As the trimming of vegetation results in temporary impacts and the bridge will not prevent the future growth of riparian vegetation along the banks of Dollar Creek and the impact is less than significant.

TRPA SEZ Encroachment Findings. Question 61 addresses new land coverage and disturbance in LCD 1b.

Lahontan Basin Plan Findings. Lahontan implements provisions of the Basin Plan, including waste discharge prohibitions applicable to SEZs. Exceptions to waste discharge prohibitions for permanent disturbance in SEZ exist for public outdoor recreation and public health and safety facilities if (Basin Plan 5.8):

(a) the project by its nature must be sited in a SEZ;

By their very nature, roads, trails, and utilities traverse large areas of the landscape, following an alignment chosen to connect different locations (Siller Ranch Resolution No. R6T-2006-0021, page 6). The bowl-like nature of the Tahoe Region, including the mountainous north shore, creates drainages with attendant soil types that travel from the surrounding mountains to Lake Tahoe; creating a non-motorized

transportation network within this context cannot avoid surface waters and associated SEZ. Therefore, such features by their very nature interact with SEZs in areas where crossings are necessary.

or (a) for public health and safety;

As described for Question 61, related to TRPA encroachment findings, the Project is necessary for public health and safety by: 1) providing an AASHTO Class I and ADA certified shared-use trail as an alternative to existing roadways and Class II bike lanes; and 2) providing an essential link in the non-auto public transportation network capable of providing safe access for the broadest spectrum and diversity of user groups. TRPA recognized these project features when incorporating the Project in elements of the Regional Plan, specifically: as EIP project 761; on the TRPA Air Quality Transportation Program list; and in the Lake Tahoe RTP (TMPO 2008), Lake Tahoe Regional BPMP (TMPO 2010) and TRPA EIP, Planning Horizon 2008-2018 (TRPA 2009).

(b) there is no feasible alternative which would reduce the extent of SEZ encroachment;

The evaluation for reasonable alternatives provided for Question 61 concludes no location alternatives reduce SEZ encroachment; although use of a bridge span across Dollar Creek minimizes the effects of this encroachment.

(c) impacts are fully mitigated;

The evaluation for offsetting mitigation for SEZ disturbance presented for Question 61 concludes permanent and temporary measures incorporated into the Project avoid and minimize SEZ impacts. The on-site restoration proposals maintain similar function as the areas proposed for disturbance. On-site restoration lies in close proximity to areas of new disturbance and demonstrates similar characteristics.

(d) SEZs are restored in an amount 1.5 times the area of SEZ disturbed or developed for the project

The evaluation for on-site restoration presented for Question 61 demonstrates compliance with the requirements of 1.5:1 restoration.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

31. Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (CEQA IVc)

Standard of Significance: Greater than zero acres and/or zero linear feet of disturbance or discharge to wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrologic interruption or other means constitutes a significant impact as defined by the USACE jurisdictional waters regulations, 404 CFR 230 Section 404(b)(1), CDFG Section 1600 et seq, and USEPA and State of California no net loss policies.

USACE Section 404 Clean Water Act Requirements. The USACE reviews projects that may have impacts on the waters of the U.S. under the provisions of Section 404 of the CWA. Permanent discharges that exceed 0.1 acre require review under the provisions of the applicable Nationwide Permit (#14 for Linear Transportation Project as a trail, or #42 for a Recreation Project as a bike trail). Discharges over 0.5 acres require consideration under the provisions of an Individual Permit. In all cases, activities that

result in discharge over 0.1 acres must follow the required mitigation sequence of avoid, minimize, and compensate.

HBA staff performed preliminary wetland delineations in the summer of 2011. The delineation identified two (2) wetlands areas within the project area. Dollar Creek drainage was delineated from the area below the dam at Dollar Reservoir to an area below the proposed location for the bridge span by approximately 100 feet. The delineation fieldwork was completed and subsequently a map was created showing the locations of the wetland areas. Subsequent to the development of the map based on the fieldwork, the location of the proposed bridge span was moved downstream. The new location for the bridge span is below the area addressed by 2011 wetland delineation. Therefore, preliminary delineation does not provide for adequate analysis of area immediately below the bridge span.

The wetland area delineated immediately upstream to the proposed bridge crossing location is approximately 30 feet wide. The wetland area below the bridge is likely of the same width as upstream. The 100-foot bridge span avoids impacts to the wetland area below the bridge. Dollar Creek continues down through the montane riparian habitat and stayed confined within the channel. Expansion of the wetland area beyond the current width of 30-40 feet in the area of the proposed crossing is unlikely, but because this area has not been formally delineated, a determined cannot occur at this time. Therefore, this impact is considered potentially significant, requiring mitigation measure BIO-2 to reduce potential impacts to a level of less than significant.

Lahontan 401 Water Quality Certification Requirements. Prior to obtaining a 404 permit issued by USACE (if deemed necessary), the Project must receive a Section 401 Water Quality Certification issued by Lahontan. Receipt of this certification demonstrates that the Project proposal meets applicable Statewide water quality standards. Other sections of this IS/IEC identify compliance with elements of the Basin Plan and Board orders needed for Section 401 Water Quality Certification consideration, should coverage be necessary, including land capability and coverage (Question 61) and water quality standards and beneficial uses (Question 82).

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

BIO-2. Dollar Creek Wetland Delineation and Avoidance of Impacts

The area included in the wetland delineation shall be expanded downstream to the area surrounding the proposed location of the Dollar Creek bridge span, as the current delineation did not include the area below or immediately downstream of the proposed bridge span location. The existing delineated area shall be expanded to from its current extent downstream and to the west to a sufficient location to include all potential impacts to the wetland habitat and Dollar Creek. Upon completion of the preliminary delineation and subsequent acceptance of the wetland area by the US Army Corps of Engineers, the bridge span/design or location shall be modified, if necessary to avoid impacts to the delineated wetland and SEZ areas.

32. Would the Project 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? (CEQA IVd)

Standard of Significance: A significant impact results from the blockage, disruption or impedance of use of greater than zero wildlife or fish corridors or native wildlife nursery sites, as defined by TRPA revised Code Chapters 62 and 63.

Fish. Construction of the Project results in no blockage of fish migration corridors. The shared-use trail crosses Dollar Creek via a bridge span that places no structures within the stream channel. The bridge span will not interfere with the flow of waters or block any fish movement.

Mammals. Mule deer resident or passing through the project area may avoid the project area because of noise generated during construction activities, but the Project will not block movements long-term. Movement is preserved through the Project proposal, which maintains large open areas within the project area.

Use of the shared-use trail by pedestrians and bikers creates no detrimental effect on the migration of mule deer because the location of the shared-use trail is within the summer range and not within a migration corridor.

No other identified resident wildlife corridors are mapped within the project area. American marten are known to occupy suitable habitat areas adjacent to the proposed tail alignment. The Project proposal avoids impediments to the movement of marten or other mammals such as coyote, raccoon or bobcat that may be moving though the area. Wildlife often utilize riparian as movement corridors. The bridge span avoids impeding the movement of wildlife by allowing for passage of small mammals under the structure and does not prevent the movement of larger wildlife, which may walk around the bridge structure.

Native Wildlife Nurseries. Tree removal and construction activities associated with construction may result in direct removal of active nests for migratory birds and/or raptors and may result in disturbance or abandonment of nesting, roosting, or breeding sites in adjacent habitat. In addition wildlife nursery sites may be present within the project area and may be disturbed due to construction activities. While no surveys have been performed for wildlife nurseries the potential exists for nursery sites to be present before trail construction commences. Implementation of mitigation measure BIO-3 requires identification of native wildlife nurseries and provides for protection to the identified sites. The level of impact to native wildlife nurseries is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation:

BIO-3. Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program

As required by the MBTA (50 CFR Part 10), the Program shall include surveys, consultation, and protective actions to identify any active raptor or migratory bird nest sites and wildlife nursery sites within shared-use trail construction corridor. A qualified biologist, as determined by TRPA, CDFG or USFWS, shall perform pre-construction surveys during the nesting/breeding season (i.e., March through August) prior to commencement of active construction (e.g., excavation, grading and tree removal) to determine whether raptors or migratory birds are occupying trees or whether any wildlife den/nursery sties are within the shared-use trail construction corridor.

The biological monitor shall have the authority to stop construction near occupied trees or nursery sites if actions have a negative impact on nesting raptors or migratory birds or their young. If construction must be stopped, the shall consult with TRPA and CDFG or USFWS, as applicable, within 24 hours to determine appropriate actions to avoid and reduce significant effects to identified nursery sites, raptors or migratory bird nests.

33. Would the Project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? (CEQA IVe)

Standard of Significance: If the Project conflicts with goals and policies outlined in the conservation element of the TRPA Regional Plan for vegetation, wildlife and/or fisheries a significant impact results to biological resources.

Table 15 presents the consistency analysis of the Project with the TRPA Regional Plan Conservation Element Goals and Policies for biological resources. Consistency with the TRPA Regional Plan goals and policies reduces the potential impact to biological resources to a level of less than significant.

Table 15

TRPA Regional Plan Consistency Analysis – Biological Resources

Vegetation	
Goal 1 – Provide for a wide mix and increased diversity of plant communities in the Tahoe Basin Policy 2 Opportunities to improve the age structure of the pine and fir plant communities shall be encouraged when consistent with other environmental considerations. Policy 3 Forest pattern shall be manipulated whenever appropriate as guided by the size and distribution of forest openings. Policy 4 Edge zones between adjacent plant communities will be maximized and treated for their special value relative to plant diversity and wildlife habitat. Policy 5 Permanent or unnecessary alteration of natural vegetation associated with development activities shall not exceed the approved boundaries (or footprints) of the building, driveway, or parking structures, or that which is necessary to reduce the risk of fire or erosion. Policy 6 The management of vegetation in urban areas shall be in accordance with the polices of this plan and shall include provisions that allow for the perpetuation of the natural appearing landscape Policy 7 Disturbance or removal of forest litter should be avoided to promote the natural catchment of nutrients. Policy 8 Revegetation of disturbed sites shall require the use of species approved by the agency. TRPA shall prepare specific policies designed to avoid the unnecessary use of landscaping which requires long-term irrigation and fertilizer use. Policy 9 Consider the cumulative impact of vegetation removal with respect to plant diversity and abundance, wildlife habitat and movement, soil productivity and stability, and water quality and quantity.	Consistent – The Project does not modify the diversity of plant communities in the Lake Tahoe Basin. The revegetationand restoration strategies (Appendix E) utilizes TRPA-approved species suitable to maintain natural plant communities, including SEZ and upland types to address wildlife, fire prevention, and water quality needs.
Goal 2 – Provide for the maintenance and restoration of such unique eco-systems as wetlands, meadows, and other riparian vegetation. Policy 1 Riparian plant communities shall be managed for the beneficial uses of passive recreation, groundwater recharge, and nutrient catchment, and as wildlife habitats. Policy 2 Riparian plant communities shall be restored or expanded whenever and wherever possible.	Consistent – The Project avoids impacts SEZs to the extent possible to maintain beneficial uses and to protect overall diversity and habitat quality.
Goal 3 – Conserve threatened, endangered, and sensitive plant species and uncommon plant communities of the Lake Tahoe Basin. Policy 1 Uncommon plant communities shall be identified and protected for their	Consistent – Sensitive plant species surveys completed within the project area identify

natural values. Policy 2 The population sites and critical habitat of all sensitive plant species in the Lake Tahoe Basin shall be identified and preserved.	no occurrences of TES plant species. The Project impacts no uncommon plant communities.
Goal 4 – Provide for and increase the amount of late seral/old growth stands within the Lake Tahoe Basin Policy 4 Retain large trees as a principal component of late seral/old growth ecosystems. Policy 5 Retain trees of medium and small size sufficient to provide for large tree recruitment over time and to provide structural diversity.	Not Applicable – The project area contains no late seral/old growth forest, as based on habitat assessments completed for the Project.
Goal 5 – The appropriate stocking level and distribution of snags and coarse woody debris shall be retained in the regions forests to provide habitat for organisms that depend on such features and to perpetuate natural ecological processes. Policy 1 Allow for a sufficient number and an appropriate distribution of snags throughout the region's forests to provide and maintain habitat for species dependent on such features. Policy 2 Allow for an appropriate amount, level, and distribution of coarse woody debris throughout the region's forests to maintain biological integrity, to stabilize soil, and to afford a reasonable level of fire safety.	Not Applicable – The Project creates no change to the distribution of snags and coarse woody debris.
Wildlife	
Goal 1 – Maintain suitable habitats for all indigenous species of wildlife without preference to game or non-game species through maintenance of habitat diversity. Policy 1 All proposed actions shall consider impacts to wildlife. Policy 2 Riparian vegetation shall be protected and managed for wildlife	Consistent – The Project maintains suitable wildlife habitats, protecting riparian vegetation to the greatest extent feasible.
Goal 2 – Preserve, enhance and where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the basin. Policy 1 Endangered, threatened, rare, and special interest species shall be protected and buffered against conflicting land uses.	Consistent – The Project results in no adverse impacts to threatened, endangered, rare or sensitive species as a result of construction or operations.
Fisheries	
Goal 1 – Improve aquatic habitat essential for the growth, reproduction, and perpetuation of existing and threatened fish resources in the Lake Tahoe Basin. Policy 1 Development proposals affecting streams, lakes and adjacent lands shall evaluate impacts to the fishery. Policy 2 Unnatural blockages and other impediments to fish movement will be prohibited and removed wherever appropriate.	Consistent – The Project results in no adverse impacts to aquatic habitat and creates no blockages or other impediments to fish movement.
Stream Environment Zones	
Goal 1 – Provide for the long-term preservation and restoration of stream environment zones. Policy 1 Restore all disturbed SEZ lands in undeveloped, unsubdivided lands, and restore 25% of the SEZ lands that have been disturbed, developed, or subdivided. Policy 2 SEZ lands shall be protected and managed for their natural values. Policy 5 No new land coverage or other permanent land disturbance shall be permitted in SEZs except for those uses as noted (including outdoor recreation facilities if six conditions are met).	Consistent – The Project avoids impacts to SEZ, protecting diversity and habitat quality.

Source: HBA 2012

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

34. Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (CEQA IVf)

Standard of Significance: If the Project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved habitat conservation plan, a significant impact results.

The Project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because no such plans exist for the project area.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

35. Would the Project result in removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system? (TRPA 4a)

No. Standard of Significance: Removal of greater than zero acres of native vegetation in excess of the area utilized for the actual development permitted by the TRPA land capability system results in a significant impact as defined by TRPA revised Code Chapters 30 and 33.

The Project results in land coverage associated with the physical shared-use trail surfaces and land disturbance associated with adjacent clear zones that infiltrate runoff and cut and fill slopes necessary to control trail grades for compliance with AASHTO and ADA design standards. Question 61 analyzes land coverage by Land Capability District (LCD).

Project construction removes native vegetation during soil disturbance activities; however, the Project complies with TRPA regulations for restoration and revegetation of disturbance areas. The Project proposal minimizes the extent of disturbance through trail location by utilizing existing slopes and grades. Appendix E details the RRPs for disturbance areas, including clear zones, cut and fill slopes and disturbance areas. Plan components include reestablishment of native vegetation. The disturbance necessary for Project implementation is in accordance with the requirements outlined for each LCD and as noted in Question 61 for restoration of temporary disturbance. The Project proposal limits vegetation removal to the area utilized only for the shared-use trail construction and operation, therefore this impact is considered less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

36. Would the Project result in removal of riparian vegetation other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table? (TRPA 4b)

No, with mitigation. Standard of Significance: The direct removal or indirect lowering of the groundwater table during Project construction or long-term operations that causes loss of riparian

vegetation or other vegetation associated with critical wildlife habitat constitutes a significant impact as defined by TRPA revised Code Chapter 61.

Direct vegetation removal will include riparian vegetation trimming at Dollar Creek as described in the analysis for Question 30. Evaluation presented above for Question 32 identifies no critical wildlife habitat within the project area and vegetation removal creates less than significant effects to this habitat type.

No direct removal of groundwater will occur; however, typical trail construction could intercept groundwater, affecting the water table, through excavation needed for the trail itself or associated retaining walls. Evaluation of the Project proposal identifies facility features and design that avoid trail excavation in areas associated with high groundwater (i.e. SEZ and or wetland) through use of the bridge span and avoidance of SEZ. As final plans develop with additional engineering detail, a soils/hydraulic reports required for excavations in excess of five feet will confirm if groundwater is present. If necessary, additional design revisions may be necessary to avoid interception of groundwater. This evaluation concludes Project operation avoid intercepting groundwater. However, should groundwater be encountered during construction, dewatering will be required. See Question 83 for further analysis of groundwater impacts and required mitigation measure HYDRO-4.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

37. Would the Project result in introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species? (TRPA 4c)

No, with mitigation. Standard of Significance: The introduction of noxious species or the introduction of new vegetation that requires excessive fertilizer or water constitutes a significant impact as defined by TRPA revised Code Chapter 61.

Although the Project constructs impervious surfaces that do not allow for the replenishment of existing plant species, this affects a very small area. Existing and new land coverage, totaling 220,062 square feet, affects l.9 percent of the 11,267,603 square foot project area. Approximately 16,875 square feet of the land coverage required for the shared-use trail lies over existing coverage, which currently restricts the normal replenishment of existing species.

The Project includes a restoration and revegetation plan (RRP) that relies on native and adapted species to avoid the need for excessive water and fertilizer use. Appendix E describes this strategy for disturbed areas, outlining the approaches to revegetation and restoration according to type and location. Treatment types are specific for each area including individual plantings in specific areas to control traffic and the application of revegetation seed mixes. The Project proposes no long-term irrigation. The revegetation specifications identify soil amendments for application where topsoil is not available. Organic matter and topsoil will be stockpiled during construction will be reused during revegetation activities. Slow release fertilizer and irrigation will be applied during the establishment phase.

Introduction of noxious weed species creates a barrier to the replenishment and growth of existing native species if noxious weeds out compete and displace native plant species. Invasive weeds such as tall white-top (*Lepidium latifolium*), Klamath weed (*Hypericum perforatum*) and thistle species (*Cirsium spp.*) often result in monocultures, resulting in loss of diversity and degradation of habitats. Seed mixes

proposed for the Project include native species and adaptive species and do not include noxious weed or invasive species.

Application of preventative measures is required to control noxious weed and invasive species during construction and expedited identification and removal of such species during revegetation and long-term maintenance activities allows for normal replenishment of existing native species. Existing noxious weed species that were observed during sensitive species surveys include: creeping bentgrass (*Agrostis stolonifera*), bull thistle (*Cirsium vulgare*), Klamath weed (*Hypericum perforatum*), and Kentucky bluegrass (*Poa pratensis*). The potential exists for these species to proliferate and spread during construction activities, requiring implementation of mitigation measure BIO-4 to minimize potential impacts.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

BIO-4. Noxious Weed Eradication and Control Program

As required by TRPA revised Code Section 61.3, the shared-use trail Operator shall develop and implement a Noxious Weed Eradication and Control Program to protect suitable sensitive plant habitat and to protect future populations of sensitive plants from invasive terrestrial and aquatic noxious weeds. The program shall identify a qualified professional, as approved by TRPA and/or Placer County, to act a coordinator for the Project. The program shall include abatement and prevention measures to decrease and eradicate known populations of noxious weeds, as follows:

- Known populations of terrestrial and aquatic noxious weeds shall be identified and a plan shall be implemented to control and eradicate weed populations and restore native plant cover.

- Equipment used in the project area must be sanitized and free of non-native invasive species before moving into the project area to ensure that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of non-native invasive species. Vehicles, especially large, off-road and/or earthmoving vehicles shall be cleaned when they come into the Lake Tahoe Basin or come from a Basin area known to contain non-native invasive species. Equipment shall be considered clean when visual inspection finds no soil, seeds, plant material, or other such debris.

- Gravel, fill, or other materials shall be “weed-free.” Use onsite sand, gravel, rock, or organic matter when possible. Otherwise, obtain “weed-free” materials from gravel pits and fill sources that have been surveyed and approved by the California Division of Food and Agriculture or Nevada Department of Agriculture or by the qualified professional.

- Use “weed-free” mulches, and seed sources. Salvage topsoil from project area for use in onsite revegetation, unless contaminated with non-native invasive species. Soil or materials from areas contaminated by cheat grass shall not be used.

- Upon completion of Project construction, the qualified professional shall be notified. The shared-use trail cooridor shall be monitored for the first three (3) years of Project operations to ensure additional non-native invasive species do not become established, that native species are established on re-seeded or restored habitats, and that known non-native invasive species do not spread.

38. Would the Project result in change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)? (TRPA 4d)

No. Standard of Significance: A change in diversity or distribution of species or number of species of plants resulting from Project construction or operations constitutes a significant impact as defined by TRPA revised Code Chapter 33 and 62 and 63.

Construction of the Project results in the removal of vegetation, as addressed in Questions 30, 35, and 36. This removal of this vegetation does not result in the reduction in diversity of species; however a temporary loss in individual numbers of plant species likely results. Through the implementation of the RRP (Appendix E), the Project maintains the diversity and distribution of species of plants and this impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

39. Would the Project result in reduction of the numbers of any unique, rare or endangered species of plants? (TRPA 4e)

No, with mitigation. Standard of Significance: The reduction of the number of any unique, rare or endangered species of plants as a result of Project construction and operations constitutes a significant impact as defined by TRPA revised Code Chapter 61.

The project area contains suitable habitat for the following sensitive plant species as listed in Question 29 above: upswept moonwort, scalloped moonwort, mingan moonwort, wooly-fruited sedge, Mariposa sedge, northern meadow sedge, Oregon fireweed, American managrass, broad-nerved hump moss, alder buckthorn, marsh skullcap, and slender-leaved pondweed.

The Natural Environment Study in Appendix H contains detailed analysis for each of the species listed above. Sensitive plant species may be located during future surveys of the project area and the potential exists for impacts to the yet discovered unique, rare, or endangered plant species. This impact is considered potentially significant. With implementation of mitigation measure BIO-5, this impact is reduced to less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

BIO-5. Avoid Sensitive Plants or Prepare Sensitive Plant Protection Program

If pre-construction surveys identify sensitive plant species, the County shall develop a Sensitive Plant Protection Program to mitigate impacts to California Native Plant Species and TRPA Special Status Plant Species. Program features shall include:

Avoidance. Impacts to rare plant populations identified from the rare plant surveys shall be avoided where feasible by reconfiguring Project design and fencing rare plant populations to prevent encroachment.

Identify, Select, and Restore or Purchase Mitigation Sites. If avoidance is not feasible, the County together with input from the TRPA shall identify opportunities for mitigation of sensitive plant impacts from Project construction and operation. Mitigation is not limited to but may include a single, or combination of the following items: restoration of degraded sensitive plant habitat owned by the Project Applicant, negotiation of conservation easements in order to retain

and protect existing populations, or habitat restoration in off-site, degraded rare plant populations to compensate for unavoidable impacts.

Prepare a Special Status Plant Species Mitigation & Monitoring Plan. If avoidance is not feasible, the County shall produce a mitigation and monitoring plan to follow the CNPS and CDFG guidelines to comply with Chapter 10 of CDFG Native Plant Protection Policy and TRPA revised Code Subsection 61.3.6.C.

40. Would the Project result in removal of streambank and/or backshore vegetation, including woody vegetation such as willows? (TRPA 4f)

Yes. Standard of Significance: TRPA revised Code Subsection 61.3.3 prohibits the removal of SEZ vegetation except as allowed by other Code provisions. Loss of riparian vegetation results in a significant impact.

Installation of the bridge span over Dollar Creek requires the trimming of riparian vegetation along the banks and adjacent slopes. The trimming of vegetation results in temporary impacts and the bridge will not prevent the future growth of riparian vegetation along the banks of Dollar Creek. See analysis for Question 30, which addresses CEQA checklist item IVb and concludes the level of impact as less than significant.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

41. Would the Project result in removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications? (TRPA 4g)

No, with mitigation. Standard of Significance: TRPA revised Code Subsection 61.1.4 prohibits the removal of trees larger than 30-inches dbh for west side forest types in lands that are in conservation or recreation plan areas except under specific Project conditions, tree removal that does not meet findings outlined in revised Code Subsection 61.1.4 results in a significant impact within TRPA Conservation or Recreation land use areas. If the TRPA Code changes in a future date to allow for the legal removal of trees larger than 30-inches in recreation or conservation plan areas, mitigation would not be required.

The Project removes trees from two PASs. PAS 012 North Tahoe High School is a recreational plan area and PAS 013 Watson Creek is a conservation plan area. As the entirety of the project area is within TRPA designated west side forest type, prohibition of removal of trees 30-inch dbh or greater applies in these areas.

Project development to date does not include a survey providing precise tree location in relation to Project features or a hazard or tree health survey completed by a qualified forester. During construction plan development, additional data will confirm the size, location, and condition of all trees, including 30-inch dbh trees in Recreation and Conservation plan areas and will determine removal estimates. All trees that are larger than 30-inches are prohibited for removal, thereby requiring the re-alignment of the proposed trail to retain the subject trees.

Trees 30-inch dbh or larger are present within the project area, which will be avoided as required by mitigation measure SR-1 below. Excavation, compaction and grading activities associated with construction of the Project potentially affect these trees. Installation of the proposed trail, slope layback and vehicle access during construction may impact tree roots, potentially degrading tree health. Removal of trees for Project construction results in no substantial changes to the existing habitat and no changes in habitat categorization.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 5 for description):

SR-1. Tree Protection and Avoidance Measures

42. Would the Project result in a change in the natural functioning of an old growth ecosystem? (TRPA 4h)

No. Standard of Significance: A change in the natural functioning of an old growth ecosystem constitutes a significant impact as determined by TRPA revised Code Chapter 61 and Goals and Policies.

Because the project area contains no ecosystems delineated or otherwise identified as old growth, the Project results in no impact or change to the natural functioning of old growth ecosystems.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

43. Would the Project result in change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)? (TRPA 5a)

No. Standard of Significance: A change in the diversity or distribution of species, or numbers of any species of animals resulting from Project construction or operations constitutes a significant impact to TRPA Thresholds, as cited in TRPA Resolution 82-11 Exhibit A, and TRPA goals and policies pertaining to wildlife fisheries.

See the analysis for Question 38, which addresses TRPA checklist item 4d and concludes the Project creates a less than significant change in the diversity or distribution of species.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

44. Would the Project result in reduction of the number of any unique, rare or endangered species of animals? (TRPA 5b)

No, with mitigation. Standard of Significance: See analysis for Question 29, which addresses CEQA checklist item IVa and concludes the level of impact after mitigation to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS is less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 29 for description):

BIO-1. Pre-Construction Surveys for Wildlife Species

45. Would the Project result in introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? (TRPA 5c)

No, with mitigation. Standard of Significance: The introduction of new species into the project area or the blockage or disruption of fish or wildlife corridors constitutes a significant impact by the Project to the migration or movement of animals.

See the analysis for Question 32, which addresses CEQA checklist item IVd and concludes the level of impact to migration or movement of animals is less than significant after mitigation.

No new species of animals are proposed for introduction into the project area as a result of the Project. No animals, insects or invertebrate species will be introduced.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 32 for description):

BIO-3. Active Raptor and Migratory Bird Nest Site Protection Program

46. Would the Project result in deterioration of existing fish or wildlife habitat quantity or quality? (TRPA 5d)

No, with mitigation. Standard of Significance: Deterioration of existing fish or wildlife habitat quantity or quality from construction and operations of the Project constitutes a significant impact to these habitats as defined in TRPA revised Code Chapters 62 and 63.

Wildlife Habitat. The project area contains mostly mixed conifer forest, with a small patch of montane chaparral and montane riparian wetland. Question 30 identifies the impacts to SEZ and Question 31 describes the impacts to wetlands. Impacts to other habitat types are described below.

The shared-use trail is located immediately adjacent to residential neighborhoods; thus, the habitat within these areas is of low suitability for many wildlife species due to high existing human presence and use. A portion of the habitat areas in the urban interface mostly located at the southern end have experienced fuels treatment in the recent past and therefore lack levels of structural complexity (i.e., multiple canopy layers, high degree of species diversity, high levels of down woody debris or standing snags) that are associated with high quality wildlife habitat. A variety of common species utilize the habitats described above such as Stellar's jay (*Cyanocitta stelleri*), mountain chickadee (*Poecile gambeli*), northern flicker (*Colaptes auratus*), Douglas squirrel (*Tamiasciurus douglasii*), coyote (*Canis latrans*), black bear (*Ursus americanus*), and western fence lizard (*Sceloporus occidentalis*). The design of the shared-use trail decreases impacts to the surrounding habitat where possible through minimization of tree removal by following portions of existing unpaved roadways, avoidance of trees larger than 30-inch dbh and minimization of grading impacts. The Project results in the relative low numbers of removed trees, as reported for Question 41 analysis. The minimal vegetation and tree removal, together with the location of the proposed trail within low quality habitat reduces the potential impact to wildlife habitat to a level of less than significant after mitigation (mitigation measure SR-1).

TRPA Sensitive Species. Waterfowl nesting habitat will not be modified due to trail construction or location as Dollar Reservoir will not be impacted as trail is located below the dam and crosses Dollar creek with a 100-foot bridge span. Northern goshawk has suitable foraging and nesting habitat in the project area within the mixed conifer habitat but has not been documented in the project area. Approximately 3.16 acres of suitable northern goshawk habitat may be lost as a result of Project implementation. Based on surveys completed to date, no occurrences of nesting Northern goshawks have

been recorded within or adjacent to the project area. However, because the timing for construction of the shared-use trail is unknown, the potential exists for Northern goshawk to establish a nesting territory prior to construction. Therefore this impact is considered potentially significant, requiring mitigation.

The Project results in the minor loss of foraging habitat for mule deer due to the installation of the shared-use trail. Mule deer feed on a variety of shrubs, forbs and grasses (Ahlborn 2006). Mule deer foraging habitat is diverse and plentiful within the project area and is not considered sensitive by TRPA. The loss of foraging habitat is minimal and will not result in large areas lost due to the linear nature of the Project, therefore this impact is considered less than significant.

CDFG Species. Sensitive species as defined by the CDFG that have been sighted or have suitable habitat within the project area include: Sierra Nevada yellow-legged frog, California spotted owl, California yellow warbler, Osprey, Sierra Nevada mountain beaver, and American marten.

Surveys for Sierra Nevada yellow-legged frog have not been performed in the project area with however as noted in Appendix H, suitable habitat is marginal. No individuals were observed during wetland delineations; however, the montane riparian habitat on the banks of the Dollar Creek provide suitable habitat for this species. The potential exists however, for mountain yellow-legged frogs to be present in the project area and to be directly impacted by construction of the proposed trail crossing at Dollar Creek, therefore this impact is considered significant.

Marginal suitable habitat exists within the project area for California spotted owl. Surveys for spotted owls have been performed within the project area in 2011with no detections. The habitat within the project area is marginal foraging and nesting habitat as the majority of the forest is second growth and does not contain many of the attributes that California spotted owls tend to prefer: multi layered canopy, high degree of canopy cover, large trees and other late seral forest characteristics. The closest Protected Activity Center is the Burton Creek Protected Activity Centers located 1.5 miles to the west of the project area and will not be impacted by use of the shared-use trail or construction activities. No PACs or Home Range Core areas will be impacted by the Project. However, the potential exists for California spotted owls to take up residence before commencement of construction and be directly or indirectly impacted as a result of the Project. Direct impacts result if nesting California spotted owls are present within or immediately adjacent to the project area. If presence of a nesting pair occurred on Conservancy lands, Conservancy Biologists will coordinate with CDFG biologists to determine adequate avoidance measures. Because the exact construction phasing of the shared-use trail is unknown, there is a possibility for California spotted owls to be present and impacted within the project area. Therefore, this impact is considered potentially significant and requiring mitigation, as described in mitigation measure BIO-1.

Suitable habitat for California yellow warbler exists within the project area in the form of riparian vegetation. Surveys were performed for this species within the project area, but it was not detected. While survey results were negative, the potential exists for this species to be present within the Project during construction. Due to the potential impacts that may result to yellow warblers that may be nesting within the project area, this impact is considered significant and requiring mitigation.

Montane riparian habitat present within the project area is marginally suitable for mountain beaver. Impacts to montane riparian habitat will occur as noted and described above. Surveys for mountain beaver have not occurred within the project area. Despite the lack of presence/absence data, it is unlikely that the impacts associated with installation of the bridge span will have an overall detrimental effect on this species because of the temporal impact on riparian habitat. Therefore, this impact is considered less than significant for this species.

The project area was not surveyed for forest carnivores. Construction and operations of the shared-use trail will result in the removal of trees and other vegetation that may be utilized by marten. American

marten prefer mixed conifer stands with a relative high degree of canopy closure. Modification of the existing environment as a result of trail construction will not result in removal or modification of marten habitat to a degree that decrease in viability of the existing marten population occurs. This impact is considered less than significant for this species.

Human use and presence in the form of hikers and mountain bikers on the existing unpaved trails is relatively widespread and common in the Project vicinity. The shared-use trail increases human use of the project area, but allows for concentration of use. The anticipated increase in use of the project area is relatively small and should not deter use of the habitat by marten or other wildlife species based on their current use of the area. Increased human presence may impact wildlife species in the area through increased levels of noise, the potential for elevated levels of trash and refuse within the project area.

Various species are more tolerant to human presence may become dependent on human food sources and therefore lose their ability to forage naturally. Black bear, American marten, Douglas squirrels, golden mantled ground squirrels, chipmunk spp., mountain chickadees and Clark's nutcracker are some species that are present within the project area and have been observed foraging for human food within residential areas. Consumption of human foodstuffs by these animals can lead to digestive and health problems and behavior modifications. Readily available human food and refuse limits these species ability to naturally forage and can cause dependency on human food. Animals becoming dependent on this non-natural foraging technique often become aggressive toward humans as they associate humans with food. Other behavior changes, such as delayed and decreased hibernation activity, smaller home range size and modified patterns of activity, are evident in black bears within the Tahoe Basin (Beckman and Berger 2003). While the Project may result in increased human presence in some areas, the degree of increase is not expected to result in an overall decrease in quality of wildlife habitat or result in significant impacts to wildlife species numbers or diversity.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation (See Questions 5 and 29 for descriptions):

SR-1. Tree Protection and Avoidance Measures

BIO-1. Pre-Construction Surveys for Wildlife Species

3.2.5 Cultural Resources (CEQA) and Archaeological/Historical (TRPA)

This section presents the analyses for potential impacts to cultural, archaeological and historical resources, discussing the Project impacts on cultural resources related to the disturbance of archaeological, historical, architectural, and Native American/traditional heritage resources. The section also addresses disturbance of unknown archaeological resources, as well as paleontological resources (fossils). Table 16 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 16

Cultural Resources and Archaeological/Historical

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
47. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? (CEQA 5a)		X		
48. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (CEQA 5b)		X		
49. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (CEQA 5c)				X
50. Disturb any human remains, including those interred outside of formal cemeteries? (CEQA 5d)		X		
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
51. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building? (TRPA 20a)		X		
52. Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official		X		

maps or records? (TRPA 20b)				
53. Is the property associated with any historically significant events and/or sites or persons? (TRPA 20c)		**X**		
54. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? (TRPA 20d)		**X**		
55. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area? (TRPA 20e)		**X**		

3.2.5.1 Environmental Setting

Current environmental review policies, in compliance with the TRPA mandates under revised Code Chapter 67 (Historic Resource Protection), guidelines under CEQA Section 10564.5, California PRC Section 5020 et seq., Archaeological Resources Protection Act of 1979, Procedures of the Advisory Council on Historic Preservation, 36 CFR 800, and FSM 2361 require that heritage resources be considered as part of the environmental review process.

Construction staging areas are located within the Area of Potential Effects (APE). There are no detours necessary for this Project as no street crossings are proposed. The Project does cross SR 28 just west of its intersection with Dollar Drive, but all improvements are in the SR 28 ROW. There are no utilities to reroute within the APE and the Project does not require demolition-related activities.

The Area of Potential Effects (APE) has been established in consultation with Caltrans District 3 guidelines and will be submitted to Caltrans for approval if required for NEPA documentation. According to Section 106 of the NHPA, as amended, the APE is defined as:

> ...the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d]).

The APE for archaeological resources are the areas, surface and subsurface, that could experience ground disturbance as a result of construction activities including creating the path, bridge construction, and plant removal (Figures 3 and 4 of the Archaeological Survey Report (ASR) attached in Appendix I). A horizontal APE has been established with 15 feet from the centerline of the proposed trail alignment, construction access, and trailhead access and parking area to accommodate work and staging areas. The vertical APE corresponds to the individual ground-disturbing components outlined in the project description in Chapter 2.

Results of Records Search and On-Foot Surveys. Appendix I documents the archaeological survey conducted for the Project in Placer County, California. Preparing this report consisted of archival review at the North Central Information Center and a reconnaissance-level pedestrian field survey conducted in

October 2011. Appendix I details the methods and findings of this study, which consisted of a literature and records search and an on-foot field survey.

As assigned by FHWA, Caltrans has determined a Finding of No Historic Properties Affected, according to Section 106 PA Stipulation IX.A and 36 CFR 800.4(d) (1), is appropriate for this undertaking (ESA 2012).

The NCIC records search identified 27 previous cultural resource studies completed within a half- mile of the project area or APE (see Table 1 of Appendix I). The 27 surveys included 10 studies completed within or intersecting the project area (Jackson 1977; Munns 1997; Peak & Associates 1985, 1987 and 2007; Mead and Hunt 2007; EDAW 2007; URS 2008; and USACOE 2010).

Table 2 in Appendix I lists previously recorded cultural resources within the half- mile buffer of the APE. The NCIC records search revealed that 13 historic and prehistoric resources have been recorded within or adjacent to the project area or APE. Of the 13 identified resources two (2) were located within the trail alignment (P-31-1300, isolated pipe fragments; CA-PLA-1005H, a firestone can dump) and two (2) were located upgradient of the trail alignment but within the APE at Dollar Reservoir (CA-PLA-1006H, Dollar Creek Dam and Ice House; the continuation of P-31-1300).

The on-foot survey of the APE located an unrecorded isolated basalt flake. The basalt flake was an approximately 3 cm by 5 cm in size. It has no cortical material present. While no unifacial or bifacial flakes were observed, the edges of the flake exhibited utilization scars. An isolated prehistoric find consisting of fewer than three items per 100 square meters is exempt from evaluation under Caltrans Section 106 PA.

The on-foot survey of the APE also located isolated pipe fragments (P-31-1300H) along the existing trail. P-31-1300H was previously determined ineligible for listing in the National Register of Historic Places (NRHP) due to its lack of association and integrity. CA-PLA-1005H, a firestone can dump identified in North Central Information Center (NCIC), was not relocated during the course of survey.

No other cultural resources were identified within the APE. Therefore ESA staff recommends a finding of No Historic Properties Affected.

Background investigations indicated that no prehistoric archaeological resources had been recorded within the APE and that some pipe remnants were the only identified historic-period resource. The on-foot surface survey observed the pipe remnants and located an unrecorded isolated basalt flake. Research indicates that the APE has a moderate to high potential to contain buried archaeological resources.

National Register of Historic Places-Listed Properties. No National Register of Historic Places (NRHP) listed properties exist within a quarter- mile of the APE. The Watson Log Cabin, near the intersection of SR 28 and SR 89 in Tahoe City is the nearest NRHP-listed resource. Robert Montgomery Watson built the log cabin in 1908 for his son Robert Watson as a present for his marriage to Stella Tong in 1909. The cabin is approximately 2.5 miles southwest of the APE.

California Historic Landmarks. No California Historic Landmarks (CHL) exist within a quarter- mile of the APE. The nearest CHL is the Squaw Valley Cable Car Building Lobby, over 7 miles west of the APE. The building was constructed in 1860.

Summary of Native American Consultation. ESA staff submitted a sacred lands search request to the Native American Heritage Commission (NAHC) on September 23, 2011. The NAHC responded on October 27, 2011. A records search of their sacred land file did not indicate the presence of Native American cultural resources in the APE. The NAHC provided a list of Native American

individuals/organization that might have additional information or concerns. ESA staff contacted each person on the list by letter on October 27, 2011. The Shingle Springs Rancheria responded with no knowledge of cultural resources in the APE, but also requested progress updates and copies of survey reports and record searches. There have been no other responses, including from the Washoe Tribe, as of May 2012.

Summary of Others Who Were Consulted. A letter was sent to the Placer County Historical Society and the North Lake Tahoe Historical Society on October 18, 2011 requesting any information or concerns about the project APE. No response, including from the Washoe Tribe, has been received as of this writing.

3.2.5.2 Environmental Analysis and Mitigation Measures

47. Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? (CEQA 5a)

Standard of Significance: If the Project adversely affects important examples of major periods of California history or pre-history, a significant impact results to historical resources. Impacts to eligible or potentially eligible resources include those resulting from construction, operation, or maintenance activities that adversely impact the integrity of prehistoric or historic archaeological resources and are unavoidable based on the Project trail placement.

While the Project does not impact known resources, the trail alignment is located near known resources. Because research indicates that the APE has a moderate to high potential to contain buried archaeological resources, a possibility exists of unearthing unknown buried resources during construction. Implementation of mitigation measure CUL-1 reduces potential impacts to unknown historical resources. Completion of a cultural resources monitoring plan allows for the timely response to the identification of unanticipated or inadvertent impacts to historical resources.

Environmental Analysis: *Less than Significant after Mitigation*.

Required Mitigation:

CUL-1. Cultural Resource Monitoring Program

A qualified archaeological monitor shall be present during initial ground disturbing activities to identify previously unknown significant or potentially significant historical and archaeological resources that may be eligible for inclusion in the NRHP, the CRHR, or eligible for designation as a TRPA historical resource, and to identify any unanticipated or inadvertent impacts to known historical or archaeological resources. The responsibilities of the archaeological monitor shall include: inspecting, documenting, and describing cultural material identified during monitoring; communicating with construction personnel; and notifying agencies (e.g., the SHPO, and TRPA) if previously unidentified historical or archaeological resources are encountered that may be eligible for inclusion in the NRHP, the CRHR or eligible for designation as a TRPA historical resource. Archaeological monitors shall have the authority to halt construction activities that have the potential to disturb significant historical or archaeological resources until appropriate measures can be implemented.

Ground disturbing activities in the vicinity of the resource shall cease if the archaeological monitor determines that continuation of activity shall affect a significant historical or archaeological property, or if human remains are identified. If the archaeological monitor identifies cultural material but is unable to determine whether the resumption of the construction

activity will affect historical or archaeological resources that may be eligible for listing, the monitor shall contact the appropriate agency official. Subsequent notification and consultation shall follow regulations pertaining to the evaluation of significance, assessment of effects, and consultation with the SHPO and the ACHP, as appropriate (36 CFR, part 800.4 through 800.9).

There is a possibility of encountering human remains during ground disturbing construction activities (Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human grave). If human graves are encountered, work shall halt in the vicinity and the Placer County Coroner shall be notified. At the same time, an archaeologist shall be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 48 hours of this identification.

48. Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (CEQA 5b)

Standard of Significance: If the Project causes "a substantial adverse change in the significance of an historical or archaeological resource" (i.e. physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings) pursuant to PRC Section 15064.5, a significant impact results to archaeological resources.

The Project will cause no substantial adverse change to the four (4) sites identified along or in the vicinity of the trail alignment. While the Project does not impact known resources, the trail alignment is located near known resources. Because research indicates that the APE has a moderate to high potential to contain buried archaeological resources, implementation of mitigation measure CUL-1 allows for the timely response to the identification of unanticipated or inadvertent impacts to known archaeological resources.

Environmental Analysis: *Less than Significant after Mitigation*.

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

49. Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (CEQA 5c)

Standard of Significance: A significant effect on the environment occurs if the Project has the potential to pose a significant impact to paleontological resources identified during construction related ground disturbing activities, if any paleontological resources are identified during construction, as provided in PRC Section 5097.98, or if the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The significance of paleontological resources is determined in part by compliance with the Antiquities Act of 1906. Fossil remains of vertebrates are considered significant resources.

The project area contains no unique paleontological resources or geologic features, and therefore, no paleontological resources or unique geologic features will be directly or indirectly destroyed by the Project.

Environmental Analysis: *No impact.*

Required Mitigation: **None**.

50. Would the Project disturb any human remains, including those interred outside of formal cemeteries? (CEQA 5d)

Standard of Significance: The potential exists to pose a significant impact to human remains identified during construction related ground disturbing activities. A significant impact results if the Project affects human remains.

Cultural resource studies identified no formal cemeteries within the project area. Encountering buried resources is unlikely in the environment of the project area. However, as with any ground-disturbing activity, the possibility of encountering buried resources that were not revealed during intensive surface investigations exists. Therefore, this impact is considered potentially significant and requiring mitigation. The presence of archaeological monitors during ground disturbing activities and completion of a cultural resources monitoring program, as outlined in mitigation measure CUL- 1, reduces potentially significant impacts to a level less than significant by allowing for the timely response to the identification of any unanticipated or inadvertent impacts to known historical or archaeological resources and/or human remains.

Environmental Analysis: *Less than Significant after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resources Monitoring Program

51. Will the Project result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building? (TRPA 20a)

No, with mitigation. Standard of Significance: See analyses for Questions 47 and 48, which address CEQA checklist items 5a and 5b, respectively, and conclude that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

52. Is the Project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records? (TRPA 20b)

No, with mitigation. Standard of Significance: See analysis for Questions 47 and 48, which address CEQA checklist items 5a and 5b, respectively, and conclude that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

53. Is the Project associated with any historically significant events and/or sites or persons? (TRPA 20c)

No, with mitigation. Standard of Significance: See analysis for Question 47, which addresses CEQA checklist item 5a and concludes that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

54. Does the Project have the potential to cause a physical change which would affect unique ethnic cultural values? (TRPA 20d)

No, with mitigation. Standard of Significance: See analysis for Question 47, which addresses CEQA checklist item 5a and concludes that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

55. Will the Project restrict historic or pre-historic religious or sacred uses within the potential impact area? (TRPA 20e)

No, with mitigation. Standard of Significance*:* See analysis for Question 48, which addresses CEQA checklist item 5b and concludes that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

3.2.6 Geology and Soils (CEQA) and Land (TRPA)

This section presents the analyses for potential impacts to geology, soils and land. Table 17 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 17

Geology and Soils and Land

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
56. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? (CEQA VIa)		X		
57. Result in substantial soil erosion or the loss of topsoil? (CEQA VIb)		X		
58. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (CEQA VIc)		X		

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
59. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (CEQA VId)		X		
60. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? (CEQA VIe)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
61. Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)? (TRPA 1a)				X
62. A change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions? (TRPA 1b)				X
63. Unstable soil conditions during or after completion of the proposal? (TRPA 1c)		X		
64. Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet? (TRPA 1d)				X
65. The continuation of or increase in wind or water erosion of soils, either on or off the site? (TRPA 1e)		X		
66. Changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake? (TRPA 1f)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
67. Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards? (TRPA 1g)		X		

3.2.6.1 Environmental Setting

Topography. The Kings Beach, California 7.5-minute United States Geological Survey (USGS) quadrangle map illustrates the project area in Township 16N, Range 17E Sections 28, 29, 33, Mount Diablo Meridian. The project area, by the nature of a linear public facility, crosses a variety of topography associated with forested foothills, open meadow and developed residential areas between the elevations of 6,500 and 7,000 feet above mean sea level (msl). The general topography of the surrounding the project area is mountainous with an overall slope from the northwest to the east and southeast. The linear project area follows generally flat to rolling slopes; however, side slopes approach 30 percent at times.

Geology. The project area is at the margin of two geologic regions: the Sierra Nevada and Basin and Range Geomorphic Regions. Characteristic of the Sierra Nevada Region, the geologic setting of the project area is mountainous developed primarily on granitic bedrock of the Sierra Batholith (Saucedo 2005), which represents a series of igneous intrusions that occurred during the Paleozoic Era around 575 to 270 million years ago. The Sierra Nevada region has been uplifted as a tectonic block.

The tectonic conditions and geologic structure of the Lake Tahoe Basin are characteristic of the Basin and Range Region. The Lake Tahoe Basin is a fault-bounded valley formed by the extensional tectonic regime that defines the Basin and Range (Schweickert et al. 2004).

The surface geology of the project area, illustrated in Figure 19, is predominately Miocene andesitic and dacitic lahars, flows, breccia and volcaniclastic sediments (Mva) with a small portion of the northern project area comprised of Pliocene andesite and basaltic andesite flows (Pva) and Miocene andesite and dacite flows (Mvaf), which are defined as follows (Saucedo 2005):

- Pva – Unnamed volcanic and intrusive rocks: Light- to dark-gray, fine-grained porphyritic, massive to locally flow-banded andesite and basaltic andesite flows. Occurs as continuous flows and isolated remnants of larger flows deposited in channels eroded in older Tertiary volcanic deposits. Includes lava domes in the Agate Bay area (Wise and Sylvester, 2004). Harwood and Fisher (2002) report K-Ar whole-rock ages that range from 3.3±0.09 to 4.7±0.1 Ma on andesite flows in the Homewood, Tahoe City, and adjacent quadrangles to the west.

- Mva - Unnamed volcanic and intrusive rocks: Undivided andesite, trachyandesite, basaltic andesite and dacite lahars, flows, breccia and volcaniclastic sediments; local basalt flows. In part, may include rocks of Pliocene age. Locally includes rhyolite tuff. Includes Mehrten, Relief Peak and Kate Peak formations.

- Mvaf - Unnamed volcanic and intrusive rocks: Massive to platy andesite, includes hornblende- and pyroxene-andesite flows and dacite flows. Locally includes andesite and dacite domes; in part may be Pliocene. May locally include trachybasalt and basalt flows. An andesite flow west of the map area in the Norden quadrangle gives an Ar/Ar hornblende age of 6.33± 0.25 Ma.

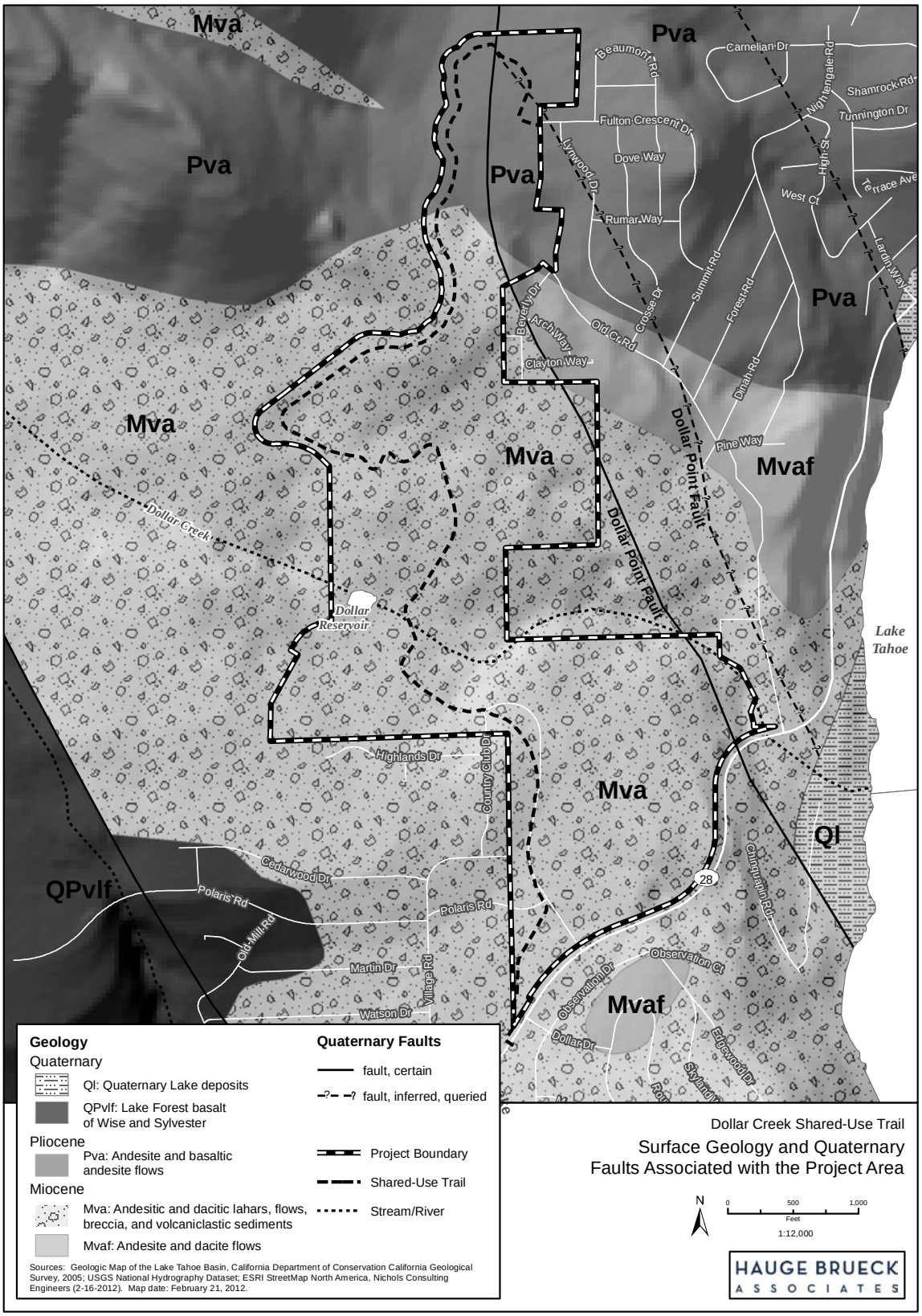
Geologic Hazards. Potential geologic hazards within and in the vicinity of the project area in are assessed in accordance with the requirements of the California Board for Geologists and Geophysicists (Board) Geologic Guidelines for Earthquake and/or Fault Hazard Reports; the Board Guidelines for Engineering Geologic Reports; California Geological Survey (CGS) Special Publication 42, Fault-Rupture Hazard Zones in California: Alquist-Priolo Earthquake Fault Zoning Act with index to Earthquake Fault Zone Maps (Hart and Bryant 1997); and CGS Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Division of Mines and Geology 1997).

Potential geologic hazards for the project area include proximity to potentially active faults and liquefaction resulting form subsurface soil conditions. Project area conditions do not contribute to increased risk from debris flows, flooding, rock fall or avalanche. A common effect of earthquakes that could occur in the project area is ground shaking along a fault.

The most significant geologic hazards associated with the project area are from earthquakes and their associated effects. Earthquakes present direct (primary) and indirect (secondary) hazards; both of which can occur locally or at locations distant from the earthquake source. Direct, local earthquake hazards include damage caused by fault displacements either by ground surface rupture or gradual fault creep. The damage caused by ground shaking is also a direct effect; however, shaking can occur locally or at remote locations. Indirect hazards presented by earthquakes include liquefaction and earthquake-induced landslides, both of which are triggered by ground shaking. The portions of the project area that are located on or near steep terrain could be subject to slope instability (landsliding, both gravitational or earthquake-induced) hazards, but slopes within the project area are less than 30 percent. Roads, structures, pipelines, utilities lines, dams and embankments in the project area vicinity may also be subject to this hazard. The analysis of these hazards is based on an understanding of the potential for these events to occur in the project area.

Fault Rupture and Creep. Based on a review of the Preliminary Map of Pleistocene to Holocene Faults in the Lake Tahoe Basin (Schweickert et. al. 2000), the project area intersects the Dollar Point Fault, an active fault. As a result, the potential exists for displacement caused by fault rupture or creep along the section of asphalt concrete trail and cut and fill slopes in the northern portion of the project area as illustrated in Figure 19.

Figure 19. Surface Geology and Quaternary Faults Associated with the Project Area



Ground Shaking. The severity of ground shaking due to an earthquake is determined by several factors including the size of the earthquake, fault rupture characteristics, and proximity of the earthquake to the site of interest. The type of soil or bedrock beneath the site also determines the strength of ground shaking. For this evaluation, ground shaking is described by the Modified Mercalli scale, which is a method involving 12 levels of intensity denoted by Roman numerals. The scale relates human perception and amount of damage. Modified Mercalli intensities range from I (shaking that is not felt) to XII (total damage).

The project area is mapped as having a probable maximum earthquake intensity of IX or X on the Modified Mercalli scale, which is a magnitude range of 6.5 to 7.0. Intensity IX involves violent ground shaking and heavy damage. The effects of Intensity IX are described as "considerable damage to designed structures; well designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse; underground pipes may be broken". Damage under Intensity X is even greater, with "some well built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked".

The majority of the project area is located in areas that will experience moderate severity of ground shaking during an earthquake. The project area crosses Dollar Creek, which is an area that will experience the greater severity of ground shaking due to soil conditions.

The California Geological Society (CGS) maintains a web-based computer model that estimates probabilistic seismic ground motions for any location within California. The computer model estimates the "Design Basis Earthquake" ground motion, which is defined as the Peak Ground Acceleration (PGA) with a 10 percent chance of exceedance in 50 years (475-year return period). The estimated PGA for the project area is approximately 0.3g; thus indicating that the ground shaking hazard in the project area is moderate (http://www.conservation.ca.gov/; accessed February 29, 2012). The PGA values are typically described for uniform soft rock site conditions similar to the project area.

Liquefaction. Liquefaction occurs in water-saturated sediments that are shaken by moderate to large earthquakes. Liquefaction hazard analysis involves understanding the potential for ground shaking combined with the physical properties and conditions of the soil. Soils most susceptible to liquefaction are saturated, loose, clean, uniformly graded, and fine-grained sand deposits. Geologic age also influences the potential for liquefaction. Sediments deposited within the past few thousand years are generally much more susceptible to liquefaction than older Holocene age sediments; Pleistocene age sediments, which are between 12,000 and 2.5 million years, are even more resistant; and pre-Pleistocene age sediments (more than 2.5 million years) are generally immune to liquefaction (California Division of Mines and Geology 1997).

Earthquake-Induced Landslides, Avalanches and Rock Fall. Landslides and debris flows triggered by earthquake ground shaking have historically been the cause for a great deal of property damage and loss of life. Areas most susceptible to earthquake-induced landslides are generally on steep slopes or adjacent to existing landslide deposits. The possibility of landslides and seismically induced slope instability is considered low due to topography within and upslope of the project area. The trail alignment generally avoids areas of steep slopes.

Moderate or large avalanches can generate enough force to destroy most man-made objects and structures. Restricting the intensity of development in areas of high avalanche potential reduces the possibility of loss of life and property. Therefore, avalanche risk areas are taken into consideration during development review. Substantial potential for avalanche within the project area does not exist due to topography.

Because shallow groundwater may be encountered at Dollar Creek during construction, but seepage would not be substantial enough to initiate debris flow mobilization and shallow landslides.

Soils. The NRCS maps soils in the Lake Tahoe Region, as described in the Soil Survey of the Tahoe Basin Area, California and Nevada (USDA 2007). Based on the NRCS Soil Survey (2007) in concert with the review of the Land Capability and Land Coverage Report prepared for the project area, there are two (2) soil series that dominate four (4) soil map units in the project area: Tahoma and Jorge. Figure 20 illustrates the distribution of the soil groups present in the project area, and Table 18 outlines the soil characteristics pertinent to geotechnical evaluations.

Subsurface Conditions. Section 3.2.9, Hydrology and Water Quality, details the expected groundwater conditions for the project area.

Land Capability and Coverage. The TRPA established a land capability system based upon the Bailey Land Classification System methodology (Bailey 1974). Land capability classification delineates the amount of impermeable development coverage (e.g. base allowable land coverage) that may exist within a land capability district (LCD). LCDs 1 to 3 are more sensitive to development, with LCD 1 being the most environmentally fragile. LCD 1b (also referred to as Stream Environment Zones or SEZ) is assigned whenever land is influenced by a stream or high groundwater.

TRPA revised Code Chapter 90 defines Land Coverage as a man-made structure, improvement, or covering that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement or covering. Hard coverage typically describes structures, improvements or coverings that inhibit more than 75 percent of precipitation from directly reaching the soil or inhibits the growth of vegetation included in TRPA's most current approved species list. Soft coverage describes compacted areas without structures, improvements or coverings.

CardnoEntrix staff completed the land capability and land coverage verifications for the project area in October 2011. TRPA staff reviewed and approved these verifications in early 2012. The project area includes LCDs 1b, 4 and 6. Appendix J contains the TRPA land coverage and land capability verifications confirming these LCDs. Existing coverage within the project area includes unpaved roads and trails and road shoulders. Table 19 presents verified existing land coverage, base allowable land coverage, and proposed land coverage totals by LCD.

Verified existing land coverage for the 11,267,603 square foot (258.7 acres) project area is 54,372 square feet (1.25 acres). TRPA allowable base land coverage within the project area equates to 3,229,159 square feet (74.1 acres). The Project adds 165,690 square feet (3.8 acres) of new land coverage to the project area.

Table 18

Project Area NRCS Soil Characteristics

Soil Type[1]	Parent material[2]	Surface Runoff Class[3]	Shrink/ Swell Potential[4]	Permeability[5]	Drainage Class[6]	Available Water Capacity[7]	Hydrologic Group [8]
Jorge Very cobbly fine sandy loam, 5 to 15% slopes, rubbly	Colluvium derived from andesite	Low	Low	Moderate	Well Drained	5.7 inches	B
Jorge Very cobbly fine sandy loam, 15 to 30% slopes, rubbly	Colluvium derived from andesite	Medium	Low	Moderate	Well Drained	5.7 inches	B
Tahoma Very cobbly sandy loam slopes, 15 to 30% slopes, very stony	Colluvium over residuum weathered from andesite	Low	Low	Slow above the bedrock	Well Drained	8.7 inches	B
Tahoma-Jorge complex, 2 to 15 percent slopes	Colluvium over residuum weathered from andesite	Low	Low	Slow above the bedrock	Well Drained	8.7 inches	B

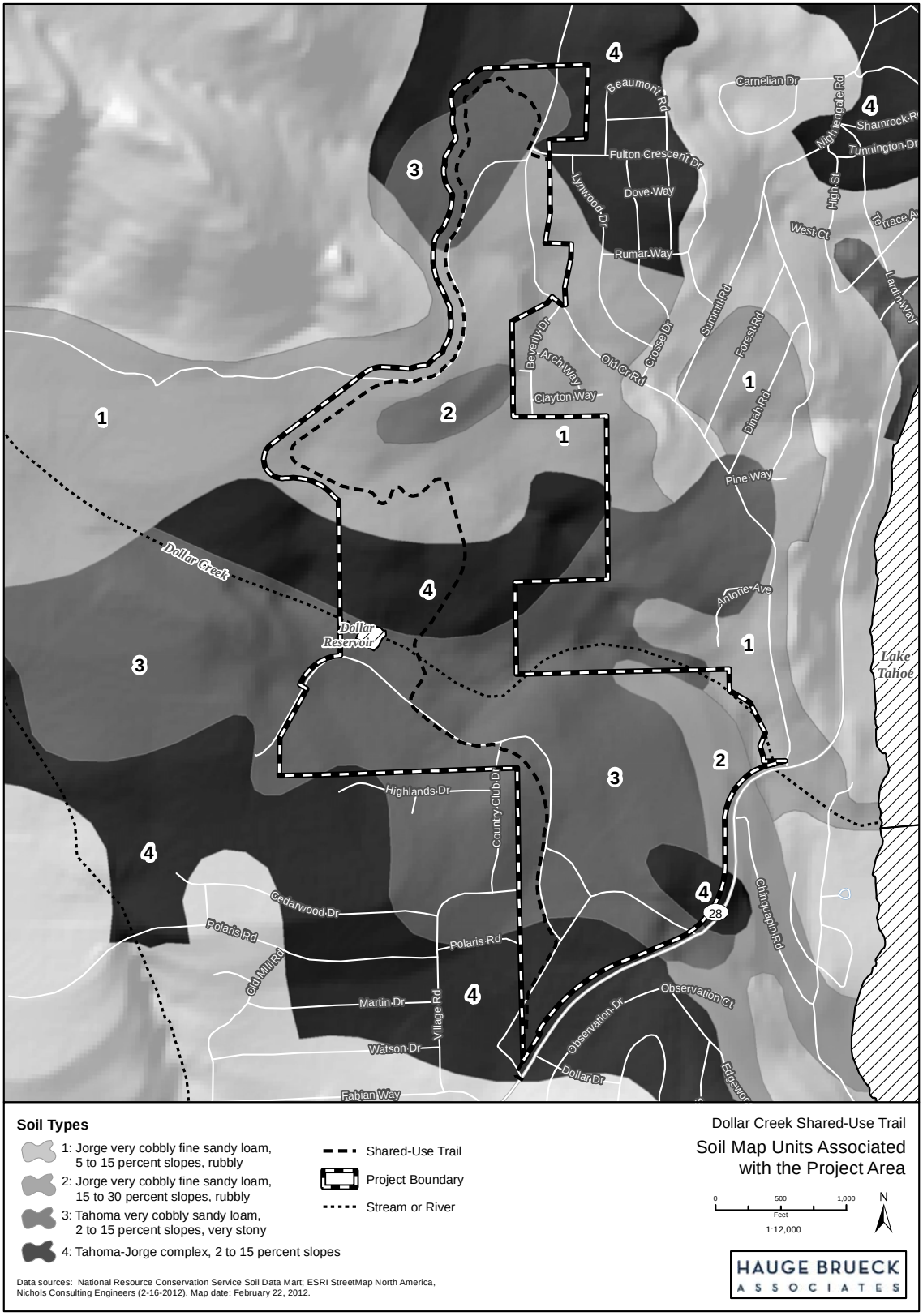
Source: NRSC 2007 Soil Survey Maps; HBA 2011

Notes:

1. See Figure 20 for locations of NRCS Soils
2. Parent material. The unconsolidated and chemically weathered mineral and organic material in which the solum of a soil is formed as a result of pedogenic processes. Granitic. A textural term commonly pertaining to an igneous intrusive rock of felsic to intermediate composition. Referring to granite like rock, but not necessarily true granite. Commonly applied to granite, quartz monzonite, granodiorite, and diorite. Granodiorite. An igneous intrusive rock that is intermediate between felsic and mafic in composition and contains quartz and somewhat more plagioclase than orthoclase.

3. Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.
4. Shrink/Swell Potential provides criteria for determination of expansive soil properties.
5. Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality.
6. Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."
7. Available water capacity (AWC) (available moisture capacity). The volume of water that should be available to plants if the soil, inclusive of fragments, were at field capacity. It is commonly estimated as the difference between the amount of water at field capacity and the amount at wilting point with adjustments for salinity, fragments, and rooting depth. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as: Very low 0 to 2.5; Low 2.5 to 5.0; Moderate 5.0 to 7.5; High 7.5 to 10.0; Very high more than 10.0.
8. Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Hydrologic Soils Group Definitions: A =low runoff potential (0.30 to 0.45 in/hr); B=moderate runoff potential (0.15 to 0.30 in/hr); C=moderately high runoff potential (0.05 to 0.5 in/hr); D=high runoff potential (less than 0.05 in/hr)

Figure 20. Soil Map Units Associated with the Project Area



3.2.6.2 Environmental Analysis and Mitigation Measures

56. Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

56.i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? (CEQA VIa).

Standard of Significance: For Question 56i through 56iv, the location of facilities within an Alquist-Priolo earthquake fault zone or known active fault zone or the location of facilities within areas of unstable soil without appropriate design features or construction controls constitutes a significant impact.

The intention of the Alquist-Priolo Earthquake Fault Zoning Act (PRC Section 2621-2630) is to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors and 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. As defined by the Alquist-Priolo Earthquake Fault Zoning Act (1972), an active fault is one that has had surface displacement within Holocene time or the last 11,000 years.

The project area is located within the Sierra Nevada-Great Basin seismic belt. Based on the Division of Mines and Geology Special Publication 42 and the Index to Official Maps of Earthquake Fault Zones (Hart and Bryant 1997), the project area is not located in the Alquist-Priolo Earthquake Fault Zone. Figure 19 illustrates the approximately located and inferred/queried faults in the vicinity of the project area. These inferred faults are not listed in Alquist-Priolo Earthquake Fault Zones because they do not have surface ruptures and are not officially recognized.

The risk of fault rupture is a less than significant impact based on existing published data of officially recognized faults and proximity of the project area to such faults. The Project establishes and relocates land coverage with minimal alteration to the existing landscape and does not increase the present surface rupture hazard nor constructs habitable structures in these areas.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

GEO-1. Submit Final Geotechnical Report

The Project Applicant shall submit to the Engineering and Surveying Department (ESD) of Placer County, for review and approval, a geotechnical engineering report produced by a California Registered Civil Engineer or Geotechnical Engineer. The report shall address and make recommendations on the following:

A) Road, pavement, and parking area design

B) Structural foundations, including retaining wall design (if applicable)

C) Grading practices

D) Erosion/winterization

E) Special problems discovered on-site, (i.e., groundwater, expansive/unstable soils, soil creep, etc.)

F) Slope stability

G) Utility trench design, including seismic design for sewer and water utilities crossing fault lines

Once approved by the ESD, two copies of the final report shall be provided to the ESD. If the soils report indicates the presence of critically expansive or other soils problems that, if not corrected, could lead to structural defects, a certification of completion of the requirements of the soils report shall be required for subdivisions, prior to approval of the Improvement Plans. It is the responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

GEO-2. Standard Engineering Practices for Seismic Coefficients

The Project shall implement facility features and design appropriate to local seismic coefficients (e.g., 0.3g) to minimize the damage potential from ground shaking hazards on facility features such as a bridge, drainage features, and trail surfaces. Site-specific geotechnical investigations at locations such as the Dollar Creek crossing and retaining wall locations shall provide necessary engineering details, including appropriate site preparation, excavation of unstable materials, structural fill, compacted fill, subsurface drainage, and subgrade and aggregate base for asphalt concrete trail surfaces.

56.ii) Strong seismic ground shaking?

The project area is located in a region traditionally characterized by moderate seismic activity. A large earthquake in the project area vicinity could cause moderate to high ground shaking in the project area. Anticipated ground acceleration at the project area is great enough to cause structural damage to shared-use trail features, such as warping or cracking of the trail surface.

Implementation of design features and construction controls appropriate to seismic coefficients as outlined in mitigation measure GEO-2, minimizes the potential ground shaking hazards on structures and features in the project area. As engineering details develop, additional geotechnical investigations at locations such as the Dollar Creek, will direct engineering specifications for structures such as bridges, retaining walls, and causeways, as outlined in mitigation measure GEO-1. These include appropriate site preparation, excavation of unstable materials, structural fill, compacted fill, subsurface drainage, subgrade and aggregate base for paved trail surfaces to minimize the adverse effects from ground shaking.

The Project constructs no occupied structures and thus exposes no new occupants to ground shaking or injury resulting from seismically induced structural damage.

Through conformance to federal, regional, State and local codes and requirements and implementation of facility features and construction controls, the potential impact from ground shaking is avoided, minimized and reduced to a level of less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-2. Standard Engineering Practices for Seismic Coefficients

56.iii) Seismic-related ground failure, including liquefaction?

Review of available literature and project area soil maps indicates that the sandy soils below the groundwater table are dense in nature and thus not as susceptible to liquefaction. Liquefaction associated with earthquake activity is not likely to occur within the majority of the project area due to the high rock content of the soils. With such high rock content, the saturation levels of the soils do not reach a state of liquefaction readily.

Locations with shallow groundwater and less dense sandy soil could be more susceptible to liquefaction. Because shallow groundwater is likely to be encountered at Dollar Creek, a potential for liquefaction exists in these portions of the project area. The Project installs design features and construction controls appropriate to seismic coefficients (e.g., 0.3g) to minimize the potential effects from liquefaction, as described for mitigation measure GEO-2.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-1. Standard Engineering Practices for Seismic Coefficients

56.iv) Landslides?

The possibility of landslides and seismically induced slope instability is considered low because of the topography within and adjacent to the project area. The impact level is less than significant because most locations along the trail alignments that are adjacent to steep slopes support existing development and private residences. The construction and operation of a shared-use trail does not increase the potential for landslides or seismically induced slope instability. Facility features and construction controls are built into the proposal for avoidance, reduction and minimization of impacts from landslides and seismically induced slope instability. These include use of retaining walls in areas with steep side slopes to reduce earthwork requirements and to stabilize adjacent slopes. Revegetation of slopes disturbed during Project construction corresponds to the type of disturbance and complies with State, County and TRPA codified regulations through implementation of mitigation measure GEO-2.

A rock outcrop is adjacent to the project area at an existing bouldering area used for recreation; so, the potential for seismically induced rock fall could exist. The potential impact is reduced to a level of less than significant through establishment of adequate distance between this single rock outcrop and the trail. Based on available literature, the slopes present within and adjacent to the project area do not present a significant potential for avalanche. The final construction plans will incorporate the recommendations of geotechnical evaluations to further reduce potential impacts from secondary geologic hazards to a level of less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-1. Standard Engineering Practices for Seismic Coefficients

57. Would the Project result in substantial soil erosion or the loss of topsoil? (CEQA VIb)

Standard of Significance: Significant impacts result from non-compliance with TRPA revised Code Chapters 30, 33 and 60, the 208 Plan, the Lahontan Basin Plan (Chapter 5) or construction permit conditions requirements for the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

The project description in Chapter 2 includes provisions to prevent short-term erosion from construction impacts and long-term erosion from operational and maintenance activities.

Short-Term. The potential for erosion is greatest during the construction period and prior to establishment of revegetation plantings. Construction of the Project involves soil disturbance and vegetation removal from clearing and grubbing activities, grading for cut and fill slopes necessary to achieve final shared-use trail grades and the actual construction of the shared-use trail. Construction activities could cause temporary, short-term increases in runoff, soil erosion, wind erosion and sedimentation within and down gradient of the project area. When disturbed sites are not adequately stabilized and revegetated, wind can dislodge soil particles and make them airborne. When runoff bypasses natural processes, this water is not infiltrated and filtered by soils to provide contribution to local groundwater supplies. Excess runoff can overwhelm stream channels with increased water volumes and pollutant concentrations and result in stream bank erosion, loss of vegetation, and reductions in functional aquatic habitat and SEZ.

The facility features and construction controls incorporated into the Project proposal to reduce short-term erosion potential include: construction phasing to limit the duration of construction and extent of disturbance present at one time and temporary BMPs. Temporary BMPs provide dust control, protect and stabilize stored materials, define work zones, staging and access areas to limit disturbance, slow runoff velocity and intercept sediment during storm events, and stabilize slopes during Project construction and initial vegetation establishment periods.

Facility features and construction control measures for these plans include, but are not limited to:

- Construction phasing that minimizes the extent of disturbance areas and duration of disturbance;
- Clearly marked staging hammerhead (i.e., designated turnarounds) and access areas;
- Armoring of staging, access and hammerhead areas;
- Construction equipment and vehicle restrictions;
- Temporary BMPs that are effective in containing the 20-year, 1-hour TRPA design storm;
- Topsoil salvaging and pile protection;
- Stabilization of slopes during Project construction and initial vegetation establishment periods;
- The Qualified Stormwater Pollution Prevention Plan (SWPPP) Practitioner or QSP present during construction assures BMP effectiveness and conducts remedial actions.

The project area presents few site challenges to construction that could limit the effectiveness of standard construction controls and facility features. To further avoid and minimize potential impacts of soil erosion and loss of topsoil from water or wind erosion, mitigation measures GEO-3 through GEO-6 will be implemented during construction activities.

Compliance with NPDES general construction permit (mitigation measures GEO-4 and GEO-5) and TRPA Erosion and Sediment Control Plan requirements and grading ordinance (mitigation measures GEO-3 and GEO-7) ensures that runoff, wind and water erosion, and sedimentation are contained on-site

during construction of the Project and that actions comply with grading restrictions. The ESCP determines the site-specific temporary BMPs for installation during construction activities. The SWPPP developed by a qualified engineer or erosion and sediment control specialist is submitted concurrently with the NOI to Lahontan 30 days prior to the start of construction for review and approval (mitigation measure GEO-4). As preparation of construction documents progress, details for the Lahontan-required SWPPP and the TRPA-required ESCP will refine Project proposals.

Mitigation measures GEO-6 assures that construction-related Best Management Practices (BMPs) are designed according to the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development / Redevelopment, and/or for Industrial and Commercial, and/or other similar source as approved by the Placer County ESD. Mitigation measure GEO-8 requires that the Project conform to the Placer County grading ordinance. Stockpiling and/or vehicle staging areas will be identified on the Construction/Improvement Plans and located as far as practical from existing dwellings and protected resources in the area, as detailed in mitigation measure GEO-9.

Long-term. The Project proposal includes hydrologic source controls to infiltrate runoff from the trail surface into the adjacent clear zones and avoid off-site impacts to soils. The Project stabilizes and revegetates areas disturbed during construction and maintains these areas as detailed in the OMMS in Appendix F. Long-term maintenance of these areas minimizes long-term effects to soils. The Project proposal minimizes soil disturbance and loss of topsoil through:

- Revegetation specifications that respond to site-specific conditions;
- Stabilization of cut and fill slopes;
- Adequate cross drainage;
- Installation of culverts in areas with evidence of surface drainage;
- Bridge span to avoid Dollar Creek stream channel and associated SEZ;
- Installation of asphalt concrete trail on permeable fill/vented trail in areas with evidence of seasonal surface hydrology; and
- Long-term monitoring and adaptive management strategies (Appendix F) to limit new disturbance from user created unpaved trails.

The Project must satisfy the requirements of Section II of the Land Development Manual (LDM), as outlined in mitigation measure GEO-10, for Placer County ESD approval.

This evaluation concludes that the Project proposal includes facility features and construction controls that are appropriate and adequate to minimize erosion on and off-site and stabilize soils during and upon completion of excavation, grading and fill activities. With implementation of mitigation measures GEO-3 through GEO-10, the Project conforms to federal, regional, State and local codified regulations for the control of soil erosion, thereby reducing potential impacts to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

The TRPA Erosion and Sediment Control Plan (ESCP) shall be prepared to identify the type and placement of temporary construction BMPs and shall be complimentary to the SWPPP required for NPDES permitting. Project construction documents shall demonstrate compliance with TRPA revised Code Chapter 60, Section 60.4.

GEO-4. File Permit Registration Documents (PRDs)

The County shall electronically file a Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) with Lahontan through the SMARTs system prior to any soil-disturbing activities to obtain coverage under Board Order R6T-2011-0019.

GEO-5. Conform to NPDES Permit Requirements

The Project shall comply with Lahontan Board Order R6T-2011-0019, entitled *General Waste Discharge Requirements and National Pollutant Discharge Elimination System for Discharges of Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado and Placer* (Permit No. CAG616002*).* The permit applies to construction sites and activities resulting in the disturbance of one or more acres of soil disturbance in the Lake Tahoe Hydrologic Unit. Construction activities include clearing, grading, demolition, excavation, construction or new structures and reconstruction. Most detail associated with SWPPP consideration shall be developed during preparation of the final construction plans and address features such as construction techniques and staging. The project description shall incorporate general features related to SWPPP requirements as follows:

a) Prevent discharge into surface water, including into SEZ and wetlands, during project construction. Critical areas of concern include construction near Dollar Creek and the SEZ and wetland areas.

b) To prevent discharge from soil or construction activities, construction plan proposals shall implement the following provisions:

- Construction scheduling shall respect site conditions and occur during the driest conditions possible.

- Construction activity including grading and equipment and materials movement shall be conducted within designated work areas near the trail surface, identified with construction fencing or other approved means.

- Site preparation for the construction zone includes tree and other vegetation removal. Brush, slash, timber, and removed stumps not used for restoration will be chipped for mulch or otherwise disposed of in accordance with local restrictions and regulatory requirements.

- Vegetation protection for existing trees and other vegetation.

- For SEZs, construction activities shall avoid existing vegetation removal to the maximum extent possible, including in areas of necessary equipment movement. Where necessary, construction proposals could also use linked landing plates, geotextile fabric topped with sand, or an alternative with equal or lesser impacts to protect work zone soils near the trail.

- Engineering and construction control details for the new bridge at Dollar Creek shall result from further geotechnical evaluation. Current project planning assumes new bridge supports can be piling or pier design; however use of concrete footings may be necessary. If so, dewatering for footings construction at Dollar Creek is possible. In that event, construction scheduling shall direct footings excavation to the driest

conditions possible. Excavation sites will be protected with sand bags, water berms, siltation fences, or other approved techniques. Localized pumping shall clear the construction area of turbid standing water. Pumped water could be used to irrigate planted vegetation, sprayed on uplands to allow infiltration at the project site, held in Baker Tanks, or otherwise treated to remove suspended sediment to comply with the requirements of the permit prior to discharge within the project area.

- Include location requirements for staging areas outside of SEZ and floodplains. Materials storage and stockpiles shall be protected from erosion with temporary siltation fences, straw wattles, or other approved methodologies. As potential staging areas sit within or adjacent to residential development, careful consideration of dust control provisions, including prevention of track-out, shall be necessary (mitigation measure AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan, provides more detail). Construction specifications shall employ exposed soil watering, stockpile protection, street sweeping and/or other techniques to control dust. Access to staging and site construction shall be protected with clean gravel or other approved material to reduce track-out.

- If construction conditions warrant equipment washing to prevent soil transport off site, the areas shall be identified in the SWPPP and located outside of sensitive areas and away from stream channels.

- Project construction involves the short-term use of hazardous materials necessary for operation and maintenance of construction equipment, (e.g., diesel fuel and hydraulic fluid). Hazardous materials shall be stored at the staging areas identified and prevented from contaminating the site from natural conditions or vandalism. Fueling and necessary maintenance of construction equipment shall occur outside of SEZ, wetland or floodplain areas and be managed to avoid site contamination. A spill response plan shall include provisions for worker training, spill containment, agency notice, and a remediation process.

- If construction for any given segment extends beyond a single construction season, the project area shall be stabilized to meet permit requirements for withstanding the 20-year, 1-hour storm.

- A QSP that is on-site during construction activities shall provide professional expertise and expedited response to correct issues that could arise during construction and shall assure compliance with permitting conditions and fulfillment of Project commitments.

c) Prevent discharge into surface water throughout the life of the project. Key facility features to address these requirements shall include installation of permanent BMPs and water quality protection controls, revegetation and restoration of disturbed soil, and minimization of foot trail width where necessary. The Project proposal includes an Operations, Management and Maintenance Strategy (OMMS), which outlines anticipated maintenance schedules for post-construction and permanent BMPs.

d) Properly site staging and stockpiling areas shall reduce potential impact to surface water quality by locating these areas on higher capability lands, maximizing distance to streams and conveyance systems.

e) Develop appropriate procedures to follow in the event that contaminated soil or groundwater is encountered during construction activities. The NTFPD shall review the document for approval for implementation.

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

Construction-related Best Management Practices (BMPs) shall be designed according to the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development / Redevelopment, and/or for Industrial and Commercial, (and/or other similar source as approved by the ESD). Construction (temporary) BMPs for the Project could include, but are not limited to: Fiber Rolls (SE-5), Hydroseeding (EC-4), Stabilized Construction Entrance (LDM Plate C-4), Storm Drain Inlet Protection (SE-10), Silt Fence (SE-1), revegetation techniques, dust control measures, and concrete washout areas.

The Discharger/Project Applicant shall minimize or present pollutants in stormwater discharges and non-authorized non-stormwater discharges through the use of controls, structures and management practices that achieve Best Available Technology for toxic and non-conventional pollutants and Best Conventional Pollutant Control Technology (BCT) for conventional pollutants. Stormwater controls and control locations shall be installed per the SWPPP for the active project area. Construction BMPs shall be installed per Section V111. Best Management Practices (BMPs) of Board Order R6T-2011-0019 for site management, sediment and erosion/stabilization controls, and construction site dewatering or diversions.

GEO-7. Comply with TRPA Grading Period

Soil-disturbing activities shall be conducted between May 1 and October 15.

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

Proposed grading, drainage improvements, vegetation and tree removal shall be shown on the Construction/Improvement Plans and all work shall conform to provisions of the County Grading Ordinance (Ref. Article 15.48, Placer County Code) and Stormwater Quality Ordinance (Ref. Article 8.28, Placer County Code) that are in effect at the time of submittal. No grading, clearing, or tree disturbance shall occur until the Construction/Improvement Plans are approved and all temporary construction fencing has been installed and inspected by a member of the Development Review Committee (DRC). Cut/fill slopes shall be at a maximum of 2:1 (horizontal: vertical) unless a soils report supports a steeper slope, but fill slopes shall not exceed 1.5:1 (horizontal: vertical) and ESD concurs with said recommendation.

The Project Applicant shall revegetate all disturbed areas. Revegetation undertaken from April 1 to October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with Project Construction/Improvement Plans. It is the applicant's responsibility to assure proper installation and maintenance of erosion control/winterization before, during, and after Project construction. Soil stockpiling or borrow areas shall have proper erosion control measures applied for the duration of the construction activity as specified in the Construction/Improvement Plans. Provide for erosion control where roadside drainage is off of the pavement, to the satisfaction of the ESD.

If, at any time during construction, a field review by County personnel indicates a significant deviation from the proposed grading shown on the Improvement Plans, specifically with regard to slope heights, slope ratios, erosion control, winterization, tree disturbance, and/or pad elevations and configurations, the plans shall be reviewed by the DRC/ESD for a determination of substantial conformance to the Project approvals prior to any further work proceeding. Failure of the DRC/ESD to make a determination of substantial conformance may serve as grounds for the revocation/modification of the Project approval by the appropriate hearing body.

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Construction/Improvement Plans

Stockpiling and/or vehicle staging areas shall be identified on the Construction/Improvement Plans and located as far as practical from existing dwellings and protected resources in the area.

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

The Project Applicant shall prepare and submit Construction/Improvement Plans, specifications and cost estimates (per the requirements of Section II of the Land Development Manual [LDM] that are in effect at the time of submittal) to the ESD for review and approval. The plans shall show all conditions for the Project as well as pertinent topographical features both on- and off-site. All existing and proposed utilities and easements, on-site and adjacent to the Project, which may be affected by planned construction, shall be shown on the plans. Landscaping and irrigation facilities within the public right-of-way (or public easements), or landscaping within sight distance areas at intersections, shall be included in the Construction/Improvement Plans. If the Design/Site Review process and/or DRC review is required as a condition of approval for the Project, said review process shall be completed prior to submittal of Construction/Improvement Plans. Record drawings shall be prepared and signed by a California Registered Civil Engineer and shall be submitted to the ESD prior to acceptance by the County of site improvements. Conceptual landscape plans submitted prior to Project approval may require modification during the Construction/Improvement Plan process to resolve issues of drainage and traffic safety.

58. Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (CEQA VIc)

Standard of Significance: The location of new structures of facilities within areas subject to unstable soil conditions resulting from grading, excavation or fill constitutes a significant impact.

Question 56 analyzes potential for landslides, lateral spreading and liquefaction and determines the level of impact to be less than significant after mitigation.

The Land Capability Verification and Report (CardnoEntrix 2012) and Tahoe Basin Soil Survey (NRCS 2007) identify no areas of unstable soil conditions that are susceptible to collapse or subsidence. Standard facility features and construction controls such as selective site grading and revegetation of disturbed areas are part of the Project for stabilization of disturbed soils and cut and fill slopes created by the shared-use trail. The Project proposal minimizes grades and cut and fills slopes, as discussed in Section 2.6.2 of the IS/IEC.

As discussed below in relation to Question 61, the Project avoids significant encroachment in mapped areas of LCD 1b. TRPA identifies these land capability districts as sensitive to disturbance. The Project includes provisions for short-term and long-term stabilization that recognize this sensitivity including:

construction controls to limit disturbed soil erosion, use of retaining walls to limit site grading, and a revegetation planting plan suited to site specific soil type and condition.

Environmental Analysis*: Less than Significant Impact after Mitigation*.

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-2. Standard Engineering Practices for Seismic Coefficients

59. Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (CEQA VId)

Standard of Significance: Significant impacts result if the Project locates facilities within areas of moderate to high soil risk potential identified by geotechnical assessments, of unstable soils, or of expansive or corrosive soils without appropriate geotechnical and engineering measures.

Figure 20 illustrates the soil map units and Table 18 details the characteristics of the soil map units found within the project area. Soil map units within the project area are not considered expansive. The shrink-swell potential is Low (see Table 18). Standard engineering practices for corrosive exist that will be integrated into the final Project proposal should these soil properties be encountered during final geotechnical explorations. Implementation of mitigation measure GEO- 11 reduces potential impacts to a level of less than significant through installation of trail materials appropriate for the soil conditions.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required mitigation:

GEO-11. Standard Engineering Practices for Corrosive Soils

Some soil map units within the project area may be moderately corrosive to steel. Project facilities and structures constructed in areas of corrosive soils utilize corrosive resistant materials and employ facility features and construction controls to protect buried structures.

60. Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (CEQA VIe)

Standard of Significance: Development of septic systems or alternative wastewater disposal systems in areas of soils that are inadequate of support such a use results in a significant impact.

The Project proposes no septic tanks or alternative wastewater disposal systems, and therefore, creates no impact to this resource.

Environmental Analysis: *No Impact.*

Required mitigation: **None.**

61. Would the Project result in compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)? (TRPA 1a)

No. Standard of Significance: Project proposals that do not comply with provisions of TRPA revised Code Section 30.4 for maximum coverage (note: maximum land coverage for linear public facilities equals the minimum amount necessary to achieve the public purpose), revised Section 30.5 for additional coverage in low capability lands, or revised Section 30.6 for existing excess coverage create a significant impact.

TRPA revised Code Chapter 30 contains the criteria pertinent to land coverage for the project area. The following analysis evaluates Project proposals in relation to: 1) existing land coverage and allowable base limits, and 2) the effects of additional land coverage in both high and low land capability districts. The Project proposal includes additional land coverage from a bridge span in SEZs (LCD 1b) (Question 30), but does not affect floodplains (Question 89). These analyses are not repeated in this section.

The Project is a linear public facility and is thus not subject to the excess land coverage mitigation program in revised Code Section 30.6. TRPA revised Code Section 30.4 states the maximum land coverage (i.e., allowable base land coverage plus transferred land coverage) for linear public facilities is limited to the minimum amount needed to achieve their public purpose.

In instances where proposed land coverage exceeds the TRPA allowable base land coverage, land coverage must be relocated from other portions of the project area in conformance with TRPA revised Code Section 30.6. If relocation of land coverage within the project area cannot fully offset the proposed land coverage, then land coverage must be transferred into the project area following the process outlined in TRPA revised Code Section 30.4. Subsection 30.4.2 lists the findings relevant to transfer land coverage for a linear public facility. The project area contains enough base allowable land coverage to construct the Project and therefore requires no land coverage transfer. The project area contains LCDs 1b, 4 and 6.

Table 19 provides the land coverage calculations upon which evaluation of the land capability limitations rest. Table 19 provides data segregated by LCD and includes total project area and allowable base land coverage, verified existing land coverage, new land coverage, and shared-use trail land coverage aligning with existing verified land coverage. In addition, the evaluation estimates land disturbance to measure and minimize temporary effects during construction, expressed as total disturbance. The calculations in Table 19 recognize that permanent disturbance exists along the edges of many paved trails. This analysis assumes the entire two-foot wide clear zones on either side of the shared-use trail's asphalt concrete sections could become soft coverage and represents the worst-case scenario. Clear zone vegetation in many locations will persist and reduce the impact reported here, substantially in some cases. However, to simplify monitoring and compliance assessment, this analysis includes the entire clear zone area as permanent land coverage in the Table 19 calculations.

Existing Verified Land Coverage. Appendix J presents detailed land coverage calculation tables that support the following analysis and disclose the verified existing land coverage and allowable base land coverage for the project area. Revised Code Section 30.4 outlines the calculations of allowable base land coverage. The existing verified land coverage associated with high capability LCDs 4 and 6 (0 and 54,372 square feet, respectively) does not exceed TRPA base allowable land coverage (248,208 and 2,980,036 square feet, respectively). Verified existing land coverage in LCD 1b (375 square feet) does not exceed TRPA base allowable land coverage (915 square feet).

Table 19

TRPA Land Coverage Characteristics

Land Capability District (LCD)	Percent Allowable Land Coverage	Project Area (sf)	Allowable Land Coverage (sf)	Verified Existing Land Coverage (sf)	New Land Coverage - Paved (sf)	New Land Coverage – Clear Zones (sf)	Total Land Coverage Existing and New, Including Clear Zones (sf)	Restoration Requirements (sf) **
1b	1%	91,441	915	375	286	0	661	429
4	20%	1,281,719	249,208	0	24	80	104	0
6	30%	10,086,325	2,979,036	53,997	117,422	47,878	219,297	0
Totals		**11,276,603**	**3,229,159**	**54,372**	**117,732**	**47,958**	**220,062**	**429**

Source: TRPA land capability verifications, Project Coverage Calculations in Appendix J, HBA 2012

* The calculation of new trail disturbance recognizes permanent disturbance exists along the edges of many paved trails. Therefore, the analysis assumes the entire two-foot wide clear zones will become soft coverage and represents the worst-case assumption. Clear zone revegetation in many locations will persist and reduce the impact reported here, substantially in some cases.

** Restoration requirements calculated for LCD 1b as follows: New Land Coverage + New Disturbance * 1.5 - Existing On-site Land Coverage Removed.

Additional Land Coverage in LCDs 4, 5, 6 and 7. The Project proposal maximizes the location of the shared-use trail in higher capability LCDs and increases land coverage in LCDs 4 and 6. Table 19 calculates the effects of new trail construction, in some cases over existing verified land coverage. Approximately nine percent of the 2.2-mile long shared-use trail is located over existing verified land coverage in LCDs 4 and 6, while the remainder, approximately 91 percent, creates new permanent land coverage in LCDs 4 and 6. The new permanent land coverage does not cause exceedance of TRPA base allowable land coverage in LCD 4 or 6 and does not create a significant impact, as defined by TRPA revised Code Subsection 30.4. Relocation of land coverage within the project area and transfer of land coverage into the project area are unnecessary.

Additional Land Coverage in LCD 1b. The Project encroaches into low land capability district 1b at Dollar Creek where no alternative to crossing the Dollar SEZ is available or feasible. Encroachment (i.e., new land coverage and disturbance) at the creek crossing is 286 square feet. TRPA Code generally prohibits new land coverage in LCD 1b except in limited situations when applicable findings can be met and offsetting restoration provided. As described below, the Project must meet certain findings to allow for this land coverage exception by both Lahontan and TRPA for public service projects.

Exceptions to Prohibition of Land Coverage in LCDs 1b (SEZ). TRPA revised Code Subsection 30.5.2.C requires the following findings for public service projects:

1. *The project is a necessary for public health, safety or environmental protection.*

The Project is a necessary to protect public health and safety by: 1) providing an AASHTO Class I and ADA certified shared-use trail as an alternative to existing roadways and Class II bike lanes; and 2) providing an essential link in the non-auto public transportation network capable of providing access for the broadest spectrum and diversity of user groups. The Project provides environmental protection by: 1) reducing use of private automobiles and improving related air quality; 2) consolidating public access on a protected surface trail through sensitive lands, reducing erosion associated with unpaved, unpaved trails; and 3) constructing asphalt concrete pavement over permeable fill/vented trail in some locations to protect surface and subsurface hydrologic connections. TRPA recognized these facility features when incorporating the Project in elements of the Regional Plan. Specifically related to public service projects that provide for essential public transportation services, TRPA incorporates the Project: as EIP project 761; on the TRPA Air Quality Transportation Program list; and in the Lake Tahoe RTP (TMPO 2008); Lake Tahoe Regional BPMP (TMPO 2010); and TRPA EIP, Planning Horizon 2008-2018 (TRPA 2009).

2. *There is no reasonable alternative, including relocation, or for LCD 1b a bridge span or relocation, which avoids or reduces the extent of encroachment in LCD 1b;*

The determination of reasonable alignment alternatives considers technical feasibility, economic feasibility, existing land use patterns, and the regulations and requirements of lead agencies in concert with the stated objectives and purpose and need of the Project. Throughout design, project team members considered segment alignments to avoid low land capability districts to the extent possible. Alternative alignments considered demonstrated that some did not produce less environmental disturbance and others failed to satisfy project objectives or encountered other obstacles to implementation. Connecting developed neighborhoods in Lake Tahoe requires crossing the landscape in a mountainous area; no reasonable alternative exists to these crossings. The bridge span across Dollar Creek minimizes disturbance in the SEZ by confining users to the shared-use trail surface particularly during wet conditions, accommodating seasonal surface flows and high groundwater, and allowing for some vegetative cover under boardwalks. The analysis concludes that no alignment alternative exists within the project area that completely avoids encroachment in LCD 1b and also meets the project objectives and purpose.

Additionally, the Project constructs a public facility and as a result, user safety is paramount. Compliance with ADA, Caltrans and AASHTO Class I standards is necessary to meet safety and access needs and places constraints on design elements such as minimum trail widths and grade. Reduction in conflicts associated with street and driveway crossings is also necessary to create a safe public facility. Design constraints can result in location constraints. Some alternative routes described in Table 2 encountered excessive grades or unsafe street crossing locations. Other alternative development considerations included existing developed land uses and land ownership patterns. The design team rejected detailed consideration of alternative routes that encountered substantial private property requiring easement acquisitions.

The overall selection of reasonable segment alignments considered technical feasibility, environmental assessment, existing land use patterns and the regulations and requirements of permitting agencies in concert with the stated project objectives and purpose.

The Project proposal avoids physical ground disturbance in LCD 1b through a bridge span at Dollar Creek, as described in more detail for Question 30.

3. *The impacts of the land coverage and disturbance are fully mitigated in the manner set forth in Subparagraph 30.5.1.B.5, with the exception that the restoration requirement in such subsection shall apply exclusively to stream environment zone lands and shall include coverage and disturbance within the permitted Bailey coefficients.*

Construction of the Project requires 286 square feet of new encroachment in sensitive LCDs 1b. To avoid significant impacts from permanent encroachment, revised Code Subsection 30.5.3 requires application of BMPs and additional land coverage mitigated with restoration in LCD 1b at a restoration/disturbance ratio of 1.5:1. The Project proposes use of both temporary and permanent BMPs to offset the new encroachment, including a bridge span to avoid fill within the Dollar Creek channel and SEZ.

Chapter 2 describes Project provisions for temporary BMPs to reduce construction-related. Appendix E includes provisions for site protection and revegetation and restoration related to temporary disturbance, including: limiting overall encroachment with use of project fencing and avoidance of SEZ vegetation. Permanent BMPs for erosion and sediment control include slope stabilization, revegetation, bridge span, and drainage controls. See evaluation presented for Question 57 for more description. That evaluation concludes Project stabilization and revegetation proposals avoid impacts to soils related to additional land coverage.

To meet the restoration requirement for permanent encroachment in low capability lands, the Project will remove and restore 429 square feet of verified existing land coverage related to existing, on-site unpaved trails. Evaluation for Question 30 in Section 3.2.4, Biological Resources, describes the effectiveness of this restoration for encroachment in LCD 1b and presents the Lahontan Basin Plan findings.

Sufficient on-site restoration opportunities exist within each LCD to meet the mitigation responsibilities. The Project proposal, including the provisions for BMPs and on-site restoration, meets the findings necessary to avoid significant impact from additional encroachment in low capability lands.

Additional coverage in LCD 1b must also meet Lahontan Basin Plan requirements. Question 30 presents the evaluation based on these criteria.

<u>Relocation of Existing Land Coverage within the Project Area.</u> The Project proposal requires no relocation of existing verified land coverage within the project area to accommodate new land coverage created by the shared-use trail, with the exception of 286 square feet of new land coverage associated with the bridge span across Dollar Creek. The Project relocates existing verified land coverage within the

project area to accommodate the new land coverage created by the shared-use trail in LCD 1b. TRPA revised Code Subsection 30.4.5 requires that land coverage relocation within the same project area meet the following findings:

A. The relocation is to an equal or superior portion of the parcel or project area, as determined by reference to the following factors:

(1) Whether the area of relocation already has been disturbed;

The project area is currently disturbed by existing uses, including unpaved roadways and trails. Land coverage relocation is proposed in LCD 1b to offset new land coverage of 286 square feet associated with the bridge span crossing the Dollar Creek channel and SEZ. The shared-use trail alignment follows existing disturbance where the design can do so and still achieve project objectives, including compliance with allowable trail grades for ADA.

(2) The slope of and natural vegetation on the area of relocation;

Slope is a factor of land capability. As such land coverage relocated in conformance with TRPA standards requiring relocation from equal or lower capability LCDs to higher ones generally avoids greater impacts related to slope. Native vegetation within the project area is variable, yet the vegetation community types most sensitive to disturbance exist in LCD 1b lands. The land coverage to be relocated at the Dollar Creek bridge span necessitates removal of existing unpaved trails from other project area SEZs with closely related vegetation communities. It is reasonable to conclude that future trail design development can demonstrate relocation of land coverage from an area of sensitive natural vegetation to an area of equally or less sensitive natural vegetation, given that the bridge span is considered to be land coverage while avoiding removal of SEZ vegetation.

(3) The fragility of the soil on the area of relocation;

Land capability designation generally represents soil fragility; soils more sensitive to disturbance are grouped in lower capability LCDs. Because land coverage will be relocated from one LCD 1b area to another LCD 1b area, an equal or superior relationship to fragile soils is expected.

(4) Whether the area of relocation appropriately fits the scheme of use of the property;

Section 3.2.10, Land Use and Planning, concludes that the Project appropriately fits the scheme of use of the project area. Construction of trails is a permissible use throughout the project area, continuing similar informal recreation and access uses found in the project area under existing conditions. The relocated land coverage comes from the elimination of existing land uses (i.e., existing unpaved trail), which represent uses that are similar to the Project.

(5) *The relocation does not further encroach into a stream environment zone, backshore, or the setbacks established in the Code for the protection of stream environment zones or backshore;*

The relocation minimizes encroachment into a SEZ and the setbacks established in the TRPA Code for the protection of SEZs to the greatest extent feasible by using a bridge to span the SEZ at the Dollar Creek crossing. The project area contains no backshore.

(6) The project otherwise complies with the land coverage mitigation program set forth in Section 30.6;

The Project is a linear public facility and is thus not subject to the excess land coverage mitigation program set forth in TRPA revised Code Section 30.6. However, the project does exceed base allowable land coverage limits.

B. The area from which the land coverage was removed for relocation is restored in accordance with Subsection 30.5.3.

The Project relocates and restores LCD 1b land coverage in accordance with TRPA revised Code Subsection 30.5.3. Section 2.6.3 of the IS/IEC summaries restoration and revegetation strategies while Appendix E provides additional details. The Project will identify and return existing land coverage to more naturally functioning conditions. The County will monitor and maintain these areas for vegetation cover.

C. The relocation is not to Land Capability Districts 1a, 1b, 1c, 2 or 3, from any higher numbered land capability district.

The project area contains adequate verified existing land coverage to achieve relocation from LCD 1b to LCD 1b. If land coverage in the project area cannot be restored because of existing use patterns, LCD 1b land coverage restoration will be conducted offsite and transferred into the project area. The Project will relocate 429 square feet to meet the 1.5:1 offset described in finding 30.4.5.D.2 below.

D. If the relocation is from one portion of a stream environment zone to another portion, there is a net environmental benefit to the stream environment zone. "Net environmental benefit to a stream environment zone" is defined as an improvement in the functioning of the stream environment zone and includes, but is not limited to:

1. *Relocation of coverage from a less disturbed area to a more disturbed area or to an area further away from the stream channel or water body, as applicable;*

   The project area is currently disturbed by existing uses, including unpaved roadways and trails. Land coverage relocation is proposed in LCD 1b to offset new land coverage of 286 square feet associated with the bridge span crossing the Dollar Creek channel and SEZ. It is reasonable to conclude that the relocation of LCD 1b land coverage will result in a net environmental benefit given that the bridge span is considered to be land coverage while ground disturbance and removal of vegetation within the delineated SEZ.

2. *Retirement of land coverage in the affected stream environment zone in the amount of 1.5:1 of the amount of land coverage being relocated within a stream environment zone; or*

   Land coverage restoration amounts proposed by the project demonstrate compliance with the requirements of restoration of 1.5 square feet of SEZ for every square foot of new encroachment.

3. *For projects involving the relocation of more than 1,000 square feet of land coverage within a stream environment zone, a finding, based on a report prepared by a qualified professional, that the relocation will improve the functioning of the stream environment zone and will not negatively affect the quality of existing habitats, considering factors such as, but not limited to, soil function, hydrologic function, vegetation, and wildlife habitat.*

   The Project involves relocation of less than 1,000 square feet of LCD 1b land coverage.

Transfer Existing Land Coverage. For public service projects, off-site land coverage transfer can meet the land coverage needs when insufficient on-site land coverage is available within the project area. The Project proposal is to restore LDC 1b land coverage within the project area for relocation. If onsite land coverage restoration is not possible, transfer from publicly owned offsite lands is used.

The Project meets the findings necessary to demonstrate compliance with TRPA land capability system and avoids significant impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

62. Will the Project result in a change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions? (TRPA 1b)

No. Standard of Significance: Changes in topographic features of the project area that are inconsistent with the surrounding conditions results in a significant impact to topography or ground surface relief features.

Field evaluations identify no unique geologic or physical features within the project area that could be destroyed, covered or modified.

The Project proposal complies with the TPRA Code Site Development Provisions and Grading and Construction Provisions (TMPO 2006), creates no impact to native geologic substructures, and minimizes changes in topography. The proposal locates the shared-use trail in areas of appropriate slope, but includes short portions of trail grades over 5 percent. Cut and fill slopes along the shared-use trail alignment do not exceed 5 feet in depth below existing grades, as illustrated in Appendix C.

Environmental Analysis: *Less than Significant Impact.*

Required mitigation: **None.**

63. Will the Project result in unstable soil conditions during or after completion of the proposal? (TRPA 1c)

No, with mitigation. Standard of Significance: Significant impacts result from non-compliance with TRPA revised Code Chapters 30, 33 and 60, the 208 Plan and the Lahontan Basin Plan (Chapter 5), which require the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

See analysis for Question 57, which addresses CEQA checklist item VIb and concludes the level of impact to soils to be less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required mitigation (See Question 57 for description):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

64. Will the Project result in changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet? (TRPA 1d)

No. Standard of Significance: TRPA revised Code Subsection 33.3.6 prohibits excavation in excess of 5 feet in depth or where there exists a reasonable possibility of interference or interception of a water table except under defined and permitted conditions. If groundwater interception or interference will occur as demonstrated by a soils hydrologic report, excavations can be made and significant impacts avoided through inclusion of facility measures to protect groundwater flows to avoid adverse impacts to SEZ vegetation, if any would be affected, and to prevent groundwater or subsurface water from leaving the project area as surface flow.

Preliminary field evaluations identified no severe soil constraints that preclude grading and construction activities with the exception of areas of potential shallow groundwater along Dollar Creek and the northern SEZ area depicted on Plan Sheet C11 in Appendix C. The Project proposal addresses these geotechnical constraints by placing asphalt concrete on permeable fill/vented trail upgradient of the northern SEZ area and a bridge span over Dollar Creek channel and SEZ.

The total area of disturbance is estimated at 6.4 acres, including the shared-use trail corridor (surface, clear zones and cut and fill slopes), trailhead parking and access road, temporary access roads, staging areas and hammerhead turnarounds. Table 20 outlines the estimates for excavation, grading and fill volumes for the Project.

Table 20

Excavation, Grading and Fill Volumes in Cubic Yards

Cut volume	Fill Volume	Net Cut
7,550 CY	1,725 CY	5,825 CY

Source: NCE 2012; Calculations as based on Plan sheets in Appendix C

The Project avoids cut slopes in SEZ areas. Construction of the Project requires little to no importation of fill materials, as the proposal utilizes materials from cut areas within the project area, with transportation of excess cut materials off-site to a TRPA approved disposal site to be identified during Project permitting. Because grading occurs throughout the construction period of a linear project and not all at once, approximately two to three truckloads (20 cubic yard capacity) of material would be hauled off-site daily, if the shared-use trail is completed within one construction period spanning May 1 through October 15. Question 142 discusses the effects to transportation and circulation from transport of excess cut materials off-site. The exception is permeable fill to underlay asphalt concrete sections in areas with potentially high water tables during parts of the year, which requires specific compositions of engineered soils.

TRPA prohibits excavations deeper than five feet because of the potential for groundwater interception or interference, except under defined and permitted conditions. The Project avoids cuts that exceed five (5) feet. Compliance with TRPA revised Code Subsection 33.3.6 reduces the potential impacts from excavations to a level of less than significant through conformance with codified regulations.

Environmental Analysis: *Less than Significant Impact.*

Required mitigation: **None**.

65. Will the Project result in the continuation of or increase in wind or water erosion of soils, either on or off the site? (TRPA 1e)

No, with mitigation. Standard of Significance: A significant impact occurs if the Project causes a continuation of or increase in wind erosion or water erosion of soils, either on or off-site, creating non-compliance with TRPA Code Chapters 30, 33 and 60, the 208 Plan and the Lahontan Basin Plan (Chapter 5), which require the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

The Project complies with applicable regulations and permitting requirements for control of erosion on or off-site and the protection of topsoil to reduce temporary construction impacts and long-term operational impacts to project area soils to a level of less than significant.

See analysis for Question 57, which addresses CEQA checklist item VIb and concludes potential impacts to soils to be less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after mitigation.*

Required mitigation (See Question 57 for description):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

66. Will the Project result in changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake? (TRPA 1f)

No. Standard of Significance: Effects that modify the channel of a river or stream or the bed of a lake create a significant impact.

The project area does not include shorezone area. The Project proposal avoids impacts, or likely encroachments to Dollar Creek channel below its 100-year floodplain at the bridge span, locates the shared-use trail and bridge below Dollar Reservoir, and therefore, creates less than significant impacts to stream channels and lakebeds.

Environmental Analysis: *Less than Significant Impact.*

Required mitigation: **None.**

67. Will the Project result in exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mudslides, ground failure, or similar hazards? (TRPA 1g)

No, with mitigation. Standard of Significance: The location of facilities within an Alquist-Priolo earthquake fault zone or known active fault zone or the location of facilities within areas of unstable soil without appropriate design features or construction controls constitutes a significant impact.

See analysis for Question 56, which addresses CEQA checklist item VIa and concludes potential impacts from hazardous conditions to be less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-2. Standard Engineering Practices for Seismic Coefficients

3.2.7 Greenhouse Gas Emissions

This section presents the analyses for potential impacts to greenhouse gas (GHG) emissions. Table 21 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 21

Greenhouse Gas Emissions

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
68. Greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (CEQA VIIa)			X	
69. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (CEQA VIIb)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
Same as Question 27: Will the Project significantly alter climate, air movement, moisture, or temperature? (TRPA 2d)				X

3.2.7.1 Environmental Setting

Global climate change is caused in large part by anthropogenic (man-made) emissions of GHGs released into the atmosphere through the combustion of fossil fuels and by other activities that affect the global GHG budget, such as deforestation and land-use change. According to the California Energy Commission (CEC), GHG emissions in California are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors as well as natural processes (CEC 2006).

GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which could have otherwise escaped to space. Prominent GHGs contributing to this process include water vapor, CO_2, N_2O, CH_4, ozone, certain HFCs and PFCs, and SF_6. This phenomenon, known as the "greenhouse effect," keeps the Earth's atmosphere near the surface warmer than it would otherwise be and allows for successful habitation by humans and other forms of life. The combustion of fossil fuels releases carbon that has been stored underground into the active carbon cycle, thus increasing

concentrations of GHGs in the atmosphere. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and to contribute to what is termed "global warming," a trend of unnatural warming of the Earth's natural climate. Higher concentrations of these gases lead to more absorption of radiation and warm the lower atmosphere further, thereby increasing evaporation rates and temperatures near the surface.

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and TACs, which are primarily pollutants of regional and local concern. Because GHG emissions have long atmospheric lifetimes, GHGs are effectively well mixed globally and are expected to persist in the atmosphere for time periods of several orders of magnitude longer than criteria pollutants such as ozone. Given their long atmospheric lifetimes, GHG emission reduction strategies can be effectively undertaken on a global scale whereby the mitigation of local GHG emissions can be offset by distant GHG reduction activities

The CARB compiled a GHG inventory of California's 2006 GHG emissions. Their report states that 1990 emissions amounted to 433.3 million metric tons of CO_2e, while 2006 emissions levels rose to 483.9 million metric tons of CO_2e (CARB 2009). Based on California's 2006 population of 37,114,598, this amounts to approximately 13 metric tons of CO_2e per person (State of California, Department of Finance 2008). CO_2 emissions accounted for 89% of the state's 2006 inventory, followed by CH_4 (5 percent), N_2O (3 percent), and other gases included HGWPGs (3%) (CARB 2009). Table 22 summarizes statewide GHG emissions by sector, as defined in the CARB report.

Table 22

Statewide Greenhouse Gas Emissions from the 2006 CARB Inventory

Sector	CO_2e (million metric tons)
Transportation	188.721
Electricity Generation	106.458
Industry	101.619
Agriculture and Forestry	29.034
Residential	29.034
Commercial	14.517
Other	14.517
Total	483.9

Source: Adapted from CARB 2009

Notes: Emissions inventory includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.

3.2.7.2 Environmental Analysis and Mitigation Measures

68. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (CEQA VIIa)

Standard of Significance: There are no numeric local, state or federal significance thresholds established for GHG impacts. This analysis assesses construction and long-term operational emissions as a percent of existing emissions.

Project construction produces direct emissions. GHGs associated with construction were modeled with CalEEMod, as detailed in Appendix G. Construction equipment, haul trucks, and worker vehicles generate GHGs. Model results estimate a maximum annual GHGs of approximately 477 metric tons of CO2e emitted during the year of construction or about 5,258 pounds (2.39 metric tons) per day. This assumes a construction completion rate of about 100 linear feet of trail per day during the summer construction season for approximately 200 working days. Construction phase emissions cease at the completion of construction. The CO_2 emission estimate for construction activity represents less than 0.00007 percent of the California total, which is a negligible amount.

As recommended by the PCAPCD (PCAPCD 2012) for long-term operations, the BAAQMD derived threshold of 1,100 metric tons per year CO2e from sources other than permitted stationary sources (BAAQMD 2011) was applied to this Project. As shown in Appendix G, GHG emissions generated by on-road mobile sources associated with trailhead parking equate to approximately 21 metric tons of CO2 per year. Therefore, project operations will not exceed the selected GHG threshold and are less than significant.

The Project includes no activities or facilities that generate heat or moisture.

Question 41 addresses tree removal as an effect to habitat alterations, concluding that tree removal within the project area creates less than signficant impact to habitat categorization through implementation of tree protection and removal measures. The removal of select trees along the shared-use trail does not create reductions in forest canopy sufficient to increase local solar gain, raise temperatures or create microclimate changes.

Development projects often produce direct and long-term GHG emissions from long-term operations. The shared-use trail, however, promotes a long-term shift in transportation mode from autos to non-motorized users. While transportation modeling indicates that VMTs will increase slightly as a result of providing the optional trailhead parking facility, the anticipated increase is very minor and over time should be reduced as shared-use trail networks are expanded. Traffic analysis predicts an increase in VMT of 117 vehicle-miles per day. To put this in context, the most recent estimate of VMT over the course of a summer day throughout the Tahoe Basin is 1,977,794 VMT (TRPA 2010). Comparing the two figures, the Project may increase basin-wide VMT by 0.006 percent. Therefore, the operational phase of the Project results in less than significant impacts to long-term vehicle-related GHG emissions and global warming.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

69. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (CEQA VIIb)

Standard of Significance. Currently, neither the TRPA, TMPO nor the PCAPCD maintains local or regional plans, policies or regulations for the purpose of reducing the emissions of GHGs. Therefore, evaluation of this effect relies on general compliance with the 2008 CARB Scoping Plan strategies to achieve GHG emissions reduction goal as directed by the California Global Warming Solutions Act of 2006 (AB 32).

AB 32 requires CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. The 2008 CARB Scoping Plan adopted by CARB contains eight key strategies to achieve its GHG emissions reduction goal. The Scoping Plan strategy relevant to the Project is implementation of SB 375 (Steinberg), which provides for a new planning process to coordinate land use planning and regional transportation plans and funding priorities to meet the GHG reduction goals. SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations (MPOs), to incorporate a "sustainable communities strategy" in their regional transportation plans that will achieve GHG emission reduction targets set by CARB. The Lake Tahoe RTP (i.e., Mobility 2030, TRPA 2008) includes as a foundational element goals and policies that create sustainable communities by encouraging land use changes and improvements to non-auto transportation systems such as shared-use trails.

Based on the negligible increase in VMT and GHGs resulting from long-term operations, the Project creates no conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Implementation of the Project involves construction of a shared-use trail that has been designed to increase bicycle and pedestrian use in the area. Consequently, the Project has less than significant impacts on GHG emissions and provides for long-term benefit to air quality/climate change conditions.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

Refer to Question 27. Will the Project significantly alter climate, air movement, moisture, or temperature? (TRPA 2d)

No. See analysis for Question 27, which addresses TRPA checklist item 2d and concludes the level of impact to CO_2 or methane emissions and the concentration of tree removal are less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.8 Hazards and Hazardous Materials (CEQA) and Risk of Upset and Human Health (TRPA)

This section presents the analyses for potential impacts to hazards and hazardous materials and risk of upset and human health. Table 23 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 23

Hazards and Hazardous Materials and Risk of Upset and Human Health

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
70. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (CEQA VIIIa)		X		
71. 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? (CEQA VIIIb)		X		
72. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (CEQA VIIIc)				X
73. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (CEQA VIIId)				X

74. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? (CEQA VIIIe)				X
75. For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the project area? (CEQA VIIIf)				X
76. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (CEQA VIIIg)			X	
77. Expose people or structures 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? (CEQA VIIIh)		X		
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
78. Involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions? (TRPA 10a)		X		
79. Involve possible interference with an emergency evacuation plan? (TRPA 10b)				X
80. Creation of any health hazard or potential health hazard (excluding mental health)? (TRPA 17a)		X		
81. Exposure of people to potential health hazards? (TRPA 17b)		X		

3.2.8.1 Environmental Setting

Wildfire. Dry summers, steep topography, and forests with high fuel loads create an annual wildfire hazard in the project area. The project area is situated within developed and wildland-urban interface (WUI) areas. WUI areas are locations in which developed areas are adjacent to areas of natural vegetation capable of carrying a wildfire. Such areas can also be defined as those areas where houses and wildland vegetation coincide. The wildfire suppression strategy in the project area, defined in the *Lake Tahoe Basin Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy- Draft 10 Year Plan* (USDA Forest Service et al, 2007) and *Community Wildfire Protection Plan for the California Portion of the Lake Tahoe Basin* (C.G. Celio and Sons Co. et. al. 2004), call for suppression of fires due to the WUI setting of the basin and proximity to homes and other structures. Land management agencies in the Lake Tahoe Basin are cooperating to reduce hazardous fuel levels in the project area and vicinity through forest stand thinning, understory burning, and other strategies. Roadways and trails in the project area create fire protection access and fuel breaks during wildfire events.

Fire protection services in the project area and vicinity are provided primarily the North Tahoe Fire Protection District (NTFPD). Depending on the initial location of the fire and mutual aid agreements, wildfire suppression in the project area or vicinity is also provided by Calfire or the LTBMU. A MOU between these agencies provides mutual aid and assistance to suppress wildfires and protect structures. Initial wildfire suppression responsibilities are divided into three categories based on land ownership or MOUs: Local Responsibility Areas (LRAs) include the County areas, State Responsibility Areas (SRAs) include State lands, and Federal Responsibility Areas (FRAs) include LTBMU lands.

The NTFDP implements the Community Wildfire Protection Plans (Celio and Sons et al 2004) and provides primary response for emergency services through six (6) fire stations with 65 uniformed and support personnel to nearly 20,000 people in a 31 square mile area on the north and west shores of Lake Tahoe, responding to approximately 2,000 alarms per year. A large number of tourists are drawn to the area, which results in population changes on a seasonal basis. Personnel respond to emergencies in rural, suburban and urban settings and firefighters are proficient in wildland fire fighting, structural fire fighting, back country/technical rescue, swift water rescue, hazardous materials mitigation, and emergency medical services. There are five NTFPD fire stations in the project area vicinity with three in Tahoe City, California (Stations 51, 54 and 56), one in Carnelian Bay, California (Station 55) and one in Kings Beach, California (Station 52) (http://www.ntfire.net, February 2, 2012).

Calfire maintains a fire station to respond to wildfires in SRAs from the Carnelian Bay Station, 240 Carnelian Bay Avenue Carnelian Bay, CA. Calfire administers the Fire and Resource Assessment Program (FRAP), which maps and describes landscapes susceptible to wildfire fire based on factors such as vegetation, climate, and topography. Much of the project area and vicinity is classified as a Very High, Fire Hazard Severity Zone (FHSZ) in areas of County, State, and federal responsibility (California Department of Forestry and Fire Protection, Forest And Resource Assessment Program 2006, 2007, 2009, 2010). Calfire prescribes vegetation and fuel clearance standards around structures under PRC §4291, and the California Building Code (CBC) prescribes standards for construction in wildland fire hazards areas to reduce the susceptibility to wildfire (http://www.fire.ca.gov, February 2, 2012).

The Conservancy's Forestry Program plans and implements fuel reduction and forestry health projects on its lands in the Lake Tahoe Basin. In urban interface lands, these projects reduce fuel loads by selectively thinning trees and removing understory.

The LTBMU also implements programs on Vegetation Management, Urban Lot Management, and Fire and Fuels Management on LTBMU lands in the project area vicinity. A goal of these programs is to reduce wildfire risks in the WUI setting by reducing fuels and creating defensible fuel profile zones with

a combination of hand and mechanical treatments and prescribed burning (LTBMU 2006a, 2006b, 2006c). LTBMU wildland fire fighting crews dispatch from the LTBMU at 35 College Drive, South Lake Tahoe.

Hazards and Hazardous Materials. The term hazardous substance refers to both hazardous materials and hazardous wastes, including explosives. A material is defined as "hazardous" if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency or if it has characteristics defined as hazardous by such an agency. The CalEPA Department of Toxic Substances Control (DTSC) defines hazardous waste, as found in the California Health and Safety Code §25141(b), as follows:

> […] its quantity, concentration, or physical, chemical, or infections characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.

The Cal-EPA and the State Board establish rules governing the use of hazardous materials and the management of hazardous waste. If a release of a hazardous substance(s) is (are) detected in the project area, the NTFPD responds to evaluate conditions and determine if additional emergency services will be required. Placer County Sheriff's Office and Placer County Office of Emergency Services (www.placer.ca.gov/Departments) CBC chapter 7A regulations don't apply.

Environmental Science Associates (ESA) conducted an Initial Site Assessment (ISA) (2012), which identifies Recognized Environmental Conditions (RECs) for the project area that may adversely affect shared-use trail construction or right-of-way acquisition, if required. The ISA conforms with the scope and limitation for the American Society for Testing and Materials (ASTM) Practice E 1527-05). Personnel conducted site reconnaissance on October 11, 2011. The project area, as undeveloped land located away from industrial or heavy commercial sites is considered to have a low risk for hazardous materials contamination. The report reveals no evidence of RECs in connection with the project area and the project area appears in no searched database lists for RECs. ASTM defines an REC as "the presence or likely presence of any hazardous substances or petroleum products on a project site under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the project site or into the ground, groundwater, or surface water of the project site. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state laws and regulations".

The environmental database resource (EDR) report did not identify the project area on any of the searched databases; however, six properties within the 1/8 mile search radius (1/4 mile total search area) were found to be listed. The Corridor Area Map in attachment C of the ISA that is attached as IS/IEC Appendix K illustrates the location of the properties. Two of these sites are Leaking Underground Storage Tanks (LUSTs) that were closed in 2001. No further action is required at those sites. The other sites are locations of underground storage tanks that are not known to have leaked and none of these listed sites are within the Project's area of potential effect (APE). Project construction or operation affected or otherwise disturb these sites.

Naturally occurring asbestos (NOA) is known to be present in Placer County. To help identify areas in the county that may contain NOA, the California Department of Conservation, California Geological Survey (CGS), has prepared a 1:100,000-scale map (Plate 1) of relative likelihood for the presence of naturally occurring asbestos in Placer County. The project area is not located near any of the areas identified as containing Ultramafic Rocks and is mapped as an Area Least Likely to Contain NOA (ESA 2012).

Mosquito/Vector Control. The climate, topography, and plant communities of the Lake Tahoe Basin provide an abundance and variety of larval mosquito habitats. The restoration of stream environment zones has created additional habitat sources. The mosquito population in the Basin is most active in the spring and early summer. Mosquitoes are potential vectors of organisms that can cause disease to pets, domestic animals, wildlife, or humans. Human diseases transmitted by mosquitoes include encephalitis, malaria, and West Nile virus. The Placer Mosquito and Vector Control District manage the risks from vectors and vector borne disease in order to protect public health and quality of life in Placer County.

Emergency Preparedness. Each county in California is responsible for preparing an emergency operations plan that describes various anticipated emergency situations and outlines the County's response to such situations. Placer County's plan, the Multi-Hazard Plan, has been approved by the State and is regularly updated. The Plan serves as the implementation program for the coordination of hazard planning and disaster response efforts in Placer County as stated in Goals 4.I and 8.C of the Placer County General Plan.

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state and local governments and private agencies. Response to hazardous materials incidents is on part of this plan. The plan is managed by the Governor's Office of Emergency Services (OES), which coordinates the responses of other agencies including the Cal-EPA, CHP, CDFG, Lahontan, County Sheriff's Department, and local police and fire departments.

3.2.8.2 Environmental Analysis and Mitigation Measures

70. Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (CEQA VIIIa)

Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

Project construction includes grading, slope stabilization, and installation of trails, bridges, transition aprons, and culverts. Hazardous materials associated with construction include diesel fuel, hydraulic fluid and asphalt concrete products and paints. The Tahoe Truckee Sierra Disposal Eastern Regional Landfill transfer station in Tahoe City, California, handles the disposal of hazardous material wastes from the project area and vicinity. Identification of staging areas and construction controls related to the use and storage of these materials is necessary to reduce potential impacts to a level of less than significant, including protection and remediation in the event of accidental spills is also addressed. These measures, further detailed at the time of final permitting, must meet federal, state, and local standards. No site conditions, particularly those related to potential staging areas off Dollar Drive, Country Club Drive and Beverly Drive present challenges to standard compliance with construction controls suitable to avoid public hazard.

Long-term shared-use trail operations include periodic maintenance of trail infrastructure. Asphalt concrete sealing and revegetation maintenance will occur as necessary and follow standard practices for materials use.

Construction of the Project will meet standards for public and environmental protection related to hazardous materials and avoids potential for significant impact through implementation of mitigation measure GEO-5.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation: (See Question 57 for description):

GEO-5. Conform to NPDES Permit Requirements

71. Would the Project 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? (CEQA VIIIb)

Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

The Placer County General Plan includes industrial or other land use designations that allow the handling, use, or manufacture of hazardous materials. However, only relatively small quantities of hazardous materials and hazardous wastes are generated, stored, and transported in Tahoe City, California because of limited heavy industrial land uses and lack of major interstate trucking routes. Consequently, the project area has a low risk of hazardous materials spills or incidents, as the significant portion of the shared-use trail alignment is located on disturbed but undeveloped land. Furthermore, the ISA identified no evidence of RECs in connection with the project area.

The area does have naturally occurring hazardous materials such as radon gas, which is a radioactive gas that is found in some soil types, but is often concentrated in granite and granitic soils. These types of soils are not prevalent within the project area. Radon vapors occurring in building materials, within buildings, and through indoor water systems are considered hazardous if they are allowed to concentrate to levels at 4 pico-curies per liter of air. Although radon vapors are found in some soils, they typically only become hazardous when vapors are concentrated, such as in indoor settings, and are unable to disperse into the atmosphere. The Project creates no such environment.

Trail construction involves the use of potentially hazardous materials, including but not limited to, fuels, petroleum products, and asphalt concrete. Construction personnel and people living or working near the sites could be exposed to accidental releases of these materials. To avoid and minimize potential impacts a spill response plan is necessary, which details measures to avoid and minimize the potential for accidental spills and specific response actions to be taken should an accidental spill occur. Appropriate procedures to follow in the event that contaminated soil or groundwater is encountered during construction activities is also necessary to minimize potential impacts and will be developed as part of the SWPPP required for construction permitting (Mitigation Measure GEO-5). Operation of the shared-use trail requires no use of hazardous materials.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 57 for description):

GEO-5. Conform to NPDES Permit Requirements

72. Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (CEQA VIIIc)

Standard of Significance: The transport or use of hazardous materials within one-quarter mile of a school constitutes a significant impact if the Project includes no measures ensuring public health and safety.

The North Tahoe High School (2945 Polaris Road Tahoe City, CA 96145) is just over one mile from the project area. Construction and operations activities involve no transport, consumption, remittance, disposal, or handling of hazardous substances that have potential to create a significant hazard to the public or the environment, and therefore pose a low risk of reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Some construction equipment will likely use diesel fuel, creating a short-term increase in diesel fuel usage over the active construction period. This short-term increase is not likely to contribute significantly towards hazards to the public or environment. Question 71 addresses release of hazardous materials into the environment and concludes the level of impact is less than significant through compliance with NPDES construction permit requirements. . The Project is located more than one-quarter mile from the high school and therefore poses no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

73. Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (CEQA VIIId)

Standard of Significance: Project location on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 creates a significant hazard to the public or the environment.

The ISA (Appendix K) identifies six (6) properties within the required search radius, but the listed hazardous waste facilities or contaminated sites are not reported within the project area, the Project's APE or along major transportation routes that may be used or affected during construction or operation of the Project (ESA 2012). The Project presents no impact to listed hazardous waste facilities and contaminated sites.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

74. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the project area? (CEQA VIIIe)

Standard of Significance: A significant impact results from non-compliance with an airport comprehensive land use plan or FAA Safety Regulations.

The Project is not located within the vicinity of a public-use airport and therefore has no impact on public safety in the vicinity of a public-use airport or FAA safety regulations.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

75. For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the project area? (CEQA VIIIf)

Standard of Significance: Creation of a safety hazard to people residing or working in the vicinity of a private airstrip results in a significant impact.

The Project is not located within the vicinity of a private airstrip and therefore has no impact on public safety in the vicinity of a private airstrip.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

76. Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (CEQA VIIIg)

Standard of Significance: If impediments to emergency response or evacuation routes occur or response times fall below emergency response plan standards because of Project construction or operations, a significant impact occurs.

The Project interferes with no emergency response or evacuation plans. The shared-use trail provides for a new, alternative emergency vehicle access route into wildland-urban interface (WUI) areas. WUI areas are locations in which developed areas are adjacent to areas of natural vegetation capable of carrying a wildfire.

In the event of wildfire or other significant community threat, emergency access for evacuation or fire-fighting equipment can occur along the shared-use trail. In portions of its alignment, (e.g. in the Dollar Hill and Cedar Flats neighborhoods), the shared-use trail allows an alternate route capable of improving response times or improving circulation options during evacuation. In these situations, official personnel will direct emergency use to avoid creating trail use safety concerns. Therefore, the Project produces a less than significant impact on emergency response or evacuation plan.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

77. Would the Project expose people or structures 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? (CEQA VIIIh)

Standard of Significance: Project exposure of people or structures 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 a creates significant impact.

The project area is along an existing residential setting with a number of existing unpaved access roads and trails. The Project will be integrated into existing County and State fuel reduction programs active in the area, and construction and operation of the shared-use trail won't interfere with ongoing fuel reduction

and vegetation management programs. In natural vegetation areas, construction of a shared-use trail provides for an effective fuel break by reducing the continuity of fuels. The trail may act to decrease the rate of spread of a wildfire and provide greater ability for fire fighters and safety vehicles to access a wildfire location, providing for greater opportunity for wildfire suppression. Manufacturers of systems similar to that proposed by the Project identify that bridge designs can accommodate emergency response vehicles up to 10,000 pounds.

Project operations will improve emergency vehicle access and provide for a new fuel break in WUI settings, and thereby provides enhanced ability to suppress a wildfire to result in a less than significant impact on exposure of people and structures to wildfire risks during shared-use trial operations.

The Project does not expose people or structures to a significant risk or loss due to wildfire hazards, but construction activities may increase risk of wildfire and NTFPD anticipated the need for specialized emergency medical response and rescue equipment for use on the shared-use trail system. Portions of the project area are adjacent to naturally-vegetated open space and the Project traverses WUI settings. Operation of the Project increases the number of people using the area and people are potential ignition sources for wildfire. The number of potential ignition sources, however, is generally not a determinant of wildfire occurrence. The risk of loss to wildfire is directly related to hazardous fuel accumulations near structures and the ability to access and suppress a wildfire shortly after ignition, which could increase during construction of the shared-use trail because of construction equipment, requiring mitigation to reduce potential impacts to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

HAZ-1. Fire Suppression and Management Provisions

The County shall develop fire suppression and management provisions as it completes final plans and construction specifications. These provisions shall include fire precaution, pre-suppression and suppression measures, a flow chart of actions during a fire event, and identification of points of contact and responsible personnel. Construction sites and major equipment shall be outfitted with fire protection devices and spark arrestors as appropriate. A copy of the requirements shall be maintained at the construction site and submitted to the NTFPD.

78. Will the Project involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions? (TRPA 10a)

No, with mitigation. Standard of Significance: Non-compliance with local, state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards. The Placer County General Plan sets forth the goals, policies, and implementation plans related to public safety and hazards associated with hazardous materials that are applicable to the Project. Lahontan Board Order No. R6T-2011-0101 also outlines requirements for storage and handling of hazardous substances for construction projects within the California portion of the Lake Tahoe Basin.

Questions 70 and 71 (i.e. CEQA checklist items VIIIa and VIIIb), respectively, address the transport, use or disposal and the risk of accidental release of hazardous materials and conclude the level of impact from the Project to be less than significant after mitigation. Construction of the Project involves the short-term

use and storage of hazardous materials typical of a shared-use trail construction project (e.g., asphalt concrete, fuel, and paint for striping). Materials will be used, stored, and disposed of in accordance with applicable federal, state, and local laws including Cal-OSHA, and Lahontan NPDES construction permit conditions and manufacturer's instructions. For transport to the project area, the CHP regulates transportation of hazardous materials on area roadways. Mitigation measure GEO-5 serves to meet the conditions of the NPDES construction permit and includes preparation of a site-specific spill prevention plan that addresses hazardous materials use, storage, transport, and disposal and management and containment of hazardous materials in the event of a spill. Compliance with NPDES construction permit requirements is sufficient to minimize risks associated with hazardous materials use.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (see Question 57 for description):

GEO-5. Conform to NPDES Permit Requirements

79. Will the Project involve possible interference with an emergency evacuation plan? (TRPA 10b)

No. Standard of Significance: If impediments to emergency response or evacuation routes occur or response times fall below emergency agency standards because of Project construction or operations, a significant impact occurs.

See analysis for Question 76, which addresses CEQA checklist item VIIIg and concludes that the Project has a less than significant impact on emergency response or evacuation plans.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

80. Will the Project result in creation of any health hazard or potential health hazard (excluding mental health)? (TRPA 17a)

No, with mitigation. Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

See analysis for Questions 70 and 71 concerning the Project's potential to create health hazards or increase exposures to health hazards, which addresses CEQA checklist items VIIIa and VIIIb and conclude the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 57 for description):

GEO-5. NPDES Permit Requirements

81. Will the Project result in exposure of people to potential health hazards? (TRPA 17b)

No, with mitigation. Standard of Significance: Non-compliance with state and federal handling and disposal regulations and procedures during construction of operation of the Project constitutes a

significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

See analysis for Question 72, which addresses CEQA checklist VIIIb and concludes that the Project has a less than significant impact towards exposure of people to potential health hazards related to construction and operation of the shared-use trail through implementation of mitigation measures GEO-5.

Other potential hazards relate to hazardous waste sites and disease spread from mosquitos. With no known hazardous waste sites within the project area or APE, the potential for encountering contaminated soils or hazardous wastes during construction or operation of the Project is minor. Federal and state OSHA regulations for construction workers will be followed during trail development and workers will not be subject to contaminant exposure. Mitigation measure GEO-5 requires development of appropriate procedures to follow in the event that contaminated soil or groundwater is encountered during construction activities. The Project crosses near several SEZs that include streams (i.e., Dollar Creek) and wet meadow environments that provide breeding habitats for mosquitoes. Trail construction in wet meadow and stream environments includes a bridge span across Dollar Creek channel and SEZ and asphalt concrete on permeable fill that do not affect the existing grade or hydrologic patterns below the trail. Construction and design does not interrupt flow patterns or otherwise create new standing water or saturated habitats that provide for new breeding habitats for mosquitoes nor interrupt existing vector control programs. Consequently, the Project has a less than significant impact on public health risks and hazards.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 57 for descriptions):

GEO-5. Conform to NPDES Permit Requirements

3.2.9 Hydrology and Water Quality

This section presents the analyses for potential impacts to hydrology and water quality. Table 24 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 24

Hydrology and Water Quality

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
82. Violate any water quality standards or waste discharge requirements? (CEQA IXa)		X		
83. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (CEQA IXb)		X		
84. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (CEQA IXc)			X	
85. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	

(CEQA IXd)				
86. 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? (CEQA IXe)			X	
87. Otherwise substantially degrade water quality? (CEQA IXf)		X		
88. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (CEQA IXg)				X
89. Place within a 100-year flood hazard area structures which would impede or redirect flood flows? (CEQA IXh)			X	
90. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (CEQA IXi)			X	
91. Inundation by seiche, tsunami, or mudflow? (CEQA IXj)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
92. Changes in currents, or the course or direction of water movements? (TRPA 3a)				X
93. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site? (TRPA 3b)				X
94. Alterations to the course or flow of 100-yearflood waters? (TRPA 3c)				X
95. Change in the amount of surface water in any water				X

body? (TRPA 3d)				
96. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? (TRPA 3e)		**X**		
97. Alteration of the direction or rate of flow of ground water? (TRPA 3f)		**X**		
98. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? (TRPA 3g)		**X**		
99. Substantial reduction in the amount of water otherwise available for public water supplies? (TRPA 3h)				**X**
100. Exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches? (TRPA 3i)				**X**
101. The potential discharge of contaminants to the groundwater or any alteration of groundwater quality? (TRPA 3j)		**X**		
102. Is the Project located within 600 feet of a drinking water source? (TRPA 3k)				**X**

3.2.9.1 Environmental Setting

Appendix L attaches the Water Quality Memorandum (WQM) prepared for the project area. The objective of this WQM report is to evaluate potential impacts of Project construction and operations on water quality. The WQM identifies direct, indirect, temporary and long-term effects on surface water and groundwater resources potentially resulting from actions of construction, operations and maintenance of the Project. The WQM describes the design elements, categories of Best Management Practices and construction approach included in the Project proposal for conformance with federal, regional, state and local regulatory requirements and when necessary, additional mitigation measures to reduce potential impacts to less than significant levels.

The WQM discloses whether project-induced effects will have a significant impact on water quality. Significance is based on whether discharges to receiving waters will contribute to exceedances of federal, State of California or Tahoe Regional Planning Agency (TRPA) water quality objectives or have an adverse impact to the beneficial uses identified by the Regional Water Quality Control Board (RWQCB).

This report describes the environmental and regulatory setting and the environmental impacts of the Project and identifies measures to minimize adverse impacts on hydrology and water quality.

Project Area Watersheds. As illustrated in Figure 1 of Appendix L, the project area traverses the Lake Forest Creek, Dollar Creek and Cedar Flats watersheds. The project area contains 0.11 acres within Lake Forest Creek watershed (TRPA Priority Watershed 4) or 0.03 percent of the watershed's 447 acres. The shared-use trail is not hydrologically connected to Lake Forest Creek. Dollar Creek, a perennial stream channel and TRPA Priority Watershed 5, drains the project area. Dollar Creek watershed drains an area of approximately 1,175 acres with approximately 217 acres of 18.5 percent of the total watershed contained within the project area (See Table 1 of Appendix L). The project area also contains approximately 41 acres of the 1,166-acre Cedar Flats drainage area, which is 3.5 percent of the total area. No perennial channel drains Cedar Flats watershed, TRPA Priority Watershed 6.

Figure 1 in Appendix L illustrates the watershed and the project area boundaries as delineated by the TRPA and defined for the Lake Tahoe Total Maximum Daily Load (TMDL) (Lahontan and NDEP 2010). The project area is not hydrologically connected to Lake Forest Creek or Cedar Flats watershed through perennial drainage channels. Surface runoff within the project area typically sheet flows and infiltrates within the undeveloped forested uplands, although some intermittent and ephemeral drainages were noted during field surveys. Dollar Creek is a perennial stream that drains the majority of the project area with flows controlled at Dollar Reservoir. Dollar Creek crosses under SR 28 and is tributary to Lake Tahoe.

Existing Surface Water Quality. Dollar Creek and Dollar Reservoir are the perennial surface water features and direct receiving waters within the project area. Intermittent and ephemeral drainages are present within the project area that convey surface runoff during the spring runoff period and extreme precipitation events, but these drainages do not discharge to receiving waters or to Lake Tahoe. Lake Tahoe is a receiving water via stream flows from Dollar Creek and groundwater recharge from lacustrine deposits. Dollar Reservoir is about one acre in size and is sited behind a 14-foot high and 400-foot long dam. The dam and reservoir do not currently serve any purpose other than providing a favorite destination for hikers and bikers (California State Parks 2005).

Artificial barriers exist on Dollar Creek near the confluence with Lake Tahoe. Consequently there is no interchange of fish and other migratory aquatic species between the lake and the creeks (California State Parks 2005).

Little surface water quality data exists for Dollar Creek, but non-point sources of stormwater runoff from residential developments, including lawns and landscaping, driveways and access roadways along with runoff from forested uplands are known to be the primary influences on surface water quality (TRPA and NDEP 2007).

Dollar Creek beneficial uses include: municipal and domestic supply; agricultural supply; groundwater recharge; water-contact recreation; non-water-contact recreation; commercial and sportfishing; cold freshwater habitat; wildlife habitat; and spawning, reproduction and development.

No portion of Dollar Creek is currently designated as impaired under Section 303(d) of the CWA; however, the stream is tributary to Lake Tahoe and addressed under the Lake Tahoe TMDL. The creek does not appear to be contaminated with heavy metals or other pollutants. Contaminants affecting the

Dollar Creek watershed could include various vehicle-related pollutants such as oil, grease and other petroleum products from roadways, located down gradient of the project area and illicit dumping, pesticides, herbicides and fertilizers from residential homes in the project area vicinity. Wastewater treatment facilities do not contribute pollutants to the watershed because all sewer and wastewater are exported out of the Lake Tahoe Basin.

SEZs and Wetlands. The USACE regulates activities in wetlands and waters of the U.S. in accordance with Section 404 of the Clean Water Act. To determine the potential for impacts to this resource, HBA performed preliminary wetland delineation in the fall of 2011 that will be finalized in Spring 2012. Appendix H, Dollar Creek Shared-Use Trail Project Natural Environment Study (NES), contains some results from the draft wetlands report; Figure 1 in this appendix locates the wetland areas identified. The delineation identified three (4) wetland types within the project area, including: other waters, emergent floodplain, montane riparian wetland and groundwater seep wetland.

Please refer to Appendix H for description of wetlands and waters of the U.S. identified within the project area. Section 3.2.4 of the IS/IEC addresses potential impacts to SEZs and wetlands, specifically Questions 30 and 31.

Surface Water Quality Objectives. Key regulatory agencies with respect to hydrology, water rights and supply, surface water quality and groundwater in the project area are listed below.

- TRPA is designated by the United States Environmental Protection Agency (USEPA), California and Nevada as the water quality planning agency in the region;
- California Department of Water Resources;
- State Water Resources Control Board (State Board);
- California Regional Water Quality Control Board – Lahontan Region;
- Placer County; and
- Placer County Flood Control and Water Conservation District.

Appendix L, Tables 2 and 3, detail the regional and state water quality objectives (WQOs) for Dollar Creek, respectively. The discharge of surface flows generated within the project area to surface waters or to stormwater runoff conveyance systems cannot cause the concentrations in Lake Tahoe, Dollar Creek, minor surface waters or minor wetlands to exceed the WQO limits listed in these tables.

3.2.9.2 Environmental Analysis and Mitigation Measures

82. Would the Project violate any water quality standards or waste discharge requirements? (CEQA IXa)

Standard of Significance: Failure to implement effective, reasonable and appropriate measures to protect water quality and/or non-compliance with WQOs, waste discharge requirements or Board Orders No R6T-2011-0019 or R6T-2005-0026 result in a significant impact to surface water quality and beneficial uses. TRPA revised Code Chapters 33 and 60 and the Lahontan Basin Plan Chapter 5 disclose the applicable codified regulations and WQOs that are presented in Tables 2 and 3 of Appendix L.

Lahontan exercises control of WQOs and water quality control measures for surface waters and groundwater governed by the Lahontan Basin Plan adopted March 31, 1995. The Lahontan Basin Plan designates beneficial uses for water bodies and establishes water quality objectives, waste discharge prohibitions, and other implementation measures to protect those beneficial uses as describe in Appendix L. TRPA revised Code Chapter 60 lists the regional WQOs.

Site disturbance, stormwater runoff, erosion and sedimentation during Project construction pose direct and indirect short-term impacts to surface water quality and beneficial uses within and downstream of the project area. Concentrated runoff from modified impervious surfaces and slopes could occur from long-term operations of the Project. Indirect impacts of atmospheric deposition of particulates could occur if disturbed areas are not revegetated or significant increased VMT occurs.

Construction of the Project potentially affects Dollar Creek. This analysis evaluates potential impacts in the context of the facility features and construction controls built into the Project proposal. The facility features and construction controls are measures incorporated into the Project proposal during planning and design that are intended to avoid, reduce and minimize potential effects to surface water quality and beneficial uses. These Project components address direct and indirect, short-term and long-term effects to surface water quality and beneficial uses from construction runoff, urban runoff and atmospheric deposition within the project area.

Short-term Construction Impacts. Construction of the Project involves land disturbance activities, such as vegetation removal, excavation and backfill, soil compaction, and stockpiling of soils. Short-term impacts to surface water quality and beneficial uses could result if precipitation events occur simultaneously with construction activities. Disturbed and compacted soils contribute to runoff and subsequently increase peak and total runoff volumes from the project area. However, containment of soil erosion and runoff on-site during construction protects the down-gradient drainage surface water quality and beneficial uses. A small potential for accidental petroleum releases from motorized equipment during construction activities exists during construction activities, which could result in temporary effects to water quality.

The Project will comply with conditions for permit coverage under Board Order No. R6T-2011-0019, the Tahoe Basin Construction General Permit. During the final stages of construction plan development, the County and its contractors prepare details and specifications that make up the TRPA ESCP and NPDES SWPPP requirements (mitigation measures GEO-3 and GEO-5, respectively). These plans address construction-related disturbance to minimize, control and infiltrate runoff. At a minimum, implementation of the ESCP and SWPPP prevents debris, soil, silt, sand, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from Project construction or operation from entering into receiving waters or their tributaries and adjacent wetlands. The SWPPP outlines erosion control measures to be taken as well as structural BMPs to control and prevent to the maximum extent practicable the discharge of pollutants to surface waters and groundwater. The SWPPP includes a plan for

responding to and managing accidental spills during construction (i.e., Emergency Response Plan) as well as overall management of the construction project such as designating areas for material storage, equipment fueling, concrete washout, and stockpiles. The County will file the permit registration documents prior to ground disturbing activities (mitigation measure GEO-4) and its contractor will install construction-related temporary BMPs according to the California Stormwater Quality Association (CASQA) and TRPA BMP handbooks (mitigation measure GEO-6).

The project area presents few construction challenges that could reduce the effectiveness of standard compliance measures in meeting discharge limitations during construction. The Project proposal locates the shared-use trail primarily on high capability land with reasonable construction access, as required by mitigation measure GEO-8 and complies with the TRPA grading period (mitigation measure GEO-7). Available staging areas provide opportunities to erect and maintain erosion controls on higher capability lands distant from streams and conveyance systems (mitigation measure GEO-9). Appendix C details temporary construction access, staging areas, and turnarounds on plan sheets.

Tree protection measures (mitigation measure SR-1) outline procedures for protection of roots and boles during construction activities. Mature tree roots play a role in slope stability and tree canopy aids in the protection of topsoil by moderating temperatures and dispersing the effects from precipitation events that could lead to erosion. A designated monitor on-site during construction activities provides professional expertise and expedited response to correct issues that could arise during construction and assures compliance with permitting conditions and fulfillment of Project commitments.

This evaluation concludes that through implementation of mitigation measures, the Project adequately avoids and minimizes potential for direct and indirect water quality degradation during construction. Water quality protection directly supports the following beneficial uses: municipal and domestic supply; agricultural supply; groundwater recharge; water-contact recreation; non-water-contact recreation; commercial and sportfishing; cold freshwater habitat; wildlife habitat; and pawning, reproduction and development. Three beneficial uses will experience short-term disruption during construction: commercial and sport fishing, water-contact recreation and non-contact water recreation. While access to recreation features in the work zone will be temporarily limited during construction, adequate public access for water contact and fishing along Dollar Creek and for recreational trail use in other areas exists adjacent or near the project area along its length. Conformance with regulations and Project permitting conditions reduces the direct and indirect short-term potential impacts to surface water quality and beneficial uses during the construction period to a level of less than significant after mitigation.

Long-term Operational Impacts. The Project, as a non-motorized route, introduces little long-term potential for runoff containing hydrocarbons, heavy metals and other chemicals or toxins associated with motorized vehicles and exhaust. The Project proposal includes no snow removal or use of deicing chemicals or sand.

Given the linear configuration of the Project, source control is more effective in preventing surface water degradation than extensive runoff collection and treatment. The Project proposal employs the following facility features and construction controls to avoid and minimize direct and indirect, long-term potential impacts to surface water quality and beneficial uses from operations and maintenance:

- Avoidance and minimization of encroachment in low capability LCDs;
- BMP retrofit of key neighborhood connector trails (includes trail corralling, trail narrowing, waterbars, boulders, native mulch, and educational signage);
- Raised asphalt concrete trail on permeable fill/vented trail design option in areas with potential for surface hydrology;
- Flexible grades to minimize disturbance;

- Bridge span at Dollar Creek;
- User management fences, bollards and/or boulders;
- Trail alignment location to reduce disturbance areas and stabilize cut and fill slopes; and
- Hydrologic source controls (i.e., clear zones); and
- On-site drainage strategies and structures (i.e., transition aprons and culverts).

To reduce potential long-term impacts to surface water quality and beneficial uses from use, operations and maintenance actions, the Project will implement post-construction stormwater management in accordance with permit R6T-2011-0019 requirements for Lahontan Notice of Termination (NOT) conformance (mitigation measure HYDRO-3) and install permanent BMPs according to the CASQA and TRPA BMP handbooks (mitigation measure HYDRO-1). For post-project BMP effectiveness and stormwater monitoring, the Project will prepare and impalement an Inspection, Operations, Maintenance and Monitoring Plan, as required by mitigation measure HYDRO-2.

The Project proposes strategies for revegetation and restoration based on the type and location of disturbance with goals of reestablishment of native hydrology and vegetation communities and implements the OMMS for identification of long-term operations and maintenance needs. The Project proposal does not include ornamental landscaping or use of fertilizer beyond the vegetation reestablishment stage. The Project proposal does include irrigation initially during the revegetation establishment. Revegetation strategies use native plants and materials. Appendix E contains the RRPs for trail removal, BMP upgrades, and disturbance areas. The RRPs include Noxious Weed and Invasive Species Plan implementation, which improves revegetation efforts by reducing the possibility for noxious weed introduction and establishment and the subsequent removal of these unwanted plan species if necessary. Implementation of the OMMS assures that the Project continues to provide for the environmental benefits articulated by the Project objectives through adequate maintenance of facilities, resource protection through education and interpretation, and adaptive management strategies. Appendix F details this strategy.

Human use of the project area will change after construction of the shared-use trail. Important considerations include; 1) some trail use, including most use during the early spring/late fall period when the SEZ and wetland areas are wet, will shift to the protected surface trail and other existing trail use will continue to be disbursed on the unpaved trails to remain; 2) the vast majority of shared-use trail users will remain on the trail until they reach their destination (TMPO 2010) greatly reducing new impacts to the unpaved trails; and 3) bridge span at Dollar Creek will minimize impacts to SEZ and potentially jurisdictional waters. The OMMS (Appendix F) employs adaptive management strategies to prevent new unpaved trails from creating impacts. These include regular monitoring to identify changing use patterns and use of increasingly restrictive measures only where necessary to prevent new disturbance.

The Project contributes towards attainment of TRPA water quality thresholds and Lahontan's water quality objectives for specific water bodies and general hydrologic areas through Project benefits such as environmental protection of air and water quality and of sensitive lands. The Project provides for an incremental step in meeting the basin-wide water quality thresholds through implementation of TRPA EIP Project 761 (Dollar Hill to North Tahoe Regional Park Trail) and installs an essential public transportation linkage identified in the Lake Tahoe RTP (TRPA/TMPO 2008), Lake Tahoe Regional BPMP (TMPO 2010) and TRPA EIP Update, Planning Horizon 2008-2018 (TRPA 2009).

TRPA revised Code Chapter 60 identifies water quality mitigation needs associated with new public projects, which can be met through the implementation of mitigation projects or the payment of a mitigation fee. The County identifies the mitigation option in the Project permit application. The direct and indirect, long-term impacts to surface water quality and beneficial uses from operation and

maintenance of the Project is less than significant based on the potential benefits to the immediate project area and contributions towards attainment of TRPA Thresholds.

Atmospheric Deposition. Atmospheric sources can contribute to surface water quality degradation, as more than half of the nitrogen loading in Lake Tahoe is delivered by air (TRPA and NDEP 2008). Several sources of airborne pollutants include motorized vehicles, dust and particulates from unvegetated slopes, and pulverized road salts and abrasives. Fugitive dust generated during Project construction could increase ambient fine particulate concentrations. Fine particulate emissions can be deposited directly in surface waters or can be transported by runoff to surface waters.

The Project will implement a Fugitive Dust Control Plan (mitigation measure AQ-1) for the control of dust during construction activities. The Project proposal minimizes long-term, potential impacts to surface water quality and beneficial from atmospheric deposition through revegetation of disturbed areas and revegetation and management of trail clear zones.

The Project will offer an alternative to use of private automobiles for travel. Section 3.2.16, Traffic and Circulation, reports nominal VMT increases (e.g., Basinwide VMT increase of 0.006%) after Project construction with no measurable change related to emissions. Revegetation of disturbed areas to cover bare soils, stabilize slopes and reduce sediment sources and proper management and maintenance to identify areas of trail surface repair and additional slope stabilization and revegetation further minimize long-term, potential impacts to surface water quality and beneficial uses from atmospheric deposition.

Anti-Degradation Policy. The State anti-degradation policy (Resolution No. 68-16) is incorporated into regional water quality control plans, including the Lahontan Basin Plan. The policy applies to high quality waters only (i.e. Lake Tahoe and tributaries) and requires that existing high quality be maintained to the maximum extent possible. The Project implements reasonable and appropriate measures for the protection of surface water quality and beneficial uses and complies with conditions set forth in Board Orders No. R6T-2011-0019 and R6T-2011-0101. Based on the stated evaluation criteria for determination of significant impacts to surface water quality and beneficial uses, the Project maintains beneficial uses and protects surface water quality through the Project proposal and implementation of mitigation measures for conformance with federal, regional, State and County codified regulations protection beneficial uses and surface water quality.

Federal, regional, State, and/or local regulations for Project permitting and approval dictate actions detailed in mitigation measures HYDRO-1, 2 and 3, GEO-3 through 10, AQ-1 and SR-1, which will assure conformance with such regulations and minimize potential impacts to water quality and beneficial uses to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 20 and 57 for descriptions):

> **HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs**
>
> Water quality Best Management Practices (BMPs) shall be designed according to the CASQA Stormwater Best Management Practice Handbooks for Construction, for New Development/Redevelopment, and/or for Industrial and Commercial, (and/or other similar source as approved by the Placer County Engineering and Surveying Department (ESD)). The Project shall incorporate provisions related to drainage conveyances, water quality treatment, cut/fill

slopes, and revegetation. The Project shall infiltrate storm runoff from trail surfaces in adjacent clear zone areas. Where the trail lies in close proximity to existing roadways, capture and conveyance to infiltration areas may be necessary and shall be defined during final engineering design.

The Project shall conform to requirements for permanent BMPs as outlined in TRPA revised Code Chapter 60 (Section 60.4), Lahontan's Basin Plan Chapter 5 and WDRs and Placer County Codes and Ordinances.

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

The Project Applicant shall prepare and implement an Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs. This plan shall comply with TRPA revised Code Chapter 60 and Lahontan's updated WDRs. TRPA, Lahontan, and Placer County shall review the plan prior to issuance of final Project approval. Post-project monitoring shall include post-project BMP effectiveness monitoring and stormwater monitoring.

HYDRO-3. Implement Post-Construction Stormwater Management

Post-construction stormwater management shall be implemented in accordance with permit R6T-2011-0019 requirements for Lahontan Notice of Termination (NOT) conformance.

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

SR-1. Tree Protection and Avoidance Measures

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

83. Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (CEQA IXb)

Standard of Significance: A significant impact results if the Project installs improvements that intercept groundwater or otherwise cause substantial changes in existing groundwater quality, quantity, elevations or movement; requires excavations greater than five (5) feet that will intercept groundwater; or fails to comply with Lahontan requirements for disposal of groundwater during construction, as outlined in TRPA revised Code Chapters 33 and 60, Lahontan Basin Plan Chapter 5.7 and Lahontan Board Order No R6T-2011-0101.

Groundwater Quantity. No facility features will affect groundwater quantity. Excavations necessary for trail construction will not exceed five (5) feet. As described for Questions 57, 61 and 64, preliminary soil evaluations and land capability determinations do not report soil conditions associated with shallow groundwater and no groundwater interception is expected from trail construction. Construction plan development including a more detailed grading plan will confirm this assessment.

Construction of supports for a bridge span across Dollar Creek could intercept groundwater for a period of time during construction, affecting groundwater quantity. Depending on final engineering requirements, the supports could use pile or helical pier features or could require more intrusive concrete footings. The Project proposal requires support design to avoid restricting flood flows and avoid SEZ and wetland intrusion and assumes a bridge span of 100 feet and avoidance of SEZ and potentially high groundwater table. If engineering requirements dictate a longer bridge span, larger support features may be necessary, requiring dewatering in the footing construction area. The Project will address this effect, if necessary, by constructing during the driest conditions possible, developing and implementing a dewatering plan that reduces short-term impacts (mitigation measure HYDRO-4). No long-term reduction in groundwater quantity will result from operation of the Project.

The Project causes no permanent change in the quantity of groundwater, either through direct addition or withdrawal, and thus poses no effects to local groundwater table levels.

Groundwater Movement. The Project proposal accommodates groundwater infiltration of surface runoff along the length of the shared-use trail alignment. Infiltration of surface water to groundwater occurs in close proximity to its origin, either in the adjacent clear zones for the asphalt concrete surface design option. The design element maintains the existing direction and rate of groundwater flows through use of asphalt concrete on raised permeable fill and bridge spans in portions of the project area that exhibit seasonal high groundwater levels or surface hydrology.

Implementation of compliance measure CM-4 assures compliance with Lahontan requirements for dewatering of groundwater during construction, if necessary, as outlined in Lahontan Basin Plan Chapter 5.7 and Lahontan Board Order No R6T-2011-0019. Depending on final engineering design, the Project will submit a dewatering plan as part of the SWPPP for NPDES construction permitting. Dewatering plans identify actions to be taken should unexpected groundwater interception occur during construction. Proper planning and implementation of the dewatering plan minimizes the risk of discharge of contaminants to groundwater or alteration of groundwater movement during construction.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

HYDRO-4. Construction Dewatering Plan

If groundwater interception is expected to occur, as based on final construction plans, excavation sites shall be protected with sand bags, water berms, siltation fences, or other Lahontan-approved techniques. Localized pumping shall clear the construction area of turbid standing water. Pumped water could be used to irrigate planted vegetation, sprayed on uplands to allow infiltration within the project area, held in Baker Tanks, or otherwise treated to remove suspended sediment to comply with the requirements of Board Order No. R6T-2011-0019 prior to discharge to Dollar Creek.

84. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (CEQA IXc)

Standard of Significance. Alterations to drainage patterns capable of creating on-site or off-site erosion produce a significant impact. To conform to TRPA codified regulations set forth in revised Code Chapter 60, the 20-year, 1-hour storm runoff volume must be contained and infiltrated within the project area so that existing drainage patterns do not substantially change and result in erosion or siltation on or off-site.

The Project introduces new land coverage in formerly unpaved and undisturbed areas. Evaluation for Question 61 details existing and proposed land coverage. Increases in land coverage typically result in increases in runoff from impervious and compacted surfaces associated with land coverage. TRPA revised Code Chapter 60 requires drainage design to contain and infiltrate the 20-year, 1-hour storm runoff volume within the project area. The Project drainage design directs this surface flow to the edges of the trail and infiltrates runoff into the clear zone areas that function as source control so that existing drainage patterns do not substantially change and result in erosion or siltation on or off-site. Preliminary construction plans (Appendix C) identify 13 areas potentially requiring culverts to minimize effects to surface drainage crossed by the shared-use trail. Properly sized culverts installed at appropriate grade provide for cross drainage that will not contribute to substantial erosion or siltation on or off-site.

The Project proposal also maximizes the use of existing land coverage further reducing the potential to alter existing drainage patterns. Portions of the shared-use trail located within public ROWs or in close proximity to ROWs (e.g., SR 28) could modify roadway drainage, causing minor increases in or redirection of stormwater runoff as further discussed in Question 85. Final design of the SR 28 trail crossing at Dollar Drive requires coordination with Caltrans because the shared-use trail is partially located within the SR 28 ROW.

The Project proposal avoids alteration of the Dollar Creek stream course, requiring final design of the bridge to avoid placing pilings in or around the stream course.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

85. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (CEQA IXd)

Standard of Significance: A significant impact occurs if Project construction or operations substantially alter an existing watercourse alignment or capacities or increases in runoff occurs such that flooding

occurs because the 20-year, 1-hour storm volume cannot be captured by existing or proposed stormwater drainage facilities.

As described for Question 84, the Project largely avoids alterations to existing drainage patterns through location of new coverage over existing unpaved trails wherever possible and a drainage design that relies primarily on sheet flow and infiltration for source control along most of its length. This approach, as described above, meets requirements for containment of the 20-year, 1-hour storm runoff volume. Preliminary construction plans (Appendix C) identify 13 areas potentially requiring culverts to preserve surface drainage crosses by the shared-use trail. Properly sized culverts installed at appropriate grade provide for cross drainage that will not substantially increase the rate of amount of surface runoff that results in flooding on or off-site.

The asphalt concrete surface portions of the Project are most closely associated with higher capability lands (i.e., LCDs 6 and 4) and existing roadway ROWs. The basic strategy for drainage from this trail surface is sheet flow and infiltration onto the two-foot wide clear zones that are immediately adjacent to the sides of the shared-use trail. The shared-use trail runs very closely to existing roadways in portions of Segment 2-50 and 2-70. Coordination with Caltrans drainage needs at the SR 28 trail crossing will direct final design plans that capture surface runoff collected and convey and discharge to drainage facilities to avoid flooding on or off-site.

The impervious surface area increases within the project area; however, this increase is small in magnitude. Total land coverage within the 11,267,603 square foot project area increases from 0.5 percent to 1.9 percent. The Project proposal incorporates facility features and construction controls to promote source control, ensuring that runoff from new or modified surfaces has limited potential to combine with other modifications in the vicinity of the project area to significantly affect down gradient drainage channels or existing or planned stormwater infrastructure. The Project features that retrofit existing unpaved trails result in better infiltration of surface runoff within the project area as a whole.

To avoid creating new impediments during flood events, the Project proposes a 100-foot bridge span at Dollar Creek, which avoids impacts to Dollar Creek stream course, flows and SEZ.

Temporary construction BMPs contain runoff within the project area during precipitation events. The Project proposal maintains existing surface water drainage patterns and proposes source control for runoff from new impervious surfaces assuring that long-term operation of the shared-use trail does not alter existing surface water drainage patterns or increase runoff rates or volumes that result in flooding or stream bank erosion or exceed the capacity of existing or planned stormwater drainage systems so that the 20-year, 1-hour storm runoff cannot be contained within the project area.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

86. Would the Project 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? (CEQA IXe)

Standard of Significance: See analysis for Question 85, which addresses CEQA checklist item IXd and potential impacts to existing drainage patterns and concludes the level of impact to existing or planned stormwater drainage systems is reduce to a level of less than significant by the Project proposal.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

87. Would the Project otherwise substantially degrade water quality? (CEQA IXf)

Standard of Significance: Failure to implement effective, reasonable and appropriate measures to protect water quality and non-compliance with WQOs, waste discharge requirements or Board Orders NO R6T-2011-0101 and R6T-2011-0019 results in a significant impact to surface water quality and beneficial use.

See analysis for Question 82, which addresses CEQA checklist item IXa and concludes the level of impact to surface water quality and beneficial uses is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 20, 57 and 82 for descriptions):

HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

HYDRO-3. Implement Post-Construction Stormwater Management

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

SR-1. Tree Protection and Avoidance Measures

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

88. Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (CEQA IXg)

Standard of Significance: Placement of habitable structures within mapped 100-year flood hazard area creates a significant impact.

The Project installs no housing or habitable structures and thus places no housing within a mapped 100-year flood hazard area.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

89. Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows? (CEQA IXh)

Standard of Significance: If the Project places structures that impede or redirect 100-year flood flows, a significant impact results.

The analysis identifies no changes to the 100-year floodplain storage capacity, flow routes or boundaries and no effects to neighboring properties or structures.

FEMA FIRM maps consulted indicate no 100-year flood areas associated with Dollar Creek. Therefore, FEMA 100-year flood hazard areas are not present within the project area. Additionally, the Dollar Creek 100-year floodway is attenuated by Dollar Creek Reservoir located approximately 400 feet upstream. The Project proposal avoids potential impact to the course or flow of lesser flood flows, permitting increases in flood elevation or inundation areas. At the Dollar Creek crossing, the Project proposal employs a bridge span above historic high flow level and avoids creating barriers for floodwaters. These actions avoid altering the course or flows that may overbank. The Dollar Creek bridge hydraulic analysis completed during final construction design will more specifically identify the 100 year base flood elevation, if any, that the bridge span must be designed to avoid.

Environmental Analysis: *Less than Signficiant Impact.*

Required Mitigation: **None.**

90. Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (CEQA IXi)

Standard of Significance: Exposure of people or structures to a significant risk of loss, injury or death involving flooding constitutes a significant impact.

Dollar Reservoir is about one acre in size and is sited behind a 14-foot high and 400-foot long dam. The dam and reservoir do not currently serve any purpose other than providing a favorite destination for hikers and bikers (California State Parks 2005). The Project locates the bridge span to accommodate the shared-use trail crossing over Dollar Creek several hundred feet downstream of the existing Dollar Reservoir and does not alter any hydrological conditions that would increase the risk of dam failure, site inundation or debris flow risk over that which currently exists within the project area.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

91. Would the Project cause inundation by seiche, tsunami, or mudflow? (CEQA IXj)

Standard of Significance: An increase risk of inundation by seiche, tsunami or mudflow as a result of Project installation constitutes a significant impact.

The project area is located uphill of Lake Tahoe and based on the distance from the shoreline the project area is not likely affected by seiches. The project area topography contains no mudflow areas and no areas of increased potential for mudflows. Dollar Creek is mapped to have an increased potential for debris flows should dam failure at Dollar Reservoir occur. The effects of the Project do not add to this existing potential because the shared-use trail location is outside of the flood flow path and buffered by existing upstream barriers and does not significantly increase the quantity of shallow groundwater that could initiate debris flows.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

92. Will the Project result in changes in currents, or the course or direction of water movements? (TRPA 3a)

No. Standard of Significance: See analysis for Question 84, which addresses CEQA checklist item IXc and concludes the level of impact to existing drainage patterns of the project area is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

93. Will the Project result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site? (TRPA 3b)

No. Standard of Significance: A significant impact to surface water occurs if the Project results in increases in runoff from disturbed area because of compaction, vegetation removal and impervious surfaces such that the 20-year, 1-hour storm volume cannot be captured by existing or proposed stormwater drainage systems, as defined by TRPA revised Code Chapter 60. Revised Code Subsection 60.4.6 requires infiltration facilities to discharge runoff to groundwater except as provided in revised Subsection 60.4.8, which allows for approval of alternative BMPs to meet water quality standards under special circumstances that include bike trails.

See analyses for Questions 85 and 86, which address CEQA checklist items IXd and IXe and conclude, respectively, that the level of impact to existing drainage patterns, rate and amount of runoff from the Project to existing or planned stormwater drainage systems is reduced to a level of less than significant by the Project proposal.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

94. Will the Project result in alterations to the course or flow of 100-year floodwaters? (TRPA 3c)

No. Standard of Significance: See analysis for Question 89, which analyzes CEQA checklist item IXh and concludes the Project structures do not impede or redirect 100-yr floodwaters and the level of impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

95. Will the Project result in change in the amount of surface water in any water body? (TRPA 3d)

No. Standard of Significance: If the Project results in a change in the amount of surface water in a water body, a significant impact results as defined by TRPA revised Code Chapter 60.

The Project proposes use of culverts, a bridge span, and asphalt concrete trail raised on permeable fill/vented trail to avoid interruption of existing surface water and groundwater movement towards drainages, stream channels and SEZs. The shared-use trail crossing at Dollar Creek installs a 100-foot bridge span over the creek channel and associated SEZ to the edge of the SEZ setback (i.e., 50 feet from edge of SEZ boundary). Flows at this existing crossing are not impeded. The Project poses no impact to Dollar Reservoir water levels.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

96. Will the Project result in discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? (TRPA 3e)

No, with mitigation. Standard of Significance: Failure to implement effective, reasonable and appropriate measures to protect water quality and non-compliance with WQOs, waste discharge requirements or Board Order No R6T-2011-0019 or R6T-2011-0101 result in a significant impact to surface water quality and beneficial use.

See analysis for Question 82, which addresses CEQA checklist item IXa and concludes the level of impact to surface water quality and beneficial uses is less than significant after mitigation. Construction and operation of the Project does not cause alteration to surface water quality nor contribute towards non-attainment of TRPA Thresholds through implementation of the Project proposal and mitigation measures that assure conformance to federal, regional, State and local regulations and ordinances.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 20, 57 and 82 for descriptions):

> **HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs**
>
> **HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs**
>
> **HYDRO-3. Implement Post-Construction Stormwater Management**
>
> **GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)**
>
> **GEO-4. File Permit Registration Documents (PRDs)**
>
> **GEO-5. Conform to NPDES Permit Requirements**

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

SR-1. Tree Protection and Avoidance Measures

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

97. Will the Project result in alteration of the direction or rate of flow of ground water? (TRPA 3f)

No, with mitigation. Standard of Significance: See analysis for Question 83, which addresses CEQA checklist item IXb and concludes the level of impact to groundwater movement is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

98. Will the Project result in change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? (TRPA 3g)

No, with mitigation. Standard of Significance: See analysis for Question 83, which addresses CEQA checklist item IXb and concludes the level of impact to groundwater quantity and movement is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

99. Will the Project result in substantial reduction in the amount of water otherwise available for public water supplies? (TRPA 3h)

No. Standard of Significance: If the Project creates a demand that exceeds available water supplies, a significant impact to source water occurs as defined in TRPA revised Code Chapter 60.

As supported by the analysis in the Lake Tahoe Regional BPMP (TMPO 2010), implementation of bikeway and pedestrian projects is not anticipated to change the amount of surface water in any body of water in the Lake Tahoe Basin or reduce the amount of water available for public water supplies. The Project proposal does not include features such as developed trailheads with restroom facilities or

irrigated planting beds. Construction activities and initial revegetation activities require water, yet will occur in phases over the construction season and demand will not exceed the maximum permitted capacity of service providers.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

100. Will the Project result in exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches? (TRPA 3i)

No. Standard of Significance: See analysis for Question 89, which addresses CEQA checklist item IXh and concludes the level of impact related to flooding from the 100-year storm occurrence is less than significant.

The Project does not increase exposure of people or property to significant water related hazards such as wave action or seiches.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

101. Will the Project result in potential discharge of contaminants to the groundwater or any alteration of groundwater quality? (TRPA 3j)

No. Standard of Significance: See analysis for Question 83, which addresses CEQA checklist item IXb and concludes the level of impact to groundwater quality is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

102. Is the Project located within 600 feet of a drinking water source? (TRPA 3k)

No. Standard of Significance: A contaminating land use within 600 feet of a drinking water source identified on TRPA Source Water Assessment Maps constitutes a significant impact as defined by TRPA revised Code Section 60.3.

The shared-use trail and project area are not located within 600 feet of source water or source water protection zone as depicted on TRPA Source Water Assessment Maps, which were reviewed with TRPA front counter staff on February 15, 2012. Additionally, the Project proposal includes no transit stations or terminals, which are identified by TRPA as possible contaminating activities associated with linear public facilities that could contaminate drinking water sources.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.10 Land Use and Planning

This section presents the analyses for potential impacts to land use and planning. Table 25 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 25

Land Use and Planning

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
103. Physically divide an established community? (CEQA Xa)				X
104. 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? (CEQA Xb)			X	
105. Conflict with any applicable habitat conservation plan or natural community conservation plan? (CEQA Xc)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
106. Include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan? (TRPA 8a)	X			
107. Expand or intensify an existing non-conforming use? (TRPA 8b)				X

3.2.10.1 Environmental Settings

The project area lies entirely within Placer County, primarily within Conservancy and NTPUD owned properties. The TRPA exercises planning jurisdiction over the entire project area.

Primary uses within the project area are undeveloped lands (i.e., Conservancy, NTPUD utility easement, and NV Energy properties), Caltrans roadway ROW, and potentially some private property (Nahaas property) near SR 28. Some of the undeveloped areas contain existing unpaved trails. Nearby land uses include single family and multi-family homes, undeveloped areas, recreational areas and schools, and some retail/commercial areas. Table 26 provides trail lengths by land ownership.

Table 26

Property Ownership Summary

Ownership	Length (in feet)	Percent of Trail
Conservancy	8190	69%
NTPUD	2455	21%
Nevada Energy	790	7%
CalTrans ROW (SR 28)	135	1%
Private	255	2%*

Source: HBA 2012

Notes: * Determination of Project location on private land will be determined through an official boundary survey and delineation. The Project objective is to avoid and minimize effects to private parcels.

The Project traverses land within residential, conservation, recreation, and commercial/public service land use classifications. Figure 21 illustrates land use classifications identified in TRPA PASs within the project area. Table 27 describes the PASs, and land use designations for the Project.

Plan Area Statements. The TRPA Regional Plan guides decision-making as it affects growth and development within the Lake Tahoe Basin. Each Plan Area Statement provides a description of land use for a plan area, identifies planning issues, and establishes specific direction for planning to meet the policy direction of the Regional Goals and Policies Plan. Plan Area Statements also include plan maps that provide specific regulations for identified areas, similar to zoning maps. The Project is a linear public facility, a transportation route land use by TRPA definition, and classified as a special use within Plan Areas 009B and 012 and a nonconforming use in Plan Area 013. Plan Area Statement 012 includes a special policy (#5) that states, “This Plan Area should accommodate the connection of the North Tahoe PUD Bike Trail.”

Table 27

Trail Segment by Plan Area Statement and Land Use Designation

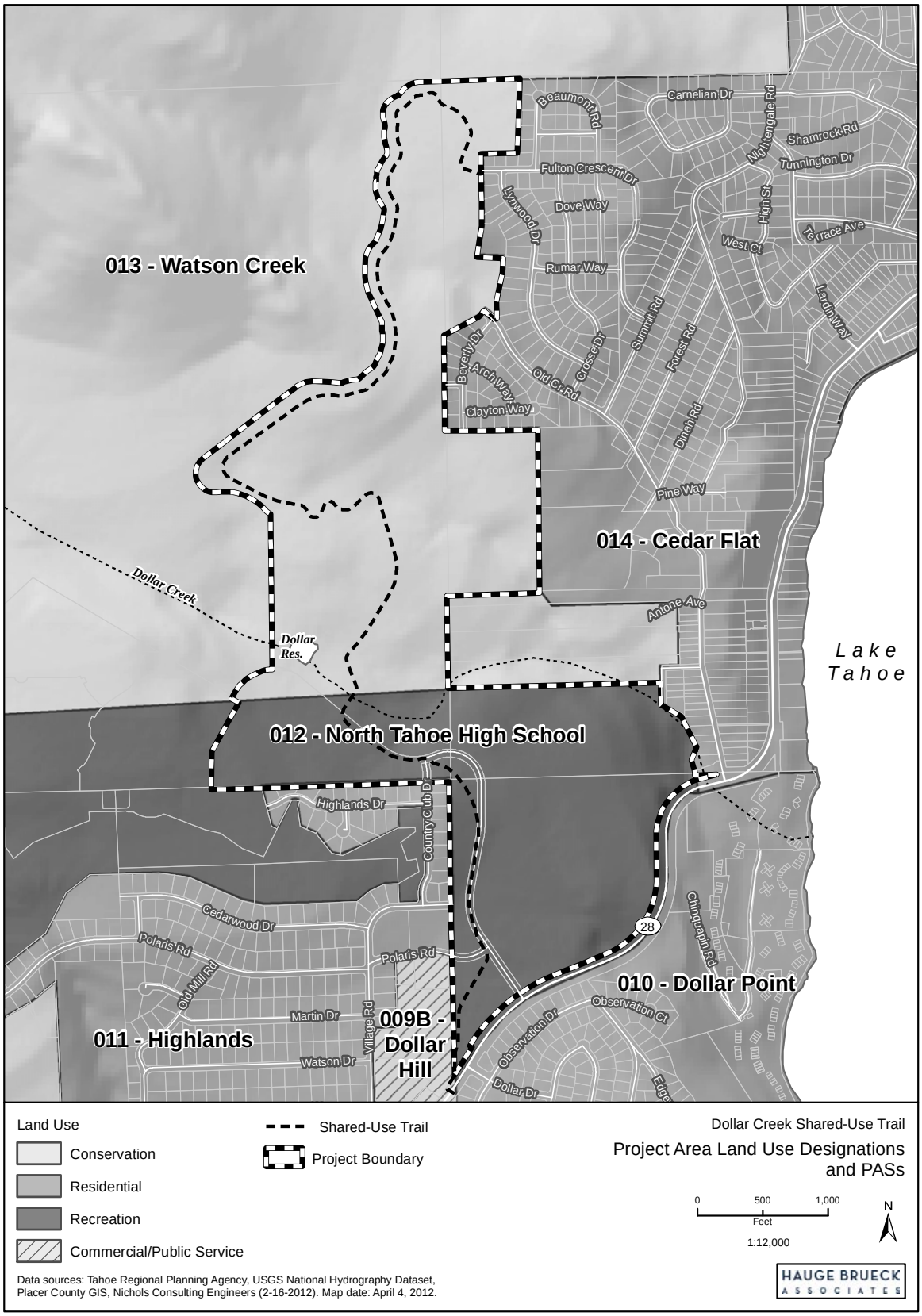
Trail Segment	PAS No.	PAS Name	Land Use Classification	Management Strategy	Permissible Uses	Segment Length - (feet)
SR 28 Connection	009B	Dollar Hill	Commercial/Public Service	Mitigation	Transportation Routes (S)	360
South Segment	012	North Tahoe High School	Recreation	Mitigation	Transportation Routes (S)	3,480
North Segment	013	Watson Creek	Conservation	Mitigation	Transportation Routes (NC)	7,985

Source: TRPA PAS

Notes: A – Allowable Use; S – Special Use; NC – Nonconforming Use

The Placer County Greater North Tahoe General Plan Land Use Classification for Plan Area 013 is "Conservation with a Mitigation Management Strategy". The County Plan Area Statements include mostly the same or similar permissible uses as listed in the TRPA Plan Area Statements, and likewise "transportation routes" are a nonconforming use in Plan Area 013. The Placer County Tahoe City Area General Plan Land Use Classification for Plan Area 009B is "Commercial/Public Service with a Mitigation Management Strategy" and for Plan Area 012 is "Recreation with a Mitigation Management Strategy". Transportation routes are listed as a special use in both of these Plan Areas. The Tahoe City Area General Plan also states under Special Policy #5 that Plan Area 012 should accommodate the connection of the NTPUD Bike Trail.

Figure 21. Project Area Land Use Designations and PASs



3.2.10.2 Environmental Analysis and Mitigation Measures

103. Would the Project physically divide an established community? (CEQA Xa)

Standard of Significance: A significant impact results if the Project installs a structural impediment to vehicle or pedestrian movement in the community. The TRPA Regional Plan, Plan Area Statements and Code, and County General Plans determine this level of impact significance.

The Project constructs a developed trail through undeveloped land, joining residential neighborhoods with commercial and community service areas in the North Lake Tahoe area. This segment of the trail connects to other trail segments, providing greater non-motorized access in the community. Section 2.6.4 of the IS/IEC lists connections from the Project to other trails and roads, neighborhoods, schools, employment centers, recreation areas, and transit centers. Since the Project provides a number of connections to services utilized by the local community and visitors, the Project does not divide the established community, rather provides greater opportunities for movement.

The Project installs a linear trail that is not of a size or use volume that physically divides the community or redirects existing traffic to change circulation patterns. Much of the Project is within forested, undeveloped land. The crossing at SR 28 includes a crosswalk access point; however, this does not prevent the current use or movement on SR 28 and does not prevent access between areas north and south of this pedestrian crossing. Because the Project reduces the physical divisions caused by existing development patterns, the Project results in improving connections within the urban community, thus avoiding impact.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

104. Would the Project 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? (CEQA Xb)

Standard of Significance: A significant impact results from non-compliance of the Project with land use plans, goals, policies, regulations or provisions as established by the TRPA Regional Plan Element and revised Code Chapters 21 and 20, and County General Plans.

TRPA. The Project includes a TRPA staff initiated amendment of the list of permissible land uses in Plan Area 013 to include "transportation routes" as a special use. TRPA revised Code Chapter 11 addresses PASs. Revised Code Section 11.8 includes regulations for amending a PAS. According to TRPA revised Code Subsection 11.8.2, modifications to permissible land uses shall be amended by ordinance. Findings, as listed in TRPA revised Code Subsection 11.8.4, are required prior to amendment adoption. These findings are as follows:

A. *The amendment is substantially consistent with the plan area designation criteria in Subsections 11.6.2 and 11.6.3;*
B. *If the amendment is to expand an existing urban plan area boundary or to add residential, tourist accommodation, commercial, or public service as permissible uses to a non-urban plan area, it must be found that the amendment will make the plan area statement consistent with an adopted policy or standard of the Regional Plan, and that the amendment will satisfy one or more of the following criteria:*

1) *The amendment is to correct an error which occurred at the time of adoption, including but not limited to a mapping error, an editing error, or an error based on erroneous information; or*
2) *The amendment enables TRPA to make progress toward one or more environmental thresholds without degradation to other thresholds as measured by the Chapter 16, Regional Plan and Environmental Threshold Review, indicators; or*
3) *The amendment is needed to protect public health and safety and there is no reasonable alternative.*

In accordance with TRPA revised Code Subsection 11.8.4, the amendment to add "transportation routes" as a special use to Plan Area 013 is consistent with the Conservation Land Use Classification as the shared-use trail is a low-intensity use that reduces motorized vehicle traffic on public roadways, maintains the hydrology of Dollar Creek and surrounding sensitive areas, and results in the restoration and discontinued use of parallel duplicative unpaved trails located within sensitive areas that cause erosion and other adverse impacts to the geology, hydrology, and habitat of the area. As a special use, future proposals for transportation routes in this area are subject to review and approval and are not considered a generally allowed use. TRPA revised Code Section 11.6 regards Special Designations and does not apply here.

Because Plan Area 013 includes existing USFS roadways for vehicle, bike and pedestrian use, and other nearby Plan Areas with the Conservation Land Use Classification (Martis Peak-019, Burton Creek-004, etc.) include transportation routes as a special use, the omission of transportation routes as a special use in Plan Area 013 may have been an error at the time of Regional Plan adoption.

In addition and in accordance with this revised Code Subsection, the amendment enables TRPA to make progress toward one or more environmental thresholds without degradation to other thresholds as measured by the TRPA revised Code Chapter 16 indicators. Although no TRPA Thresholds for land use exist, the project promotes the Recreation Threshold through establishment of new recreation resources and linkages to other recreation in the area and improvement of access to and quality of the recreational experience. Development of the Project improves bicycle and pedestrian access and provides an alternative to the use of the automobile, which results in progress toward air quality, water quality, traffic, and other associated environmental goals. Retrofit of existing unpaved trails reduces erosion and hydrological impacts. The use of concrete asphalt on permeable fill/vented trail in areas of seasonal surface hydrology protects SEZ and hydrologic function without increasing erosion and sedimentation. The addition of transportation routes to the list of permissible land uses is consistent with the proposed shared-use trail route identified in the Tahoe Region Bicycle and Pedestrian Master Plan (TMPO 2010) as well as the TRPA EIP, which seeks to construct shared-use trails to reduce vehicle travel and associated environmental impacts caused by vehicle travel, as well as restore sensitive areas that are currently disturbed.

Implementation of the proposed amendment results in consistencies with policies related to allowable uses that would otherwise result in an inconsistency.

The proposed Plan Area 013 amendment and Plan Areas 009B and 012 identify transportation routes as a special land use (see Table 27). The land use is permissible but requires review and approval. TRPA must hold a public hearing and make specific findings under TRPA revised Code Subsection 21.2.2 before approving a special use. The special use findings for each of the three Plan Areas, as required in TRPA revised Code Subsection 21.2.2, Special Uses, follow

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

The Lake Tahoe Regional BPMP identifies the Project as a proposed shared-use trail. Plan Area Statement 012 includes a special policy (#5) that states, "This Plan Area should accommodate the connection of the North Tahoe PUD Bike Trail." The Project is located on existing footpaths and undeveloped forest land and improves public access and enjoyment of natural settings on public land. The Project Area is currently accessed through existing unpaved trails, some of which are improperly located in environmentally sensitive areas. The Project restores many of these disturbed areas and creates an access route that avoids sensitive areas. For these reasons, a shared-use trail is appropriate in this location.

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

The Project is located on undeveloped land between existing residential neighborhoods and does not significantly increase vehicle travel, operational air emissions, noise, lighting, or population. The Project provides improved community access for people of various ability levels while maintaining a large buffer from adjacent land uses. Where the trail must run close to residential development or SR 28, the design allows installation of physical barriers (boulders, log fencing, etc.) or increased vegetative screening. As discussed in the Traffic (3.2.16), the Project will produce a minor increase in VMT. Some roadway improvements at SR 28 will occur (trail crossing and trailhead parking access roadway intersection), yet these features will not alter the general welfare of direct neighbors or the community at large and will improve pedestrian safety, particularly in accessing the existing bus stops. New trail users who may drive to the trail are directed with signage to on-street parking near the SR 28 and Dollar Drive or Fabian Way intersections or to the proposed trailhead parking lot. Therefore, property owners within the adjacent residential neighborhoods are not impacted by new sources of noise or liter from trail users who park on their streets. Analysis of overall environmental effects on land, air, and water resources of the project area presented throughout this document identify no effects capable of impacting surrounding property.

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

The presence of improved non-motorized access does not change the character of the area and is compatible with the Commercial/Public Service classification of Plan Area 009B and the Recreation classification of Plan Area 012. Existing unpaved trails are located in the project area and are used by pedestrians and bikers. The North Tahoe High School Plan Area (Plan Area 012) states the Plan Area should accommodate the connection of the North Tahoe PUD Bike Trail and the Project establishes a portion of this connection. The Project is compatible with the recreation land uses allowed in Plan Area 013 (e.g., day use area) and does not change the Conservation Land Use Classification of Plan Area 013 as it is a low-intensity use that maintains the hydrology of Dollar Creek and surrounding sensitive areas.

The Plan Area Statements have a mitigation management strategy. The Project results in a developed trail, with decommissioning of some existing parallel unpaved trails located within environmentally sensitive areas. The Project improves environmental quality through the restoration of disturbed areas and use of permanent best management practices and is

appropriately located outside sensitive areas, utilizing permeable fill in areas that where asphalt concrete on impermeable fill is not appropriate.

TRPA revised Code Chapter 30 establishes land coverage limits. Land coverage is described in detail in 61 and Table 19, which identify coverage quantities and discuss compliance with TRPA revised Code Chapter 30. This evaluation concludes compliance with Chapter 30 provisions for existing and proposed coverage.

Placer County. The County's Land Use Element goals seek to promote the wise, efficient, and environmentally-sensitive use of Placer County lands to meet the present and future needs of Placer County residents and businesses (Land Use Goal 1.A), designate land for and promote the development and expansion of public and private recreational facilities to serve the needs of residents and visitors (Land Use Goal 1.G), and to establish and maintain interconnected greenbelts and open spaces for the protection of native vegetation and wildlife and for the community's enjoyment (Land Use Goal 1.I). Specifically, policy 1.G.2 states, "the County shall strive to have new recreation areas located and designed to encourage and accommodate non-automobile access." The Project supports these goals and objectives through trail retrofits, reflecting the land use policies of each of the Plan Area Statements as met with special use approval, and a design element that maximizes the use of high capability land. The Project avoids impacts to SEZs and allows for continued hydrologic function and the retrofit of existing unpaved trails results in a benefit to overall SEZ function. The Project promotes non-motorized circulation within the community and supports public enjoyment of undeveloped areas.

To be consistent wih the TRPA staff iniitated amendment of PAS 013, an amendment to the North Tahoe Area General Plan is proposed to alter the list of permissible uses in Plan Area 013. The amendment expands the list of permissible land uses to include "transportation route" as a special use. According to County Code Section 17.60.090(G) amendments to General Plans are processed through 1) a Planning Commission Hearing and Recommendations followed by 2) a Board of Supervisors Hearing and Decision per County Code Sections 17.60.090 (A through D), and, if approved by the Board of Supervisors, is adopted through resolution. As discussed above for amendments to TRPA Plan Areas, it is feasible for County amendments to occur as the proposed amendment does not alter the intent of the Plan Area Classification and is in keeping with proposed shared-use trail routes identified in the Lake Tahoe Regional Bike and Pedestrian Master Plan (BPMP), as well as the goals of the TRPA EIP, and the goals and policies of the Placer County General Plan.

Based on preliminary drawings, it appears that encroachment into the private Nahaas-owned property near SR 28 (preliminarily, equal to approximately 256 feet) may be necessary, but final determination as to the extent of potential encroachment will be based on boundary survey and an independent search for easements of record, encumbrances, restrictive covenants, ownership, title evidence, or any other facts which an accurate and current title search may disclose. In the event an easement is required, Placer County will follow County procedures to obtain an easement for encroachments onto private property. The landowners will be appropriately compensated for easements based on fair market value.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

105. Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan? (CEQA Xc)

Standard of Significance: A significant impact results from noncompliance with an adopted habitat conservation plan or natural community conservation plan.

The Project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because no such plans exist for the project area.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

106. Will the Project include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan? (TRPA 8a)

Yes. Standard of Significance: A significant impact results from inconsistency with permissible land uses established in Plan Area Statements 009B, 012 and 013.

See analysis for Question 104, which addresses CEQA checklist item Xb and concludes the level of impact related to land use, zoning and permissible uses is less than significant with implementation of the proposed amendment.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None**

107. Will the Project expand or intensify an existing non-conforming use? (TRPA 8b)

No. Standard of Significance: A significant impact results from expansion of an existing non-conforming use that is in conflict with permissible land uses as established in TRPA Plan Area Statements.

Construction of an approved trail, considered a special use, will not expand or intensify an existing non-conforming use because the Project is a new use and not an existing non-conforming use.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

3.2.11 Mineral Resources (CEQA) and Natural Resources (TRPA)

This section presents the analyses for potential impacts to mineral resources and natural resources. Table 28 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 28

Mineral Resources and Natural Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
108. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (CEQA XIa)				X
109. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (CEQA XIb)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
110. A substantial increase in the rate of use of any natural resources? (TRPA 9a)				X
111. Substantial depletion of any non-renewable natural resource? (TRPA 9b)				X

3.2.11.1 Environmental Setting

The project area contains no mineral resources of value to the region or residents of the State of California, nor does it include the substantial use of any non-renewable natural resources.

3.2.11.2 Environmental Analysis and Mitigation Measures

108. Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (CEQA XIa)

Standard of Significance: A significant impact occurs if the Project creates a loss of availability of mineral resources that are valuable to the region.

The project area contains no mineral resources areas, and therefore, the Project creates no impact to such resources.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

109. Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (CEQA XIb)

Standard of Significance: A significant impact occurs if the Project creates a loss of availability of locally important mineral resource recovery sites.

The project area contains no mineral resource recovery sites, and therefore, the Project creates no impact to such sites.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

110. Will the Project result in a substantial increase in the rate of use of any natural resources? (TRPA 9a)

Standard of Significance: A significant impact occurs if the Project creates a substantial increase in the rate of use of natural resources.

The Project does not create population increases or facilities that could substantially increase the rate of use of natural resources and thus creates no impact to such resources.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

111. Will the Project result in a substantial depletion of any non-renewable natural resource? (TRPA 9b)

Standard of Significance: A significant impact occurs if the Project creates a substantial depletion of non-renewable resources.

The Project does not include facilities or actions that cause depletion of non-renewable natural resources and thus creates no impact to such resources.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

3.2.12 Noise

This section presents the analyses for potential impacts related to noise. Table 29 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 29

Noise

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
112. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (CEQA XIIa)		X		
113. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (CEQA XIIb)			X	
114. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIIc)		X		
115. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIId)		X		
116. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIe)				X
117. For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIf)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
118. Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan? (TRPA 6a)		X		
119. Exposure of people to severe noise levels? (TRPA 6b)		X		
120. Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold? (TRPA 6c)		X		

3.2.12.1 Environmental Setting

Land uses in the Project area and vicinity include recreation, open space, residential, and light commercial uses. The main sources of noise are from vehicular traffic along residential and commercial roadways, including SR 28 and neighborhood streets.

Noise. *Sound* is mechanical energy transmitted by pressure waves in a compressible medium such as air. *Noise* can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called *A-weighting*, which is written "dBA." In general, human sound perception is such that a change in sound level of 3 dB is just noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving sound level.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). Below are brief definitions of these measurements and other terminology used in this analysis:

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Ambient Noise.** The composite of noise from sources near and far in a given environment exclusive of particular noise sources to be measured.
- **Decibel (dB).** A unit less measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.

- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Sound Level (L_{eq}).** The average of sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A weighted equivalent sound level (L_{eq}) is the energy average of A-weighted sound levels occurring during a 1-hour period and is the basis for noise abatement criteria (NAC) used by Caltrans and Federal Highway Administration.
- **Exceedance Sound Level (L_{xx}).** The sound level exceeded XX percent of the time during a sound level measurement period. For example L_{90} is the sound level exceeded 90% of the time and L_{10} is the sound level exceeded 10% of the time.
- **Maximum and Minimum Sound Levels (L_{max} and L_{min}).** The maximum or minimum sound level measured during a measurement period.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Noise Abatement Criteria.** The NAC are used to identify traffic noise impacts under the requirements of 23CFR772. A traffic noise impact occurs at a receiver when the predicted design year noise level approaches or exceeds the NAC.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

Noise Sources. Noise sources in the project area include noise from traffic traveling on vicinity roadways, aircraft overflights, and recreational activities such as hiking, biking, bouldering and skiing.

Stationary Sources. Stationary noise sources in the project area and vicinity include residences, commercial uses, and parking areas. Low-density residential and light commercial/parking uses exist along the southern entrance to the project area. Residential uses exist along the northern entrance to the project area. The bulk of the project area is located within the open forest and away from stationary sources.

Mobile Sources. Mobile noise sources include traffic along SR 28 and residential roadways. Noise levels associated with mobile sources vary seasonally with summer and winter increases in visitor activity.

Noise Sensitive Land Uses. Noise sensitive land uses are generally defined as locations where people reside or where the presence of noise could adversely affect the use of the land. Typical noise-sensitive land uses include residences schools, hospitals, and parks. Recreational activities found in the project area are not considered to be noise-sensitive land uses because they are transitory in nature with exposure of users typically being less than one hour. Noise-sensitive land uses in the project area that could be affected by the Project include residences adjacent to the trail alignment.

Blasting. Blasting is unlikely, but will potentially be required to construct the Project. The two primary environmental effects of blasting are airblast and groundborne vibration. Blasting creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Ground vibration can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different

frequencies and displacements. In all cases, vibration amplitudes decrease with increasing distance. As seismic waves travel outward from a blast, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (ppv).

Airblast. Energy released in an explosion creates an air overpressure (commonly called an airblast) in the form of a propagating wave. If the receiver is close enough to the blast, the overpressure can be felt as the pressure front of the airblast passes. The accompanying booming sound lasts for only a few seconds. The explosive charges used in mining and mass grading are typically wholly contained in the ground, resulting in an airblast with frequency content below about 250 cycles per second, or Hz. Because an airblast lasts for only a few seconds, use of Leq (a measure of sound level averaged over a specified period of time) to describe blast noise is inappropriate. Airblast is properly measured and described as a linear peak air overpressure (i.e., an increase above atmospheric pressure) in pounds per square inch (psi). Modern blast monitoring equipment is also capable of measuring peak overpressure data in terms of unweighted dB. Decibels as used to describe airblast, should not be confused with or compared to dBA, which are commonly used to describe relatively steady-state noise levels. An airblast with a peak overpressure of 130 dB can be described as being mildly unpleasant, whereas exposure to jet aircraft noise at a level of 130 dBA is painful and deafening.

Vibration. Operation of heavy construction equipment, particularly pile driving and other impact devices, such as pavement breakers, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance. Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

Table 30 summarizes typical vibration levels generated by construction equipment (FTA 2006a).

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The equation below can be used to estimate the vibration level at a given distance for typical soil conditions (FTA 2006a). PPV_{ref} is the reference PPV from Table 30:

$$PPV = PPV_{ref} \times (25/Distance)^{1.1} \text{ (in/sec)}$$

Table 30

Vibration Source Amplitudes for Construction Equipment

Equipment	PPV at 25 feet
Vibratory roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: FTA 2006a.

Tables 31 and 32 summarize typical human response to transient and continuous vibration that is usually associated with construction activity. Equipment or activities typical of continuous vibration include: excavation equipment, static compaction equipment, tracked vehicles, traffic on a roadway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. Equipment or activities typical of single-impact (transient) or low-rate repeated impact vibration include: impact pile drivers, blasting, drop balls, “pogo stick” compactors, and crack-and-seat equipment (Caltrans 2004).

Table 31

Human Response to Transient Vibration

PPV	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible

Source: Caltrans 2004

Table 32

Human Response to Continuous Vibration

PPV	Human Response
3.6 (at 2 Hz) to 0.4 (at 20 Hz)	Very disturbing
0.7 (at 2 Hz) to 0.17 (at 20 Hz	Disturbing
0.10	Strongly perceptible
0.035	Distinctly perceptible
0.012	Slightly perceptible

Source: Caltrans 2004

State, TRPA and County Noise Regulations. There are no applicable state regulations that pertain to noise in the project area.

The 1987 Regional Plan for the Lake Tahoe Basin provides for the achievement and maintenance of the adopted environmental threshold carrying capacities (thresholds) while providing opportunities for orderly growth and development. TRPA noise thresholds are contained in the Land Use Element of Regional Plan. Noise thresholds have been established for aircraft noise sources; single-event noise sources (i.e., noise from boats, motor vehicles, motorcycles, off-road vehicles, and snowmobiles that occur in a nonregular or nonrepetitive manner); and community noise levels, which are used to determine land use compatibility. The TRPA community noise threshold for high density residential and for urban outdoor recreation areas is 55 dBA and low density residential areas is 50 dBA. TRPA adopted an outdoor CNEL standard for each PAS. Table 33 shows the CNEL standards by PAS for the Project.

Table 33

TRPA Outdoor CNEL Noise Standards by PAS

PAS Number	CNEL Standard
009B	60
012	55
013	50

Source: TRPA 2012

TRPA revised Code Chapter 68 (Noise Limitations) establishes noise limitations for areas within TRPA's jurisdiction. Section 68.3 establishes noise level standards (expressed in CNEL) that shall not be exceeded. In addition, Section 68.3 stipulates that community noise levels shall not exceed levels existing on August 26, 1982, where such levels are known. Section 68.9 stipulates that TRPA-approved construction or maintenance projects, or the demolition of structures, are exempt from TRPA's Code of Ordinances Noise Limitations (revised Chapter 68) if the activities occur between the hours 8:00 a.m. and 6:30 p.m.

The County's noise ordinance is found in Article 9.36.030 of the Placer County Code, which states that construction activities are exempt from the Noise Ordinance, if construction activities take place between the hours of 6:00 am and 8:00 pm Monday through Friday and 8:00 am and 8:00 pm Saturday and Sunday. This is provided that construction equipment is fitted with factory installed muffling devices and maintained in good working order.

3.2.12.2 Environmental Analysis and Mitigation Measures

112. Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (CEQA XIIa)

Standard of Significance: Exceedance of CNEL limits stated in project area PASs and Regional and County noise ordinances constitutes a significant noise impact.

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- A change in noise levels of 3 dBA is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Construction related activities generate a short-term increase of existing ambient noise levels. The TRPA revised Code Section 68.9 states that TRPA-approved construction projects are exempt from the quantitative limits contained in the Noise Ordinance if construction activities take place between the hours of 8:00 am and 6:30 pm. The Placer County Code (Article 9.36.030) states that construction activities are exempt from the Noise Ordinance, if construction activities take place between the hours of 6:00 am and 8:00 pm Monday through Friday and 8:00 am and 8:00 pm Saturday and Sunday, provided that all construction equipment is fitted with factory installed muffling devices and maintained in good working order. The PAS CNELs for the project area equate 60 (PAS 009B), 50 (PAS 013) and 55 (PAS 012) CNEL. With the implementation of the mitigation measure NOI-1 described below, the Project may result in a temporary or periodic exposure to or generation of noise levels in excess of standards established in the local General Plan, Community Plan, or Noise Ordinance, but it will be temporary and is allowable under local ordinances. Therefore, the Project will have a less than significant impact on noise during construction after mitigation.

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a street with moving vehicles, typically attenuate at a lower rate, between 3 dB and 4.5 dB per doubling of distance.

Even the busiest shared-use trails in the United States are extremely quiet, with little noise created other than the occasional low volume conversation, barely audible beyond 10 or 20 feet of the trail edge. Walking, running, dog walking, and bicycling, by their nature, generate virtually no noise. Potential sources of greater volumes, such as platoons of bicyclists or congregating teenagers, are occasional and sporadic. Club cyclists normally prefer to ride where higher speeds can be achieved, such as roads like SR 28, rather than on shared-use trails with many pedestrians. Trial use involves very low sound levels occurring intermittently over the 24-hour day (i.e. CNEL period), with most use falling within the +/- 12-hour period of daylight. Conformance to CNEL standards will occur throughout the length of the project area.

The long-term operation of the Project results in little to no new, long-term sources of operational noise because the shared-use trail is limited to non-motorized vehicle use (except that generated by occasional disabled persons with mobility devices, maintenance or emergency vehicles). Noise from recreation activities (e.g., bicycling, walking, running) is not considered nuisance noise. As described in Section 3.2.16 of the IS/IEC, daily drive-to-trail volumes on roads will not be substantial enough to create a noticeable change (i.e., 3 dBA) in roadside noise levels over the long-term.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

Temporary noise emanating from construction activities shall only occur between the hours of 8:00 am and 6:30 pm per TRPA Code, unless other hours are approved by TRPA. Construction activities before or after the time restriction may occur, but must be consistent with CNEL limits imposed for the applicable TRPA PAS. Construction equipment shall be fitted with the factory installed muffling devices and shall be maintained in good working order. Shrouding or shielding of impact tools and muffling or shielding intake and exhaust ports on construction equipment shall be required. The County shall advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. The County or its contractor shall attempt to respond to all noise complaints within one working day and resolve the issue as soon as possible.

113. Would the Project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (CEQA XIIb)

Standard of Significance: 30 CFR Part 816 defines a significant impact as a vibrational increase greater than 1 inch/second peak particle velocity, as based on typical characteristics of Project equipment and materials.

Trail operations do not create groundborne vibration. Construction activities associated with the operation of heavy equipment during construction could generate localized groundborne vibration. Vibration from non-impact construction activity is typically below the threshold of perception when the activity is more than 50 feet from the receptor. Additionally, vibration from these activities is of limited duration and ends when construction is completed. The trail passes close to residences along the terminus of County Club Drive, Highlands Drive, and Beverly Drive. Construction groundborne vibration will be temporary and intermittent.

Vibration and airblast could occur if blasting techniques are used. Based on soil analyses along the project area, only minimal blasting is likely, if at all. Blasting requirements depends on the soundness of the rock.

Human response to blast vibration and airblast is difficult to quantify. Vibration and airblast can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does blast frequency. Blast events are relatively short, on the order of several seconds for sequentially delayed blasts. Generally, as blast duration and vibration frequency increase, the potential for adverse human response increases. Areas of trail that may require blasting are of sufficient distance away from residences such that the potential for impacts to structures or residences from groundbourne vibration is reduced to a level of less than significant.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

114. Would the Project result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIIc)

Standard of Significance: Substantial permanent increase in ambient noise levels in the Project vicinity created by the Project constitutes a significant impact, as defined by permissible CNELs for PAS and noise ordinances.

As documented in Section 3.2.16 of the IS/IEC, Project operations do not result in a significant increase in total daily vehicle trips from existing conditions. As described above for Question 112, operations of shared-use trails in the United States are extremely quiet. Even in the limited number of locations where existing development lies close to the trail, changes in ambient noise levels will not reach the 3 dBA change in CNEL identified as "just perceivable". Walking, running, dog walking, and bicycling, by their nature, generate virtually no ambient noise. Potential sources of greater volumes, such as platoons of bicyclists or congregating teenagers, will not exist on the trail alignment because club cyclists normally prefer to ride on roads like SR 28 than on trails.

The Project results in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project during construction, but noise will be temporary and is allowable under local ordinances as described in mitigation measure NOI-1. Therefore, the Project will have a less than significant impact on noise after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description)**:**

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

115. Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIId)

Standard of Significance: TRPA revised Code Section 68.9 stipulates that TRPA-approved construction or maintenance projects, or the demolition of structures, are exempt from TRPA's noise limitations if the activities occur between the hours 8:00 a.m. and 6:30 p.m. Construction activities occurring outside of this noise exemption time construction period or if noise levels exceed CNEL levels set for the land use categories and PAS corresponding to the project area (see Table 33) constitutes a significant impact.

Noise generated during typical construction activities is indicated in Table 34, ranging from 76 to 82 dB at distances of up to 50 feet. As described for Question 113, a few residences sit close to the construction area. Based on these equipment noise levels and a typical noise-attenuation rate of 6 dB per doubling of distance, noise levels at 25 feet from individual pieces of equipment typically range from between 83 to 96 dB. As such, operation of individual or multiple pieces of construction equipment could result in substantial temporary or period increases in ambient noise levels at sensitive receptors (e.g., residences, recreational locations, and hotels) during typical construction activities. However, mitigation measure NOI-1 minimizes noise effects related to construction by placing noise controls on construction equipment.

Practices such as locating construction equipment and staging areas to minimize noise effects, restricting construction vehicle idling during periods of non-use, and restricting noise-generating construction activities to the hours between 8:00 a.m. and 6:30 p.m., Monday through Saturday (during which such

activities are exempt from the TRPA noise standards – TRPA revised Code Section 68.9) further reduce noise impacts to a level of less than significant.

Table 34

Construction Equipment Noise

Type of Equipment	Maximum Level
Backhoe	80 dB at 50 feet
Bobcat	NA
Excavator/Dozer	85 dB at 50 feet
Grader	85 dB at 50 ft
Material Delivery Truck, Water Truck	88 dB at 50 feet
Paver	77 dB at 50 feet
Roller	74 dB at 50 feet
Crane	81 dB at 50 feet

s

ource: FTA 2006

Another potentially significant Project-generated noise source is truck traffic associated with transport of materials and equipment to and from construction sites. This noise increase is of short duration and under normal scheduling occurs within the TRPA construction noise limit hours primarily during daytime hours. Mitigation measure NOI-1 includes shrouding or shielding impact tools and muffling or shielding intake and exhaust ports on construction equipment.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description):

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

116. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIe)

Standard of Significance: Exposure of people residing or working in the project area to excessive noise levels from aircraft results in a significant impact.

The project area is not located within two miles of a public airport or public use airport and therefore does not expose people working in the project area to excessive noise levels from aircraft.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

117. For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIf)

Standard of Significance: Exposure of people residing or working in the project area to excessive noise levels from aircraft results in a significant impact.

The project area is not within the vicinity of a private airstrip and therefore does not expose people working in the project area to excessive noise levels from aircrafts.

The Project does not establish permanent, non-transitory populations after completion of construction and does not expose people utilizing the trail to excessive noise levels..

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

118. Would the Project result in increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan? (TRPA 6a)

No, with mitigation. Standard of Significance: See analysis for Question 112, which addresses CEQA checklist item XIIa and concludes the level of impact related to CNELs is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description)**:**

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

119. Would the Project result in exposure of people to severe noise levels? (TRPA 6b)

No, with mitigation. Standard of Significance: See analysis for Question 114, which addresses CEQA checklist Item XIIc and concludes that the level of impact to exposure of people to severe noise levels (i.e., vibrational or ground bourne noise) is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description):

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

120. Will the Project result in single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold? (TRPA 6c)

No, with mitigation. Standard of Significance: See analysis for Question 115, which addresses CEQA checklist Item XIId and concludes that the Project with mitigation does not result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity outside of the daytime hours allowed for temporary construction activities.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description):

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

3.2.13 Population and Housing

This section presents the analyses for potential impacts to population and housing. Table 35 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 35

Population and Housing

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
121. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (CEQA XIIIa)			X	
122. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (CEQA XIIIb)				X
123. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (CEQA XIIIc)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
124. Alter the location, distribution, density, or growth rate of the human population planned for the Region? (TRPA 11a)				X
125. Include or result in the temporary or permanent displacement of residents? (TRPA 11b)				X

126. Affect existing housing, or create a demand for additional housing? To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions: (1) Will the proposal decrease the amount of housing in the Tahoe Region? (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households? (TRPA 12a)				X
127. Will the proposal result in the loss of housing for lower-income and very-low-income households? (TRPA 12b)				X

3.2.13.1 Environmental Setting

Population. The 2010 United States Census reports the population of the Lake Tahoe portion of Placer County (Lake Tahoe CCD), including Tahoe City and associated areas, as 10,448 (Table 36).

Housing. The 2010 United States Census reports the total housing units for the Lake Tahoe portion of Placer County as 12,106. Data indicate a large presence of seasonal or recreational use units with 7,014 classified as vacant for occasional use. City-data.com (accessed February 2012) identifies the estimated median house or condo value in Tahoe City at $754,064 and the median gross rent in the area at

Household Income. City-data.com (accessed February 2012) identifies the 2010 estimated median household income at $73,597.

Neighborhood Characteristics. Neighborhood characteristics near the project area consist of residential uses, primarily single-family homes. A few multi-residential units are also located in the area. Other neighborhood uses in the vicinity of the project area include a crosscountry ski center, North Tahoe High School and a small commercial area along SR 28.

Federal, TRPA and County Regulations. No Federal, TRPA or County regulations directly addressing population exist for the project area. The TRPA Regional Plan Goals and policies state, “Population growth in the Region is to be guided by the limitations on land use and other environmental threshold capacities set forth in the Plan.” TRPA completed an Economic Threshold Evaluation Report in 2001 but did not define specific controls on population levels.

TRPA Code of Ordinances and threshold restrictions limit housing growth and redevelopment of existing housing. TRPA limits new housing construction using an allocation system defined in TRPA revised

Code Chapter 50 – Allocation of Development. Transfer of existing development rights can also occur according to TRPA revised Code Chapter 51 – Transfer of Development.

Table 36

2010 Census Data

Census Tract	White (Non Hispanic /Latino)	African American	American Indian	Asian/ Pacific Islander	Hispanic or Latino	Other or Multi-Racial	Total
Total of Placer County	246,267	4,751	3,011	21,213	44,710	28,480	348,432
Lake Tahoe portion of Placer County	6,705	48	51	117	2,720	807	10, 448

Source: U.S. Census Bureau, 2010 Census (Hispanic or Latino and Race

3.2.13.2 Environmental Analysis and Mitigation Measures

121. Would the Project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (CEQA XIIIa)

Standard of Significance: A significant impact results from direct and indirect population growth in excess of the growth anticipated in the TRPA Regional Plan, as disclosed in the Land Use Element and PASs.

The Project installs a shared-use trail linking existing neighborhoods to commercial centers and neighborhood facilities but proposes no new homes or businesses. A temporary increase in population due to construction activities could occur; however, considering the existing underemployed construction labor pool in the area, an increase, if present, will be minor and not permanent. With construction down in the existing economy, a sufficient local construction labor pool exists.

The addition of the Project to the community could increase the desirability of the adjacent neighborhoods because the shared-use trail offers an alternative transportation link to various sites within the community. However, the Project proposal provides for no long-term employment, educational opportunities, or other population-generating features known to increase local populations.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

122. Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (CEQA XIIIb)

Standard of Significance: Displacement of substantial numbers of existing housing that necessitates construction of replacement housing elsewhere creates a significant impact.

The Project does not displace housing or necessitate the construction of replacement housing elsewhere and thus creates no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

123. Would the Project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (CEQA XIIIc)

Standard of Significance: Displacement of substantial numbers of people that necessitates construction of replacement housing elsewhere creates a significant impact.

The Project does not displace people and thus creates no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

124. Will the Project alter the location, distribution, density, or growth rate of the human population planned for the Region? (TRPA 11a)

No. Standard of Significance: Alteration to land use patterns not envisioned by the Regional Plan or City General Plan constitutes a significant impact to human population planned for the Region.

The Project creates no new housing units or permanent employment opportunities. Because the Project improves non-motorized access between existing neighborhoods and community facilities, the desirability of residential neighborhoods benefitted by the trail has the potential to increase. No overall change in housing density or availability will occur, however, because housing is regulated and limited by TRPA. With no residential displacement, permanent employment opportunities or new housing developments, the Project results in no alteration of the location, distribution, density, or growth rate of the human population planned for the Region beyond that envisioned by the Regional Plan.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

125. Will the Project include or result in the temporary or permanent displacement of residents? (TRPA 11b)

No. Standard of Significance: Significant temporary or permanent displacement of residents results in a significant impact.

The Project does not require the temporary or permanent displacement of residents and thus creates no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

126. Will the Project affect existing housing, or create a demand for additional housing?

(1) Will the proposal decrease the amount of housing in the Tahoe Region? (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households? (TRPA 12a)

No. Standard of Significance: See the analyses for Question 121, which addresses CEQA checklist item XIIIa and concludes the level of impact to housing demand is less than significant and that no existing housing is removed by the Project.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

127. Will the Project result in the loss of housing for lower-income and very-low-income households? (TRPA 12b)

No. Standard of Significance: See the analyses for Question 121, which addresses CEQA checklist item XIIIa and concludes the level of impact to housing availability, affordable, low-income or otherwise, is less than significant and that no existing housing is removed by the Project.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.14 Public Services

This section presents the analyses for potential impacts to public services. Table 37 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 37

Public Services

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
128. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?		X		
Police protection?		X		
Schools?			X	
Parks?			X	
Other public facilities? (CEQA XIVa)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?				

129. Fire protection? (TRPA 14a)		X		
130. Police protection? (TRPA 14b)		X		
131. Schools? (TRPA 14c)				X
132. Parks or other recreational facilities? (TRPA 14d)				X
133. Maintenance of public facilities, including roads? (TRPA 14e)				X
134. Other governmental services? (TRPA 14f)				X

3.2.14.1 Environmental Setting

Law Enforcement. Placer County Sheriff's Department (PCSD) provides law enforcement, code enforcement, police, paramedic and fire dispatch and traffic patrol for the project area and vicinity. The North Tahoe Substation is located at 2501 North Lake Boulevard in Tahoe City, California. In 2010, the PCSD had a staff of 43 deputies and professional staff. Services are provided 24 hours daily and 365 days a year (*Placer County Sheriff's Office 2010 annual Repor*t – Placer County 2010).

Fire Protection. Fire protection services in the project area and vicinity are provided primarily the North Tahoe Fire Protection District (NTFPD). Depending on the initial location of the fire and mutual aid agreements, wildfire suppression in the project area or vicinity is also provided by Calfire or the LTBMU. A MOU between these agencies provides mutual aid and assistance to suppress wildfires and protect structures. Initial wildfire suppression responsibilities are divided into three categories based on land ownership or MOUs: Local Responsibility Areas (LRAs) include the County areas, State Responsibility Areas (SRAs) include State lands, and Federal Responsibility Areas (FRAs) include LTBMU lands. Section 3.2.8.of the IS/IEC provides additional information concerning NTFDP, Calfire, and the Conservancy and LTBMU fire protection programs.

Schools. The Project lies within the Tahoe Truckee Joint Unified School District, which provides for five (5) elementary schools, one (1) middle school, three (3) high schools, and two (2) alternative schools. The TTUSD serves less than 4000 students in California's Placer, Nevada and El Dorado Counties. District boundaries stretch from Hobart Mills, eight miles north of Truckee to Emerald Bay near South Lake Tahoe and from Cisco Grove, 20 miles to the west to Floriston, 15 miles to the east (http://www.ttusd.org, accessed February 29, 2012).

North Tahoe High School at 2945 Polaris Road in Tahoe City, California is within one (1) mile of the project area to the west of the shared-use trail entrance at SR 28 and Dollar Drive.

Plan Area Statement Permissible Public Service Uses. PAS 012 (North Tahoe High School) permissible public service uses include: churches; cultural facilities; pipelines and power transmission; public utility centers; transmission and receiving facilities; transportation routes; cemeteries; membership organizations; schools, kindergarten through secondary; transit stations and terminals; and publicly owned assembly and entertainment.

PAS 013 (Watson Creek) permissible public service uses include: transmission and receiving facilities and pipelines and power transmission; and local public health and safety facilities.

PAS 009B (Dollar Hill) permissible public service uses include: cemeteries, churches, cultural facilities, day care centers/pre-schools, government offices, local assembly and entertainment, local post office, local public health and safety facilities, membership organizations, publicly owned assembly and entertainment, public utility centers, schools - kindergarten through secondary, social service organizations, pipelines and power transmission, transit stations and terminals, transportation routes, and transmission and receiving facilities.

Placer County General Plan. *Placer County General Plan* Section 4 – Public Facilities and Services includes the goals, policies and implementation programs specific to water supply and delivery, law enforcement, fire protection services, schools and facilities along public roadways. Section 5 – Recreational and Cultural Resources includes the goals, policies and implementation programs specific to public recreation and parks.

3.2.14.2 Environmental Analysis and Mitigation Measures

128. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order 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? (CEQA XIVa)

Standard of Significance: A significant impact results to governmental and public services if the Project causes an increase demand for personnel, equipment or infrastructure beyond that planned by public service entities, the TRPA Regional Plan or Placer County General Plan.

Fire and Police Protection Services. Demand for fire protection could increase during Project construction. Construction equipment operation potentially increases fire risk, particularly in areas of brush or other ground-level fuel. Mitigation measure HAZ-1 (see Question 77 for description) requires the development and implementation of Fire Suppression and Management Provisions to avoid potential of construction-related fire events. The provisions include fire precaution, pre-suppression and suppression measures and includes requirements for on-site provision of equipment devices such as spark arrestors and fire extinguishers. The County will consult with NTFPD to ensure adequacy and provisions for appropriate contact information.

Trail construction along roadways requires lane closures along SR 28 and some neighborhood roadways but requires no full road closures, allowing for continued emergency vehicle and general circulation during construction. Lane closures, particularly on SR 28 could cause short-term traffic delays that could affect emergency response times. To coordinate construction activities and implementation of traffic control measures with emergency service personnel, mitigation measures PS-1 and TRANS-1 will be implemented to allow for continued emergency vehicle access and general circulation during construction and avoidance of potential impacts. This coordination will direct provisions of the Traffic Control Plan required for TRPA and County permits to maintain adequate circulation and access.

Demand for police protection will remain at existing levels during trail operation. Research results that confirm crime rates do not rise after construction of trails; indeed some criminal activity such as vandalism and unpermitted camping/campfires will reduce with increased presence of general trail users (http://www.railstotrails.org/resources/documents/resourcedocs/tgcsafecomm.pdf). Demand for fire

response to emergencies involving trail users may increase following trail operation given anticipated increases to use of the trail corridor. While design of the shared-use trail width (i.e., minimum of 10 feet) allows emergency vehicles to pass and the design load allows vehicles up to 10,000 pounds on the asphalt concrete and bridge sections, the NTFPD has indicated that their emergency response vehicles are not designed to utilize the shared-use trail for access to injured users. As such, NTFPD responders to the shared-use trail corridor access accident sites on foot, carrying necessary emergency equipment up to 1 mile from their emergency response vehicles, parked at trailhead access points. The OMMS (Appendix F) specifically defines emergency vehicle access for fire and law enforcement response at trail crossings with major roadways. The Project improves access to generally undeveloped forest areas. The ability to use the shared-use trail for access allows these service providers to respond to incidents within response time goals.

The PCSD indicate the Project will not impact staffing or access (Lt Weaver with PCSD, personal communication, February 29, 2012).

Improved and unimproved unpaved trails exist in the project area and are used by local residents as well as transients. The Project retains these trails, applies BMPs in some cases and improves linkage to existing trail use, improving user visibility and decreasing the desirability of conducting unlawful acts. The County will provide fire and law enforcement access control of the bollard system. The Project warrants neither new fire protection facilities nor alterations to existing fire protection facilities.

Schools. The Project makes a connection to existing unpaved trails that link to North Tahoe High School, but does not include new construction or create long-term effects along access roadways to the high school. Through implementation of a key element in the North Tahoe bicycle network, improved connectivity will exist for students getting to school.

Recreation Areas. The Project makes or improves connections to recreational facilities that include: tennis courts, a softball field, a soccer field, a cross-country ski center, day use areas, and riding and hiking trails. Connection improves non-auto access for a wide diversity of users, reducing the demand for parking to these facilities. Coordination with park managers about construction scheduling will avoid disruption of Bijou Creek State Park use during construction.

Other Public Services. Project maintenance requirements increase the need for some government services. The Operations Maintenance and Management Strategy (OMMS - Appendix F) identifies increased maintenance related to trail surfaces, other facilities (e.g. fences, interpretive and directional signage), restoration planting and other revegetation. This includes maintenance activities such as sweeping the trail and repairing snow damage as well as periodic activities such as asphalt concrete sealing. The County, as lead agency, for permitting and constructing project, maintains the responsibility for these activities until Project completion at which time the Project shall be transferred to an agency that operates similar type facilities in the north shore area of Lake Tahoe. The Project area is located within the jurisdiction of the North Tahoe Public Utility District (NTPUD) who operates and manages other multiuse trail facilities within their district boundaries. From a continuity and resource perspective, the NTPUD would be the logical lead agency for taking on the role of operating and maintaining the completed facility and carry out the OMMS.

Other shared-use trail management needs include user controls and law enforcement. User controls to keep trail users on the protective surface and away from areas of restoration include landscaping with native plants, signage, boulders and fencing. The Operator, as outlined in the OMMS in Appendix F will monitor trail use and employ adaptive management strategies as necessary to meet restoration requirements. As presented in other sections, law enforcement needs related to trail users will not

substantially increase; crime rates on trails tend to mirror that in the surrounding community while increased users displace illegal activity that requires isolation to flourish.

The Project proposal relies on source control and infiltration for stormwater treatment along the shared-use trail alignment, reducing government maintenance services for these facilities. Site constraints at 13 areas, as indicated on Plan Sheets in Appendix C, may require collection of surface flow and culvert conveyance under the trail. No effect on existing County stormwater infrastructure is expected.

Final engineering plans for drainage at the SR 28 crossing will coordinate with Caltrans to avoid significant effects to Caltrans drainage strategies for the right-of-way. The trail crossing will not increase runoff volumes to existing systems but may alter flow pathways.

Current operation plans do not include snow removal from the trail, although design of trail surfaces and related facilities allows this to occur should future conditions warrant it. If snow removal does occur on the trail, clearing on a 10-foot wide path requires different equipment than roadway plows, but will not drive the need for new government facilities for storage or maintenance.

In summary, the Project creates no long-term increase in public services that could drive a need for new facilities; thus the level of impact is less than significant. The Project creates temporary effects during construction activities that are reduced to a level of less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 77 and 142 for description):

PS-1. Law Enforcement and Fire Protection

Prior to construction, the contractor shall provide a construction schedule for use by public service agencies. This schedule shall outline the location of the construction, types of activities to occur, and the location of anticipated traffic delays or hazards. It shall identify a point of contact within the construction team to inform law enforcement and fire protection personnel of emergency actions and traffic control measures within or near the active construction corridor and communicate in advance changes to these measures or their location.

HAZ-1. Fire Suppression and Management Provisions

TRANS-1. Traffic Control Plan

129. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: fire protection? (TRPA 14a)

No, with mitigation Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to fire protection services after mitigation. The Project does not reduce access, response times or other performance objectives for fire protection.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 77, 128 and 142 for descriptions):

PS-1. Law Enforcement and Fire Protection

HAZ-1. Fire Suppression and Management Provisions

TRANS-1. Traffic Control Plan

130. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: police protection? (TRPA 14b)

No, with mitigation Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to police protection services after mitigation. The Project does not reduce access, response times or other performance objectives for police protection.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 77, 128 and 142 for descriptions):

PS-1. Law Enforcement and Fire Protection

HAZ-1. Fire Suppression and Management Provisions

TRANS-1. Traffic Control Plan

131. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: schools? (TRPA 14c)

No. Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to schools. The Project maintains acceptable service ratios and other performance objectives for schools.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

132. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: parks or other recreational facilities? (TRPA 14d)

No. Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to parks or other recreational facilities. The Project improves access to recreational facilities.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

133. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services in maintenance of public facilities, including roads? (TRPA 14e)

No. Standard of Significance: If the Project creates new or altered unplanned effects to governmental services in maintenance of roads, a significant impact results.

The Project will be maintained by the trail Operator as designated in the OMMS (Appendix F). The Project's crossing of SR 28 will affect Caltrans snow removal services along SR 28. Snow removal

practices are hard on roadside development, as is evident every spring during snowmelt. Features such as asphalt concrete connections and surface cleaning, fences, railings, signs, and pavement markings frequently sustain damage during snow removal practices and require repair services. These needs are generally addressed in the OMMS (Appendix F). The Project proposal avoids significant impacts to Caltrans snow removal practices and maintenance of SR 28 through installation of a crossing at SR 28 and Dollar Drive that includes a removable pedestrian refuge with delineators designed to be affixed to the pavement each spring and removed each fall, as detailed in Appendix B. Coordination with Caltrans on final design of the SR 28 crossing ensures that facilities located within the Caltrans SR 28 ROW do not create a need for new or altered governmental services related to roadway maintenance.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

134. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services in other governmental services? (TRPA 14f)

No. Standard of Significance: See Questions 128 through 133 (CEQA Checklist item XIVa and TRPA Checklist items 14a through 14e) for analysis of governmental services such as fire protection, police protection, schools, parks, and roads. For other governmental services, such as treatment of stormwater, if the Project creates new or altered unplanned effects to governmental services in maintenance of stormwater systems, a significant impact results.

The Project contributes little to no stormwater runoff to existing Caltrans or County stormwater infrastructure and will not cause runoff to exceed existing system capacities. The Project proposal relies on source control and infiltration for stormwater treatment along the shared-use trail alignment, reducing government maintenance services for these facilities. Site constraints at 13 areas, as indicated on Plan Sheets in Appendix C, may require collection of surface flow and culvert conveyance under the trail. No effect on existing County stormwater infrastructure occurs. The OMMS addresses long-term maintenance needs.

Final engineering plans for drainage at the SR 28 crossing will coordinate with Caltrans to avoid significant effects to Caltrans drainage strategies for the right-of-way. The trail crossing will not increase runoff volumes to existing systems but may alter flow pathways.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

3.2.15 Recreation

This section presents the analyses for potential impacts to recreation. Table 38 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 38

Recreation

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
135. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (CEQA XVa)			X	
136. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (CEQA XVa)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
137. Create additional demand for recreation facilities? (TRPA 19a)				X
138. Create additional recreation capacity? TRPA 19b)				X
139. Have the potential to create conflicts between recreation uses, either existing or proposed? (TRPA 19c)				X
140. Result in a decrease or loss of public access to any lake, waterway, or public lands? (TRPA 19d)				X

3.2.15.1 Environmental Settings

The project area and nearby communities contain a variety of existing public and private recreational resources, including biking trails and routes, Dollar Reservoir, beaches, youth clubs, single-track trails, parks, recreation center, and a golf course, among others. The Project specifically connects to the following recreation sites:

- Tahoe Cross Country Ski Area;
- Dollar Reservoir;
- TCPUD multi-use trail; and
- North Tahoe High School (through neighborhood roads).

The connection to the TCPUD multi-use trail opens access to Tahoe City, Skylandia Park, Commons Parks and Beach, Burton Creek State Park, Lake Forest Beach (boat ramps and campground), and Tahoe State Park, as well as the other trails from Tahoe City to Squaw Valley and Sugar Point State Park. This connection to the existing trails expands the overall trail system in the North Tahoe area, and is part of the trail system linking the communities between Tahoe City and the North Tahoe Regional Park in Tahoe Vista.

An adequate bicycle or pedestrian transportation system is one that allows users with varying abilities to safely and efficiently travel from origin to destination. A region-wide bikeway system should enable cyclists to bicycle from community to community and destination to destination throughout the region. The Project is a 2.2-mile extension of the existing TCPUD multi-use bike trail that ends near SR 28 and Dollar Drive that will one day connect Dollar Hill to the North Tahoe Regional Park.

In addition, existing mountain bike routes (trails or roads) and hiking trails in the area include:

- Antone Meadows Loop;
- Cinder Cone Loop;
- Tahoe to Truckee;
- North Tahoe City Loop;
- Burton Creek State Park Trail;
- Tahoe Rim Trail at Tahoe City;
- Tahoe Rim Trail: Tahoe City to Brockway Summit;
- Tahoe Rim Trail: Brockway Summit to Watson Lake; and
- Various unmarked unpaved trails.

Table 39 provides detals on these trails.

Table 39

Access to Area Trails from the Project

Area Trails	Trail Length (mi)	Distance from Trail to Project (mi)	Approximate Trailhead Location
TCPUD Multi-Use Trail (Tahoe City to Dollar Hill)	2.5	Direct Connection	Connects to Project at SR 28
Tahoe City to Squaw Valley	4	3.2	Tahoe City
Tahoe City to Sugar Pine Point State Park	9	3.2	Tahoe City
Tahoe City to Truckee	19	3.2	Tahoe City
Antone Meadows Loop	8.4	0.6	Tahoe Cross Country Ski Area
Cinder Cone Loop	11.9	2.7	Burton Creek State Park
Tahoe to Truckee Trail	17.25	1.3	Tahoe City
North Tahoe City Loop	15.9	2.9	Tahoe City
Burton Creek State Park Trail (hiking)	6.5	2.7	Burton Creek State Park
Tahoe Rim Trail at Tahoe City (hiking)	4	2.7	Morning Glory Way
Tahoe Rim Trail: Brockway Summit to Watson Lake (hiking)	13	3.0	109
Tahoe Rim Trail: Tahoe City to Brockway Summit (hiking)	19.2	2.5	Tahoe City

Source: (tahoesbest.com/biking/bikepath.htm, trails.com, rei.com/guidepost, traillink.com) 2012

3.2.15.2 Environmental Analysis and Mitigation Measures

135. Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (CEQA XVa)

Standard of Significance: A significant impact results if the Project improves access to recreation facilities or public lands used for recreation by numbers sufficient to create new disturbance.

Recreation facilities within and adjacent to the project area include: TCPUD Multi-Use Trail, Tahoe Cross Country Ski Area, Dollar Reservoir, and North Tahoe High School. The Project connects to other trail systems that access the lake and other area recreation facilities and passes through undeveloped land that currently supports unpaved trail use. The potential for indirect effects to these facilities is remote because roads and unpaved trails already access the areas. Providing an access mode that does not require a parking space reduces impacts on these facilities at peak times. Allowing an alternative to the private

auto reduces the pressure on existing parking supply and reduces the potential for unpermitted parking in undeveloped areas. The Project also provides recreation and opens public access and enjoyment of the natural landscape by encouraging more people to access trail areas by improving access near neighborhoods. Additionally, facility features and design, as described in Section 2.6.2 of theIS/IEC, work to keep users on the trail surface and limit indirect impacts on undeveloped land.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

136. 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? (CEQA XVb)

Standard of Significance: A significant impact results if the Project requires the construction or expansion of recreational facilities that cause an adverse physical effect on the environment. The TRPA Regional Plan Recreation Element, PASs and Thresholds determine this level of impact significance.

Shared-use trails are an integral part of the transportation system and at Lake Tahoe new projects are reviewed during the TRPA permitting process as transportation facilities. The 1991 U.S. Intermodal Surface Transportation Efficiency Act (ISTEA) required an intermodal approach to transportation planning by requiring that bicycle and pedestrian needs be considered along with other forms of private and public transportation and addressing the interconnectivity of various transportation modes and facilities.

Other sections of this analysis consider potential effects on the environment and conclude construction and operation of the Project avoids significant impacts. The Project restores some existing unpaved trails that are located in environmentally sensitive, and essentially relocates them with the development of the Project, which supports Goal 1, Policy 4 of the TRPA Recreation Element. Goal 2, Policy 2 of the TRPA Recreation Element, which includes the development of bike trails to promote alternative transportation is also supported by the Project.

The Project does not increase use of existing area recreational facilities, but provides alternative access to existing recreational facilities to reduce motorized vehicle access to these facilities. The expansion of existing recreational facilities in the vicinity of the Project does not increase recreational demand and expansion of existing recreational facilities does not occur as a result of this Project.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

137. Will the Project create additional demand for recreation facilities? (TRPA 19a)

No. Standard of Significance: The Project does not create additional recreation demand; it meets existing recreation and transportation needs.

Class 1 shared-use trails like the Project provide long, continuous routes for commuting or recreation trips. When they access destinations like parks and playing fields, they provide options to use of the automobile that influence lifestyle choices for families and individuals. Trails create inexpensive and safe opportunities for outdoor exercise and healthy lifestyles, including the opportunity for people to integrate exercise into their daily activity. Trails also create opportunities for personal interaction, neighborhood socialization, and community unity that can't occur when people are utilizing their cars. Since the Project

provides recreational opportunities and does not increase population, demand for recreation facilities does not result.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

138. Will the Project create additional recreation capacity? (TRPA 19b)

No. Standard of Significance: Recreation capacity at Lake Tahoe is measured by TRPA with the allocation of Persons at One Time (PAOTs).

Summer day use PAOTs are not assigned to new transportation facilities, such as the Project (TRPA revised Code Subsection 50.8.3.A.1).

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

139. Will the Project have the potential to create conflicts between recreation uses, either existing or proposed? (TRPA 19c)

No. Standard of Significance: Elimination of or decreased viability of an existing or proposed recreation use caused by the construction and operation of the Project constitutes a significant impact.

Recreational conflicts intensify when an increasingly diverse mix of social, cultural, and political interest groups make claim to what they perceive to be their fair share of a public resource. This can be due to perceived dissimilarity of attitudes and values associated to activities of different user groups. Four major factors have the potential to produce conflict when there is social contact between recreational users: activity style, resource specificity, mode of experience, and lifestyle tolerance. The Project proposal promotes shared-use by providing adequate width and acceptable grades capable of allowing different users simultaneous access without conflict. The Project promotes “Share the Trail” and “Yield to Wheels” through interpretive and directional signage as described in Section 2.6.2.8 of the IS/IEC. The Project does not cross through existing designated park or recreational facilities, other than existing unpaved pedestrian and mountain bike trails, but links to existing recreational opportunities such as the TCPUD Multi-Use Trail, Dollar Reservoir, North Tahoe High School, and the Tahoe Cross Country Ski Area.

Some unpaved mountain bike, trails, and pedestrian paths exist through the project area. The Project retains existing unpaved trails identified through surveys and field studies as important neighborhood connectors and retrofits these trails with BMPs in some locations to reduce erosion and other environmental damage. Although the Project retrofits some trails, the continued presence and improvement of unpaved trails outside of SEZs and other sensitive habitats allows for continued hiking and mountain biking activity. While the Project removes some unpaved trails in LCD 1b for land coverage relocation and SEZ and sensitive habitat protection, the Project increases access to other existing trails.

The Project proposal acknowledges that the Conservancy-managed portion of the project area (adjacent to and north of the Dollar reservoir) may be transferred to California State Parks at some point in the future, as studied in the Burton Creek State Park Master Plan (California State Parks 2005). The Master Plan indicates that the Conservancy property will be a logical addition to the public park land because the additional lands will allow the State Parks to develop a comprehensive Road and Trail Plan for the entire

area with better access into the park. Conflict with existing and proposed Park uses is not expected because the Project serves the objectives of this plan.

Trail conflicts can occur when users travel at greatly different speeds. AASHTO guidelines recognize this fact by linking trail widths to both the volume and speed of expected user groups. For the Project, the environmental sensitivity of the Lake Tahoe Region prompted use of the minimum recommended width (10 feet). As a result, the OMMS (Appendix F) bans motorized users with limited exceptions to meet state and federal laws.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

140. Will the Project result in a decrease or loss of public access to any lake, waterway, or public lands? (TRPA 19d)

No. Standard of Significance: A decrease or loss of public access to lakes, waterways or public lands as a result of Project construction and operation constitutes a significant impact.

Project construction results in temporary restricted access to the project area for purposes of public health and safety. Construction of the shared-use trail will not decrease public access to existing proposal outside of the active construction corridor.

Project operation lead to an increase of public access to public lands and to the lake through non-motorized means, thereby supporting TRPA Recreation Threshold R-1. The Project connects with existing bike trails and pathways with connections to Dollar Creek and Dollar Reservoir and with established public access routes to the lake and beach facilities.

The Project does not decrease access to public resources since the proposed shared-use trail creates access. Narrow unpaved trails that provide important neighborhood access and trails that can be maintained with limited environmental impacts are retained to provide access to public lands or waterways. The Project improves access to many miles of existing hiking, mountain biking and other shared-use trails including the TCPUD Multi-Use Trail, Tahoe City to Squaw Valley Bike Trail, Tahoe City to Sugar Pine Point State Park Trail, Tahoe City to Truckee Bike Trail, Antone Meadows Loop Trail, Cinder Cone Loop Trail, Tahoe to Truckee Trail, North Tahoe City Loop, and various hiking trails as shown in Table 39.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.16 Transportation and Traffic (CEQA) and Traffic and Circulation (TRPA)

This section presents the analyses for potential impacts to transportation, traffic and circulation. Table 40 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 40

Transportation, Traffic and Circulation

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
141. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, 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? (CEQA XVIa)			X	
142. 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? (CEQA XVIb)		X		
143. 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? (CEQA XVIc)				X
144. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	

(CEQA XVId)				
145. Result in inadequate emergency access? (CEQA XVIe)		X		
146. Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (CEQA XVIf)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
147. Generation of 200 or more new Daily Vehicle Trip Ends (DVTE)? (TRPA 13a)				X
148. Changes to existing parking facilities, or demand for new parking? (TRPA 13b)				X
149. Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities? (TRPA 13c)				X
150. Alterations to present patterns of circulation or movement of people and/or goods? (TRPA 13d)				X
151. Alterations to waterborne, rail or air traffic? (TRPA 13e)				X
152. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians? (TRPA 13f)				X

3.2.16.1 Environmental Setting

This section presents the present condition for roadways and intersections, transit and bicycle facilities, and regulations regarding transportation and circulation issues and details the transportation and bike trail use data used in the analysis.

Roadway Setting. The roadways studied in the intersection counts, roadway counts, traffic speed study, gap survey and driver sight distance analyses include State Route (SR) 28 and Dollar Drive. Caltrans maintains a count program throughout the state highway network, including along SR 28. The segment that includes the beginning of the project at Dollar Drive extends from Lake Forest Drive on the west to Lardin Way on the east. Project trail usage forecasts and parking estimates also address Fulton Crescent Drive and Old County Road.

SR 28 is a two-lane state highway that is managed and maintained by Caltrans that has a posted speed limit of 45 mph through the project area. Dollar Drive is a two-lane collector roadway with a 25 mph

speed limit. Old County Road is a two-land arterial roadway with a 25 mph speed limit that provides access to Fulton Crescent Drive, an unstriped, two-lane, local residential roadway.

Parking. Some existing recreational trail users within the project area utilize the Tahoe Cross Country Center parking lot, and a number of vehicles park at either the upper end of Old County Road or Fulton Crescent Drive.

Existing Traffic Volumes. Table B in Appendix A presents roadway directional traffic volumes on SR 28 just east of Dollar Drive for the 2011 Labor Day weekend. The busiest traffic day was Sunday, September 4th with a total 2-way traffic volume of 13,796. The busiest hour of traffic activity on Friday and Saturday was in the late afternoon around 4:00 PM, while on Sunday and Monday it occurred in the late morning around 11:30 AM. Traffic volumes. In general, reach relatively high levels on a consistent basis between approximately 10:00 AM and 6:00 PM.

Historical Caltrans Traffic Counts are typically conducted on an annual basis in the summer and adjusted to reflect both average annual and peak month (i.e., August) traffic conditions. Table C in Appendix A shows the counts for the period of 1994 to 2010, the most recent available count data. As shown, traffic volumes, both annual and peak month, increased between 1994 and 2007/2008 and have since been on a slight decline. Overall between 200 and 2010, volumes declined by approximately 9 percent.

Traffic volumes within the Lake Tahoe Basin are evaluated during the summer Friday PM peak because this is generally when peak traffic volumes occur on the roadways. This analysis uses intersection turning movement counts collected during the 2011 Labor Day weekend. Table A in Appendix A presents intersection turning movement volumes observed in September 2nd, 2011, a Friday PM peak period during summer. The peak total volume through the intersection was observed to be 1,013 vehicles.

In addition to the intersection turning movement counts presented, supplemental daily traffic volume and vehicle speed data were collected on July 27th 2011 between 12:48 PM and 1:48 PM using a radar gun to count 100 vehicles in each direction, and August 5th, 2011 between 12:58 PM and 2:03 PM using an automated radar counter observing 1,063 vehicles. The July counts do not include drivers turning into and out of the adjacent streets and driveways, while the August counts include both through traffic on SR 28 as well as vehicles turning onto and off of the highway at nearby intersections. Table B in Appendix A presents the directional traffic counts and speeds.

The July speed study yielded an average speed of 41 mph in the westbound direction with an 85th percentile speed of 45 mph and a maximum speed of 52 mph and an average speed of 43 mph in the eastbound direction with an 85th percentile speed of 48 mph and a maximum speed of 55 mph.

The August speed study indicated an average speed of 37 mph and 38 mpg in the eastbound and westbound directions, respectively, and an 85th percentile speed of 42 mph in both directions.

Gap Survey/Level of Service (LOS). The presence of adequate gaps in the traffic stream to allow trail users to perceive safe crossing opportunities across SR 28 is a very important consideration for the Project proposal. The number of adequate crossing opportunities is a function of the time needed to cross the roadway, the traffic volume and the distribution of traffic activity.

The width of SR 28 just east of Dollar Drive between the fog lines (edge of travel lanes) on each side if the highway is approximately 35 feet. Because of the existing center two-way left turn lane in the project area, a trail user needs to cross the entire roadway, requiring gaps in both directions of traffic. An adequate gap for bicycle/pedestrian crossing at this location is 13 seconds, including a start up time of 3 seconds (per Institute of Transportation Engineers - ITE recommendations) and a walk speed of 3.5 feet

per second (per recent changes to ITE and ADA recommendations). Gap counts were conducted during two busy summer periods: Friday, August 5th, 2011 between 1 PM and 2 PM and on Friday September 2nd between 4 PM and 5 PM. As shown in Table D in Appendix A, August 5th counts observed 23 adequate gaps per hour and September 2nd counts observed 19 adequate gaps per hour. Considering the proportion of randomly-arriving trail users that arrive during periods of adequate gap and the average wait for an adequate gap for the remainder of trail users, during peak hours, trail users are required to wait an average of 77 seconds (1 minute and 17 seconds) for an adequate gap in two-way traffic during August 5th counts and 94 seconds (1 minute and 34 seconds) during the September 2nd counts.

The 2010 edition of the *Highway Capacity Manual* (ITE, 2010) provides LOS criteria for a pedestrian crossing at uncontrolled legs of a Stop sign controlled intersection or at mid-block locations. LOS is a term used to refer to the operating performance of an intersection or roadway. Detailed descriptions of LOS standards for pedestrian crossings established in the *Highway Capacity Manual* are outlined in Table 41. The average delays observed during the Gap Study far exceed the LOS F standard of 45 seconds. This LOS is defined as "*delay exceeds tolerance level, high likelihood of pedestrian risk taking*" (ITE, 2010).

Driver Sight Distance. Driver sight distanced, specifically "stopping sight distance", is a key factor in assessing trail crossings and is the minimum distance align a direction of travel that a driver can observe an object or person in a roadway (e.g., a trail user crossing at-grade), react, and bring the vehicle to a safe stop. This distance varies with speed. With a posted speed limit of 45 mph, such as along SR 28, and observed speeds of 42 to 48 mph, a design speed of 50 mph is appropriate. At this design speed, the Caltrans Highway Design Manual – 6th Edition (Caltrans 2006) indicates that a stopping sight distances of 430 feet is needed at the SR 28/Dollar Drive crossing.

Sight distance measurements consistent with Caltrans methodology were conducted at two locations: just east of the Dollar Drive intersection and approximately 370 feet to the east at the widest point of the painted median formed by the redirect taper for the westbound left turn pocket for Dollar Drive. Because sight distance can differ across the roadway, it was measured both at the north and south edges of the existing pavement. Table E in Appendix A presents existing driver sight distances on SR 28. The minimum sight distance is 640 feet from the location adjacent to Dollar Drive. Staff measured the sight distance for the location 370 feet to the east at 490 feet, which meets the minimum required stopping sight distance. This distance is generally better to the west than to the east where the vertical curve at the crest of Dollar Hill limits the available sight distance.

The length of time (in seconds) that a trail user can perceive oncoming traffic can be estimated based on driver sight distances along with observed speeds. As shown in Table E of Appendix A, a minimum of 13.5 seconds is provided for trail users at the Dollar Drive location looking to the west and 9.1 to 9.9 seconds looking to the east. Because 13.0 seconds is required to cross the entire roadway, trail users at this location are unable to determine if they have adequate time in the westbound traffic stream.

At the location 370 feet to the east there is more than adequate time to observe gaps traffic coming from the west but only 7.0 (south edge of pavement) to 9.5 seconds (north edge of pavement) available to observe traffic coming from the east. At a location midway between Dollar Drive and the 7-11 driveway, time available to observe gaps is a minimum of 16.5 seconds to the west, but only 7.0 seconds to the east. At the three locations studied, adequate sight distance does not exist for trail users to completely cross the roadway.

Table 41

Pedestrian Crossing Level of Service Criteria

Level of Service Description		Control Delay [1]
A	Usually no conflicting traffic	0 to 5 sec/pedestrian
B	Occasionally some delay due to conflicting traffic	5 to 10 sec/pedestrian
C	Delay noticeable to pedestrians, but not inconveniencing	10 to 20 sec/pedestrian
D	Delay noticeable and irritating, increased likelihood of risk taking	20 to 30 sec/pedestrian
E	Delay approaches tolerance level, risk-taking behavior likely	30 to 45 sec/pedestrian
F	Delay exceeds tolerance level, high likelihood of pedestrian risk taking	> 45 sec/pedestrian

Source: Highway Capacity Manual 2010

Note: Control delay may be interpreted as s/pedestrian group if groups of pedestrians were counted as opposed to individual pedestrians

Existing Bicycle and Pedestrian Facilities. Walking and bicycling are critical and valued components to the Lake Tahoe regional transportation system. Tahoe communities and agencies indicate that connected bicycle paths, sidewalks, and transit create a "people-oriented" transportation system that supports neighborhoods, commercial areas, and recreation areas. Promotion of non-auto transportation systems forms the basis of the transportation elements in TRPA planning, including the Environmental Thresholds, Regional Plan, Environmental Improvement Plan, Mobility 2030 (transportation plan), and community plans. The 2010 Lake Tahoe Regional BPMP discusses existing and future facilities and identifies several benefits to improving the bicycle and pedestrian network, such as reducing VMT and GHGs. Other community efforts demonstrate the value of bike trails and pedestrian systems. The 2010 Lake Tahoe Prosperity Plan, a collaborative effort to establish a new economic and environmental vision for the Region, includes development of transportation alternatives (such as completed bike paths) as a priority action item.

Bicycle and pedestrian facilities exist in the Lake Tahoe Region as separated bicycle paths, bicycle lanes on the roadways, and bicycle routes that share right-of-way with motor vehicle traffic. Near the Project area, striped bicycle lanes for one-way bicycle travel on roadways currently exist on portions of SR 28 and on local roadways in Tahoe City. Separated bicycle paths exist adjacent to SR 28 from Tahoe City to Dollar Hill and bicycle routes that share right-of-way with vehicles, as designated by signage, exist on several local and residential roadways in the area. Existing bicycle and pedestrian facilities in the northwestern portion of the Lake Tahoe Basin are shown on Figure 11 of the Lake Tahoe Regional BPMP (http://www.tahoempo.org/documents/bpp/Chapters/2010bpp.pdf).

Regulatory Setting. Numerous transportation-related standards and criteria apply to the project area, reflecting the number of jurisdictions with regulatory authority over transportation conditions. The TRPA/TMPO RTP, also called Mobility 2030, identifies the overall transportation system standards and performance targets applicable to the project area. Mobility 2030 is a long range planning document approved by TMPO that shapes the future of the Lake Tahoe Basin transportation system.

TRPA maintains jurisdiction over aspects of transportation planning in the Lake Tahoe Basin with Caltrans overseeing California's State highway system. Table 42 provides an overview of the transportation circulation standards applicable to the Project.

Table 42

Applicable Transportation, Parking and Circulation Standards

Jurisdiction/ Plan/Policy	Standard/Criteria
Tahoe Regional Planning Compact	The goal of transportation planning shall be: (A) To reduce the dependency on the automobile by making more effective use of existing transportation modes and public transit to move people and goods within the region; and (B) To reduce to the extent feasible air pollution which is caused by motor vehicles.
Mobility 2030: Lake Tahoe Basin RTP (Mobility 2030)	The Goals and Policies of Mobility 2030 reflect the consideration of environmental, social and economic factors in making transportation-related decisions. Specific goals of Mobility 2030 include the following: 1) reduce reliance on the private automobile; 2) provide for alternative modes of transportation; 3) serve the basic transportation needs of the citizens of Lake Tahoe; 4) support the economic base of the region; and 5) minimize adverse impacts on man and the environment.
Federal Planning Guidelines	In 1999, the Lake Tahoe Basin became a federal metropolitan planning organization (MPO). Federal regulations, pertaining to transportation, require that the MPO planning process provide for the consideration of projects and strategies that will: - increase the safety and security of the transportation system for motorized and non-motorized users; - enhance the integration and connectivity of the transportation system, across and between modes, for people and freight; - promote efficient system management and operation; - emphasize the preservation of the existing transportation system.
TRPA Goals and Policies	Establish level of service criteria for various roadway categories and signalized intersections. Level of service criteria during peak periods shall be: - 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; - LOS E may be acceptable during peak periods in urban areas, not to exceed four hours/day. The policies and objectives of this document also place high priority on constructing pedestrian and bicycle facilities in urbanized areas and encouraging waterborne transportation measures.
TRPA Thresholds	TRPA has nine threshold categories: water quality, air quality, noise, scenic, vegetation, soils, wildlife, recreation, and fisheries. There is no threshold for transportation; however transportation system projects in the Lake Tahoe Basin cannot degrade any of the thresholds. Rather, TRPA must make findings that the proposed projects attain or maintain existing thresholds.

Jurisdiction/ Plan/Policy	Standard/Criteria
TRPA Thresholds: Air Quality	Air Quality has two transportation related standards: VMT and traffic volumes on US Hwy 50. - AQ-5 US Hwy 50 Traffic Volumes – 7% reduction in traffic volume on the US Hwy 50 corridor from 1981 base year values, winter, 4 p.m. to 12 a.m. (25,173 vehicles at the US Hwy 50/Park Ave intersection.) - AQ-7 VMT – 10% reduction in VMT in the Lake Tahoe Basin from 1981 base year values. (1,648,466 VMT for a peak summer day.)
TRPA Code of Ordinances	Adherence to: revised Code Chapter 12 requirements for traffic considerations, including VMT reduction policies and level of service goals for street and highway traffic, and revised Code Chapter 65 requirements for traffic analyses; the Code sections require reducing significant impacts to a less than significant level.
Placer County North Tahoe Area General Plan	The Circulation Element of the North Tahoe Area General Plan provides transportation objectives and policies associated with areas in the Tahoe Basin portion of Placer County outside the existing community plans. The objectives and policies are generally consistent with other applicable plans.
American Association of State Highway and Transportation Officials (AASHTO)	The AASHTO Guide for the Development of Bicycle Facilities specifies design recommendations and standards for the width, horizontal alignment, sight distance, separation distance from roadways, grades, and graded shoulders of trails. Design recommendations and standards are also specified for signage and striping, sight distance, and crossing angles at all location where paths cross a roadway.
Other	Signal warrant criteria as established by the Federal Highway Administration Manual on Uniform Traffic Control Devices.

Source: HBA 2012

3.2.16.2 Environmental Analysis and Mitigation Measures

141. Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, 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? (CEQA XVIa)

Standard of Significance: Project conflicts with applicable plans, ordinances or policies establishing measures of effectiveness for circulation system performance result in a significant impact.

The Project is consistent with existing policies, plans, and programs that encourage the promotion and use of alternative modes of transportation because the Project creates an alternative transportation trail for pedestrians and non-motorized transportation, which supports policies, plans, and programs for alternative transportation, such as those listed in Table 42. The Project creates new opportunities for alternative modes of transportation to result in a less than significant impact to circulation systems.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

142. Would the Project 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? (CEQA XVIb)

Standard of Significance: Conflict with applicable congestion management programs, specifically LOS standards, creates a significant impact to traffic and circulation from the Project.

Tahoe Region Bicycle/Pedestrian Use Model. The Project constructs a Class 1 shared-use trail extending the existing TCPUD Multi-Use Trail at the intersection of SR 28 and Dollar Drive to Fulton Crescent Drive, linking residential neighborhoods to Tahoe City and existing trails along the Truckee River and to Sugar Pine Point State Park. In order to determine potential effects to area roadways, a regional model was used to estimate trail use.

The Tahoe Region Bicycle/Pedestrian Use Model created by LSC Transportation Consultants, Inc. and Alta Planning provides "linked bicycle and pedestrian use level estimation models for travel corridors in the Tahoe Region. The model is based upon observed facility use levels in the Tahoe Region, data regarding the characteristics of individual facility users, as well as demographic and travel data for the Tahoe region" (LSC Transportation Consultants, Inc. 2009).

The usage model requires input regarding trail grade, continuity, maintenance level, recreational value, and congestion to predict the number of users. Comparison of similar, existing trails and input from agency staff determined the input factors. Refer to Appendix D for additional methodology explanations.

Bicycle and Pedestrian Trail Trip Generation. The model calculates trail usage separately for bicyclists and pedestrians, and residents and visitors who bicycle or walk to the trail, and bicyclists and pedestrians who drive to the trail.

This analysis provides two trail usage calculations for the Project: the Peak Location Usage, which is the peak number of users at any one location on the trail, and the usage over the entire shared-use trail corridor. Table A of Appendix D presents the Project usage estimates based on the Tahoe Region Bicycle/Pedestrian Use Model at location of peak demand in the trail corridor. The trail segment north of Country Club Drive near Dollar Reservoir is the point of the trail with the highest forecast usage for bicycle trips. As shown in Table A of Appendix D, the estimated daily trail use levels at this location are 251 one-way bicyclist trips and 90 one-way pedestrian trips. Factoring by the proportion of daily use occurring in the peak hour on existing Tahoe Region trails, the estimated peak hour trail usages at the respective locations are 38 bicyclist trips and 14 pedestrian trips.

The Tahoe Region Bicycle/Pedestrian Use Model provides a formula to estimate the trail usage along the entire corridor as a function of the trail usage at the location of peak usage and the location with the least amount of trail usage, as applied separately for cyclists and pedestrians. The Entire Corridor Usage is calculated using the following formula provided in the Tahoe Region Bicycle and Pedestrian Use Models User Instructions (LSC Transportation Consultants, Inc. 2009):

> Total Corridor Use = Use at Peak Location X ((Total Corridor Length (miles) / Average Trip Length (miles)) X (1 + Ratio of Use at Lowest Location to Use at Peak Location) / 2

Note that this equation uses a regionwide Tahoe Coalition of Recreation Providers (TCORP) one-way trip length of 2.4 miles for bicycling and 1.5 miles for walking, and assumes Ratio of Use at Lowest Location to Use at Peak Location to be 50 percent.

Overall, considering cyclists and pedestrians using portions of the trail that are not the segment with peak use increases the number of cyclists by 31 percent and the number of pedestrians by 52 percent. Table B of Appendix D presents the Project usage estimates based on the Tahoe Region Bicycle/Pedestrian Use Model over the entire trail corridor. Applying these factors yields a total of 273 daily one-way bicycle trips, 130 daily one-way pedestrian trips, 42 peak hour one-way bicycle trips and 20 peak hour one-way pedestrian trips. Best annual use estimates are 48,500 bicyclists and 19,000 pedestrians or 67,500 combined one-way trips.

Vehicle Trip Generation. This analysis considers two components of vehicle trip generation for the Project:

1. Users who drive to the trail - The Tahoe Region Bicycle/Pedestrian Use Model provides an estimate for the number of bicyclists and pedestrians who drive to the trail. The model adjustments, described above, more accurately reflect the character of the proposed trail. The model also provides average vehicle occupancy rates for bicyclists and pedestrians. The average vehicle occupancy rate for bicyclists who drive to the Project is 2.2 persons per vehicle, and the average vehicle occupancy rate for pedestrians is 1.4, as based on the TCORPS 2007 survey of users of Tahoe recreational trails. Vehicle trips are calculated by dividing the number of users who drive to the trail by the vehicle occupancy rates for bicyclists and pedestrians. Table C of Appendix D shows the number of new daily vehicle trip ends generated by the trail, which are 116 drive-to-bike trail users (58 roundtrips) and 28 drive-to-walk trail users (14 roundtrips).

2. Reduction in vehicle traffic associated with mode shift because of trail construction - The Project reduces vehicle trips by providing an alternative transportation mode for people who normally drive to their destination but still increases overall use of the existing trail network. The TCORP survey data indicates that 15 percent of trail users would drive if the surveyed trail did not exist. Vehicle trip reduction is calculated by multiplying the number of trail users by the 15 percent who indicated that they would have otherwise driven, and then dividing by the vehicle occupancy rates for bicyclists and pedestrians. Table C in Appendix D shows daily vehicle trip ends, roundtrips, and parking demand that result from construction of the Project. The Project reduces vehicle trips by 3,893 trips (i.e., 2500 trips for bicyclists and 1393 for pedestrians).

Vehicle Miles of Travel (VMT). This analysis calculates the change in VMT that can be expected with the construction of the Project, using the trip generation and trip reduction numbers from Table D of Appendix D, and average vehicle trip length estimates from the TRPA travel demand model, as documented in Tahoe Region Bicycle and Pedestrian Use Models (October 2009). A vehicle trip length of 2.4 vehicle miles is used for bicyclists, and a vehicle trip length of 1.5 vehicle miles is used for pedestrians. Table D of Appendix D provides the VMT estimates for the Project considering the following factors:

1. VMT associated with the Project will be increased by new trial users driving to the trail. This factor is estimated to increase VMT by 190 per day.

2. Trail users bicycling or walking to the trail and on to a final destination instead of using a vehicle to make the trip will reduce VMT in the vicinity of the Project. VMT reduction associated with this factor is estimated to be 40 over a summer day.

3. VMT will be decreased by existing recreational trail users that will shift from parking at the Tahoe Cross County Center to the proposed parking lot at the trailhead on SR 28, thereby reducing trip length. This factor is calculated to reduce VMT by 33 per day.

Overall, considering the factors pointed out above, the Project results in an increase in VMT of 117 vehicle-miles per day. To put this in context, the most recent estimate of VMT over the course of a summer day throughout the Tahoe Basin is 1,977,794 (TRPA 2010). Comparing the two figures, the Project may increase basin-wide VMT by 0.006 percent.

Average Vehicle Delay/Queuing/LOS. Appendix B presents the potential highway crossing options for the Project as prepared by LSC, Inc. traffic specialists. A crossing at SR 28 near Dollar Drive extends the existing TCPUD multi-use trail to the north. The SR 28 Crossing Options Study looked at the following pedestrian/bicycle options for providing safe and efficient trail user crossings:

- Standard crosswalk striping with signage;
- Crosswalk with the addition of a pedestrian refuge island;
- Additional warning beacons/signage/lighting;
- Pedestrian Hybrid Beacon;
- Full pedestrian/bicycle activated midblock traffic signal; and
- Full signal at SR 28/Dollar Drive with pedestrian crosswalk.

The average delays observed by LSC Inc. staff during the Gap Survey far exceed the LOS F standards of 45 seconds. Conclusions from the Gap Study state that simply striping a crosswalk at the SR 28 and Dollar Drive intersection would not provide adequate crossing conditions for bicyclists and pedestrians during peak summer traffic periods. To address inadequate gap intervals and existing driver sight distances, the Project proposal provides for a mid-block crossing location designed with the following features:

- A marked crosswalk.
- A pedestrian refuge using flexible delineators in accordance with the California Manual on Uniform traffic Control Devices (MUTCD 2012) arranged in an isosceles triangle pattern on either side of the crosswalk. To avoid conflicts with snow removal operations and reflecting that the need for the refuge is greatest during the summer period when trail use and traffic volumes are at their peaks, these delineators are installed during non-winter season only.
- Supplemental advanced warning signs, yield pavement markings with “Yield here to pedestrians” signage and location warning signs.
- Advanced warning signs placed approximately 300 feet in advance of the crosswalk in each direction, in accordance with California MUTCD.
- Supplemental push-button activated Rectangular Rapid Flashing Beacons located in conjunction with the crosswalk location signs (the push-buttons will include appropriate signage instructing users of their operation functions).

Installation of the raised median/pedestrian refuge crossing described above allows for a two-stage crossing with trail users needing to observe gaps in one stream of traffic at a time. Eight (8) seconds is required to cross each travel lane. Southbound trail users will be able to see gaps up to 9.5 seconds, while northbound users will be able to see gaps up to 8.7 seconds. The crossing proposal provides for distances

that adequately enable trail users to judge adequate gaps at this location. Installation of the crossing option for the at-grade crossing of the high-speed, moderate volume, 3-lane section of SR 28 reduces potential impacts to traffic and circulation to a level of less than significant while providing for trail user safety and complying with LOS standards. Given the forecast trail use level (45 total bicyclists and pedestrians per hour in the peak hour, or approximately one crossing group every two minutes) and the calculation that each crossing group blocks traffic for approximately eight (8) seconds, less than significant impacts on traffic delays or LOS will occur.

Construction Traffic. Construction traffic will occur on the roadway network. The heaviest construction period occurs during site grading, resulting in normal daily construction trips for workers to access the site plus construction trips removing cut materials from the project area. If there is no approved location within the Lake Tahoe Basin, excess material will be transported out of the Basin to the north, as specified by TRPA.

This analysis calculates the number of truck trips associated with site grading assuming a maximum of 120-day construction period, based on TRPA grading season from May 1st to October 15th. On average, long haul trucks are capable of carrying 20 cubic yards of material. Table 43 provides the estimated number of trips associated with site grading for the Project.

Table 43

Site Grading Truck Trips

Net Cut Material [1]	Truck Loads [2]	Trips per Day [3]
5,825 cubic yards	291 loads	4-6

Source: HBA 2012

Notes:

1 Approximate amount of net cut material to be hauled off-site. See Table 20 for more detail.

2 Long haul trucks are capable of carrying 20 cubic yards of material.

3 These are two-way trips (includes loaded delivery trip and empty return trip). Trips are based on the number of loads required to haul the material, and the number of work days (120).

The Project generates 4 to 6 daily construction haul trips. Due to the time required for loading, haul truck movements tend to be spread out over an 8-hour construction period. As a result, construction traffic will not degrade roadways or intersection LOS, and therefore, causes no significant short-term impact.

In addition to construction haul trips associated with grading, construction employees will also generate temporary trips. Each worker (10 employees on average) will generate an average of 3 daily trips based on information on employee trips (for employment uses) from the *Institute of Transportation Engineering Trip Generation, 8th Edition.*

To comply with TRPA and Placer County permit requirements, the County or its contractor will prepare a Traffic Control Plan for review and approval by TRPA and Caltrans prior to construction to avoid and minimize potential impacts to circulation and access during construction activities. As mitigation, the Traffic Control Plan (mitigation measure TRANS-1) addresses construction traffic and parking. At a minimum, the plan identifies truck haul routes, traffic control signage, bicycle and pedestrian traffic, restriction of hauling activities to off-peak periods (outside of the hours from 7AM-9AM and 4PM-6PM),

on-site circulation and staging areas, worker parking locations and monitoring of the in-place traffic control to implement traffic control revisions, if necessary. Prior to construction, the County will obtain necessary encroachment and transportation permits.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

TRANS-1. Traffic Control Plan

TRPA and County permit conditions require a traffic control strategy to reduce construction-related effects on roadways and circulation patterns within the construction corridor. The traffic control plan shall address:

- Coordination with affected jurisdictions regarding construction hours and lane closures;
- Emergency service consultation and implementation of an emergency access plan;
- Implementation of TRPA guidelines for construction-related road closures;
- Lane closure and truck hauling limits during peak commute hours to the extent possible;
- Provision of alternate bicycle and pedestrian routes where necessary;
- Provision of temporary parking;
- Location of truck haul routes;
- Traffic control devices;
- Construction signage and lane closure notification in the vicinity of the construction corridor;
- Monitoring of in-place traffic control methods and devices;
- Driveway access maintenance; and
- Onsite circulation and staging areas.

143. Would the Project 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? (CEQA XVIc)

Standard of Significance: If the Project causes a change in air traffic patterns that results in substantial safety risks, a significant impact occurs.

The Project provides a new facility for bicycle and pedestrian transit and does not change air traffic patterns or air traffic.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

144. Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (CEQA XVId)

Standard of Significance: Substantial increases in hazards resulting from the Project proposal or incompatible use of the trail create a significant impact.

The Project has the potential to increase hazards to vehicles, bicycles, and pedestrians at one roadway crossing with limited vehicle sight distance or where the crossing is located after a curve on the downhill direction of the roadway, as described above for Question 142. Shared-use trail grades can also contribute to safety hazards.

The Project crosses SR 28 at Dollar Drive. Installation of the raised median crossing allows for a two-stage crossing with trail users needing to observe gaps in one stream of traffic at a time. Eight seconds is required to cross each travel lane. Southbound trail users are able to see gaps up to 9.5 seconds, while northbound users are able to see gaps up to 8.7 seconds. Adequate distances are provided to enable trail users to judge adequate gaps at this location. Installation of this crossing option for an at-grade crossing on 45-miles per hour, moderate volume, 3-lane section of SR 28 reduces potential hazards to trail users.

Grades on paths should be kept to a minimum and grades greater than 5 percent are undesirable because the ascents are difficult for many users and descents are steep and cause bicyclists to exceed comfortable/safe speeds. Section 2.6.2.2 identifies the grade restrictions and grade lengths from the AASHTO Guide for the Development of Bicycle Facilities to which the Project proposal conforms.

Given the mountainous environment of the project area, the Project contains several trail sections of grade greater than 5 percent, but these sections meet the AASHTO grade restrictions and grade lengths designed to allow safe use. The most extreme grades are 11.07 percent for 30 feet on the shared-use trail section just after the Dollar Creek bridge crossing. The segments are short and within the AASHTO Guidelines.

There are several other descents with grades that range from 5 percent to 7 percent. The Project construction plans shows (Appendix C) that the average sight distance on the descent of the trail is at least 100 feet. The Project proposal provides for adequate bicycle stopping sight distance with grades based on a bicycle speed of 12 mph as follows:

- 5-6%: at least 70 feet for descent and 60 feet for ascent;
- 7%: at least 75 feet for descent and 60 feet for ascent; and
- 8-11%: at least 80 feet for descent and 60 feet for ascent.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

145. Would the Project result in inadequate emergency access? (CEQA XVIe)

Standard of Significance: Inadequate access for emergency responders during Project construction and operations constitutes a significant impact.

Project operations do not result in inadequate emergency vehicle access. Project construction, however, could temporarily affect access to the area without adequate coordination with law enforcement and fire protection agencies. Mitigation measures PS-1 and TRANS-1 outline coordination procedures with law enforcement and fire protection agencies and a traffic control plan, respectively, to ensure that Project construction will not disrupt emergency services. The design accommodates emergency response vehicles needed for trail users at trail crossing locations and neighborhood connectors via removable/collapsible bollards. The trail pavement width is 10 feet and therefore can also accommodate most emergency vehicles, if necessary.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 128 and 142 for descriptions):

PS-1. Law Enforcement and Fire Protection

TRANS-1. Traffic Control Plan

146. Would the Project conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (CEQA XVIf)

Standard of Significance: Inconsistency with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities constitutes a significant impact.

The Project enhances bicycle and pedestrian facilities by providing additional access to north shore residential communities and by providing connections to existing facilities and key destinations.

The Project makes a connection to TART services in Tahoe City and at the SR 28/Dollar Drive intersection, implementing TRPA and County plans that encourage multi-modal connections. If TART service expands in the future, these connections could increase.

The Project crosses a TART bus route, but does not cause a significant impact to transit service.

The study results presented in Appendices A and D conclude that the Project crossing produces minimal vehicle queuing with no measureable increase in average vehicle delay or vehicle LOS capable of affecting transit service. Therefore, the Project's level of impact to transit is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

147. Will the Project result in generation of 200 or more new Daily Vehicle Trip Ends (DVTE)? (TRPA 13a)

No. Standard of Significance: If the Project results in the generation of 200 or more new DVTE, a significant impact results.

The Project will not result in generation of 200 or more new daily vehicle trip ends. Dividing the number of daily drive-to-trail users by the average occupancy and multiplying by two (to reflect that each round-trip generates two DVTE at the project area), bicyclists will generate 78 new DVTE, while pedestrians will generate 39 DVTE, for a total of 117 DVTE. Therefore, no significant impact regarding trip generation occurs. As detailed in Appendix D, the Project also eliminates existing vehicle-trips in the vicinity of the Project by trail users bicycling/walking to the trail and on to their final destination instead of using a vehicle to make the trip. ,

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

148. Will the Project result in changes to existing parking facilities, or demand for new parking? (TRPA 13b)

No. Standard of Significance: Change in use of existing parking facilities that create an unmet demand for new parking as a result of Project operations constitutes a significant impact.

The Project proposes to extend the backbone of the non-auto transportation network in the north shore of Lake Tahoe by connecting existing facilities to desired destinations. Demand for parking at existing parking facilities could increase as a result of increased connections and enhanced network utility. To

address expected parking demand, the Project includes signage to notify users of adjacent on street parking and proposes an option for a new trailhead parking lot at the SR 28/Dollar Drive trail entrance. On street parking exists along Dollar Drive at the SR 28 intersection and on Fabian Way just west of the SR 28 crossing.

Applying the vehicle occupancy factors to the drive-to-trail demand calculations outlined in Question 142 yields a total of 36 vehicles parking at the four shared-use trail access locations over the course of a summer day. Considering the average length of stay, approximately one-third of this parking demand, or 12 vehicles, park in the area at the peak time. The location in which this parking occurs is a function of the proportion of the drive-to-trail users originating from the adjacent neighborhoods compared to those arriving from SR 28 from more remote locations. Based on the proportion of the residences within the study corridor but not within convenient walk/bike access, estimates of 25 percent of the drive-to-trail demand being generated from within the corridor (i.e., residents of the lower Ridgewood Road and Terrace Drive areas) and the remaining 75 percent originating from SR 28 are reasonable, as based on traffic, bicycle, and pedestrian data collected for the Project.

Parking demand is further allocated to access points along the project area (i.e., SR 28 Trailhead, Country Club Drive/Tahoe Cross Country Center, Old County Road and Fulton Crescent Drive) as shown in Table C of Appendix D. Existing use patterns in Tahoe show that shorter more urban trail segments attract few users who drive to use the trail. The trail segments evaluated here match those characteristics. While this is true, some trail users will originate from public recreation facilities such as the existing Tahoe Cross Country Center parking lot, which is typically for winter-use, and will use the parking available in those locations. Up to 21 vehicles associated with existing recreational trail users in the area currently park at the Tahoe Cross Country Center over the course of a summer day (Appendix D). Based on the relative convenience to the various trail options, one-third of the existing parked vehicles (up to seven vehicles) are expected to shift to new trailhead parking at SR 28 if provided, while the other 14 would remain at the Tahoe Cross County Center.

Parking demand studies (Table C of Appendix D) forecast daily up to 16 vehicles to park at existing on street parking near SR 28 and Dollar Drive or the optional SR 28 trailhead parking lot, up to 14 at the existing Tahoe Cross Country Center parking lot, and up to 1 vehicle at any one time to park at the upper end of Old County Road and Fulton Crescent Drive. This is in addition to drivers that currently park at the end of these roadways to access unpaved trails that may choose to continue to park at these informal locations. For example, mountain bikers accessing the existing unpaved trails leading to the west and north from Fulton Crescent Drive can be expected to continue to park at these neighborhood locations.

The number of additional parked cars at the upper end of Old County Road or Fulton Crescent Drive is expected to be minimal because on street parking near SR 28 and Dollar Drive and the optional SR 28 Trailhead parking lot will be more evident and convenient to visitors and residents driving from remote areas and persons interested in exercise tend to prefer their greatest workout (i.e., biking or walking uphill) at the beginning of the exercise period rather than at the end. Additionally, drivers approaching the project area both from the south and from the north on SR 28 will have a shorter drive time to on street parking near SR 28 and Dollar Drive (e.g., Fabian Way) and a new trailhead parking lot than to either upper Old County Road or Fulton Crescent Drive. Additional parking activity along Old County Road or Fulton Crescent Drive is most likely to consist of residents of the lower portions of the Cedar Flat neighborhoods that prefer to drive to the trail to avoid the steep climbs up the residential streets.

Development criteria for access points intended for neighborhood use will de-emphasize their visibility to reduce “drive to” use. While parking along eastern Placer County public streets is legal in most places between May 1 and October 31 and will not be prohibited through this Project proposal, this use can create conflicts with neighbors, including trespassing, littering, sanitary concerns, noise, and off leash dog

activity. The Project proposal relies on use of adaptive management strategies to address these issues for long-term maintenance. These strategies could include (but may not be limited to) increasing outreach concerning respectful use, increased visitation by management personnel, or placement of fencing or trashcans. The OMMS (Appendix F) identifies adaptive management strategies available if parking competition at these sites exceeds forecasts.

If the trailhead parking area at SR 28 and Dollar Drive is not built as part of trail construction, parking on nearby public roads is adequate to meet forecasted parking demand. The OMMS is used to assess parking demand at the SR 28 trailhead. If parking supply is determined to be inadequate or parking creates conflicts with adjacent land uses, management alternatives including the optional trailhead parking facility construction will be pursued by the operator.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

149. Will the Project result in substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities? (TRPA 13c)

No. Standard of Significance: If the Project causes delay which degrades level of service to on roadways to LOS E for more than four hours/ day, impacting vehicles and transit or hinders pedestrian or bicycle travel a significant impact results.

The Project will not result in substantial negative impact upon existing transportation systems but instead enhances and improves bicycle and pedestrian access. For analysis of roadways and transit, see the analyses for Question 142 and Question 146, which conclude that vehicle LOS on roadways is not degraded; therefore, the level of impact to existing transportation systems is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

150. Will the Project result in alterations to present patterns of circulation or movement of people and/or goods? (TRPA 13d)

No. Standard of Significance: If the Project results in an alteration to present patterns so that circulation is substantially disrupted and/or public access cannot be met, a significant impact results.

The Project does not significantly increase vehicle delay due to users on the shared-use trail. The Project crosses SR 28 but potential vehicle delays are avoided and minimized through the Project crossing option. The SR 28 Crossing Options evaluation presented in Appendix B does acknowledge that placing the pedestrian refuge island in the existing two-way left-turn between Dollar Drive and the 7-11 access will shorten the available deceleration and storage for vehicles turning left into 7-11 parking area; however, the effect is less than significant because adequate storage for four to five vehicles will be maintained.

The shared-use trail then follows a route through the open forested area behind existing residential neighborhood and does not cross in front of residential or commercial driveways. Additionally, shared-use trail users are continually moving and do not significantly increase delay or block access for drivers entering or exiting use areas.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

151. Will the Project result in alterations to waterborne, rail or air traffic? (TRPA 13e)

No. Standard of Significance: Alternations to waterborne, rail or air traffic by Project construction or operations that result in service disruptions constitutes a significant impact.

The Project provides a new facility for bicycle and pedestrian traffic and does not change air traffic, waterborne traffic, or rail traffic.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

152. Will the Project result in increase in traffic hazards to motor vehicles, bicyclists, or pedestrians? (TRPA 13f)

No. Standard of Significance: Increases to traffic hazards at trail crossing locations constitutes a significant impact.

See Question 144, which addresses CEQA checklist item XVId and concludes that the level of impact from the Project to traffic hazards to vehicles, bicyclists, and pedestrians is less than significant. The only potential location of traffic hazard is at the trail crossing of SR 28. Considering that adequate safe driver stopping distance is provided and that the design of the crossing is consistent with applicable Caltrans criteria, no significant traffic hazard will result.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.17 Utilities and Service Systems (CEQA) and Energy and Utilities (TRPA)

This section presents the analysis for potential impacts to utilities, service systems and energy. Table 44 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 44

Utilities, Service Systems and Energy

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
153. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (CEQA XVIIa)				X
154. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (CEQA XVIIb)				X
155. 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? (CEQA XVIIc)		X		
156. Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed? (CEQA XVIId)				X
157. Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?				X

(CEQA XVIIe)				
158. Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs? (CEQA XVIIf)		X		
159. Comply with federal, state, and local statutes and regulations related to solid waste? (CEQA XVIIg)		X		
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
160. Use of substantial amounts of fuel or energy? (TRPA 15a)				X
161. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? (TRPA 15b)				X
Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:				
162. Power or natural gas? (TRPA 15a)		X		
163. Communication systems? (TRPA 15b)				X
164. Utilize additional water which amount will exceed the maximum permitted capacity of the service provider? (TRPA 15c)				X
165. Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider? (TRPA 15d)				X
166. Storm water drainage? (TRPA 15e)		X		
167. Solid waste and disposal? (TRPA 15f)		X		

3.2.17.1 Environmental Setting

Electricity. Liberty Energy provides electricity services to the project area, and the communities of Coleville, Floriston, Loyalton, Markleville, North Lake Tahoe, Portola, South Lake Tahoe, Topaz Lake, Truckee, Verdi, Walker, and Woodfords, serving over 47,000 customers in California (www.liberty-energy.com/pages/about.html 2012). There are overhead distribution lines along SR 28 within the project area.

Natural Gas. Natural gas service in the Lake Tahoe Basin is provided by Southwest Gas Corporation, which also serves customers in portions of Arizona, Nevada, and portions of northeastern and southeastern California (Southwest Gas Corporation 2009, CNN Money 2009). Southwest Gas Corporation acquires its gas supplies from a variety of sources and has an active program to seek a diversity of supply. The company is the largest distributor of natural gas in the States of Arizona and Nevada, and no shortfalls in natural gas supply are anticipated in the future. Existing underground gas lines are located in the project area along SR 28 ROW.

Communications. The Project area is in the AT&T service area. AT&T provides telecommunications services, including local, long distance, DSL, wireless, data networks, satellite television, and directory, to the Lake Tahoe area. Charter Communications provides cable service to the project area. An existing aerial utility line and utility pole is located along SR 28.

Water and Wastewater Service. North Tahoe Pubic Utility District (NTPUD) provides water and wastewater service to the project area. The District currently serves 5,524 sewer connections and 3,871 water connections. The Project passes through land owned by NTPUD. NTPUD operates the following water facilities: 53.8 miles of gravity lines, three main pumping facilities, three satellite/booster stations, and eight tanks with a capacity of 3,500,000 gallons. In addition, NTPUD operates the following wastewater facilities: 74.8 miles of gravity lines, four main pumping facilities, 14 satellite/booster stations, and a tank at the Dollar Lift Station with a capacity of 6.0 million gallons per day (www.ntpud.org 2012). A sewer line is located along the SR 28 ROW within the project area.

Solid Waste and Disposal. The Placer County Facility Services Department, Environmental Engineering Division administers and manages the countywide solid waste programs. Programs include garbage collection contracts, education and outreach, the Eastern Regional Materials Recovery Facility (MRF), the Household Hazardous Waste Facility, recycling centers, and satellite recycling bins (Placer County 2010). Tahoe Truckee Sierra Disposal Company (TTSD) provides solid waste services in the Project area. Solid waste collected by the TTSD is taken to the Eastern Regional Landfill, Inc. (ERSL) near Truckee, CA, where materials are sorted to meet California's mandatory solid waste diversion requirements. TTSD contracts (ERSL) to conduct the day-to-day operations and maintenance of the MRF. The MRF receives, separates, processes and markets recyclable materials removed from the waste stream. Non-recyclable, non-hazardous solid waste is consolidated and transported to the Lockwood Regional Landfill, a 1,535-acre municipal solid waste facility located in Storey County, NV. TTSD has a 30-year contract (1995-2025) with a 30-year option to dispose of non-hazardous solid waste at the Lockwood Regional Landfill. The landfill does not accept hazardous waste. Lockwood Regional Landfill has a capacity of up to 250 years (Placer County 2008).

3.2.17.2 Environmental Analysis and Mitigation Measures

153. Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (CEQA XVIIa)

Standard of Significance: Exceedance of wastewater treatment requirements as established by Lahontan constitutes a significant impact.

The Project develops a shared-use trail that does not create population growth, as discussed in Question 121, to increase utility demand. The Project proposes no new housing that could increase resident populations in need of these services and does not propose fixtures or features that require connections to wastewater. The Project does not affect wastewater quantities and creates no impact on wastewater treatment operations, treatment, or capacity.

Environmental Analysis*: No Impact.*

Required Mitigation: **None**.

154. Would the Project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (CEQA XVIIb)

Standard of Significance: Construction of new water or wastewater facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

The Project develops a shared-use trail, and as discussed in Question 121, does not create population growth or increased utility demand. The Project proposal includes no new housing that could increase resident populations in need of these services and does not propose fixtures or features (e.g., restrooms) that require connections to water or wastewater. The Project installs no permanent irrigation, restrooms, or water fountains.

TRPA revised Code Chapter 32 provides regulations for utilities and services. The Project complies with these regulations as no new water or wastewater utilities are required to operate the trail.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

155. Would the Project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (CEQA XVIIc)

Standard of Significance: Construction of new stormwater drainage facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analysis for Questions 84 and 85, which addresses stormwater drainage capacity and potential impacts to existing drainage patterns and concludes the level of impact to existing or planned stormwater drainage systems is reduced to a level of less than significant by the Project proposal..

The Project largely avoids alterations to existing drainage patterns through location of new coverage over existing unpaved trails wherever possible and a drainage design that relies primarily on sheet flow and infiltration for source control along most of its length. This approach meets requirements for containment of the 20-year, 1-hour storm runoff volume. The basic strategy for drainage from this trail surface is sheet flow and infiltration onto the two-foot wide clear zones that are immediately adjacent to the sides of the shared-use trail. Where the shared-use trail crosses SR 28, the constrained project area limits clear zones and some infiltration capacity. Coordination with County and Caltrans drainage needs at the SR 28 trail crossing will direct final design plans that capture surface runoff collected and convey and discharge to drainage facilities that meets TRPA standards as appropriate.

The Project implements requirements for permanent BMPs as outlined in TRPA revised Code Chapter 60, Lahontan's Basin Plan Chapter 5, and Placer County Code through mitigation measures. Implementation of mitigation measure GEO-5 assures the Project complies with Lahontan NPDES construction permit requirements.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation: (See Questions 57 and 82 for descriptions):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

HYDRO-3. Implement Post-Construction Stormwater Management

156. Would the Project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? (CEQA XVIId)

Standard of Significance: As significant impact occurs if the Project creates a demand in water supply that requires new or expanded entitlements or resources to assure continuation of sufficient water supply to the public.

As described above for Questions 153 and 154, the Project requires no new water service and therefore avoids significant affect on water supplies, entitlements or resources.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

157. Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? (CEQA XVIIe)

Standard of Significance: A significant impact results if the project creates additional demand that prohibits STPUD from meeting existing provider commitments with existing wastewater treatment capacity.

As described above for Questions 153 and 154, the Project requires no new wastewater service.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

158. Would the Project be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs? (CEQA XVIIf)

Standard of Significance*:* A significant impact results if the project creates demand for a new landfill or is unable to be served by existing landfills.

Large quantities of trash will not be generated as the project serves as a transportation route with primarily through-travel users. Therefore, new collection equipment, personnel, or infrastructure is not needed. The Project does not require the development of a new landfill. However, a receptacle should be located near the trail to avoid the accumulation of debris along the trail or within the trailhead parking area, if built. The OMMS, attached in Appendix F, establishes the shared-use trail Operator's guidance for the Project, including regular trail maintenance and solid waste management.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

UTIL-1. Install and Manage Trash Receptacles

As a trailhead location, a trash/recycling receptacle shall be located within the parking area, if built, to collect solid waste materials. The location of receptacles within the parking lot shall avoid their misuse as public dumpsters as receptacles shall not be visible from the main roadway. The receptacles shall be wildlife resistant and shall meet County and TRPA standards. The designated Operator shall retain the responsibility for maintenance and management of the shared-use trail and associated facilities, including trash receptacles.

159. Would the Project comply with federal, state, and local statutes and regulations related to solid waste? (CEQA XVIIg)

Standard of Significance: Noncompliance with statutes and regulations regarding solid waste results in a significant impact as defined by TRPA Regional Plan Goals and Policies, the City General Plan and state (Title 14 and 27 CCR) and federal solid waste handling and disposal regulations.

The TTSD, Eastern Regional Materials Recovery Facility, and Lockwood Regional Landfill will receive limited solid waste from operations of the Project and have sufficient capacity to serve the needs.

Existing resource recovery operations provide recycling of various materials, including green waste and construction material, which further reduces the quantity of waste sent to the landfill. TRPA Regional Plan Land Use Element Goal 5, Policy 1 and Public Services Element Goal 3, Policy 2 requires the transport of solid waste outside the Basin in compliance with California state laws. The Project complies with these goals and policies. To reduce littering on the land surrounding the Project, trash/recycling receptacles should be located at the trailhead parking area, if built.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

UTIL-1. Install and Manage Trash Receptacles

160. Will the Project result in use of substantial amounts of fuel or energy? (TRPA 15a)

No. Standard of Significance: Use of substantial amounts of fuel or energy by the Project results in a significant impact as defined by TRPA Regional Plan Conservation Element.

Fuel consumption will occur during construction of the Project to power equipment and machinery. This fuel consumption will be temporary and typical of a construction project of this size and nature. Substantial fuel consumption will not occur during regular trail operations. Limited fossil fuels will be consumed during periodic maintenance. Although a flashing pedestrian crossing will connect to existing electrical services, the fixtures will draw only minimal quantities of energy, and will not affect existing service or capacity. No other lighting or connections to electrical or natural gas service is proposed for the Project. As discussed in Question 147, use of the shared-use trail creates a less than significant impact to daily vehicle trips. Reductions in vehicle trips reduce long-term fuel consumption in accordance with TRPA Regional Plan Conservation Element Energy Goal 1, Policy 5 and the goals and policies of the Air Quality Subelement.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

161. Will the Project result in substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? (TRPA 15b)

No. Standard of Significance: A substantial increase in demand upon existing sources of energy or requirement of the development of new sources of energy by the Project results in a significant impact as defined by TRPA Regional Plan Conservation Element.

The Project creates no substantial increase in energy demand and results in no new energy development. Operation and use of the trail reduces daily vehicle trips, which reduces fuel consumption in accordance with TRPA Regional Plan Conservation Element Energy Goal 1, Policy 5 and the goals and policies of the Air Quality Subelement.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

162. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to power or natural gas? (TRPA 15a)

No, with mitigation. Standard of Significance: Substantial alteration to power or natural gas or the requirement for new systems by the Project results in a significant impact as defined by TRPA Regional Plan Conservation Element**.**

Energy infrastructure within the project area consists of electrical lines and natural gas pipelines. Trail construction and operation results in no demand increase for natural gas service or electrical service.

Electricity. Although the Project avoids service poles where feasible, one utility pole may require relocation at SR 28. Relocation of the pole and lines to the nearest feasible location will occur prior to trail construction to avoid construction hazards and service disruption. Since these facilities are above ground, they are easily detected and can be safely relocated in coordination with Liberty Energy, as described in mitigation measure UTIL-2 Construction Coordination.

Some underground facilities may exist within the project area, typically located at the edge of existing pavement buried at a depth of three to four feet. Although it is unlikely they will be encountered during project grading, mitigation measure UTIL-2 serves to prevent damage to these lines. Costs associated with relocation of facilities are the responsibility of the project.

The pedestrian crossing includes safety features such as the supplemental push-button activated Rectangular Rapid Flashing Beacons. Rectangular Rapid Flashing Beacons are typically solar powered and it is unlikely they will need to be wired to a traditional power source. Should a traditional power source be necessary, power could be obtained from the electrical facilities along SR 28.

Natural Gas. Natural gas facilities are located underground, and have the potential to be encountered during grading, particularly near SR 28 where pipelines run along the roadway ROW. Since there is potential to encounter buried pipeline during excavation, construction coordination with utility providers as detailed in mitigation measure UTIL-2 is necessary to prevent potential damage.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigations:

UTIL-2. Construction Coordination

The County and Project contractor shall coordinate with law enforcement and fire protection agencies, utility companies, and businesses and residents within the construction corridor prior to and during construction activities. This coordination shall inform affected parties of the construction schedule and allows development of actions to best maintain access and service in the active project area.

Coordination with utility companies shall follow accepted practice. During final plan preparation, utilities shall be located on the civil plan sheets and confirmed to identify the depth to conduit, pipeline, or other facility and to avoid significant grade changes for maintenance of minimum coverage depths for safety and compliance. If necessary, the Project shall relocate utility infrastructure including underground or aboveground connections. Prior to construction, the contractor shall contact Underground Service Alert (USA) to ensure buried lines are properly located and marked and provide utility companies with an accurate schedule noting when construction occurs in the vicinity of their facilities.

163. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to communication systems? (TRPA 15b)

No. Standard of Significance: The need for new systems or substantial alteration to communication systems as a result of the Project constitutes a significant impact.

Project construction and operation has no effect on demand for communication service as no increase in population, housing, or commercial units results from the Project. The Project includes no new communication facilities. Communication lines within the project area are above ground on existing utility poles and will not be removed.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

164. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to utilize additional water which amount will exceed the maximum permitted capacity of the service provider? (TRPA 15c)

No. Standard of Significance: Construction of new water facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analyses for Questions 153, 154, 156, and 157, which address CEQA checklist items XVIIa, XVIIb, XVIId and XVIIe related to water and wastewater systems and conclude that the Project creates no impacts. The Project creates no demand to water or wastewater systems requiring alterations to NTPUD systems.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

165. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider? (TRPA 15d)

No. Standard of Significance: Construction of new wastewater facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analyses for Questions 153, 154, 156 and 157, which address CEQA checklist items XVIIa, XVIIb, XVIId and XVIIe and conclude that the Project creates no impact to wastewater systems. The Project creates no demand to wastewater systems requiring alterations to NTPUD systems.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

166. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to storm water drainage? (TRPA 15e)

No, with mitigation. Standard of Significance: Construction of new stormwater drainage facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analysis for Question 155, which addresses CEQA checklist item XVIIc and concludes that the Project creates no impact to wastewater systems after implementation of mitigation measures. The Project primarily addresses stormwater runoff through the design element, which infiltrates runoff from the impervious trail surfaces into clean zones directly adjacent to the Project. Coordination with County and Caltrans drainage needs at the SR 28 trail crossing will direct final design plans that capture surface runoff collected and convey and discharge to drainage facilities that meets TRPA standards as appropriate.

The Project implements requirements for permanent BMPs as outlined in TRPA revised Code Chapter 60, Lahontan's Basin Plan Chapter 5, and Placer County Code through mitigation measures. Implementation of mitigation measure GEO-5 assures the Project complies with Lahontan NPDES construction permit requirements.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation: (See Question 57 and 82 for descriptions):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

HYDRO-3. Implement Post-Construction Stormwater Management

167. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to solid waste and disposal? (TRPA 15f)

No, with mitigation. Standard of Significance: Construction of new solid waste systems or disposal sites constitutes a significant impact.

See analysis for Questions 158 and 159, which address CEQA checklist items XVIIf and XVIIg and conclude that large quantities of trash will not be generated because the Project serves as a transportation route with primarily through-travel users and, the Project does not require the development of new landfills. Therefore, new collection equipment, personnel, or infrastructure is not needed. However, a receptacle should be located near the trail to avoid the accumulation of debris along the trail or within the trailhead parking area, if built. The OMMS, attached in Appendix F, establishes the shared-use trail Operator's guidance for the Project, including regular trail maintenance and solid waste management.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 158 for description):

UTIL-1. Install and Manage Trash Receptacle

3.2.18 Mandatory Findings of Significance

This section presents the analyses for mandatory findings of significance. Table 45 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 45

Mandatory Findings of Significance

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
168. Does the Project have the potential to 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? (CEQA XVIIIa)		X		
169. Does the Project 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)? (CEQA XVIIIb)			X	
170. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (CEQA XVIIIc)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
171. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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 or Nevada history or prehistory? (TRPA 21a)		X		
172. Does the Project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.) (TRPA 21b)				X
173. Does the Project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?) (TRPA 21c)				X
174. Does the Project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly? (TRPA 21d)				X

3.2.18.1 Environmental Analysis and Mitigation Measures

168. Does the Project have the potential to 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? (CEQA XVIIIa)

As discussed in this IS/IEC, the Project may result in potentially significant impacts to SEZ and wetlands, wildlife nests and nursery sites, sensitive habitats and individuals, old growth trees, and historical resources. However, Project facility measures and construction controls and implementation of proposed mitigation measures reduces the effects of such impacts to a point that clearly no significant impacts occur.

Environmental Analysis: *Less than Significant after Mitigation*.

Required Mitigation (See Questions 5, 29, 31, 32, 37, 39 and 47 for descriptions):

SR-1. Tree Protection and Avoidance Measures
BIO-1. Pre-Construction Surveys for Wildlife Species
BIO-2. Dollar Creek Wetland Delineation and Avoidance of Impacts
BIO-3. Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program
BIO-4. Noxious Weed Eradication and Control Program
BIO-5. Avoid Sensitive Plants or Prepare Sensitive Plant Protection Program
CUL-1. Cultural Resource Monitoring Plan

169. Does the Project 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)? (CEQA XVIIIb)

When the Project's incremental contribution is "cumulatively considerable", the following analysis addresses the environmental resource of concern. The projects that could have a cumulative impact on the resources in the project area when considered incrementally with the Project are referred to as "related projects".

Table 46 identifies a list of past, present, and reasonably foreseeable future projects that have occurred or are planned to occur in the vicinity of the project area. The table identifies the name of the related project, a brief description, and the status. Agencies contacted and documents referenced for development of Table 46 include: Placer County, Conservancy, NTPUD, California State Parks, Caltrans, TRPA and LTBMU.

Table 46

List of Related Projects in Vicinity of the Project Area – North Lake Tahoe Basin Area

Project Title	Project Description	Status
LTBMU Projects		
Carnelian Fuels Reduction and Healthy Forest Restoration Project EA	Combination of mechanical, hand and prescribed burning treatments to reduce surface fuels and conifer density within the WUI surrounding communities of Cedar Flat, Carnelian Bay, Tahoe Vista and Kings Beach. Location in Lake Tahoe Basin Mgt Unit. STATE - California. COUNTY - Placer. LEGAL - Township 16 N. Range 17 E. Sections 8,9,10,16,17,18,19,20, and 21; T 17N. R 6E. Sections 1,2,5 and 6 Project area surrounds communities along the north shore of Lake Tahoe including Cedar Flat, Carnelian Bay, Tahoe Vista, and Kings Beach within the WUI	In Progress– Scoping started 05/17/2010, Objection Period to Legal Notice Closes 04/2012, Decision 05/2012; Implementation 10/2012
North Shore Commercial Outfitter – Guide Special Uses Permit Extension CE	Reissuance of Special Use Permit TAH405001 for 10 years. Location is Placer County's North Shore of Lake Tahoe.	In Progress – Scoping stated 04/01/2010; Decision expected 01/2012; Implementation 02/2012
Restoration of Fire Adapted Ecosystems EA	Project intends to use hand thinning and prescribed fire to restore priority meadows to reduce conifer encroachment, improve native riparian/wetland plant abundance and vigor, and improve habitat for native riparian dependent species. Location in Lake Tahoe Basin Mgt Unit. STATE - California, Nevada. COUNTY - Douglas, Carson City, El Dorado, Placer. Multiple locations throughout El Dorado and Placer Counties, California; and Carson City and Douglas	Developing Proposal; estimated scoping 02/2012; Decision 07/2012; Implementation 09/2012
Sierra Pacific Power line Upgrade EA	Rebuild existing power lines from Truckee to Kings Beach and Kings Beach to Tahoe City. Including an upgrade in capacity from 60kV to 120kV. Relocate most of Kings Beach to Tahoe City line. Location in Lake Tahoe Basin Mgt Unit. STATE - California. COUNTY - Placer. North of Tahoe City along Fiberboard Hwy and Hwy 267 corridor from Kings Beach to Truckee.	Developing Proposal; estimated scoping 01/2012; Decision 01/2013; Implementation 09/2013
Erosion Control Projects	Grants administered by LTBMU to local agencies and organizations to plan and implement erosion control projects.	Approved-Ongoing
Conservancy Projects		
Tahoe City Residential	Water Quality and Watersheds Program project	In Progress
Lakeside Trail Phases 5, 6, 7	Recreation and Public Access Program project	In Progress
Lake Forest SEZ and Wildlife	Water Quality and Watersheds Program project - The Lake Forest Area B SEZ/Habitat Restoration	In Progress - Wood

Table 46

List of Related Projects in Vicinity of the Project Area – North Lake Tahoe Basin Area

Project Title	Project Description	Status
Enhancement	project involves SEZ/channel restoration along portions of Lake Forest and Polaris Creeks to improve water quality and reduce the amount of total suspended solids (TSS) discharged to Lake Tahoe. The project area consists of approximately 70 acres of publicly-owned and residential properties in Placer County, California. The project involves SEZ restoration and wildlife habitat restoration and enhancement within the Lake Forest Glen meadow, along Lake Forest Creek north and south of SR28, and within the Polaris Creek drainage north of SR28. Restoration of the Lake Forest Glen meadow is a key component of erosion control, water quality improvement, and restoration/wildlife enhancement in the project area. The goal for this meadow restoration is the reestablishment of historic flow patterns (from the currently piped and diverted condition) and the return of the meadow to its pre-1960s condition while protecting current infrastructure from project impacts. Drainage patterns will be modified to direct existing flows from Lake Forest Creek across SR28 into the restored meadow area. Stormwater flows will be added to creek flows to restore the functional floodplain and wet meadow areas.	Rodgers has recently completed design of the Lake Forest Creek stream restoration project and is currently providing construction inspection support.
Lake Forest Area B, Phase III	Water Quality and Watershed Program project	In Progress
Lake Forest Area B, Phase II	Water Quality and Watershed Program project	In Progress
Dollar Property	Forest Health Program project	In Progress; Treatment dates 1998-2010

Source: HBA 2012; Placer County 2012 CEQA Projects; LTBMU SOPA; CTC Interactive Project Map (http://tahoe.ca.gov/interactive-project-map.aspx)

Those projects that are currently under construction, approved for construction, or in various stages of formal planning are present and reasonably foreseeable, probable future projects. Some of the projects could be constructed concurrently with the Project during construction in 2013–2015. Project construction planned over a three-year period (2013 through 2015) recognizes the potential for concurrent projects and overlapping project areas.

The present or reasonably foreseeable, probable future projects considered in this cumulative analysis are those projects located in the North Shore of the Lake Tahoe Basin and that have been identified as having potential effects on environmental resources that could also be affected by the Project. Table 46 identifies the related projects in the cumulative effects analysis based on these following criteria:

(1) The project is reasonably foreseeable, because it has an identified lead agency, and has initiated CEQA, TRPA, and/or NEPA environmental review or other regulatory procedures.
(2) The information available defines the project in adequate detail to allow meaningful analysis.
(3) The project could affect resources potentially affected by the Project.

The Carnelian Fuels Reduction and Healthy Forest Restoration project and other related fuels reduction/restoration projects are designed to reduce the risk of high intensity wildfire on National Forest Lands in the urban wildland areas and involve tree removal. A majority of the tree removal required for the project occurs along public rights of way and in forest lands adjacent to residential neighborhoods where opportunities do not exist to relocate the Project to avoid the tree removal. In other areas comprised of large publicly owned parcels, meandering the trail alignment to avoid tree removal reduces effects. The project area adjacent to existing public roadway ROWs and within residential neighborhoods do not currently provide suitable habitat for sensitive wildlife species because of existing disturbance. As such, the Project will not contribute to significant wildlife impacts from other past, current or future projects in the project vicinity (e.g., fuels reduction projects).

The LTBMU erosion control projects and Consevancy funded Lake Forest projects are designed to improve soil stability, provide better stormwater runoff control, and reduce the amount of total suspended solids discharged to Lake Tahoe. The project includes temporary and permanent BMPs designed to protect soils and control runoff from the shared-use trail. As such, the Project will not contribute to significant water quality impacts from other past, current or future projects in the project vicinity.

The Lakeside Trail projects provides for a safe alternative to the use of the private automobile and helps complete a section of the planned trail network serving the Lake Tahoe Basin. The completion of the Project and these other proposed trails improves the overall North Tahoe trail network, making the network more desirable as an alternative to automobiles. This is a beneficial cumulative impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

170. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (CEQA XVIIIc)

Standard of Significance: Project environmental effects that cause direct or indirect substantial adverse effects to humans create a significant impact.

As discussed in this IS/IEC, the Project does not adversely affect humans. The Project will positively affect humans through improvement of the non–automobile transportation network, providing safer and more convenient alternatives to the automobile.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

171. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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 or Nevada history or prehistory? (TRPA 21a)

No, with mitigation. Standard of Significance: Refer to the analysis for Question 168, which addresses CEQA checklist Item XVIIIa and concludes the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 29, 31, 32, 37, 39 and 47 for descriptions):

SR-1. Tree Protection and Avoidance Measures
BIO-1. Pre-Construction Surveys for Wildlife Species
BIO-2. Dollar Creek Wetland Delineation and Avoidance of Impacts
BIO-3. Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program
BIO-4. Noxious Weed Eradication and Control Program
BIO-5. Avoid Sensitive Plants or Prepare Sensitive Plant Protection Program
CUL-1. Cultural Resource Monitoring Plan

172. Does the Project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (TRPA 21b)

No. Standard of Significance: A short-term impact on the environment is one that occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.

IS/IEC analyses identify the relationship between short-term uses of the environment and maintenance and long-term operations of the shared-use trail and project area. The Project creates no short-term or long-term significant and unavoidable impacts. The proposal avoids permanent loss of sensitive habitat and development on sensitive lands and minimizes effects to project area soils and hydrology through location of shared-use trail, revegetation of areas disturbed during construction and implementation of facility features and permanent BMPs.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

173. Does the Project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?) (TRPA 21c)

No. Standard of Significance: Refer to the analysis for Question 169, which addresses CEQA checklist Item XVIIIb and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

174. Does the Project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly? (TRPA 21d)

No. Standard of Significance: Refer to the analysis for Question 170, which addresses CEQA checklist Item XVIIIc and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**