

3.16 BIOLOGICAL ENVIRONMENT

This section summarizes the common and sensitive vegetation, terrestrial wildlife, and aquatic biological resources that are known or have the potential to occur in the project site. Biological resources include common vegetation and habitat types, sensitive plant communities, and special-status plant and animal species. Federal, TRPA, state, and local regulations related to biological resources are summarized. Potential impacts of the proposed alternatives are analyzed, and mitigation measures are provided for those impacts determined to be significant. Cumulative biological resources impacts are addressed in Section 3.19, “Cumulative Impacts.”

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

- ▲ Project-related disturbances to a stream environment zone and the need for mitigation.
- ▲ Potential effects of additional lighting and noise on wildlife, particularly near Van Sickle Bi-State Park.

For this analysis, information about common and sensitive biological resources known or with potential to occur within the project site boundaries is based primarily on reconnaissance surveys conducted by Ascent biologists and available data sources. Sources consulted consist of the following: *US 50/South Shore Community Revitalization Project Natural Environment Study* (NES; TTD 2015); *Tree Survey for the US 50/South Shore Community Revitalization Project* memorandum (Ascent Environmental 2014) (Appendix L); Section 3.10, “Biological Resources,” of the Regional Plan Update Environmental Impact Statement (RPU EIS) and Lake Tahoe Regional Transportation Plan (RTP, also known as *Mobility 2035*) and Sustainable Communities Strategy Environmental Impact Report and Environmental Impact Statement (RTP/SCS EIR/EIS); Tahoe Regional Planning Agency (TRPA) survey and GIS data; a records search of the California Natural Diversity Database (CNDDDB 2015); California Native Plant Society Online Inventory of Rare and Endangered Plants (CNPS 2015); a database search of the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) and a list of federally proposed, candidate, threatened, and endangered species that may occur in the project region (USFWS 2016); USFS Region 5 EVeg land cover data (U.S. Forest Service [USFS] 2014); and high resolution aerial imagery.

Although the draft 2017 RTP has been released for public review, and includes the US 50/South Shore Community Revitalization Project, the 2012 RTP/SCS is the currently adopted plan. Because an initial study/initial environmental checklist (IS/IEC) has been prepared for the 2017 RTP as a supplement to the 2012 RTP/SCS EIR/EIS and does not result in new significant environmental impacts, the analysis below continues to rely on that EIR/EIS.

None of the build alternatives evaluated herein would be constructed within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state conservation plan. Therefore, project implementation would not conflict with the provisions of an adopted conservation plan and this issue is not evaluated further. Section 3.16.2, “Affected Environment,” discusses the special-status plant and animal species evaluated in this analysis, and Tables M-1 and M-2 in Appendix M summarize the potential for each of these species to occur in the project site. Generally, those plant and animal species not expected to occur, or with a low probability to occur (because of a lack of suitable habitat, existing disturbance levels, or lack of occurrence records) are not addressed further in this analysis. Implementation of the proposed build alternatives would have no effect on those species, including any species listed, proposed for listing, or designated as a candidate for listing under the federal Endangered Species Act. Additionally, the project site is not positioned within any known important wildlife movement or migratory corridors. Because the project site is subject to high levels of human disturbance and isolation of habitat patches because of commercial and residential development, presence of major road corridors, and recreational uses, it is not likely to function as an important corridor and this issue is not addressed further.

Potential effects of construction-related noise, changes in traffic noise levels, and changes in nighttime lighting conditions on wildlife with all of the build alternatives were considered. Effects of noise and lighting on wildlife species depend on the specific type, location, and context of noise and lighting sources, and the sensitivity of specific wildlife species to variation in noise and lighting levels. All of the build alternatives would be implemented within major road corridors and commercial/residential areas that are presently subject to substantial noise levels, nighttime lighting, and other disturbances. The introduction of a new source of light during nighttime hours in these urban settings would not substantially alter the amount of illumination in the study area, recognizing the existing night lighting of roadways, parking lots, and commercial areas. Additionally, as described later in this section, no special-status wildlife species are expected to regularly use or occur within or adjacent to the project site due to the disturbed habitat conditions there. Wildlife species that regularly use habitats within and adjacent to the project site are locally and regionally common, and adapted to urban environments or other disturbed areas subject to considerable noise and light levels. Therefore, project-related changes in noise and nighttime lighting relative to ambient levels are not expected to substantially affect the presence or abundance of wildlife species, and this issue is not addressed further.

3.16.1 Regulatory Setting

Biological resources in the Tahoe Basin are regulated by several federal, state, and local laws and policies. Key regulations and conservation planning issues applicable to the project are summarized below.

FEDERAL

The following federal regulations described in the RPU EIS and RTP/SCS EIR/EIS are applicable to the US 50/South Shore Community Revitalization Project. They are described in detail in the two, program-level environmental documents and have not changed since these documents were published. Summaries of the following laws, regulations, and executive orders are incorporated by reference:

- ▲ Federal Endangered Species Act (ESA)
- ▲ Migratory Bird Treaty Act
- ▲ Bald and Golden Eagle Protection Act
- ▲ Executive Order 11990, Protection of Wetlands
- ▲ Executive Order 13112, National Invasive Species Management Plan
- ▲ Section 404 of the Clean Water Act (CWA)
- ▲ CWA Section 401 Water Quality Certification

Please refer to Section 3.10.1, “Regulatory Background,” of Section 3.10, “Biological Resources,” of the RTP/SCS EIR/EIS (Tahoe Metropolitan Organization [TMPO] and TRPA 2012:3.10-9 through 3.10-10) and the RPU EIS (TRPA 2012:3.10-8 through 3.10-10).

TAHOE REGIONAL PLANNING AGENCY

TRPA implements its authority to regulate growth and development in the Lake Tahoe Region through the Regional Plan. The Regional Plan includes the Goals and Policies, Environmental Threshold Carrying Capacities (threshold standards), Code of Ordinances, and other guidance documents. These elements of the Regional Plan that are related to biological resources and applicable to the US 50/South Shore Community Revitalization Project are described in Section 3.10.1, “Regulatory Background,” of Section 3.10, “Biological Resources,” of the RTP/SCS EIR/EIS (TMPO and TRPA 2012:3.10-1 through 3.10-8) and the RPU EIS (TRPA 2012:3.10-1 through 3.10-8), and are incorporated by reference.

STATE

The following state laws and regulations are described in Section 3.10.1, “Regulatory Background,” of Section 3.10, “Biological Resources,” of the RTP/SCS EIR/EIS (TMPO and TRPA 2012:3.10-11 through 3.10-13) and the RPU EIS (TRPA 2012:3.10-10 through 3.10-12), and are incorporated by reference:

- ▲ California Endangered Species Act (CESA)
- ▲ California Fish and Game Code Section 1602—Streambed Alteration
- ▲ California Fish and Game Code Sections 3503–3503.5—Protection of Bird Nests and Raptors
- ▲ California Native Plant Protection Act
- ▲ Porter-Cologne Water Quality Control Act
- ▲ Z'Berg-Nejedly Forest Practice Act
- ▲ Nevada Administrative Code 527.010 and Nevada Revised Statutes (NRS) 527.260, NRS 527.270, and NRS 527.300
- ▲ Nevada Revised States, Title 45
- ▲ Nevada Revised Statutes 503.610 and 503.620

LOCAL

City of South Lake Tahoe General Plan

The City of South Lake Tahoe General Plan (City of South Lake Tahoe 2011) includes goals and policies to protect biological resources within the city. Policies NCR-3.1 through NCR-3.16 address the conservation and protection of natural habitats and open space, sensitive species, stream environment zones, native trees, and other biological resources.

Douglas County Master Plan

The Douglas County Master Plan Environmental Resources and Conservation (ERC) Element describes goals, policies, and actions to protect the natural resources of Douglas County (Douglas County 2011). ERC Policies 6.1 through 6.3 were enacted to protect wetland resources and specify compliance with the CWA, the possibility of wetland mitigation banking, and the protection of wetlands for groundwater discharge, flood protection, sediment and pollution control, wildlife habitat, and open space. ERC Policies 14.1 through 14.3 address the protection of sensitive wildlife, vegetation, and habitats through limitations on development or mitigation. ERC Action 14.1 directs the County to develop regulations and design guidelines to minimize impacts of new development on sensitive habitats and migration routes.

3.16.2 Affected Environment

The following sections summarize the biological resources in the study area that are most relevant to the significance criteria and impact analysis for the project, which are provided in Section 3.16.3, “Environmental Consequences.”

LAND COVER AND HABITAT TYPES

Land cover within the project site consists of a mix of primarily developed and urban areas (80 percent of the total area) interspersed with patches of natural habitats, including Jeffrey pine, low sagebrush, montane riparian, and montane meadow. Table 3.16-1 summarizes the vegetation/land cover types mapped within the project site, their estimated acreages, and biological conditions. Exhibit 3.16-1 shows the corresponding location and extent of land cover types within the project site as mapped during project surveys.

SENSITIVE BIOLOGICAL RESOURCES

In this analysis, sensitive biological resources include those species and biological communities that receive special consideration through the TRPA Goals and Policies and TRPA Code, ESA, CESA, CWA, or local plans, policies, and regulations; or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Sensitive biological resources evaluated as part of this analysis include sensitive natural communities and special-status plant and animal species. These resources are addressed in the following sections.

Sensitive Natural Communities and Habitats

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through the TRPA Goals and Policies and TRPA Code, Section 404 of the CWA, and other applicable regulations. Sensitive natural habitats may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. For the California side of the Tahoe Basin, many of these communities are tracked in the CNDDDB. Sensitive natural communities and habitats in the project site are montane riparian, montane meadow, perennial stream, and intermittent and ephemeral drainages. Streams and drainages in the project site are Edgewood Creek (perennial stream), Golf Course Creek (intermittent drainage), and Stateline Creek (ephemeral drainage); these features are described in Section 3.9, "Floodplains."

The NES prepared for the project (TTD 2015) identified several potential wetlands and other waters of the United States within the project site, based on a preliminary wetland delineation conducted in 2010 and 2011. The largest of these are two features located around Golf Course Creek on either side of its intersection with Lake Parkway. Another small potential wetland was mapped on the margins of Edgewood Creek at its intersection with US 50. The remaining potential wetlands are associated with roadside drainages along Lake Parkway and US 50. In total, 0.89 acre of potential wetlands and 0.09 acre of non-wetland waters were identified within the project site.

Most of the wetland/riparian habitats would likely be considered jurisdictional by U.S. Army Corps of Engineers (USACE) and, in California, the Lahontan Regional Water Quality Control Board (Lahontan RWQCB) under Section 404 of the federal CWA and the state's Porter-Cologne Act. In addition, on the California side of the Tahoe Basin, the California Department of Fish and Wildlife (CDFW) has jurisdiction over activities affecting the bed and bank of drainages. Additionally, habitats consisting of deciduous trees, wetlands, and meadows (i.e., riparian, wetland, and meadow habitats) are designated by TRPA as habitats of special significance. The TRPA threshold standard for habitats of special significance is non-degradation while providing for opportunities to increase the acreage of these habitats.

Most of the areas within wetland/riparian habitats in the Tahoe Basin are also designated as stream environment zone (SEZ), which is one of two TRPA-adopted threshold standards for soil conservation. SEZ is a term used specifically in the Tahoe Basin to describe perennial, intermittent and ephemeral streams; wet meadows, marshes, and other wetlands; riparian areas; and other areas expressing the presence of surface and ground water through its biological and physical characteristics.

Table 3.16-1 Land Cover and Habitat Types Mapped in the Project Site

Vegetation Community/ Habitat Type	Summary Description	Acres in Project Site
Natural Habitats		
Jeffrey Pine	Jeffrey pine forest is the dominant natural vegetation type in the project site, and primarily occurs along Lake Parkway in the eastern portion of the project site. Open forest community clearly dominated (80-85 percent) by Jeffrey pine (<i>Pinus jeffreyi</i>) but with 10-15 percent white fir (<i>Abies concolor</i>) and occasional lodgepole pine (<i>Pinus contorta</i>) and incense cedar (<i>Calocedrus decurrens</i>). Canopy cover is generally open as Jeffrey pine tends to be more scattered throughout the community. This allows for the understory of the Jeffrey pine forest to contain plants requiring drier, sunnier conditions than in other conifer communities. These understory plants include mountain big sagebrush (<i>Artemisia tridentata</i> var. <i>vaseyana</i>), bitterbrush (<i>Persia tridentata</i>), rubber rabbitbrush (<i>Chrysothamnus nauseosus</i>), Wood's rose (<i>Rosa woodsii</i>), Greenleaf manzanita (<i>Arctostaphylos patula</i>), mule ears (<i>Wyethia mollis</i>), and Idaho fescue (<i>Festuca idahoensis</i>).	15.0
Low Sagebrush	Consists of soft-woody shrubs dominated by low sagebrush (<i>Artemisia arbuscula</i>) and mountain big sagebrush. Rubber rabbitbrush and bitterbrush are the most common associates of this community in the project site. Scattered Jeffrey pine can also be found associated within this community. Common species in the herbaceous understory include lupines (<i>Lupinus</i> sp.), mule ears, and a variety of grasses. This community occurs within the eastern portion of the project site, north of Van Sickle Bi-State Park.	1.5
Montane Meadow	Montane meadow habitat within the project site consists of both wetlands and upland components. Wet meadows in the project site have seasonally saturated soils with hydrology supported by toe-slope seeps and seasonal or intermittent streams. The majority of montane meadow is located in the northeast portion of the project site along Lake Parkway; a few small areas of seasonal wetlands were identified in this area but most of this area of montane meadow is upland. The largest wet meadow community (Friday's Station meadow) was historically used for livestock grazing and appears to have been seeded with non-native forage grasses in the past. Portions of this meadow have been significantly disturbed. A small wetland area of montane meadow is located adjacent to the parking lot for Harrah's resort-casino. The meadow is supported by a drainage that originates on the east side of Lake Parkway and flows beneath the road via a culvert. Of the 4.44 acres of montane meadow in the project site, 0.39 acre is wetland. The montane meadow habitat consists of a wide variety of grasses and forbs adapted for growth in saturated soils. Herbaceous hydrophytes include sedges (<i>Carex amplifolia</i> , <i>Carex aquatilis</i>), creeping spikerush (<i>Eleocharis macrostachya</i>), corn lily (<i>Veratrum californicum</i> var. <i>californicum</i>), and Oregon checkerbloom (<i>Sidlacea oregano spicata</i>). Lemmon's willow (<i>Salix lemmonii</i>) was also present in the wettest portion of the meadow in the northeast portion of the project site along Lake Parkway.	6.5
Montane Riparian	Montane riparian habitat is located along Edgewood Creek, Stateline Creek, and Golf Course Creek, and in association with wet meadows, intermittent drainages, and toe-slope seeps in the eastern part of the project site. The montane riparian communities within in the project site generally consist of dense willow (<i>Salix</i> sp.) and mountain alder (<i>Alnus incana</i> ssp. <i>tenuifolia</i>), with or without flowing water. The predominant overstory species included Lemmon's willow, arroyo willow (<i>Salix lasiolepis</i>) and mountain alder; quaking aspen, and white fir are also present. Representative woody understory species include mountain rose (<i>Rosa woodsii</i> var. <i>ultramontana</i>), serviceberry (<i>Amelanchier alnifolia</i> var. <i>pumila</i>), and sapling overstory species. Common herbaceous species include sedges, baltic rush (<i>Juncus balticus</i>), and common horsetail (<i>Equisetum arvense</i>).	2.8
Non-Natural/Urban Habitats		
Developed	A developed landscape dominated by commercial uses. Vegetation is generally confined to ornamental plantings and landscaping.	68.4
Ruderal	Ruderal vegetation occurs in areas that have been disturbed by human activities such that natural communities no longer exist. In the project site, ruderal vegetation typically occurs along road shoulders or adjacent areas; ruderal vegetation also occurs in two detention basins near the junction of Pioneer Trail and US 50 and on the California Tahoe Conservancy (Conservancy) parcel between Forest Suites Resort and the Harrah's resort-casino parking lot. Plant species occurring in ruderal areas include cheatgrass (<i>Bromus tectorum</i>), ripgut brome (<i>Bromus diandrus</i>), shield cress (<i>Lepidium perfoliatum</i>), bull thistle (<i>Cirsium vulgare</i>), prickly lettuce (<i>Lactuca serriola</i>), field pennycress (<i>Thlaspi arvense</i>), and common plantain (<i>Plantago major</i>).	14.3
Urban Jeffrey Pine	Urban Jeffrey pine habitat is located in the southern portion of the project site near Pioneer Trail. This community consists of single-family residences and similar developed areas where the understory component of the Jeffrey pine community has been eliminated but the overstory component (i.e., Jeffrey pine trees) is mostly intact.	21.6

Source: TTD 2015, data compiled by Ascent Environmental in 2015

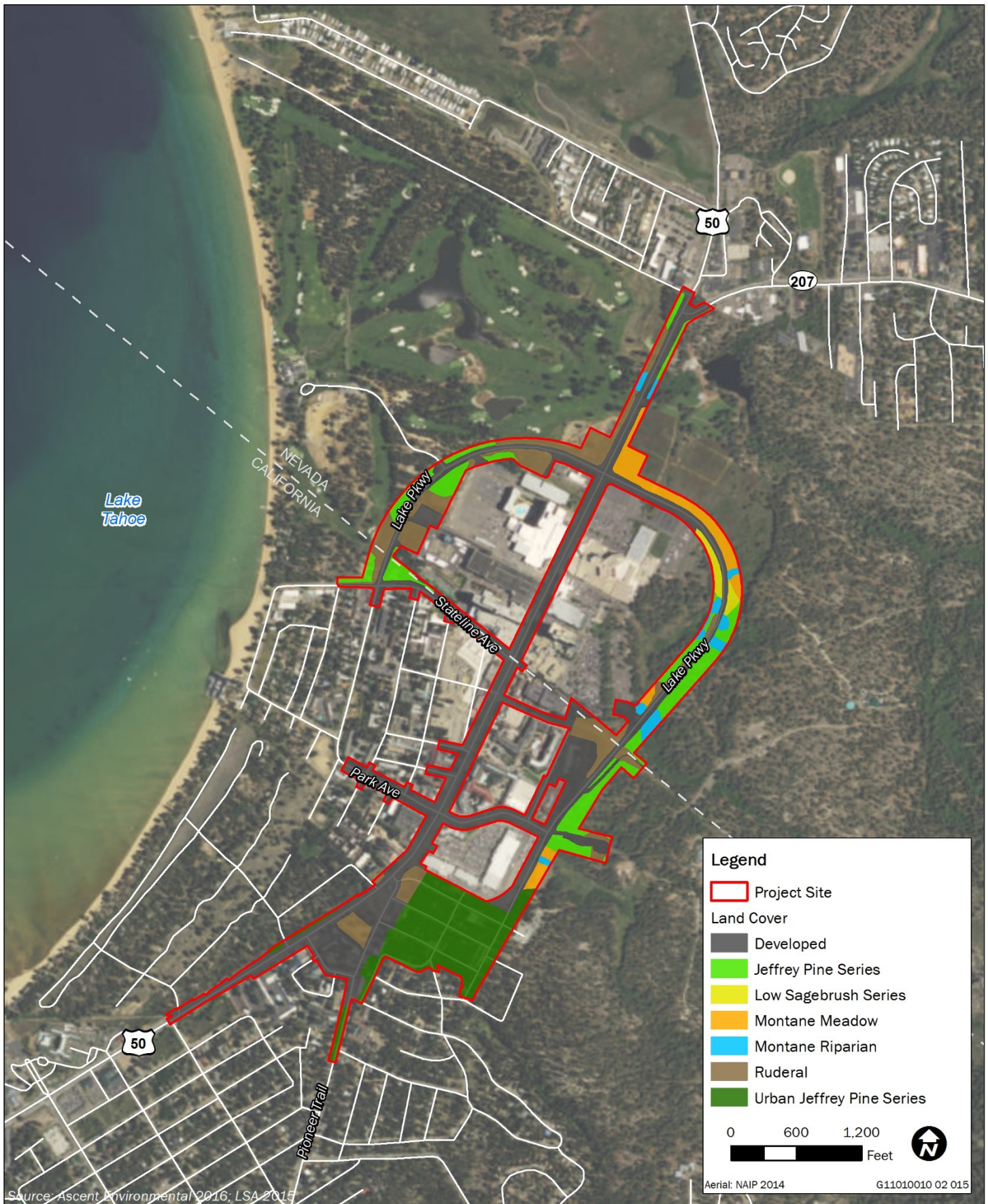


Exhibit 3.16-1

Land Cover/Habitat Types Within the Project Site

Special-Status Species

Special-status species include plants and animals that are legally protected or otherwise considered sensitive by federal, state, or local resource agencies and conservation organizations. Special-status species are defined as plants and animals in the following categories.

- ▲ Listed or proposed for listing as threatened or endangered under ESA.
- ▲ Designated as a candidate for listing as threatened or endangered under ESA.
- ▲ Designated as a sensitive, special-interest, or threshold species by TRPA.
- ▲ Designated as sensitive by the USFS Regional Forester in Region 5.
- ▲ Listed or proposed for listing as threatened or endangered under CESA.
- ▲ Listed or a candidate for listing by the state of California as threatened or endangered under CESA.
- ▲ Listed as fully protected under the California Fish and Game Code.
- ▲ Animals identified by CDFW as species of special concern.
- ▲ Plants considered by CDFW to be “rare, threatened or endangered in California” (California Rare Plant Ranks [CRPR] of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere; and 2, considered rare or endangered in California but more common elsewhere). The California Rare Plant Ranks correspond with and replace former CNPS listings. While these rankings do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under CEQA.
- ▲ Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Guidelines Section 15125 [c]) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G).
- ▲ Otherwise meets the definition of rare or endangered under CEQA Guidelines Section 15380(b) and (d).
- ▲ Plant species on Nevada’s state list of fully-protected species of native flora (Nevada Administrative Code, Section 527.010), also known as the Critically Endangered Species List.
- ▲ Designated as an At-Risk Species by the Nevada Natural Heritage Program (NNHP).

A preliminary list of special-status plant and animal species known or with potential to occur in the project site was developed based on a review of the sources listed at the beginning of this section.

Plants

The data review identified 49 special-status plant species that could occur in or near the project site. Table M-1 (Appendix M) summarizes the regulatory status, habitat and flowering period, and potential for occurrence in the project site of each special-status plant species evaluated during this analysis. No special-status plant species were observed during focused plant surveys conducted in 2010 by LSA Associates (TTD 2015), and none of the species identified in the data review have a moderate or high potential to exist in the project site (i.e., they have low or no potential to occur), because of a lack of suitable habitat, existing disturbance levels, lack of occurrence records, or the species’ elevational range is outside the project site. Additionally, natural vegetation communities in the project site that may otherwise provide potential habitat for some special-status plant species are not expected to, because those areas are subject to high levels of human disturbance, degradation, and isolation of habitat patches due to commercial and residential development, presence of

major road corridors, and recreational uses. Therefore, no special-status plant species, including species listed under the ESA, are expected to occur in the project site. The project would not affect any plant species listed, proposed for listing, or designated as a candidate for listing under the ESA.

Animals

The data review identified 39 special-status animal species and two special-status fish species that could occur in or near the project site. Table M-2 (Appendix M) summarizes the potential for occurrence of each special-status animal species that was evaluated during this analysis. Of these species, none are expected to occur or regularly use the project site. This determination was based on the types, extent, and quality of habitats in the project site; the proximity of the project site to known occurrences of the species; and the regional distribution and abundance of the species. Additionally, natural vegetation communities in the project site that may otherwise provide potential habitat for some special-status animal species are not expected, for the same reasons discussed previously for special-status plants. Therefore, no special-status animal species are expected to regularly use or occur in the project site. The project would not affect any animal species listed, proposed for listing, or designated as a candidate for listing under the ESA.

3.16.3 Environmental Consequences

METHODS AND ASSUMPTIONS

The analysis of potential impacts to biological resources from project implementation is based on the data review and resource mapping, project-specific biological surveys, and technical studies described previously. The following summarizes the impact mechanisms and assumptions considered for this analysis, and how potential impacts were evaluated for the project alternatives.

Primary Impact Mechanisms and Assumptions

Potential impacts associated with the project can be classified as either temporary or permanent. Temporary impacts generally include ground disturbances associated with temporary construction activities, including:

- ▲ construction staging,
- ▲ minor cut and fill that would be restored to existing conditions after project completion,
- ▲ potential construction disturbances assumed to occur within 10 feet of permanent project features, and
- ▲ noise, ground vibration, and airborne particulate (dust) generated by construction activities.

Permanent impacts generally include effects associated with permanent tree or other vegetation removal as a result of:

- ▲ earthwork/excavation;
- ▲ new paving for bridge, roadway, bike path, and parking facilities;
- ▲ cut and fill that changes the existing ground elevation;
- ▲ landscaping; and
- ▲ installation of bridge footings.

The following summarizes the methodology for determining potential impacts on vegetation, wildlife, and aquatic resources, including key assumptions about their relative effects.

Vegetation and Wildlife

Potential impacts of each build alternative on vegetation and wildlife resources were initially identified by overlaying GIS layers of project components on the land cover maps of the project site and maps of sensitive biological resources. Any natural community and wildlife habitat that overlapped with an area of proposed modification was considered to be directly removed during project construction. An estimate of the amount of vegetation removal planned for the clearing of work areas and access ways was determined. Short-term construction impacts would occur where natural vegetation would be removed to construct new features and

facilities or modify existing features. Construction-related impacts could also indirectly affect biological resources through stormwater runoff, erosion, and the introduction of invasive or non-native species. Long-term impacts to biological resources would occur in or adjacent to habitats that would experience a permanent conversion in land use and cover (i.e., conversion of natural vegetation to paved areas, other facilities, and landscaping).

No substantial changes in biological resources would occur as a result of modified public uses (e.g., recreation opportunities, commercial uses). The project site is located within the tourist core area of the state line and currently experiences high levels of public use and other human activity.

Special-Status Species

Impacts to plant and animal species could occur either through temporary or permanent habitat loss, disturbance of normal activity or dispersal patterns, or through direct mortality. Potential impacts to sensitive species were determined by analyzing species life history requirements and known occurrences or potential to occur in the project site.

Section 3.16.2, “Affected Environment,” discusses all special-status plant and animal species evaluated in this analysis, and Tables M-1 and M-2 (Appendix M) summarize the potential for each of these species to occur in the project site. As discussed previously, no special-status plant species is expected to occur in the project site, and no special-status animal is expected to occur or regularly use the project site. As discussed previously, for species listed, proposed for listing, or designated as a candidate for listing under the ESA, project implementation would result in no effect. Therefore, the project is not expected to substantially affect any special-status species, and the following analysis does not further address special-status species.

Aquatic Resources

Potential impacts of each build alternative on aquatic resources (e.g., streams and drainages) were identified by overlaying GIS layers of project alternative components on aquatic habitats. Impacts to aquatic resources were determined by the proximity of these resources to project work areas, taking into account the construction needs within those areas. Hydrologic and flow characteristics and vegetation were also considered.

SIGNIFICANCE CRITERIA

Significance criteria relevant to biological resources are summarized below.

NEPA Criteria

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the locally preferred action. Under NEPA, the significance of an effect is used solely to determine whether an EIS must be prepared. Under NEPA, the context and intensity of an alternative’s potential effect on biological resources were evaluated based on whether the alternative would:

- ▲ substantially reduce the size, continuity, or integrity of a plant community through temporary or permanent removal, interruption of natural processes that support it, and/or disturbance that favors the establishment of invasive nonnative species; or
- ▲ substantially reduce the size, continuity, or integrity of wildlife or fish habitat, or result in unnatural changes in the abundance, diversity, or distribution of wildlife or fish species; substantially affect, either directly or through habitat modifications, any species listed as threatened or endangered under the ESA or other special-status species.

TRPA Criteria

Vegetation and wildlife criteria from the TRPA Initial Environmental Checklist were used to evaluate the biological resources impacts of the alternatives. The project would result in a significant impact if it would result in:

- ▲ removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table;
- ▲ removal of stream bank and/or backshore vegetation, including woody vegetation such as willows;
- ▲ introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species;
- ▲ 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;
- ▲ introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals;
- ▲ change in the diversity or distribution of species, or number of any species of plants or animals;
- ▲ reduction of the numbers of any unique, rare, or endangered species of plants or animals;
- ▲ a change in the natural functioning of an old growth ecosystem; or
- ▲ deterioration of existing fish or wildlife habitat quantity or quality.

CEQA Criteria

Appendix G of the State CEQA Guidelines was used to determine whether environmental impacts to biological resources are significant environmental effects. The project would result in a significant impact if it would:

- ▲ have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW, USFWS, or USACE;
- ▲ have a substantial adverse effect on federal or state protected wetlands as defined by Section 404 of the CWA or as defined by state statute, through direct removal, filling, hydrological interruption, or other means;
- ▲ 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 CDFW or USFWS;
- ▲ 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 (i.e., geographic distribution) of an endangered, rare, or threatened species;
- ▲ interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- ▲ conflict with any local policies or ordinances that protect biological resources, such as a tree preservation policy or ordinance.

ENVIRONMENTAL EFFECTS OF THE PROJECT ALTERNATIVES

Impact 3.16-1: Disturbance or loss of common vegetation communities and wildlife habitats

With three of the build alternatives (Alternatives B, C, and D), project implementation would result in the removal or disturbance of 0.5 to 1.7 acres of common natural vegetation communities and habitats, including Jeffrey pine and low sagebrush. Because these habitats are locally and regionally common and abundant, and the project site is presently affected by high levels of commercial/urban, residential, and recreational uses, none of these build alternatives would substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. With the no-build alternative (Alternative A) or Alternative E, no project-related removal of common vegetation communities would occur.

NEPA Environmental Consequences: The design features of Alternative B, C, and D would avoid or minimize the disturbance or loss of common vegetation communities and wildlife habitats; No Impact for Alternatives A and E

CEQA/TRPA Impact Determinations: Less than Significant for Alternatives B, C, and D; No Impact for Alternatives A and E

With Alternatives B, C, and D, Jeffrey pine and low sagebrush are the common native vegetation and habitat types that would be directly removed or temporarily disturbed primarily from project construction. (Impacts on sensitive habitats are addressed separately below.) Table 3.16-2 summarizes permanent and temporary effects on common vegetation for each build alternative.

Table 3.16-2 Acreage of Permanent and Temporary Footprints within Common Vegetation Community/Habitat Types

Vegetation Community/Habitat Type	Alternative B		Alternative C		Alternative D		Alternative E	
	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp
Jeffrey Pine	1.5	1.0	0.4	1.4	1.5	1.0	-	-
Low Sagebrush	0.2	0.3	0.1	0.3	0.2	0.3	-	-
Total of Natural Habitats	1.7	1.3	0.5	1.7	1.7	1.3	0.0	0.0
Urban Jeffrey Pine	3.4	3.7	1.8	3.6	2.6	3.2	-	-
Developed	26.2	11.3	24.1	11.7	25.9	9.7	0.03	0.8
Ruderal	1.1	4.7	1.2	5.4	0.7	4.1	-	-
Total	32.2	21.0	27.6	22.4	30.9	18.3	0.03	0.8

Source: Data compiled by Ascent Environmental Inc. in 2015

Alternative A: No Build (No Project)

Because no project-related vegetation removal would occur with Alternative A, there would be **no impact** from this alternative to common vegetation communities for the purposes of NEPA, CEQA, and TRPA.

Alternative B: Triangle (Locally Preferred Action)

Transportation Improvements

With Alternative B, 1.7 acres of common natural habitat (Jeffrey pine and low sagebrush) would be permanently disturbed or converted to new or improved roadway, roadway and pedestrian features (e.g., curbs, gutters, retaining walls), landscaping, and other project features, and 1.3 acres would be temporarily disturbed. The loss of this amount of common habitat from the Tahoe Region in this location would not substantially reduce the quantity or quality of these habitats in the Region, and would not result in a change in diversity or distribution of species in the Region, or result in a substantial change in local population

numbers of any common plant or tree species or any unique, rare, or endangered species of plants or animals. Jeffrey pine forest and low sagebrush habitat are common and widely distributed in the Tahoe Basin and elsewhere in the Sierra Nevada, and the amount of habitat disturbance and loss would be very small relative to the total amount available in the area. Additionally, the number, distribution, and sizes of trees removed would not substantially affect overall canopy cover or reduce the abundance of this vegetation type on the landscape.

Permanent and temporary loss and disturbance that would occur with Alternative B would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or interrupt the natural processes that support common vegetation communities in the project site. Additionally, because the project site is already highly disturbed and fragmented by commercial/urban, residential, and recreational uses, project-related disturbances on the biological functions of common habitats are not considered substantial. Therefore, this impact would be **less than significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, the design features of the transportation improvements included in Alternative B would avoid or minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Mixed-Use Development including Replacement Housing

None of the three potential mixed-use development sites are located within any common natural habitat types. Therefore, this impact would be the same as that described previously for implementation of the transportation improvements alone without the mixed-use development. The Alternative B mixed-use development, including replacement housing, would result in a **less-than-significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, the design features of the mixed-use development sites as part of Alternative B would avoid or minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential for disturbance or loss of common vegetation communities and wildlife habitats as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the loss or disturbance of common vegetation communities and wildlife habitats would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative B transportation improvements and mixed-use development, including replacement housing, would result in a **less-than-significant** impact on common vegetation communities and wildlife habitats.

For the purposes of NEPA, the design features of the transportation improvements and the mixed-use development sites as part of Alternative B would minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Alternative C: Triangle One-Way

Transportation Improvements

With Alternative C, 0.5 acre of common natural habitat would be permanently converted and 1.7 acre would be temporarily disturbed. This impact would be similar to, but less than, that described above for Alternative B because project construction with Alternative C would be located mostly in the same locations and would include the same construction effects as Alternative B, but would construct a smaller road footprint than

Alternative B. For the reasons discussed above, this impact would be **less than significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, the design features of the transportation improvements included in Alternative C would avoid or minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Mixed-Use Development including Replacement Housing

None of the three potential mixed-use development sites are located within any common natural habitat types. Therefore, this impact would be the same as that described previously for implementation of the transportation improvements alone without the mixed-use development. The Alternative C mixed-use development sites, including the replacement housing, would result in a **less-than-significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, the design features of the mixed-use development sites as part of Alternative C would avoid or minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential for disturbance or loss of common vegetation communities and wildlife habitats as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the loss or disturbance of common vegetation communities and wildlife habitats would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative C transportation improvements and mixed-use development, including replacement housing, would result in a **less-than-significant** impact on common vegetation communities and wildlife habitats.

For the purposes of NEPA, the design features of the transportation improvements and replacement housing at the mixed-use development sites as part of Alternative C would minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Alternative D: Project Study Report Alternative 2

Transportation Improvements

With Alternative D, 1.7 acres of common natural habitat would be permanently converted and 1.3 acres would be temporarily disturbed. This impact would be similar to that described above for Alternative B because project construction with Alternative D would be located mostly in the same locations and would include the same construction effects as Alternative B. For the reasons discussed above, this impact would be **less than significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, the design features of the transportation improvements included in Alternative D would avoid or minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Mixed-Use Development including Replacement Housing

None of the three potential mixed-use development sites are located within any common natural habitat types. Therefore, this impact would be the same as that described previously for implementation of the transportation improvements alone without the mixed-use development. The Alternative D mixed-use developments, including the replacement housing, would result in a **less-than-significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, the design features of the mixed-use development sites as part of Alternative D would avoid or minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential for disturbance or loss of common vegetation communities and wildlife habitats as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the loss or disturbance of common vegetation communities and wildlife habitats would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative D transportation improvements and mixed-use development, including replacement housing, would result in a **less-than-significant** impact on common vegetation communities and wildlife habitats.

For the purposes of NEPA, the design features of the transportation improvements and replacement housing at the mixed-use development sites as part of Alternative D would minimize the disturbance or loss of common vegetation communities and wildlife habitats such that no additional mitigation measures are needed or feasible to implement.

Alternative E: Skywalk

Alternative E would create an elevated pedestrian structure in an area that is entirely developed and supports no natural habitat types. Therefore, implementation of Alternative E would have **no impact** on common natural vegetation communities and habitats for the purposes of NEPA, CEQA, and TRPA.

Impact 3.16-2: Disturbance or loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, SEZ, aquatic habitat)

Implementing Alternatives B, C, and D would result in direct removal and disturbance of sensitive habitats, including waters of the United States, waters of the state, riparian habitat, and SEZs. With the no-build alternative (Alternative A) or Alternative E, no project-related disturbance of sensitive habitats would occur.

NEPA Environmental Consequences: Mitigation Measures 3.16-2a, 3.16-2b, and 3.16-2c have been incorporated into Alternatives B, C, and D to further reduce to the extent feasible the environmental consequences related to disturbance or loss of sensitive habitats; No Impact for Alternatives A and E

CEQA/TRPA Impact Determinations: Less Than Significant for Alternative B, C, and D after implementation of Mitigation Measures 3.16-2a, 3.16-2b, and 3.16-2c; No Impact for Alternatives A and E

Construction associated with Alternatives B, C, and D would result in permanent loss or temporary disturbance of montane riparian and montane meadow habitats, which are considered sensitive. Table 3.16-3 summarizes and compares the acreage of sensitive habitats present and affected on a permanent and temporary basis for each build alternative. Additionally, the NES for the project (TTD 2015) identified several potential wetlands and other waters of the United States within the project site, based on a preliminary wetland delineation conducted in 2010 and 2011. This preliminary delineation of potential wetlands and other waters of the United States has not been verified by USACE and will need to be updated prior to permit application and approval. Most of these areas are included within the montane riparian and montane meadow habitat types mapped and quantified in the project site.

Table 3.16-3 Acreage of Permanent and Temporary Effects on Sensitive Habitats

Sensitive Habitat Type	Alternative B		Alternative C		Alternative D		Alternative E	
	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp
Montane Riparian	0.4	0.5	0.1	1.0	0.4	0.5	0.0	0.0
Montane Meadow	1.2	1.1	0.2	0.9	1.2	1.2	0.0	0.0
Total	1.6	1.6	0.3	1.9	1.6	1.5	0.0	0.0

Source: Data compiled by Ascent Environmental Inc. in 2014

Alternative A: No Build (No Project)

Because no project-related vegetation removal or other disturbances would occur with Alternative A, there would be **no impact** from this alternative on sensitive habitats for the purposes of NEPA, CEQA, and TRPA.

Alternative B: Triangle (Locally Preferred Action)

Transportation Improvements

With Alternative B, 1.6 acres of sensitive habitats occur in the permanent disturbance area, and 1.6 acres are within the temporary disturbance area (see Table 3.16-5); these sensitive habitat features include Edgewood Creek, Golf Course Creek, and Stateline Creek as well the area east of and across Lake Parkway from the Heavenly Village Center and northeast of Montbleu. However, the values presented here are considered a maximum and likely an overestimate of the area of actual impacts. For example, montane riparian habitat is present where the proposed roadway expansion and improvements along Montreal Road and Lake Parkway cross Stateline Creek, Golf Course Creek, and Edgewood Creek, but the actual impact acreage there would be reduced because the transportation improvements would span much of the riparian habitat, rather than remove it. Additionally, the construction corridor would be reduced in sensitive habitat areas and best management practices (BMPs) would be integrated into the project design (as described in Section 3.10, “Water Quality and Stormwater Runoff”) to avoid and minimize impacts in these areas.

Construction or expansion of roadway alignments, roadway and pedestrian features (e.g., curbs, gutters, retaining walls), and other project elements could result in minor vegetation removal or trampling, fill of wetlands, hydrologic changes, deposition of dust or debris, soil compaction, or other disturbances that could temporarily affect the condition and function of sensitive habitats. Additionally, any project-related construction adjacent to wetlands or other sensitive habitat could similarly affect those resources, either directly or indirectly, although potential effects would be avoided or minimized through implementation of project BMPs.

Some of the sensitive habitats affected by implementation of Alternative B would be considered jurisdictional by USACE and (on the California side) the Lahontan RWQCB under Section 404 of the federal CWA and the state’s Porter-Cologne Act, and potentially subject to regulation by CDFW under Sections 1600 *et seq.* of the California Fish and Game Code. Additionally, most of the areas within wetland/riparian habitats are also designated as SEZ by TRPA. Fill or reconfiguration of jurisdictional waters of the United States requires a permit from USACE pursuant to Section 404 of the Clean Water Act. Also, the deciduous riparian vegetation within most or all SEZs would likely be considered jurisdictional habitat by the USACE and would require a permit and mitigation. Additionally, habitats consisting of deciduous trees, wetlands, and meadows (i.e., riparian, wetland, and meadow habitats) are designated by TRPA as habitats of special significance. The TRPA threshold standard for habitats of special significance is non-degradation while providing for opportunities to increase the acreage of these habitats.

Where Edgewood Creek passes below US 50 and Golf Course Creek intersects Lake Parkway, the existing culverts at those locations would be lengthened to accommodate the wider roadway width with Alternative B. As described in Section 3.10, “Water Quality and Stormwater Runoff,” since TRPA, Lahontan RWQCB, and Nevada Department of Environmental Protection (NDEP) regulations are in place to minimize erosion and

transport of sediment and other pollutants during construction, and since appropriate project-specific measures would be defined to secure necessary permits and approvals, project-related impacts to the stream channels and water quality would be minimized and would not result in substantial adverse effect on aquatic habitats.

Implementing Alternative B would result in minor loss or degradation of jurisdictional wetlands and other waters of the United States, riparian vegetation, and SEZs protected by Section 6.3 of the TRPA Code. These riparian and wetland habitats are considered sensitive, because they are declining in quantity and condition throughout the region and because they provide important habitat functions. Even though the amount of habitat lost would be minor, the affected habitats are recognized as sensitive and important; the loss or degradation of sensitive habitats would be a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative B to further reduce to the extent feasible the environmental consequences related to the loss or degradation of sensitive habitats.

Mixed-Use Development including Replacement Housing

None of the three potential mixed-use development sites are located within any sensitive habitat types. Therefore, this impact would be the same as that described previously for implementation of the transportation improvements alone without the mixed-use development. The Alternative B mixed-use development sites, including the replacement housing, would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative B to further reduce to the extent feasible the environmental consequences related to the loss or degradation of sensitive habitats.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential loss or disturbance of sensitive habitats as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential impacts to sensitive habitats would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative B transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact on sensitive habitats.

For the purposes of NEPA, additional mitigation measures have been incorporated into Alternative B to further reduce to the extent feasible the environmental consequences related to the disturbance or loss of sensitive habitats.

Alternative C: Triangle One-Way

Transportation Improvements

With Alternative C, 0.3 acre of sensitive habitat occurs in the permanent disturbance area, and 1.9 acres is within the temporary disturbance area (see Table 3.16-5). This impact would be similar to, but less than, that described above for Alternative B because project construction with Alternative C would be located mostly in the same locations and would include the same construction effects as Alternative B. For the reasons discussed above, this impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative C to further reduce to the extent feasible the environmental consequences related to the loss or degradation of sensitive habitats.

Mixed-Use Development including Replacement Housing

None of the three potential mixed-use development sites are located within any sensitive habitat types. Therefore, this impact would be the same as that described previously for implementation of the transportation improvements alone without the mixed-use development. The Alternative C mixed-use development, including replacement housing, would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative C to further reduce to the extent feasible the environmental consequences related to the loss or degradation of sensitive habitats.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential loss or disturbance of sensitive habitats as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential impacts to sensitive habitats would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative C transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact on sensitive habitats.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative C transportation improvements and mixed-use development sites to further reduce to the extent feasible the environmental consequences related to the disturbance or loss of sensitive habitats.

Alternative D: Project Study Report Alternative 2

Transportation Improvements

With Alternative D, 1.6 acres of sensitive habitats occur in the permanent disturbance area, and 1.5 acres are within the temporary disturbance area (see Table 3.16-5). This impact would be similar to that described above for Alternative B because project construction with Alternative D would be located mostly in the same locations and would include the same construction effects as Alternative B. For the reasons discussed above, this impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative D to further reduce to the extent feasible the environmental consequences related to the loss or degradation of sensitive habitats.

Mixed-Use Development including Replacement Housing

None of the three potential mixed-use development sites are located within any sensitive habitat types. Therefore, this impact would be the same as that described previously for implementation of the transportation improvements alone without the mixed-use development. The Alternative D mixed-use development sites, including the replacement housing, would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative D to further reduce to the extent feasible the environmental consequences related to the loss or degradation of sensitive habitats.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential loss or disturbance of sensitive habitats as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential impacts to sensitive habitats would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative D transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact on sensitive habitats.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative D transportation improvements and mixed-use development sites to further reduce to the extent feasible the environmental consequences related to the disturbance or loss of sensitive habitats.

Alternative E: Skywalk

Alternative E would create an elevated pedestrian structure in an area that is entirely developed and supports no sensitive habitat types. Therefore, implementation of Alternative E would have **no impact** on sensitive natural vegetation communities and habitats for the purposes of NEPA, CEQA, and TRPA.

Impact 3.16-3: Tree removal

Regardless of the magnitude of biological effects of tree removal, native trees are protected in the Tahoe Basin, because of their natural qualities and functions. Because Alternatives B, C, and D would result in removal of more than 100 trees 14 inches or greater dbh, they would result in substantial tree removal. With Alternative E, native tree removal would not be substantial. While all build alternatives would require removal of trees greater than 24 inches dbh in eastside forest and/or 30 inches dbh in westside forest, which is generally prohibited by TRPA, the US 50/South Shore Community Revitalization Project meets the exception in TRPA Code Section 61.1.4.A.7 that allows for the removal of these trees for Environmental Improvement Program (EIP) projects, provided that findings demonstrate that the tree removal is necessary. In Alternative A no trees would be removed.

NEPA Environmental Consequences: Mitigation Measure 3.16-3 has been incorporated into Alternatives B, C, and D to further reduce to the extent feasible the environmental consequences related to biological effects resulting from tree removal; No Adverse Effect for Alternative E; No Impact for Alternative A

CEQA/TRPA Impact Determinations: Less Than Significant for Alternatives B, C, and D after implementation of Mitigation Measure 3.16-3; Less Than Significant for Alternative E; No Impact for Alternative A

Section 61.1.8 of the TRPA Code defines substantial tree removal as, “activities on project areas of three acres or more and proposing the removal of more than 100 live trees 14 inches dbh or larger....” All of the build alternatives considered for the US 50/South Shore Community Revitalization Project would require tree removal. Project components, including roadway alignments, roadway features (e.g., curbs, gutters, retaining walls), and bike path realignment would be constructed or expanded in areas supporting conifer forest and other habitats.

With limited exceptions, Section 61.1.4, “Old Growth Enhancement and Protection,” of the TRPA Code prohibits the removal of trees greater than 24 and 30 inches dbh in eastside and westside forest types, respectively, in lands classified as conservation or recreation lands. TRPA has defined and mapped eastside forest types as those forests east of a north-south line from Brockway Summit in the north Tahoe Basin to

and along the California-Nevada boundary in the south Tahoe Basin; westside forest types are those forests west of that line. The US 50/South Shore Community Revitalization Project site is within both eastside and westside forest areas. However, the project is exempt from this prohibition because it is on the EIP list of projects, as described in Chapter 2, “Proposed Project and Project Alternatives.”

Table 3.16-4 provides tree removal estimates by size class and eastside/westside area for each alternative.

Table 3.16-4 Estimated Tree Removal by Alternative

Alternative	Eastside (NV) Trees Removed (dbh) ¹			Westside (CA) Trees Removed (dbh) ¹			Total Trees Removed (≥14" dbh)
	≥14 - <24"	≥24 - <30"	≥30"	≥14 - <24"	≥24 - <30"	≥30"	
B: Triangle	133	22	17	396	141	118	827
C: Triangle One-Way	164	17	13	248	79	64	585
D: PSR Alternative 2	133	22	17	316	106	101	695
E: Skywalk	22	0	0	2	1	1	26

¹ Tree removal numbers and dbh values were estimated from interpretation of remote sensed LiDAR data provided by TRPA in 2013 and project-specific field surveys that determined the typical number and size class of trees in representative sample locations in the forest.

Source: Ascent Environmental 2014

Alternative A: No Build (No Project)

With Alternative A, the US 50/South Shore Community Revitalization Project would not be built. Thus, no tree removal would occur and there would be **no impact** for purposes of NEPA, CEQA, and TRPA.

Alternative B: Triangle (Locally Preferred Action)

Transportation Improvements

With Alternative B, an estimated 827 trees that are 14 inches dbh or greater could be removed, including 39 eastside trees greater than 24 inches dbh and 118 westside trees greater than 30 inches dbh. While Section 61.1.4 of the TRPA Code prohibits removal of eastside and westside trees greater than 24 and 30 inches dbh, respectively, Section 61.1.4.A.7 allows removal for EIP projects, provided that findings demonstrate that the tree removal is necessary. Regardless, the removal of 827 trees 14 inches dbh or greater would constitute substantial tree removal under Section 61.1.8 of the TRPA Code. Thus, this impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative B to further reduce to the extent feasible the environmental consequences related to biological effects resulting from tree removal.

Mixed-Use Development including Replacement Housing

Alternative B with the potential mixed-use development would require tree removal in addition to that described above for the transportation improvements alone. The estimated additional tree removal required for the potential mixed-use development has not been quantified; however, this impact would be greater than that for the transportation improvements alone. For the reasons discussed above, Alternative B with the potential mixed-use development would also result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative B to further reduce to the extent feasible the environmental consequences related to biological effects resulting from tree removal.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential for tree removal as described for the mixed-use development sites. However,

because the location of replacement housing elsewhere is unknown, analysis of the potential biological impacts related to tree removal would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative B transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact on biological resources related to tree removal.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative B transportation improvements and mixed-use development sites to further reduce to the extent feasible the environmental consequences related to tree removal.

Alternative C: Triangle One-Way

Transportation Improvements

With Alternative C, an estimated 585 trees that are 14 inches dbh or greater could be removed, including 30 eastside trees greater than 24 inches dbh and 64 westside trees greater than 30 inches dbh. While Section 61.1.4 of the TRPA Code prohibits removal of eastside and westside trees greater than 24 and 30 inches dbh, respectively, Section 61.1.4.A.7 allows removal for EIP projects, provided that findings demonstrate that the tree removal is necessary. Regardless, the removal of 585 trees 14 inches dbh or greater would constitute substantial tree removal under Section 61.1.8 of the TRPA Code. Thus, this impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated in to the transportation improvements included in Alternative C to further reduce to the extent feasible the environmental consequences related to biological effects resulting from tree removal.

Mixed-Use Development including Replacement Housing

Alternative C with the potential mixed-use development would require tree removal in addition to that described for the transportation improvements alone. The estimated additional tree removal required for the potential mixed-use development has not been quantified; however, this impact would be greater than that for the transportation improvements alone. For the reasons discussed above, Alternative C with the potential mixed-use development would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative C to further reduce to the extent feasible the environmental consequences related to biological effects resulting from tree removal.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential for tree removal as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential biological impacts related to tree removal would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative C transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact on biological resources related to tree removal.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative C transportation improvements and replacement housing at the mixed-use development sites to further reduce to the extent feasible the environmental consequences related to tree removal.

Alternative D: Project Study Report Alternative 2

Transportation Improvements

With Alternative D, an estimated 695 trees that are 14 inches dbh or greater could be removed, including 39 eastside trees greater than 24 inches dbh and 101 westside trees greater than 30 inches dbh. While Section 61.1.4 of the TRPA Code prohibits removal of eastside and westside trees greater than 24 and 30 inches dbh, respectively, Section 61.1.4.A.7 allows removal for EIP projects, provided that findings demonstrate that the tree removal is necessary. Regardless, the removal of 695 trees 14 inches dbh or greater would constitute substantial tree removal under Section 61.1.8 of the TRPA Code. Thus, this impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative D to further reduce to the extent feasible the environmental consequences related to biological effects resulting from tree removal.

Mixed-Use Development including Replacement Housing

Alternative D with the potential mixed-use development would require tree removal in addition to that described for the transportation improvements alone. The estimated additional tree removal required for the potential mixed-use development has not been quantified; however, this impact would be greater than that for the transportation improvements alone. For the reasons discussed above, Alternative D with the potential mixed-use development would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative D to further reduce to the extent feasible the environmental consequences related to biological effects resulting from tree removal.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential for tree removal as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential biological impacts related to tree removal would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative D transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact on biological resources related to tree removal.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative D transportation improvements and mixed-use sites to further reduce to the extent feasible the environmental consequences related to tree removal.

Alternative E: Skywalk

With Alternative E, an estimated 26 trees that are 14 inches dbh or greater could be removed, including 1 westside tree greater than 30 inches dbh. While Section 61.1.4 of the TRPA Code prohibits removal of eastside and westside trees greater than 24 and 30 inches dbh, respectively, Section 61.1.4.A.7 allows removal for EIP projects, provided that findings demonstrate that the tree removal is necessary. The removal of 26 trees 14 inches dbh or greater would not constitute substantial tree removal under Section 61.1.8 of the TRPA Code. Thus, this impact would be **less than significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, the design features of Alternative E would minimize the environmental consequences related to tree removal such that no additional mitigation measures are needed or feasible to implement.

Impact 3.16-4: Introduction and spread of invasive plants

With three of the build alternatives (Alternatives B, C, and D), project implementation has the potential to introduce and spread terrestrial and aquatic invasive plants during construction and revegetation periods. Noxious weeds and other invasive plants could inadvertently be introduced or spread in the project site during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Soil, vegetation, and other materials transported to the project site from off-site sources for BMPs, revegetation, or fill for project construction could contain invasive plant seeds or plant material that could become established in the project site. Additionally, invasive species currently present in or near the project site have the potential to be spread by construction disturbances. The introduction and spread of terrestrial or aquatic invasive species would degrade terrestrial plant, wildlife, and aquatic habitats, including habitats of special significance (riparian) within the project site opening up the potential introduction and spread of invasive species with Alternatives B, C, and D. With the no-build alternative (Alternative A) or Alternative E, no project-related ground disturbances in any common or sensitive vegetation community would occur; therefore, there would be no related spread or introduction of invasive plants into common or sensitive vegetation communities and habitats from these alternatives.

NEPA Environmental Consequences: Mitigation Measure 3.16-4 has been incorporated into Alternatives B, C, and D to further reduce to the extent feasible the environmental consequences related to the introduction and spread of invasive plants; No Impact for Alternatives A and E

CEQA/TRPA Impact Determinations: Less Than Significant for the Alternative B, C, and D transportation improvement improvements and mixed-use development sites after implementation of Mitigation Measure 3.16-4; No Impact for Alternatives A and E

Alternative A: No Build (No Project)

Because no project-related ground disturbance or vegetation removal would occur with Alternative A, there would be **no impact** related to invasive species introduction and spread from this alternative for the purposes of NEPA, CEQA, and TRPA.

Alternative B: Triangle (Locally Preferred Action)

Transportation Improvements

Implementing Alternative B could result in the spread of invasive plants that are present in the project site. Invasive plant species documented in the project site include cheatgrass (*Bromus tectorum*), ripgut brome (*Bromus diandrus*), and bull thistle (*Cirsium vulgare*) (TTD 2015). Additionally, new noxious weed species and other invasive plants could be introduced into the project site during construction. Construction associated with Alternative B would involve temporary ground-disturbing activities in disturbed and native vegetation types. Constructing or expanding roadway alignments, roadway features (e.g., curbs, gutters, retaining walls), and other project elements would temporarily create areas of open ground that could be colonized by invasive plant species from inside or outside of the project site. Invasive plants could inadvertently be introduced or spread in the project site during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if seeds or propagules are inadvertently transported and distributed by construction equipment and personnel from an infested area. Project BMPs would reduce the potential for introducing or spreading weed and other invasive plant occurrences in the project site by reducing the amount of open ground during construction; however, the potential for this effect would still exist. Erosion-control materials, seed mixes, and unwashed construction equipment can transport propagules of invasive plants to construction sites where disturbed areas can provide ideal conditions for their establishment, and aid their spread into adjacent native plant communities.

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

The TRPA Code specifically prohibits the release of nonnative species in the Tahoe Basin because they can invade important wildlife habitats and compete for resources. Additionally, in its recent Regional Plan Update, TRPA adopted a new policy to explicitly prohibit and prevent the release of invasive, exotic, or undesirable nonnative aquatic species into the Tahoe Basin and control existing populations of those species. With Alternative B some of the construction BMPs would reduce the potential for introducing or spreading weed populations in the project site by reducing the amount of open ground during construction; however, the potential for this effect would still exist. Any introduction or spread of invasive plants could degrade plant and wildlife habitat, including habitats of special significance (riparian) in or near the project site. This construction-related impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative B to further reduce to the extent feasible the environmental consequences related to the introduction and spread of invasive plants.

Mixed-Use Development including Replacement Housing

Alternative B with the potential mixed-use development would require some ground disturbances in addition to those described for the transportation improvements alone. Therefore, the potential for construction-related introduction and spread of invasive plant species could be greater than without the mixed-use development. For the reasons discussed above, Alternative B with the potential mixed-use development would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative B to further reduce to the extent feasible the environmental consequences related to the introduction and spread of invasive plants.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential to introduce and spread invasive plants as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential introduction and spread of invasive plants would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative B transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact related to the potential introduction and spread of invasive plants.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative B transportation improvements and replacement housing to further reduce to the extent feasible the environmental consequences related to the potential introduction and spread of invasive plants.

Alternative C: Triangle One-Way

Transportation Improvements

The potential construction-related introduction and spread of invasive species with Alternative C would generally be the same as that described for Alternative B, because project construction and ground disturbance with Alternative C would be in the same locations and would include the same construction effects as Alternative B. For the reasons discussed above, this impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative C to further reduce to the extent feasible the environmental consequences related to the introduction and spread of invasive plants.

Mixed-Use Development including Replacement Housing

Alternative C with the potential mixed-use development would require some ground disturbances in addition to those described for the transportation improvements alone. Therefore, the potential for construction-related introduction and spread of invasive plant species could be greater than with the transportation improvements alone. For the reasons discussed above, Alternative C with the potential mixed-use development would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative C to further reduce to the extent feasible the environmental consequences related to the introduction and spread of invasive plants.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential to introduce and spread invasive plants as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential introduction and spread of invasive plants would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative C transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact related to the potential introduction and spread of invasive plants.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative C transportation improvements and mixed-use development sites to further reduce to the extent feasible the environmental consequences related to the potential introduction and spread of invasive plants.

Alternative D: Project Study Report Alternative 2

Transportation Improvements

The potential construction-related introduction and spread of invasive species with Alternative D would generally be the same as that described for Alternative B, because project construction and ground disturbance with Alternative D would generally be in the same locations and would include the same construction effects as Alternative B. For the reasons discussed above, this impact would be **potentially significant** for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the transportation improvements included in Alternative D to further reduce to the extent feasible the environmental consequences related to the introduction and spread of invasive plants.

Mixed-Use Development including Replacement Housing

Alternative D with the potential mixed-use development would require some ground disturbances in addition to those described for the transportation improvements alone. Therefore, the potential for construction-related introduction and spread of invasive plant species could be greater than with the transportation improvements. For the reasons discussed above, the Alternative D mixed-use developments, including replacement housing, would result in a **potentially significant** impact for the purposes of CEQA and TRPA.

For the purposes of NEPA, additional mitigation measures have been incorporated into the mixed-use development sites included in Alternative D to further reduce to the extent feasible the environmental consequences related to the introduction and spread of invasive plants.

Construction of replacement housing at a location other than the three mixed-use development sites could result in a similar potential to introduce and spread invasive plants as described for the mixed-use development sites. However, because the location of replacement housing elsewhere is unknown, analysis of the potential introduction and spread of invasive plants would be speculative at this time. Full, project-level environmental review of replacement housing somewhere other than the mixed-use development sites would be required prior to construction of replacement housing and displacement of existing residents.

Conclusion

For the purposes of CEQA and TRPA, taken as a whole, the Alternative D transportation improvements and mixed-use development, including replacement housing, would result in a **potentially significant** impact related to the potential introduction and spread of invasive plants.

For the purposes of NEPA, additional mitigation measures have been incorporated into construction of the Alternative D transportation improvements and mixed-use development sites to further reduce to the extent feasible the environmental consequences related to the potential introduction and spread of invasive plants.

Alternative E: Skywalk

Alternative E would create an elevated pedestrian structure in an area that is entirely developed in urban uses and supports no common or sensitive vegetation communities. Because no project-related ground disturbances in any vegetation community would occur, there would be **no impact** related to spread or introduction of invasive plants into common or sensitive vegetation communities and habitats with Alternative E for the purposes of NEPA, CEQA, and TRPA.

3.16.4 Avoidance, Minimization, and/or Mitigation Measures**Mitigation Measure 3.16-2a: Implement vegetation protection measures and revegetate disturbed areas**

This mitigation would apply to the transportation improvements and mixed-use development sites included in Alternatives B, C, and D for the purposes of NEPA, CEQA, and TRPA.

Vegetation will not be disturbed, injured or removed, except in accordance with the TRPA Code and other conditions of project approval. All trees, major roots, and other vegetation, not specifically designated and approved for removal in connection with a project will be protected according to methods approved by TRPA. All vegetation outside the construction site boundary, as well as other vegetation designated on the approved plans, will be protected by installing temporary fencing pursuant to Subsections 33.6.9 and 33.6.10 of the TRPA Code. Areas outside the construction site boundary that sustain vegetation damage during construction will be revegetated according to a revegetation plan in accordance with Section 61.4.

Mitigation Measure 3.16-2b: Conduct delineation of waters of the United States and obtain authorization for fill and required permits

The following mitigation applies to the transportation improvements and mixed-use development sites included in Alternatives B, C, and D for the purposes of NEPA, CEQA, and TRPA.

A preliminary delineation of potential wetlands and other waters of the United States was conducted in 2010 and 2011 (TTD 2015). However, the preliminary delineation has not been verified by USACE. Additionally, because the delineation was completed more than 5 years before project construction, it is considered expired, and will need to be repeated prior to permit application and approval.

Before the start of on-site construction activities on any potentially affected jurisdictional resource, a qualified biologist will survey the project site for sensitive natural communities. Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the CWA, Sections 1600 *et seq.* of the California Fish and Game Code, and other applicable regulations. If sensitive natural communities or habitats that are afforded specific consideration, based on Section 404 of the CWA are determined to be present, a delineation of waters of the United States, including wetlands that would be affected by the project, will be prepared by a qualified biologist through the formal Section 404 wetland delineation process. The delineation will be submitted to and verified by USACE. If, based on the verified delineation, it is determined that fill of waters of the United States would result from implementation of the project, authorization for such fill will be secured from USACE through the Section 404 permitting process. The acreage of riparian habitat (deciduous riparian vegetation) and wetlands that would be removed or disturbed during project implementation will be quantified and replaced or restored/enhanced in accordance with USACE and TRPA regulations, which include meeting the no-net-loss standard in accordance with USACE requirements. Habitat restoration, enhancement, and/or replacement will be at a location and by methods agreeable to USACE as determined during the permitting processes for CWA Section 404 and by TRPA during the permitting process for SEZ.

In addition, on the California side of the study area, if any project activities would affect aquatic resources and associated riparian habitats subject to regulation by CDFW under Sections 1600 *et seq.* of the California Fish and Game Code (i.e., the bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources), the project proponent shall consult with CDFW to determine whether a lake and streambed alteration agreement (LSAA) is required. If required under Section 1602, any compensatory mitigation shall be conducted in accordance with the terms of the LSAA, and in coordination with the other requirements of this mitigation measure (Mitigation Measure 3.16-2b) and Mitigation Measure 3.16-2c.

Mitigation Measure 3.16-2c: Compensate for Unavoidable Loss of SEZ

The following mitigation applies to the transportation improvements and mixed-use development sites included in Alternatives B, C, and D for the purposes of NEPA, CEQA, and TRPA.

The following measures will be implemented to ensure consistency with Section 61.3 of the TRPA Code and further reduce potential adverse effects on SEZs, streams, and riparian habitat:

- ▲ All reasonable alternatives shall be implemented to avoid or reduce the extent of encroachment into SEZs.
- ▲ In instances where there is no feasible alternative to avoid an SEZ, the project proponent shall mitigate all impacts within the boundaries of SEZs by restoring SEZ habitat (land capability district 1b) in the surrounding area, or other appropriate area as determined by TRPA, at a minimum ratio of 1.5:1, consistent with TRPA Code.
- ▲ The project proponent shall retain a qualified restoration ecologist to prepare a restoration plan that will address final clean-up, stabilization, and revegetation procedures for areas disturbed by the project. The restoration plan for SEZs shall include the following:

- identification of compensatory mitigation sites and criteria for selecting these mitigation sites;
- complete assessment of the existing biological resources in the restoration areas;
- in kind reference habitats for comparison with compensatory SEZs (using performance and success criteria) to document success;
- monitoring protocol, including schedule and annual report requirements (Compensatory habitat shall be monitored for a minimum of five years from completion of mitigation, or human intervention [including recontouring and grading], or until the success criteria identified in the approved mitigation plan have been met, whichever is longer);
- ecological performance standards, based on the best available science and including specifications for native plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80 percent survival of planted vegetation by the end of the five-year maintenance and monitoring period or dead and dying plants shall be replaced and monitoring continued until 80 percent survivorship is achieved;
- corrective measures if performance standards are not met;
- responsible parties for monitoring and preparing reports; and
- responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.

Significance after Mitigation

Implementation of Mitigation Measures 3.16-2a, 3.16-2b, and 3.16-2c would reduce the potentially significant impacts on sensitive habitats (Impact 3.16-2) to a **less-than-significant** level for Alternatives B, C and D for purposes of CEQA and TRPA. The mitigation measures would require that sensitive habitat is avoided to the extent feasible and that sensitive habitats that cannot be avoided are restored following construction, or if the habitat cannot be restored, that the project proponent compensates for unavoidable losses in a manner that results in no net loss of sensitive habitats and meets TRPA mitigation requirements for impacts on SEZs.

Because of the reasons stated above, for the purposes of NEPA, the environmental consequences of implementing the transportation improvements and mixed-use development sites including in Alternatives B, C, and D with Mitigation Measures 3.16-2a, 3.16-2b, and 3.16-2c **would not be adverse**.

Mitigation Measure 3.16-3: Prepare tree removal, protection, and replanting plan

The following mitigation applies to the transportation improvements and mixed-use development sites included in Alternatives B, C, and D for the purposes of NEPA, CEQA, and TRPA.

A Tree Removal, Protection, and Replanting Plan shall be prepared by the project proponent to provide tree protection measures to comply with the performance criteria and other requirements of Chapter 61 of the TRPA Code, prevent damage to trees that are proposed to remain, and determine appropriate tree replanting locations and approaches to occur in the project site. The Plan will include marking and inventorying the specific trees to be removed, after detailed design is completed. A qualified forester will make a determination regarding the project's consistency with Chapter 61 of the TRPA Code. The plan shall set forth prescriptions for tree removal, water quality protection, root zone and vegetation protection, residual stocking levels, replanting, slash disposal, fire protection, and other appropriate considerations.

Significance after Mitigation

Implementation of Mitigation Measure 3.16-3 would reduce potentially significant impacts associated with tree removal because a qualified forester will be retained to develop a tree removal plan that would comply with Chapter 61 of the TRPA Code. By ensuring adherence to the TRPA requirements associated with tree removal, this impact (Impact 3.16-3) would be reduced to a **less-than-significant** level for Alternatives B, C, and D for the purposes of CEQA and TRPA.

Because of the reasons stated above, for the purposes of NEPA, the environmental consequences of implementing the transportation improvements and mixed-use developments sites included in Alternatives B, C, and D with Mitigation Measures 3.16-3 **would not be adverse**.

Mitigation Measure 3.16-4: Implement invasive plant management practices during project construction

This following mitigation applies to the transportation improvements and mixed-use development sites included in Alternatives B, C, and D for the purposes of NEPA, CEQA, and TRPA.

In consultation with TRPA, the project proponent shall implement appropriate invasive plant management practices during project construction. Recommended practices generally include the following:

- ▲ Before construction activities begin, invasive plant infestations will be identified and appropriately treated where feasible. A qualified biologist will conduct a pre-construction survey for noxious weeds and other invasive plants in project construction areas, and determine the feasibility and appropriate method of removal/treatment. Treatments will be selected based on their effectiveness for each species ecology and phenology. All treatment methods—including the potential use of herbicides outside of potential wetland and SEZ areas—will be conducted in accordance with the law, regulations, and policies governing the land owner. Herbicides will not be used in sensitive habitats, including potential wetlands and SEZs. Land owners will be notified before the use of herbicides for invasive treatment. In areas where treatment is not feasible, noxious weed areas will be clearly flagged or fenced to clearly delineate work exclusion.
- ▲ To ensure that fill material and seeds imported to the project site are free of invasive plants/noxious weeds, the project will use on-site sources of fill and seeds whenever available. Fill and seed materials that need to be imported to the project site will be certified weed-free by the Resident Engineer. In addition, only certified weed-free imported materials (or rice straw in upland areas) will be used for erosion control.
- ▲ Vehicles and equipment will arrive at the project site clean and weed-free. All equipment entering the project site from weed-infested areas or areas of unknown weed status will be cleaned of all attached soil or plant parts before being allowed into the project site. Vehicles and equipment will be cleaned using high-pressure water or air at designated weed-cleaning stations after exiting a weed-infested area. Cleaning stations will be designated by a botanist or noxious weed specialist and located away from aquatic resources. Equipment will be inspected by the on-site environmental monitor for mud or other signs that weed seeds or propagules could be present before use in the project site. If the equipment is not clean, the monitor will deny entry into work areas.
- ▲ If designated weed-infested areas are unavoidable, the plants will be cut, if feasible, and disposed of in a landfill in sealed bags or disposed of or destroyed in another manner acceptable to TRPA or other agencies as appropriate. If cutting weeds is not feasible, layers of mulch, degradable geotextiles, or similar materials will be placed over the infestation area to minimize the spread of seeds and plant materials by equipment and vehicles during construction. These materials will be secured so they are not blown or washed away.
- ▲ Locally collected native seed sources for revegetation shall be used when possible. Plant and seed material will be collected from or near the project site, from within the same watershed, and at a similar elevation when possible and with approval of the appropriate authority. Persistent nonnatives such as cultivated timothy (*Phleum pretense*), orchard grass (*Dactylis glomerata*), or ryegrass (*Lolium* spp.) shall not be used.

Significance after Mitigation

Implementing Mitigation Measure 3.16-4 would reduce potentially significant impacts from the spread of invasive plant species (Impact 3.16-4) to a **less-than-significant** level for the purposes of CEQA and TRPA because invasive plant species management practices would be implemented during project construction and the inadvertent introduction and spread of invasive plants from project construction would be prevented.

Because of the reasons stated above, for the purposes of NEPA, the environmental consequences of implementing the transportation improvements and mixed-used developments sites included in Alternatives B, C, and D with Mitigation Measures 3.16-4 **would not be adverse**.

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