7

BIOLOGICAL RESOURCES

INTRODUCTION

This chapter provides information on biological resources in the Project area, identifies impacts on biological resources that may result from the Project, and identifies mitigation measures to avoid, minimize, or compensate for potential significant impacts to biological resources. The chapter also presents a discussion of federal, state, and local laws, policies, and regulations that influence the protection of such biological resources.

The discussion and analysis in this chapter is based upon peer review of the following reports and documentation, which was peer reviewed by WRA, Inc. for this analysis:

Biological Resources Report for the Stanford Wedge Project, prepared by H. T. Harvey and Associates, for the applicant dated September 8, 2020, which was based upon field surveys (both reconnaissance-level and focused plant surveys) conducted in April, May and June 2020. (The full Biological Resources Report is included in Appendix D.)

KNOWN CONCERNS

Concerns have been expressed by neighbors regarding the effect of Project noise and light on biological resources. These concerns have been addressed in this analysis.

REGULATORY SETTING

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally listed wildlife species from harm or "take", which is broadly defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA, but may become listed in the near future and are often included in their review of a project.

Project Applicability: No federally-listed plants are present on the Project site. One federally listed animal species, the California red-legged frog (Rana draytonii), may occasionally disperse onto the Project site, though it is expected to do so rarely and in low numbers (if at all). If it occurs on the Project site, it would most likely occur in the intermittent stream along the northern edge of the Project site.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests, and it prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the USFWS in its June 14, 2018 memorandum "Destruction and Relocation of Migratory Bird Nest Contents". Nest starts (nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction.

In its June 14, 2018 memorandum, the USFWS clarified that the destruction of an active nest "while conducting any activity where the intent of the action is not to kill migratory birds or destroy their nests or contents" is not prohibited by the MBTA. On February 3, 2020, the USFWS published a proposed rule to codify the scope of the MBTA as it applies to activities resulting in the injury or death of migratory birds (85 FR 5915-5926); the USFWS is currently considering comments on the proposed rule.

Project Applicability: All native bird species that occur on the Project site are protected under the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act), 16 U.S.C. Section 668, provides for the protection of the bald eagle and the golden eagle (Aquila chrysaetos) (as amended in 1962) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16 U.S.C. 668c; 50 CFR 22.3).

Project Applicability: Bald eagles (Haliaeetus leucocephalus) that nest east of the Project site, near Felt Lake, are protected under the Bald and Golden Eagle Protection Act. However, no eagle nests are known or expected to occur close enough to Project site, for proposed activities to result in take of eagles, and therefore we do not expect that an eagle take permit would be needed for these activities.

Clean Water Act

The Clean Water Act (CWA) functions to maintain and restore the physical, chemical, and biological integrity of waters of the U.S., which include, but are not limited to, tributaries to traditionally navigable waters currently or historically used for interstate or foreign commerce, and adjacent wetlands. Historically, in non-tidal waters, U.S. Army Corp of Engineers (USACE) jurisdiction extends to the ordinary high water (OHW) mark, which is defined in Title 33, Code of Federal Regulations (CFR), Part 328.3. If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the OHW mark or high tide line to the outer edges of the wetlands.

On June 22, 2020, the Navigable Waters Protection Rule (NWPR) went into effect. The NWPR is intended to provide clear categories of regulated waters of the U.S., as well as regulating traditional navigable waters and the core tributary systems that provide perennial or intermittent flow into them. Under the NWPR, ephemeral streams or features adjacent to such features are not waters of the U.S.; however this determination would only occur after completing an Approved Jurisdictional Determination process with the USACE.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of Section 401 Water Quality Certification. The State Water Resources Control Board (SWRCB) is the state agency (together with the Regional Water Quality Control Boards [RWQCBs]) charged with implementing water quality certification in California.

Project Applicability: Portions of the Project site contain two ephemeral streams that are unlikely to be claimed as waters of the U.S. by the USACE under the NWPR. However, the intermittent stream, which is a tributary to Los Trancos Creek, is likely to be claimed as waters of the U.S by the USACE. No streams occur within the Residential Development Area or in the areas that would be impacted by the permanent fire access road and trails, and vegetation management activities are not expected to impact waters of the U.S.. Therefore, a Section 404 permit from the USACE would not be required for proposed Project activities. (See Environmental Setting section below including Figure 7.1.)

STATE

Clean Water Act Section 401/Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the State. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state."

Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the State include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB's Assistant Executive Director, has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs if impacted.

Pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed Project would uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the State

require Water Quality Certification even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Project Applicability: Portions of the Project site contain streams and associated riparian areas that may be claimed as waters of the State by the RWQCB, regardless of the jurisdictional determination by the USACE. Such areas would fall under jurisdiction of the San Francisco RWQCB. A Section 401 Water Quality Certification would be required if any impacts on waters of the U.S. (i.e., the intermittent stream) would occur, whereas Porter-Cologne Waste Discharge Requirements would be required if any impacts on the ephemeral streams or riparian habitats, which are not regulated by the USACE, were to occur. However, as proposed, the Project would not impact any waters of the State and therefore is not expected to need a permit from the RWQCB. (See Environmental Setting section below including Figure 7.1.)

California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with CESA, the CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

Project Applicability: No suitable habitat for any state listed plant species occurs on the Project site. Thus, no state listed plant species are expected to occur on the Project site. The state listed bald eagle occurs at nearby Felt Lake and the Project vicinity. However, no eagle nests are known or expected to occur close enough to the Project site for proposed activities to result in take of eagles. The mountain lion (Puma concolor), which is a candidate for state listing, could potentially occur on the site on occasion. However, this species is unlikely to den on the site given the extent of human activity in the adjoining residential areas, and no take of this species, as defined by CESA, is expected to occur as a result of Project activities. (See Environmental Setting section below including Figure 7.1.)

California Fish and Game Code

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A stream is defined in Title 14, California Code of Regulations Section 1.72, as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Using this definition, the CDFW extends its jurisdiction to encompass riparian habitats that function as part of a watercourse. California Fish and Game Code Section 2786 defines riparian habitat as "lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source." The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of the CDFW can be measured in several ways, depending on the

particular situation and the type of fish or wildlife at risk. At minimum, the CDFW would claim jurisdiction over a stream's bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as USACE jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, the CDFW regulates any project proposed by any person that would "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds."

California Fish and Game Code Section 1602 requires an entity to notify the CDFW of any proposed activity that may modify a river, stream, or lake. If the CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife, and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

Specific sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code.

The California Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Raptors (i.e., eagles, hawks, and owls) and their nests are specifically protected in California under Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied nonbreeding bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered "take" by the CDFW.

Project Applicability: Portions of the Project site contain streams and associated riparian areas that may be regulated by the CDFW under California Fish and Game Code Section 1603. A very small area of riparian habitat is located on the Residential Development Area, and two ephemeral streams and their associated riparian areas are located on the remaining portion of the site. Such areas would fall under jurisdiction of the CDFW, and a Lake and Streambed Alteration Agreement (LSAA) would be required if any impacts on these waters or riparian vegetation would occur. No streams would be impacted directly by any Project components. Although riparian habitat impacts would be avoided to the extent feasible, there is some potential for riparian habitat to be impacted by vegetation management activities, which would necessitate an LSAA. Most native bird, mammal, and other wildlife species that occur on the Project site and in the immediate vicinity are protected by the California Fish and Game Code. (See Environmental Setting section below including Figure 7.1.)

California Environmental Quality Act

Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of

the California Fish and Game Code dealing with rare or endangered plants and animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed California Rare Plant Ranks (CRPRs) for plant species of concern in California in the Inventory of Rare and Endangered Plants (CNPS 2020). The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- seriously endangered in California;
- fairly endangered in California;
- not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA's Section 15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those of CRPR 1B or 2, impacts on them are less frequently considered significant. The analysis in this chapter follows this convention by considering the rarity of the species and further considers the percent of the population that could be impacted without affecting the viability of that population.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of "special concern" are tracked in Rarefind (CNDDB 2019). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and state (S) rankings analogous to those provided in the CNDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings reflect the condition of a habitat within California. If an alliance is marked as a G1–G3, all the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program's currently accepted list of vegetation alliances and associations (CDFW 2009).

Project Applicability: All potential impacts on biological resources are considered in this analysis and the associated Appendix D as required under CEQA.

LOCAL

Town of Portola Valley General Plan

The Town of Portola Valley General Plan includes goals and objectives relevant to the environmental factors potentially affected by the proposed Project, including the following:

4212 Vegetation [Conservation Element, Principals]

1. Removal of native vegetation should be minimized, and replanting required where necessary to maintain soil stability, prevent erosion and maximize reoxygenation.
2. Forest resources should be protected from harvesting.
3. Mature native trees and shrubs should be conserved.
4. Plantings in public trail easements or public road rights of way shall be of native plants and trees and shall not interfere with the use of the easements for public purposes such as equestrians, hikers, pedestrians, bicyclists, runners and vehicles.
5. The town should encourage restoration of unique or rare vegetation and habitats.
6. Along creeks, indigenous vegetation should be protected and, where necessary, restored and enhanced.
7. Management of native vegetation for the purpose of fire safe management practices should be done only to the extent necessary to meet reasonable fire safety objectives while still seeking to protect the biological resources of the environment.

4214 Wildlife [Conservation Element, Principals]

1. An environmental impact report or study, prepared by a qualified biologist, should be required to determine if the habitat of wildlife is being impacted, particularly of endangered species, by any proposed public or private project where such encroachment appears likely.
2. All subdivision and site development proposals should be reviewed to ensure that they do not obstruct wildlife access to important water, food and breeding areas.
3. Designate creek corridors as sensitive areas which provide important aquatic and terrestrial wildlife habitat. Setback requirements should be established by zoning for all new development along creeks. All new subdivisions and site development proposals should contain setback area sufficient to buffer wildlife inhabiting the creek corridor from the impacts of development.
4. Protect lands and habitat that support endangered or protected species wherever possible and consistent with state and federal requirements.
5. Give attention to restoring native habitat for wildlife when reviewing development proposals and initiating town projects.

4426 Goal: Water Resources - Protect and conserve water resources in the town including imported water.

Objectives

1. To protect the watershed from pollution, debris, excess sediment and invasive plants.
2. To reduce consumption of water through conservation and more efficient appliances and fixtures.
3. To use drought resistant native plants in developments.
4. To maximize the collection and recycling of natural-sourced and public water.
5. To protect and preserve ground water resources and aquifer recharge areas.

4427 Goal: Living Environment - Protect the natural environments for plants, animals and humans.

Objectives

1. To protect the interdependent plants and animals that together comprise a balanced ecosystem in our forests, grasslands, chaparral areas, and creek systems.
2. To protect extensive areas of native vegetation that support wildlife.
3. To protect forests and forms of vegetation that help contribute to air quality by absorbing carbon dioxide.
4. To protect the creek systems in the town.
5. To promote rehabilitation of ecosystems.
6. To control, reduce and eliminate invasive species.

Additionally, the Project site is directly addressed as part of the Alpine Scenic Corridor Plan, which contains the following text: "Steep wooded canyon and hillside (Stanford land); extreme care needed in design and construction if lands are developed in the future; maintain as permanent open space if possible."

Project Applicability: The Project is located within the Town of Portola Valley General Plan area and would need to conform to all applicable requirements. Not every requirement will be applicable to a given project site and interpretation of General Plan requirements often involves weighing competing objectives. For example, while a vegetation management plan would remove some vegetation at the site, management of a site to reduce wildfire risk is ultimately intended to protect those areas from being lost to wildfire.

Town of Portola Valley Redwood Guidelines

The Redwood Guidelines were adopted by the Town of Portola Valley on September 11, 2013 and has the following to say about the removal of existing redwoods:

"The Conservation Committee is tasked with reviewing the removal of significant trees in the Town of Portola Valley. Significant redwoods are any tree with a trunk or multiple trunks with a total circumference of 54 inches or a diameter greater than 17.2 inches.

"The Committee would need a compelling safety reason to approve the removal of redwoods growing in appropriate planting locations. They are an iconic part of our landscape and heritage and are to be treasured.

"Existing redwoods in Portola Valley that are not in appropriate planting locations were planted in the past before the current understanding of sustainable appropriate planting, view preservation and minimizing water use were established. As redwoods grow, they often cause problems with obstruction of neighbors' views, and their roots may damage buildings, septic systems, roads and other infrastructure. Whether or not these trees should be removed requires a balancing of esthetic, safety, neighborly and economic considerations. If homeowners and neighborhoods desire to remove existing redwoods planted in inappropriate locations, the Committee has no objection, subject to an appropriate permit review."

Project Applicability: If removal of qualifying redwoods is proposed at any point, the Project would need approval of the Conservation Committee.

Portola Valley Municipal Code

The Town of Portola Valley Municipal Code contains all ordinances for Portola Valley. Title 15, Buildings and Construction, and Title 18, Zoning, includes regulations relevant to biological resources on the Project site as discussed below.

Significant Trees. Chapter 15.12, Site Development and Tree Protection, establishes regulations for the preservation of significant trees, defined as:

- Coast live oak (Quercus agrifolia), 11.5 inches in diameter or greater
- Black oak (Quercus kelloggii), 11.5 inches in diameter or greater
- Valley oak (Quercus lobata), 11.5 inches in diameter or greater
- Blue oak (Quercus douglasii), 5 inches in diameter or greater.
- Coast redwood (Sequoia sempervirens), 17.2 inches in diameter or greater
- Douglas fir (Pseudostuga menziesii), 17.2 inches in diameter or greater.
- California bay (Umbellularia californica), 11.5 inches in diameter or greater
- Big leaf maple (Acer macrophyllum), 7.6 inches in diameter or greater
- Madrone (Arbutus menziesii), 7.6 inches in diameter or greater

To protect significant trees, Section 15.12.080 requires a development permit application if significant tree removal is proposed, which includes the site location of trees, proximity to structures, health and general conditions, and necessity for removal or other anticipated action. Following submission, the planning coordinator would refer the application to a member of the conservation committee. The planning coordinator, or the appropriate approving authority, may issue the permit with appropriate conditions upon receipt of requested reports.

Project Applicability: The Residential Development Area and the area that would be impacted by the fire access road, vegetation management activities, and hiking and equestrian trails include trees that qualify as significant trees under the Town ordinance. If any trees that qualify as significant trees were to be removed, a permit from the Town would need to be obtained. Vegetation management activities would generally avoid significant trees in the majority of the Project site. However, according to the VMP, some trees which qualify as "significant" under the Town ordinance may need to be removed in areas of defensible space within 100 feet of structures. Removal of those trees would require a permit from the Town. (See discussion under Impact Bio-14 later in this chapter for a discussion of tree removal.)

Creek Setbacks. Chapter 18.59, Creek Setbacks, establishes regulations for development adjacent to specific creeks within the Town of Portola Valley. Section 18.59.020 defines the following creeks as subject to creek setback provisions: Los Trancos Creek, Corte Madera Creek, and Sausal Creek. For these creeks, Section 18.59.030 discusses setback requirements:

For building permits and site development permits, setbacks may be measured from either the top of creek bank or ordinary high water mark (see definitions under Sections 18.59.040 and 18.59.050 below) at the option of the property owner:

1. Parcels less than one acre in size - Thirty feet from top of bank, or thirty-five feet from ordinary high water mark.
2. Parcels of one acre to two and one-half acres—Forty-five feet from top of bank or fifty feet from ordinary high water mark.
3. Parcels of two and one-half acres or more—Fifty-five feet from top of bank or sixty feet from ordinary high water mark.

For planned unit developments, setbacks may be modified by the planning commission to achieve better consistency with the purposes of this chapter as part of the planned unit development process to increase safety as well as protect the natural environment. For new subdivisions, parcels shall have a minimum creek setback of fifty-five feet from the top of creek bank, but this setback may be required to be enlarged as part of the subdivision process to increase safety as well as protect the natural environment. Sensitive habitats, floodplains, and eroding creek banks should be included within the setback area. Persons proposing development along creeks should consult Section 18.32, F-P (Floodplain) Combining District Regulations, contained in the zoning regulations as these provisions affect development in the floodplains along creeks.

Project Applicability: None of the three creeks specified in the ordinance occur within the Project site. Although Los Trancos Creek is present east of the Residential Development Area (across Alpine Road from the site), the distance between the Project site and Los Trancos Creek exceeds the maximum required creek setback. Therefore, no riparian setback is required by the Town of Portola Valley (though see Impact Bio-8).

ENVIRONMENTAL SETTING

The Project area is generally characterized as forested foothills intermingled with rural residential development. The site is bounded by rural residential development to the north, west and south, and Alpine Road to the east. Los Trancos Creek and Felt Lake are located on Stanford lands just beyond Alpine Road to the east.

The Project site is largely undeveloped, but the Residential Development Area is currently occupied by the Alpine Rock Ranch, a horse boarding facility with stables.

BIOTIC HABITATS

Reconnaissance-level surveys identified six habitat types/land uses on the Project site: coast live oak woodland (48.36 ac), blue oak woodland (16.19 ac), rural residential (5.18 ac), chamise chaparral (4.69 ac), mixed riparian forest (1.72 ac), and streams, including intermittent (450 linear feet) and ephemeral (2,333 linear feet) streams. These habitats are described in detail below and shown on **Figure 7.1**.

Coast Live Oak Woodland

This habitat type occurs throughout the majority of the Project site, typically on steeper north and east facing slopes. The vegetation is dominated by mature coast live oak trees. In many areas, the canopy is co-dominated by blue oak; however, the primary constituent tree within this habitat type is always coast live oak. Sparse California buckeye (Aesculus californica) and California bay also occur in the canopy layer. The canopy in this habitat type is fairly continuous, however small open areas do occur which are characterized by herbaceous vegetation dominated by ripgut brome (Bromus diandrus), Torrey's melica (Melica torreyana), Italian thistle (Carduus pycnocpehalus), and Ithuriel's spear (Triteleia laxa). Other open areas contained a dense shrub layer consisting primarily of poison oak (Toxicodendron diversilobum) and sticky monkeyflower (Diplacus aurantiacus). Beneath the tree canopy, the understory layer is sparse, with a species composition similar to more open areas of this habitat type. This habitat type extends a short distance into the Residential Development Area, along the northern and western edges of the Residential Development Area, and it is present along portions of the proposed fire access road as well.

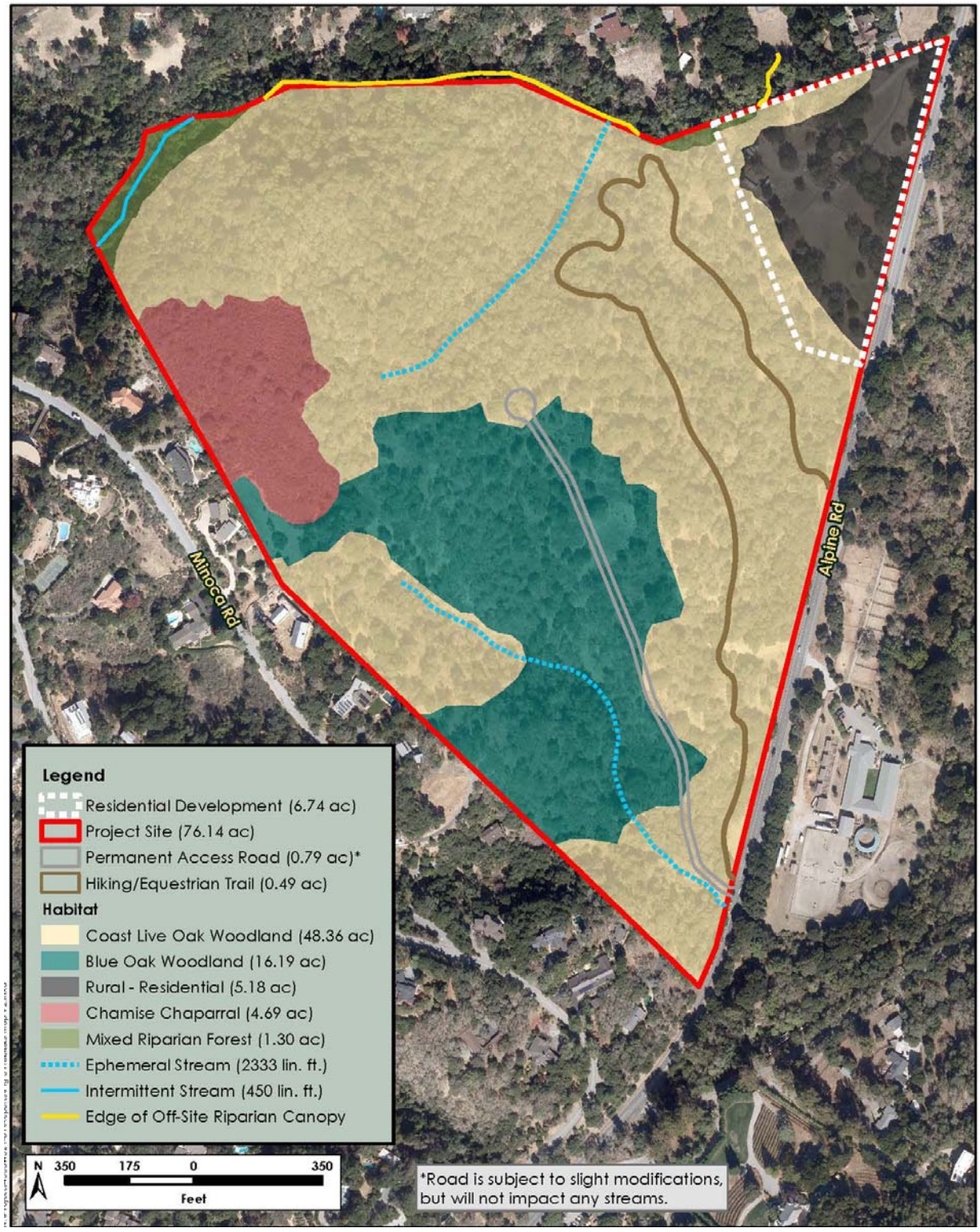

Figure 7.1: On-Site Habitat Types

Source: HT Harvey January 2021

Woodlands dominated by oaks typically support diverse animal communities in California. Coast live oaks provide abundant food resources, including acorns and invertebrates, as well as substantial shelter for animals in the form of cavities, crevices in bark, and complex branching growth. The oak woodlands on the Project site are extensive and support large numbers of woodland-associated species. Thus, a variety of common wildlife species are expected to occur here. Leaf litter and fallen logs provide cover and foraging habitat for California slender salamanders (Batrachoseps attenuatus) and western fence lizards (Sceloporus occidentalis), and reptiles such as the northern alligator lizard (Elgaria multicarinata) are also expected to occur in this habitat. The trees and shrubs provide habitat for breeding birds such as the Bewick's wren (Thryomanes bewickii), chestnut-backed chickadee (Poecile rufescens), Anna's hummingbird (Calypte anna), dark-eyed junco (Junco hyemalis), California scrub-jay (Aphelocoma californica), Steller's jay (Cyanocitta stelleri), oak titmouse (Baeolophus inornatus), Hutton's vireo (Vireo huttoni), and western screech-owl (Megascops kennicottii), as well as wintering birds including the hermit thrush (Catharus guttatus), ruby-crowned kinglet (Regulus calendula), and Townsend's warbler (Setophaga townsendi). Mammals, including the native raccoon (Procyon lotor) and nonnative eastern gray squirrel (Sciurus carolinensis) and eastern fox squirrel (Sciurus niger), may occur in the coast live oak forest, and mule deer (Odocoileus hemionus) were observed in this habitat during the site visit. Additionally, a large number of oak trees on the site support suitable day roost habitat for crevice-roosting bats including pallid bat (Antrozous pallidus), Yuma myotis (Myotis yumanensis), and California myotis (Myotis californicus).

Blue Oak Woodland

Blue oak woodland generally occurs on south facing slopes, near the top of the small hill within the Project site. This habitat type is not present on the Residential Development Area, though it is present along portions of the proposed fire access road. The canopy here is dominated by blue oaks, although it does contain some component of coast live oaks, which varies from uncommon to somewhat frequent depending on slope, exposure, and water availability. The canopy here is significantly more open that the adjacent coast live oak woodland, containing fairly large expenses of high quality grassland and shrub stands between mature blue oak trees. Herbaceous vegetation within the grassland is characterized by ripgut brome, foxtail barley (Hordeum murinum), blue eyed grass (Sisyrinchium bellum), blue dicks (Dichelostemma capitatum), and sparse Coast Range mule ears (Wyethia glabra). The occasional dense shrub layer primarily consists of California sagebrush (Artemesia californica) and sticky monkeyflower.

Blue oak woodlands produce acorns used as forage by a variety of species, including acorn woodpeckers (Melanerpes formicivorus), Nuttall's woodpeckers (Dryobates nuttallii), California scrub-jays, and mule deer. Snags and trees containing cavities provide nesting habitat for birds such as the western bluebird (Sialia mexicana), western screech-owl (Megascops kennicottii) and northern flicker (Colaptes auratus) as well as potential roost sites for bats. Raptors, including the red-tailed hawk (Buteo jamaicensis), American kestrel (Falco sparverius), and great horned owl (Bubo virginianus), may also nest in these woodlands, and coyotes (Canis latrans) and bobcats (Lynx rufus) may forage here.

Rural Residential

The rural residential land use type within the Project site consists of the Alpine Rock Ranch, a horse boarding stable. Numerous horse paddocks and horse pastures are scattered in this area, and include outbuildings to store supplies and hay. A number of trailers are also stored here. The tree canopy is sparse, and dominated by mature coast live oak, blue oak, and valley oak individuals. Understory vegetation consists of non-native herbaceous plants, including significant amounts of Italian thistle, milk thistle (Silybum marianum), wild radish (Raphanus sativus), ripgut brome, wild oat (Avena sp.),

and Italian rye grass (Festuca perennis). The understory vegetation is mowed on a yearly basis in order to control fuel accumulation, and this constant disturbance precludes the establishment of much native vegetation.

The structures within the rural residential habitat provide nesting sites for several bird species including barn swallows (Hirundo rustica), black phoebes (Sayornis nigricans), Bewick's wrens, and mourning doves (Zenaida macroura). No suitable roosting habitat for bat maternity colonies or large bat roosts was observed in the structures, but individual bats such as Yuma myotis and California myotis may occasionally day-roost in crevices observed on the structures. Scattered oak trees in the rural residential area provide habitat for small numbers of wildlife species described in Woodlands sections above.

Chamise Chaparral

This habitat type occurs at the relatively flat top of the small hill in the western portion of the Project site. This habitat type is not present on the Residential Development Area, but it is present at the northwestern end of the proposed fire access road. The area is characterized by dense, tall chamise (Adenostoma fasciculatum) with occasional poison oak. Scattered, isolated mature coast live oak trees also occur. The shrub layer here is 6-10 feet tall and is a near monoculture of chamise in many areas, likely owing to the long history of fire exclusion in this region.

Amphibians are typically scarce in the chamise chaparral habitats because of the very dry conditions, and many other wildlife species that occur in chaparral habitats, such as the California pocket mouse (Chaetodipus californicus), either derive moisture directly from their food or synthesize their water metabolically from seeds.

Mammals that forage in chaparral habitat and use it for cover include the coyote, bobcat, and brush rabbit (Sylvilagus bachmani). Bird species that nest in chaparral habitat include the California thrasher (Toxostoma redivivum), California towhee (Pipilo crissalis), spotted towhee (Pipilo maculatus), California quail (Callipepla californica), wrentit (Chamaea fasciata), and Anna's hummingbird. Yellow-rumped warblers (Setophaga coronata) and several species of sparrows forage in chaparral habitat during the winter. Reptiles that occur in this habitat include the gopher snake (Pituophis catenifer), western rattlesnake (Crotalus oreganus), southern alligator lizard (Elgaria multicarinata), striped racer (Masticophis lateralis), and western fence lizard.

Mixed Riparian Forest

The major riparian zone occurs just to the north of the Project site, and is associated with an unnamed intermittent stream that is a tributary of Los Trancos Creek. Two small areas of this riparian zone intersect the Project site, one in the northwest corner, and one along the north side of the Project site. The vegetation within this habitat primarily consists of a mature overstory of California bay, California buckeye, and coast live oak individuals. Understory vegetation includes California blackberry (Rubus ursinus), poison oak, and pacific sanicle (Sanicula crassicaulis).

Mixed riparian forest barely extends into the northwestern corner of the Residential Development Area, although no stream channels are present on this portion of the site. Mixed riparian forest is present adjacent to the northern end of the proposed hiking/equestrian trails, but not within this Project feature's impact areas. Mixed riparian forest is also present in the northwest portion of the Project site that would be subjected to vegetation management activities.

Mixed riparian forest and woodland habitats in California generally support rich animal communities and contribute disproportionately to landscape-level species diversity. The presence of water during a

large portion of the year and abundant invertebrate fauna provide foraging opportunities for many animal species, and the diverse habitat structure provides cover and breeding opportunities. As a result, the mixed riparian forest and woodland habitat on the Project site provides cover and foraging habitat for a wide variety of terrestrial vertebrates (e.g., amphibians, reptiles, and mammals), as well as several guilds of birds, including insectivores (e.g., warblers, flycatchers), seed-eaters (e.g., finches), and raptors. Cavity-nesting birds (e.g., swallows and woodpeckers) may nest in the large sycamores in this habitat type.

Several species of amphibians and reptiles occur in the mixed riparian forest and woodland habitats. Leaf litter, downed tree branches, low-growing forbs, and fallen logs provide cover for the ensatina (Ensatina eschscholtzii), California newt (Taricha torosa), western toad (Anaxyrus boreas), and Pacific chorus frog (Pseudacris regilla). Reptile species found in this habitat include the western fence lizard, western skink (Eumeces skiltonianus), southern alligator lizard, and ringneck snake (Diadophis punctatus) among others. Among the species of birds that use the mixed riparian forest and woodland habitat on the site for breeding are the Pacific-slope flycatcher (Empidonax difficilis), California scrub-jay, and bushtit (Psaltriparus minimus). Trees in this habitat provide limited nesting opportunities for smaller raptors, such as the Cooper's hawk (Accipiter cooperii) and red-shouldered hawk (Buteo lineatus), but no existing nests of raptors were observed during the reconnaissance survey.

Small mammals, such as the ornate shrew (Sorex ornatus) and broad-footed mole (Scapanus latimanus), use the mixed riparian forest and woodland for breeding and foraging. Medium-sized mammals such as the raccoon, striped skunk (Mephitis mephitis), bobcat, and nonnative Virginia opossum (Didelphis virginiana) are also present in this habitat. Mule deer are common in the surrounding habitats and use mixed riparian forest and woodland areas for access to water and foraging. Several species of bats, including the Yuma myotis and Mexican free-tailed bat (Tadarida brasiliensis), forage over mixed riparian forest and woodland habitats.

Intermittent and Ephemeral Streams

One unnamed intermittent stream occurs on the northwest corner of the Project site in mixed riparian habitat. This stream generally flows west to east, and is a tributary of Los Trancos Creek, located on the east side of Alpine Road. This stream ranges in width from approximately 3 to 5 feet wide. This stream contained slowly flowing, shallow water during the April 2019 survey, and based upon its characteristics, would be expected to be completely dry during dryer years/times of the year. Bank heights vary along the stream, but in many places the channel is very deep, with a vertical relief of up to 10 feet. The banks of this stream are sparsely vegetated in some areas and more densely vegetated in other areas with a mixture of native and non-native grasses and herbs including ripgut brome, miner's lettuce (Claytonia perfoliata), poison oak, and maidenhair fern (Adiantum jordanii).

Two ephemeral streams also occur on the Project site. These streams are relatively small and only flow following precipitation events. The centrally-located stream generally flows north to southwest. The southern stream generally flows northwest to south. Both streams range in width from approximately 1 to 2 feet wide. A dense layer of native and non-native grasses and herbs including ripgut brome, miner's lettuce, and cleavers (Galium aparine) overhang the channel banks of both ephemeral streams.

Because ephemeral streams only flow during or shortly after precipitation events, these habitats do not support populations of fishes. Also, they do not support breeding amphibians due to lack of ponding depth and limited duration of flows. However, amphibians such as Sierran chorus frog (Hyliola regilla) and western toad (Anaxyrus boreas) may occasionally occur in the ephemeral streams during the wet seasons.

Intermittent streams support water seasonally; thus, compared to ephemeral streams, they have more value to wildlife and a greater variety of wildlife species may be present in this habitat. Due to the very shallow nature of the intermittent stream on the Project site, fish are not expected to occur there. Among the species of birds that use the intermittent stream habitat, green herons (Butorides virescens) may occasionally forage in the intermittent stream, and insectivorous birds forage aerially on insects over the stream when water is present. Animals that are present in the surrounding coast live oak woodland habitats, such as dusky-footed woodrat and mule deer, may also use these habitats opportunistically, utilizing the temporarily flowing water for drinking. Several species of bats, including the Yuma myotis (Myotis yumanensis) and Mexican free-tailed bat (Tadarida brasiliensis), forage over stream habitat for aquatic insects. Amphibians such as the sierra chorus frog and western toad may occasionally disperse through the stream during wet periods.

SPECIAL STATUS SPECIES

For this assessment, special status species are defined as: those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); plants occurring on Lists 1A, 1B, 2, 3 or 4 of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2011); animals designated as a California "Species of Special Concern" by the CDFW; and animals listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Plants

The CNDDB was queried for potential occurrences of special status plants in the vicinity of the Project site, generating a list of 74 different species. All but 10 of the species can be eliminated from consideration because of lack of suitable habitat types or specific requirements (such as serpentine soils or coastal influence or elevation). The species not anticipated to occur on the site are not further discussed in this chapter, but additional detail can be found in Appendix D.

Based on an assessment of site conditions, it was determined that the Residential Development Area did not provide suitable habitat for Michael's rein orchid (Piperia michaelii) or Brewer's calandrinia (Calandrinia breweri). The remaining 8 species were further evaluated based on a focused survey of the Residential Development Area during the flowering period. These plants include: bent-flowered fiddleneck (Amsinckia lunaris), western leatherwood (Dirca occidentalis), woodland woollythreads (Monolopia gracilens), Santa Cruz clover (Trifolium buckwestiorum), California androsace (Androsace elongata ssp. acuta), Oakland star-tulip (Calochortus umbellatus), bristly leptosiphon (Leptosiphon acicularis), and California bottle-brush grass (Elymus californicus). No special status plant species were observed in the Residential Development Area during the focused survey. Nevertheless, these 10 species have some potential to occur on the remainder of the approximately 75.4-acre site, including the entirety of the areas that would be impacted by vegetation management activities. In addition, all 10 species could potentially occur within the area where the fire access road and hiking/equestrian trails would be constructed.

Animals

The CNDDB has recorded occurrences of several special status animal species in the region. Most of the special-status species occurring in the larger vicinity are not expected to occur on the Project site

because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known populations by development or otherwise unsuitable habitat. The species not anticipated to occur on the site are not further discussed in this chapter, but additional detail can be found in Appendix D.

Yellow warblers (Setophaga petechia) and long-eared owls (Asio otus) are considered California species of special concern only when breeding, yet these species would occur on the Project site only as migrants or dispersants (or in the case of long-eared owls, potential winter visitors). Bald eagles are known to nest in large eucalyptus near Felt Lake, but suitable nest sites and foraging habitat are absent from the Project site and its immediate vicinity. The monarch butterfly (Danaus plexippus) and mountain lion may also occur on the Project site as visitors. However, milkweeds (Asclepias spp.), which serve as the larval hostplant for monarch butterflies, were not observed on the site during surveys, and this species is a scarce breeder on the San Francisco peninsula, so monarchs are expected to occur only as foragers during dispersal and migration. Similarly, mountain lions are not expected to den or breed on the site due to the level of human activity associated with the surrounding residential development, so this species is not expected to occur on the Project site other than as an occasional visitor.

Three special-status animal species, the white-tailed kite (Elanus leucurus), pallid bat (Antrozous pallidus), and San Francisco dusky-footed woodrat (Neotoma fuscipes annectens) have the potential to breed on the Project site, and may therefore be affected by Project activities. Two additional special-status animal species, the California red-legged frog and western pond turtle (Actinemys marmorata), have the potential to occur on the Project site. Although they are not expected to breed or to occur regularly or in large numbers due to a lack of suitable breeding or nesting habitat on the site, they may breed nearby, and they therefore warrant special consideration.

SENSITIVE NATURAL COMMUNITIES, HABITATS, AND VEGETATION ALLIANCES

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance, since the state inception of the Natural Heritage Program in 1979. The CDFW determines the level of rarity and imperilment of vegetation types, and tracks sensitive communities in its Rarefind database. Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings reflect the condition of a habitat within Natural communities are defined using NatureServe's standard heritage program methodology as follows:

- G1/S1: Critically imperiled
- G2/S2: Imperiled
- G3/S3: Vulnerable
- G4/S4: Apparently secure
- G5/S4: Secure

In addition to tracking sensitive natural communities, the CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors. If an alliance is marked G1-G3, all of the vegetation associations within it will also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations. Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, would be considered impacts under CEQA. Furthermore, aquatic, wetland and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS.

Sensitive Natural Communities

A query of sensitive habitats in Rarefind identified five sensitive habitats as occurring in the region: serpentine bunchgrass (G2/S2.2), valley oak woodland (G3/S2.1), northern coastal salt marsh (G3/S3.2), North Central Coast steelhead/sculpin stream (unranked), and North Central Coast California roach/stickleback/steelhead stream (unranked). Serpentine bunchgrass occurs only on serpentine soils, which do not occur on the Project site. Valley oak woodland is characterized by an open, savannah like canopy structure consisting of predominately valley oak with few other tree species present. While valley oak does occur on the Project site, generally in the vicinity of the Alpine Rock Ranch, the tree layer is co-dominated by coast live oak. Thus, valley oak woodland is considered absent from the Project site. Northern coastal salt marsh occurs along sheltered inland margins of bays, often co-dominated by pickleweed (Salicornia spp.), cordgrass (Spartina spp.), and sometimes saltgrass (Distichlis spicata). The Project site does not occur along the margins of the bay, nor does it contain any of the aforementioned species. Therefore, northern coastal salt marsh is considered absent from the Project site. The last two sensitive natural communities, North Central Coast steelhead/sculpin stream (unranked), and North Central Coast California roach/stickleback/steelhead stream (unranked), only occur on the western slope of the Santa Cruz Mountains, and are therefore considered absent from the Project site.

Sensitive Vegetation Alliances

The following four vegetation alliances occur within the Project site: coast live oak woodland alliance (G5/S4), blue oak woodland alliance (G4/S4), Umbellularia californica forest alliance (S3/G4), and chamise chaparral shrubland alliance (G5/S5). Of these alliances, only the Umbellularia californica forest alliance is considered sensitive by CDFW. This association is represented by the mixed riparian forest mapped along the northern edge the Project site, as well as in narrow bands along the ephemeral streams mapped in the center of the Project site.

Sensitive Habitats (Waters of the U.S./State)

The intermittent stream occurring on the northern portion of the Project site may be considered waters of the U.S./state. Any placement of fill into verified waters of the U.S./state within the Project site would require a Section 404 permit from the USACE and Section 401 Water Quality Certification from the San Francisco RWQCB. Additionally, the mixed riparian forest associated with the intermittent stream, as well as the two ephemeral streams, are expected to fall under the jurisdiction of the San Francisco RWQCB and CDFW, and any impacts to those habitats would require both Porter-Cologne Waste Discharge Requirements and a Lake and Streambed Alteration Agreement.

IMPACTS AND MITIGATION MEASURES

CRITERIA OF IMPACT SIGNIFICANCE

The California Environmental Quality Act (CEQA) and the CEQA Guidelines provide guidance in evaluating project impacts and determining which impacts will be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project." Under CEQA Guidelines section 15065(a)(1) and Appendix G, a project's effects on biotic resources may be significant when the project would:

1. have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

2. have a substantial adverse effect on any riparian habitat or other sensitive natural community (e.g., oak woodland) identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

3. have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

4. 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

5. conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

6. conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

SPECIAL STATUS SPECIES

1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special Status Plants

Impact Bio-1: **Impacts on Special-Status Plants**. While there are no special-status plant species in the Residential Development Area, ten species have the potential to occur on the remainder of the site and could be impacted by construction and use of the fire access road and hiking/equestrian trails and/or vegetation management activities. This impact is ***less than significant with mitigation***.

As discussed under the environmental setting above, eight special-status plant species were thought to have some potential to occur within the Residential Development Area: bent-flowered fiddleneck, western leatherwood, woodland woollythreads, Santa Cruz clover, California androsace, Oakland star-tulip, bristly leptosiphon, and California bottle-brush grass. None of these eight species, nor any other special-status plants, were observed within the Residential Development Area of the Project site during either the reconnaissance survey or focused rare plant surveys during the flowering periods of the aforementioned species and therefore no impacts to special-status plant would occur on the Residential Development Area.

However, there is the potential for ten special-status plant species to occur in the remainder of the site that would be disturbed by construction of the fire access road, construction of the hiking/equestrian trails, and implementation of the VMP. These species include the above listed eight species plus Michael's rein orchid or Brewer's calandrinia.

If these species are present, grading for the fire access road or hiking/equestrian trails could impact special-status plants through:

- direct removal/destruction of individuals; permanent loss of habitat due to construction of the road and/or trails;

- temporary disturbance of habitat in areas adjacent to the road and/or trails that would be subject to grading;
- degradation of suitable habitat due to alteration of hydrology and soil compaction;
- introduction of non-native species (e.g., seeds introduced to the activity area as a result of contaminated machinery, equipment, or clothing), which can threaten native plant species through competition for resources and the physical or chemical alteration of the habitat; and
- minor fuel and oil spills that may occur during refueling of construction equipment.

In a similar fashion, proposed vegetation management activities, such as mastication, chipping, and/or tilling of vegetation could impact special-status plants through:

- direct removal or destruction of individuals,
- alteration of sun/shade microhabitat near the currently suitable habitat due to tree removal, or
- covering of occupied habitat in a layer of vegetation debris causing the habitat to become unsuitable.
- Temporary impacts could also include dust deposition on the leaves of rare plants, affecting photosynthesis and gas exchange, or trampling that does not kill the plants or prevent seed set.

Impacts from vegetation management activities may be permanent if habitat conditions are disturbed to the extent that conditions for special-status plants are no longer suitable, or they may only be temporary, with plants regrowing or recolonizing after initial vegetation management activities. The VMP Implementation Plan indicates how treatment would occur in high- priority areas without ground-disturbing activities, and with implementation of other measures to minimize impacts on special-status plants. For example, if wood-chipping is necessary as part of these initial treatment activities, wood chips would be distributed so that they are no more than 1 inch deep to allow seed germination and growth of special-status plants.

If more than 10% of the population of any CRPR List 1B species, or more than 20% of the population of any CRPR List 4 species ("population" referring to the occurrence on the Project site) would be impacted by construction of the fire access road and hiking/equestrian trails, and/or implementation of vegetation management activities, this impact would be significant under CEQA due to the regional rarity of these species. These percentages were selected based on the rarity of the species and related percent of the population that could be impacted without affecting the viability of that population.

Mitigation Measures

Bio-1a: **Survey (outside the Residential Development Area): Special-Status Plants**. Prior to the initiation of grading for the fire access road and/or hiking/equestrian trails, or the implementation of initial ground disturbance or vegetation removal activities in areas outside the Residential Development Area that has been surveyed for special- status plants, a qualified biologist shall conduct, in areas outside the Residential Development Area that has been surveyed, a focused survey during the appropriate bloom season for potentially occurring special-status plant species, including:

- California bottle-brush grass (Elymus californicus; CRPR 4.3; May through August)
- Western leatherwood (Dirca occidentalis; CRPR 1B.2; January through March)
- Bent-flowered fiddleneck (Amsinckia lunaris; CRPR 1B2; March through June)
- Woodland woolly threads (Monolopia gracilens; CRPR 1B.2; March through July)

- Santa Cruz clover (Trifolium buckwestiorum; CRPR 1B.1; April through October)
- California androsace (Androsace elongata ssp. acuta; CRPR 4.2; March through June)
- Brewer's calandrinia (Calandrinia breweri; CRPR 4.2; March through June)
- Oakland star-tulip (Calochortus umbellatus; CRPR 4.2; March through May)
- Bristly leptosiphon (Leptosiphon acicularis; CRPR 4.2; April through July)
- Michael's rein orchid (Piperia michaelii; CRPR 4.2; April through August)

Ground disturbance associated with vegetation management activities that could potentially impact sensitive plant species if they are present, necessitating focused plant surveys, would include all vegetation management activities except initial vegetation management treatments that are implemented prior to construction of the fire access road (Panorama Environmental 2020b). These initial treatments include (1) removing trees and large shrubs through hand removal methods to avoid ground disturbance, and minimizing dragging out material; (2) minimization of soil disturbance through use of low compacting equipment (e.g., masticator or chipper) that would reduce rutting from machine turns and minimize soil compaction; and (3) limiting the spread of chipped or masticated materials to 1-inch in depth or less (Panorama Environmental 2020b). Therefore, focused surveys shall be conducted prior to all ground disturbance associated with vegetation management activities including and following construction of the fire access road, including a surrounding 50-foot buffer area on site and to the extent access to adjacent properties may be permitted. Surveys shall take place no more than 3 years before ground disturbance or vegetation removal for these vegetation management activities and should be conducted in a year with near-average or above-average precipitation. Alternatively, these surveys may be conducted in a year of below-average precipitation and the surveyor should attempt, if possible, to identify a nearby reference population that is flowering and detectable despite the below-average rainfall. The purpose of the survey shall be to assess the presence or absence of the potentially occurring species. If none of the target species are found in the impact area or surrounding 50-foot buffer, then no further mitigation measures shall apply. Otherwise, Mitigation Measure Bio-1b shall be additionally implemented.

Bio-1b: **Avoidance and Minimization: Special-Status Plants**. If any individual special-status plants are found in the impact area or 50-foot buffer, then in consultation with a qualified botanist or plant ecologist, the project shall be designed to avoid direct and indirect impacts to the species to the extent feasible. If avoidance of special-status plants reduces the impacts so that less than 10% for CRPR List 1B species of either individuals or occupied area within the population would be impacted, or less than 20% for CPRP List 4 species, then the impact would be considered less than significant, and no further mitigation is necessary. Otherwise, Mitigation Measure Bio-1c shall be additionally implemented.

Bio-1c: **Compensatory Mitigation if Avoidance is Infeasible: Special-Status Plants.** If, even with project redesign to minimize impacts, more than 10% of the population for CRPR List 1B species, or more than 20% of the population for CRPR List 4 species would be impacted, compensatory mitigation shall be provided via the

management of currently occupied habitat or the establishment of a new population for the species impacted. The mitigation habitat shall be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified plant ecologist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and shall contain at least as many individuals of the species as are impacted by project activities. A Habitat Mitigation and Management Plan (HMMP) shall be developed by a qualified plant or restoration ecologist and implemented for the mitigation lands. The HMMP shall be approved by the Town of Portola Valley prior to the start of ground-disturbing activities. The HMMP shall include, at a minimum, all of the following information:

- Summary of habitat impacts and the proposed mitigation;
- Description of the location and boundaries of the mitigation site and description of existing site conditions;
- Description of measures to be undertaken to enhance (e.g., through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat) the mitigation site for the focal special-status species;
- Description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which shall be determined by a qualified plant or restoration ecologist);
- Proposed management activities to maintain high-quality habitat conditions for the focal species;
- Description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. At a minimum, performance criteria shall include demonstration that any plant population fluctuations over the monitoring period do not indicate a downward trajectory in terms of reduction in numbers and/or occupied area for the preserved mitigation population that can be attributed to management (e.g., that are not the result of local weather patterns, as determined by monitoring of a nearby reference population, or other factors unrelated to management); and
- Annual monitoring should be conducted for a period of 5 years following transplantation of individuals, if plants are transplanted, or following the initiation of monitoring (e.g., for a mitigation site where the species is already present) to ensure that the population is healthy.
- Description of the management plan's adaptive component, including potential contingency measures for mitigation elements that do not meet performance criteria.

With surveys prior to disturbance, avoidance and minimization of any impacts to special-status plants, and compensatory mitigation if substantial impacts would occur as outlined in Mitigation Measures Bio-1a, Bio-1b, and Bio-1c, the Project's impact related to impacts on special-status plants would be reduced to ***less than significant***.

Special-Status Animals

As discussed under the environmental setting above, five special-status animal species breed on or nearby the Project site: California red-legged frog, western pond turtle, white-tailed kite, pallid bat, and San Francisco dusky-footed woodrat. Potential impacts to these special-status animal species are discussed individually below and additional detail can be found in the full biological assessment included as Appendix D of this report.

California Red-legged Frogs

Impact Bio-2: **Loss of Individual California Red-legged Frogs**. While there is no breeding habitat on the Project site for the California red-legged frog, there is the potential for infrequent individuals to visit the site and these could be impacted directly or indirectly by construction, operation, and vegetation management activities. Despite the low potential for individuals to be impacted, loss of any individual California red-legged frogs resulting from the proposed project activities would constitute a significant impact due to the species' regional rarity. This impact is ***less than significant with mitigation***.

While no breeding habitat for the California red-legged frog is present on the Residential Development Area or fire access road, or in the unnamed drainage to the north, there are records of this species in the vicinity and individuals may occasionally disperse onto the site. If they do, such individuals are most likely to occur in the riparian corridors associated with the intermittent stream along the northern edge of the Project site, though this would be expected to occur very infrequently, if at all.

Project activities, including construction and initial vegetation management activities followed by residential use and trail use and ongoing vegetation management activities, would not result in the loss of breeding habitat for the California red-legged frog, or any direct impacts on the intermittent tributary to Los Trancos Creek where this species is most likely to occur if it were to disperse onto the site. Due to the infrequency with which California red-legged frogs might occur in the impact areas (owing the lack of any known breeding populations or high-quality breeding habitat in the immediate vicinity of the site), and the relatively limited extent of project impacts, the Project would not substantially affect California red-legged frog habitat availability in the region.

However, in the rare chance that an individual frog moved into Project impact areas and was present during construction or initial vegetation management activities, it could result in injury or mortality of individuals either directly through contact with equipment or fuels/solvents or indirectly through putting them at greater risk of predation (by attracting predators or disturbing refuges with noise and vibrations).

Additionally, once the Residential Development Area and hiking and equestrian trails are constructed, increased human presence could introduce litter, which may attract wild predators, such as raccoons, striped skunks, and common ravens into the riparian and stream habitats where those predators may harass or prey on frogs. Increased numbers of domestic pets such as dogs and free-roaming cats may also result in an increase in predation risk for frogs that may disperse onto the site. Although the Residential Development Area, fire access road, and hiking/equestrian trails would avoid impacts to stream and riparian habitats, there is some potential for increased human presence to introduce pathogens that could be detrimental to amphibians.

Annual vegetation management activities involving goat grazing would have little to no effect on potentially- occurring California red-legged frogs in that this activity would not involve any ground

disturbance or operation of large equipment (e.g., masticator) on the site. Likewise, periodic manual removal of trees and branches is not expected to impact potentially-occurring California red-legged frogs. However, if off-road mechanical support is necessary for long-term maintenance, there is potential for California red-legged frogs to be impacted in the same manner as with initial vegetation management activities described above.

Mitigation Measures

Bio-2a: **Survey and Avoidance (all Construction Activities and the Initial Vegetation Management Activities): Red-legged Frogs .** Before any construction or initial vegetation management activities begin, the following measures shall be completed and/or included in construction contracts as ongoing measures:

i. *Pre-activity Survey*. A qualified biologist shall conduct a preconstruction survey for the California red-legged frog no more than 24 hours prior to initial ground disturbing activities within 100 feet of any riparian area. If a California red-legged frog is encountered in the work area, all activities with the potential to result in the harassment, injury, or death of the individual shall be immediately halted and shall not resume until the individual leaves the project site of its own accord.

ii. *Worker Environmental Awareness Program*. Before any construction activities begin, Stanford shall hire a qualified biologist to conduct a training session for all construction personnel. At a minimum, the training shall include descriptions of all special-status species potentially occurring on the project site and their habitats, the importance of these species, the general measures that are being implemented to conserve them as they relate to the proposed project, and the boundaries within which project activities may be accomplished.

iii. *Construction Timing*. Because California red-legged frogs are most active at night, nighttime earthmoving and other construction activities shall be avoided to the extent practicable within 100 feet of any riparian area. Further, to the extent practicable, ground-disturbing activities shall be avoided during the wet season, from mid-October through mid-April, when red-legged frogs are most likely to be moving through upland areas.

Bio-2b: **Survey and Avoidance (Initial and Ongoing Vegetation Management Activities**): **Red-legged Frogs**. Before any construction or vegetation management activities (initial or ongoing) begin, the following measures shall be included in construction/vegetation management contracts:

i. *Vegetation Stockpiles*. Because California red-legged frogs could move into areas under debris piles, where they could then be injured or killed when the debris piles are disposed of, debris intended for burning, mastication, or other disturbance, should not be piled on the ground within 100 feet of any riparian area unless the piles would be treated on the same day that they are created. If vegetation piles cannot be treated or removed daily, they should be dispersed on the site, to the extent feasible.

ii. *Trash Containment during Construction and vegetation management Activities*. Because human trash associated with construction activities and

vegetation management activities has the potential to attract predators, all trash shall be contained in sealed containers and disposed of on a daily basis.

iii. *Mechanical Support for Vegetation Management*. If off-road mechanical support is necessary for ongoing vegetation management activities, Mitigation Measure Bio-2a shall be implemented for the off-road mechanical support activities.

Bio-2c: **Avoidance, Operational Prohibition of Nighttime Access to Trails: Red-Legged Frogs**. Signage shall be installed at trailheads indicating that nighttime access to trails and all access off trails is prohibited.

With measures to minimize the potential loss of individual California red-legged frogs during construction, vegetation management activities, and on an ongoing basis, as identified in Mitigation Measures Bio-2a, Bio-2b, and Bio-2c, the potential for impacts to the California red-legged frog would be reduced to ***less than significant***. Note that while the Project proposes to avoid the riparian habitat during all activities and this has been assumed in this analysis, avoidance of direct impacts to the riparian habitat is further detailed in Mitigation Measure Bio-8a, discussed under the Sensitive Habitats section below.

Western Pond Turtle

Impact Bio-3: **Loss of Individual Western Pond Turtles**. While there is no suitable habitat on the Project site for the western pond turtle, there is a low potential for individual western pond turtles to visit the site and these could be impacted directly or indirectly by construction or vegetation management activities. Despite the low potential for individuals to be impacted, loss of any individual western pond turtle resulting from the proposed Project activities would constitute a significant impact due to the species' regional rarity. This impact is ***less than significant with mitigation***.

While the Project site does not contain suitable habitat for the western pond turtle, a California species of special concern, they are known to occur at Felt Lake, approximately 0.25 mile east of the site, and elsewhere in the Project vicinity in San Francisquito Creek and Lagunita approximately 2.25 miles to the north. Western pond turtles are expected to occur in Los Trancos Creek, just east of the site, as well. Despite the lack of suitable aquatic and upland habitat, dispersing individuals could potentially cross Alpine Road from Los Trancos Creek and make their way on to the site on rare occasions. Therefore, there is a low probability of this species using the Residential Development Area or the eastern end of the fire access road area, especially near the riparian corridors, for dispersal. Therefore, Project activities would not result in the loss of any aquatic habitat for the western pond turtle or in a substantial loss of upland dispersal habitat.

However, individuals could make their way on to the site on rare occasions and if individuals are present during construction or off-road mechanical vegetation management activities, potentially-occurring western pond turtles would be at risk for injury or mortality. As described above for the California red-legged frog, annual vegetation maintenance activities involving goat grazing and periodic manual tree removal/maintenance would have little to no effect on potentially-occurring western pond turtles because this activity would not involve any ground disturbance or operation of large equipment on the site. However, if off-road mechanical support is necessary for long-term maintenance there is potential for western pond turtles to be impacted in the same manner as with initial vegetation management activities described above.

Mitigation Measure

Bio-3: **Survey and Avoidance (all Construction Activities and Vegetation Management Activities Involving Off-Road Mechanical Equipment): Western Pond Turtles.** Before any construction or vegetation management activities involving off-road mechanical equipment begin, a qualified biologist shall conduct a preconstruction survey for western pond turtles no more than 24 hours prior to initial ground disturbing activities within 100 feet of any stream. If a western pond turtle is encountered in the work area, all activities with the potential to result in the harassment, injury, or death of the individual shall be immediately halted, and the individual shall be captured and relocated to a safe location outside of the work area by a qualified biologist, after which work may proceed.

With measures to minimize the potential loss of individual western pond turtles during construction and off-road mechanical vegetation management activities, as identified in Mitigation Measure Bio-3, the potential for impacts to the western pond turtle would be reduced to ***less than significant***. Note that while the Project proposes to avoid the riparian habitat during all activities and this has been assumed in this analysis, avoidance of direct impacts to the riparian habitat is further detailed in Mitigation Measure Bio-8a, discussed under the Sensitive Habitats section below.

White-tailed Kite

Impact Bio-4: **Disturbance of White-tailed Kites**. Suitable nesting habitat is available on site for no more than one pair of white-tailed kites. Construction or off-road mechanical vegetation management activities during breeding season could result in destruction or disturbance of active nests. However, because no more than one pair of kites could possibly be impacted, and because this species is relatively widespread in the region, the loss of reproductive effort associated with one pair of kites, and the loss of habitat suitable to support one pair, would be a ***less than significant*** impact on this species.

The white-tailed kite, a state fully protected species, may nest in trees anywhere from 3 to 50 meters in height and forage in open grassland, ruderal, or agricultural habitats. Kites have been observed in the Project vicinity during the nesting season, and suitable nesting habitat is present for this species on and adjacent to the Residential Development Area of the Project site and limited open areas on the remainder of the site. White- tailed kites are widespread and common in the region, but due to the relatively sparse nature of open, grassy habitat on the Project site, no more than one pair is likely to nest on the site.

Vegetation removal during the breeding season (generally February 1 through August 31) could result in the destruction or disturbance of active nests, possibly leading to the loss of eggs or young. Heavy ground disturbance, noise, and vibrations caused by construction activities could potentially disturb foraging, roosting, or nesting white-tailed kites and cause them to move away from work areas, possibly leading to abandonment of active nests. Similarly, vegetation management activities involving off-road mechanical support could also disturb nesting white-tailed kites through indirect disturbance created by noise or vibrations of equipment used.

However, because no more than one pair of kites could possibly be impacted, and because this species is relatively widespread in the region, the loss of reproductive effort associated with one pair of kites, and the loss of habitat suitable to support one pair, would represent only a very small proportion of this species' regional populations and habitat availability. The impact would not rise to the CEQA standard

of having a substantial adverse effect and would therefore be less than significant with respect to special status species.

Note that this species is protected by the federal Migratory Bird Treaty Act and the California Fish and Game Code, and it is considered a fully protected species by the state (meaning that kites, and their eggs and young, cannot be physically taken for development purposes). See discussion of this issue under the Wildlife Corridor and Nursery Sites section and Mitigation Measures Bio-13a and Bio-13b.

Dusky-footed Woodrat

Impact Bio-5: **Disturbance of Dusky-footed Woodrats**. Hundreds of woodrat nests are expected to be present in the coast live oak woodland, blue oak woodland, mixed riparian forest, and chamise chaparral areas throughout the Project site, including at least 13 in the Residential Development Area. While dusky-footed woodrats and their habitat are relatively common in the region, woodrats are very important ecologically in that they provide an important prey source for raptors and predatory mammals, and their nests provide habitat for a wide variety of small mammals, reptiles, and amphibians. Loss of multiple woodrat nests would be considered a significant impact due to the ecological impact that the loss of nests would represent both to the woodrat and to the other species that benefit from its presence. This impact is ***less than significant with mitigation***.

At least 13 nests of the San Francisco dusky-footed woodrat, a California species of special concern, are located in the coast live oak woodland, mixed riparian forest, and rural-residential habitats along the perimeter of the Residential Development Area. Additional woodrat nests were also observed outside the Residential Development Area and hundreds are expected to be present in the coast live oak woodland, blue oak woodland, mixed riparian forest, and chamise chaparral in areas throughout the Project site.

Proposed construction and initial vegetation management activities may result in injury or mortality of dusky-footed woodrats and removal of woodrat nests due to construction, staging, Project vehicle traffic, and equipment use. Heavy ground disturbance, noise, and vibrations caused by construction activities could potentially cause woodrats to abandon their nests, possibly leading to abandonment of young as well. Additionally, thinning of trees and vegetation around nests in the surrounding vegetation and canopy layer would increase their internal temperatures through increased sun exposure, which could also lead to nest abandonment. Removal of vegetation around nests would also result in the loss of foraging habitat, which would reduce the carrying capacity of the population on site.

Annual vegetation maintenance activities involving goat grazing would not directly impact nests, but this activity could denude cover and food plants around nests if the goats are allowed to graze for excessive periods, reducing the habitat quality, and possibly leading to nest abandonment. Furthermore, if off-road mechanical support is necessary, periodic tree removal and maintenance could result in injury or mortality of dusky- footed woodrats and removal of woodrat nests if nests are located near or within a tree that is to be removed.

San Francisco dusky-footed woodrats are relatively common in suitable habitat regionally and have high reproductive capabilities. As a result, even given the loss of nests from the Residential Development Area and potential to disturb many more with vegetation management activities, the Project impacts on dusky-footed woodrats would not have a substantial effect on regional populations. However, woodrats are very important ecologically in that they provide an important prey source for raptors (particularly owls) and for predatory mammals, and their nests provide habitat for a wide

variety of small mammals, reptiles, and amphibians. As a result, the loss of multiple woodrat nests would be considered a significant impact due to the ecological impact that the loss of nests would represent both to the woodrat and to the other species that benefit from its presence.

Mitigation Measures

Bio-5a: **Survey and Avoidance (all Construction Activities and Vegetation Management Activities Involving Off-Road Mechanical Equipment): Dusky-footed Woodrats.** Before any construction or vegetation management activities involving off-road mechanical support begin, the following measures shall be completed and/or included in construction contracts:

i. *Pre-activity Survey*. No more than 30 days prior to any initial ground disturbance or vegetation removal activities, a pre-activity survey for woodrat nests shall be conducted by a qualified biologist within areas where ground disturbance or vegetation removal shall be conducted and within 10 feet of the disturbance and vegetation removal areas.

ii. *Disturbance-Free Buffers*. If feasible, a minimum 10-ft buffer shall be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of a qualified biologist, removing the nest would be a greater impact than that anticipated due to project activities. Environmentally sensitive area (ESA) fencing shall be installed to mark the buffer area around potentially impacted woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located.

iii. *Woodrat Relocation Plan*. Due to the large number of nests that could be impacted and infeasibility of avoiding impact to all nests at the site, a woodrat relocation plan shall be prepared by a qualified biologist prior to initial ground disturbance or vegetation removal activities. At a minimum, the plan shall include woodrat nest relocation methods, relocation site habitat requirements, appropriate relocation sequence with respect to vegetation management activities, spacing of nests, timing of relocations, and recommended protective buffers around nests proposed to remain in place. The plan shall also include a map of all woodrat nests, and proposed relocation areas. Relocation of nest materials shall follow the following guidance:

> If it is determined that disturbance of woodrat nests cannot be avoided, the woodrats shall be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. Relocation activities shall follow methods outlined in the Woodrat Relocation Plan. A qualified biologist shall monitor and direct all activities associated with the removal of dusky-footed woodrat nests (structures). Only as necessary and to the minimum extent possible, project site vegetation shall be removed to provide access to the woodrat nest(s). Following the removal of vegetation required to access woodrat nests, a fiber-optic camera shall be used to observe inside the nest to determine its occupancy prior to beginning the dismantling process. If young are not observed, the nest shall be fully dismantled and materials shall be relocated, as described below. If dependent young are present, the protocol

for active nests below shall be followed to dismantle the structure over a two-week period.

Except where dependent young are present, woodrat structures or nests shall slowly and progressively be dismantled during a single site visit. Appropriate personal protective equipment (e.g. respirator, gloves, and Tyvek suit) shall be used while dismantling and relocating woodrat nest material to protect against disease carried by rodents (e.g., hantavirus). Where feasible, nesting material or food caches shall be moved to a new location at least 30 feet outside the disturbance area, preferably next to a large tree or similar structure in a riparian or oak woodland habitat, in an area where it can be used by woodrats to construct new nests. If no suitable structure is present, a log pile structure may be constructed to support the nest materials.

If young are uncovered within the nest prior to or during the dismantling process, dismantling of the nest shall be suspended for a period of two weeks to allow young to develop eyesight and become mobile. Nest materials shall be placed back on top of the nest to re-cover the exposed young. After the two-week period, the above removal procedures shall be resumed. Within 24 hours of vegetation removal and completion of nest dismantling, an additional survey shall be conducted to confirm no new woodrat nests were constructed.

Bio-5b: **Avoidance, Implement Overgrazing Management Strategy for Annual Vegetation Management: Dusky- footed Woodrat**. To ensure that annual grazing activities do not result in excessive disturbance of, or habitat loss around, San Francisco dusky- footed woodrat nests, grazing shall be performed so that goats will not graze in any one area too long. If no off-road mechanical support of annual vegetation management is required, Mitigation Measure Bio-5a would not also be required for this activity.

With measures to minimize the potential loss of individual dusky-footed woodrats during construction and off-road mechanical-supported vegetation management activities identified in Mitigation Measure Bio-5a, and during to prevent potentially damaging overgrazing during annual grazing as identified in Mitigation Measure Bio-5b, the potential for impacts to the dusky-footed woodrat would be reduced to ***less than significant***.

Pallid Bat

Impact Bio-6: **Disturbance of Pallid Bats**. Construction in or demolition of buildings could result in destruction of maternity roosts, hibernacula, day roosts, and/or night roosts of bat species, including pallid bat. This impact is ***less than significant with mitigation***.

The pallid bat, a California species of special concern, may forage throughout the more open areas of the Project site. In addition, several trees with small to moderate-sized cavities were observed throughout the Project site during the reconnaissance survey. These trees provide suitable roosting and breeding habitat for the pallid bat, and removal of such trees could result in the loss of pallid bat roost sites if they are occupied. Although ostensibly suitable roost sites for pallid bats, such mature trees with large cavities are widespread regionally and pallid bat numbers are low and the species' maternity

roosts are sparsely dispersed. As a result, the loss of potential habitat or potential (but unoccupied) roost trees for this species would not represent a significant impact. However, the loss of an occupied maternity roost would represent a significant impact because that roost site, coupled with the characteristics of the surrounding area (e.g., foraging habitat, thermal characteristics, lack of human disturbance) that attracted pallid bats to that roost, would be regionally important to this species' populations.

When trees containing roosting colonies or individual pallid bats are removed or modified during construction, or initial and long-term vegetation management activities, individual bats could be physically injured or killed; could be subjected to physiological stress from being disturbed during torpor; or could face increased predation because of exposure during daylight. Even if roost trees are not directly impacted, Project-related disturbance near a maternity roost of pallid bats could cause females to abandon their young. Such impacts would be significant because the species' populations are limited locally and regionally and because loss of individuals may have a substantial adverse effect on local and regional populations of the species.

Mitigation Measure

Bio-6: **Survey and Avoidance (all Construction Activities and Vegetation Management Activities Involving Off-Road Mechanical Equipment): Pallid Bats.** Before any structure removal, construction, or vegetation management activities involving off-road mechanical support begin, the following measures shall be completed and/or included in construction contracts to be overseen by a qualified bat biologist:

i. *Potential Roost Habitat Removal September through February, Outside Pallid Bat Maternity Season*. Potential roost habitat trees may be removed outside the maternity season, during a two-day tree removal process, to encourage day-roosting bats to leave potential roost trees ahead of tree removal. This process involves removing small branches and small limbs containing no day-roost habitat (e.g., crevices) on habitat trees on Day 1, using chainsaws only. The following day (Day 2), the remainder of the tree is to be removed. The disturbance caused by chainsaw noise and vibration, combined with the physical modification of the tree, is expected to cause day- roosting bat species to abandon the roost tree after nightly emergence for foraging. Trimmed habitat trees must be removed the next day to prevent re-occupation of trimmed trees.

   If potential habitat trees are not proposed for removal but would undergo a specific treatment (e.g., thinning, crown raising), disturbance shall be scheduled to take place outside the maternity roost season. If treatment activities cannot occur outside the maternity season, a pre-activity evening survey shall be conducted by a qualified biologist to determine if the tree is occupied by a maternity colony. If no bats are detected, work may proceed without any additional surveys. If a maternity colony is present, work shall be postponed until the end of the maternity season (August 31).

ii. *Pre-activity Survey for Work within Pallid Bat Maternity Season (March through August)*. Prior to any initial ground disturbance or off-road mechanical vegetation removal activities to occur during Pallid Bat Maternity Season, a pallid bat roost habitat assessment shall be conducted for all trees and structures on and within 150 feet of the location of the activity, during the

appropriate time of year when bats would be detectable (March 1 – August 31). A qualified bat biologist shall conduct the survey to look for evidence of bat use within suitable habitat. If evidence of use is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or a nocturnal acoustic survey may be necessary to determine if a bat colony is present and to identify the specific location of the bat colony.

iii. *Avoidance*. If an active pallid bat maternity colony or non-breeding roost is located, construction work or vegetation activities shall be redesigned to avoid disturbance of the roost, if feasible.

iv. *Eviction and Alternative Roost Habitat*. If an active pallid bat maternity colony or non-breeding bat roost is located and construction work cannot be redesigned to avoid removal or disturbance of the occupied roost, the individuals shall be safely evicted by a qualified bat biologist between August 1 and October 15 or between February 15 and March 15, with the timing determined by a qualified bat biologist.

If eviction is necessary, alternative roost habitat shall be provided at least 30 days prior to eviction of bats from the roost. A qualified bat biologist shall determine the appropriate location for the alternative roost structure, based on the location of the original roost and habitat conditions in the vicinity, and oversee installation of a new roost structure. The structure shall be placed as close to the affected roost site as feasible, taking into account potential for disturbance during construction on the site (e.g., the roost might be placed elsewhere on the larger project site). The roost structure either shall be built to specifications determined by a qualified bat biologist or shall be purchased from an appropriate vendor (though a qualified bat biologist should approve the type of structure purchased). Stanford University shall monitor the roost for up to three years (or until occupancy is determined, whichever occurs first) to determine use by bats. If, by Year 3, pallid bats are not using the structure, a qualified bat biologist, in consultation with CDFW, shall identify alternative roost designs or locations for placement of the roost, place the new roost at the agreed-upon location, and monitor the new roost for an additional three years (or until occupancy has been verified).

With removal of potential habitat outside the maternity season or pre-activity surveys and follow-up as appropriate, as detailed in Mitigation Measure Bio-6, the potential for impact to pallid bats would be reduced to ***less than significant***.

Indirect Impacts on Wildlife from Artificial Lighting

Impact Bio-7: **Indirect Lighting Impacts on Wildlife**. While the project would bring artificial lighting to the Project site, such lighting is appropriately designed to avoid substantial impacts to surrounding habitat that could support sensitive species, and the impact of Project artificial lighting on wildlife would be ***less than significant***.

Many animals are sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season. While it is difficult to extrapolate results of experiments on captive birds to wild populations and other species, it is known that photoperiod (the relative amount of

light and dark in a 24-hour period) is an essential cue triggering physiological processes as diverse as growth, metabolism, development, breeding behavior, and molting. This holds true for birds, mammals, and other taxa as well, suggesting that increases in ambient light may interfere with these processes across a wide range of species, resulting in impacts on wildlife populations.

Artificial lighting may indirectly impact mammals and birds by increasing the nocturnal activity of predators such as owls, hawks, and mammalian predators. The presence of artificial light may also influence habitat use by rodents and by breeding birds by causing avoidance of well-lit areas, resulting in a net loss of habitat availability and quality.

Currently, there is no permanent artificial lighting (e.g., light posts, string lights, and spot lights) on the Project site due to its rural nature. As described above, the Project site may support sensitive species. If lighting in the Project site were so bright that it increased illumination of the surrounding habitat such as the intermittent tributary or coast live oak woodland, such an increase in lighting could potentially have adverse effects on special-status and sensitive species in the area. However, the Project includes several dark sky-compliant measures to minimize the degree to which natural habitats on and surrounding the Project site are illuminated by Project lighting. For example, exterior lights would be composed of a variety of shielded light fixtures that would be mounted on the sides of the buildings, and primarily situated on the interior side of the development, such that the lights would not illuminate the coast live oak woodland to the west, or mixed riparian habitat to the north. Additionally, many of the light fixtures, especially in common public areas, would have automatic timing switches to reduce nighttime illumination when not in use. Although the Project would increase lighting compared with baseline conditions, the dark-sky measures incorporated into the Project plans would minimize this potential impact on wildlife due to artificial lighting, and the impact would thus be ***less than significant***. See Chapter 4: Aesthetics, for additional discussion and figures related to nighttime lighting.

RIPARIAN OR OTHER SENSITIVE NATURAL COMMUNITY

2. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community (e.g., oak woodland) identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Riparian Habitat

Impact Bio-8: **Direct or Indirect Impacts to Riparian Habitat**. Construction of the fire access road would occur within 50 feet of an ephemeral stream, which could result in erosion and sedimentation impacting the riparian habitat. Additionally, while vegetation management activities are proposed to generally avoid riparian habitat, impacts could occur without specific measures for avoidance and/or compensation if warranted. This impact is ***less than significant with mitigation***.

Riparian habitats are unique areas that surround river and stream banks and contribute disproportionately high habitat values and functions for their limited surface area. Specially-adapted plants that may tolerate repeated flooding or that rely on a high water table often occur in these areas, but even when it supports primarily upland species, this vegetation is important for stabilizing the banks, reducing soil erosion, and maintaining water quality within the stream channel, and the amount and type of vegetation present can have effects on water temperature and therefore aquatic habitat within the stream. Riparian corridor vegetation also provides specialized habitat for wildlife, including shade, breeding areas, and food sources. Riparian habitats are uncommon within the larger landscape.

Riparian areas are considered sensitive habitats by the CDFW and are regulated as such under Section 1600 of the California Fish and Game Code, as well as by the RWQCB.

A limited amount of mixed riparian forest occurs in the northwest corner of the Residential Development Area, associated with the unnamed intermittent tributary of Los Trancos Creek. However, the Project does not propose development within riparian habitat.

Setbacks from creeks (also referred to as riparian buffers) are important to protect sensitive aquatic and riparian habitats, and the animals that inhabit them, from adverse effects of lighting, noise, human activity, sediments and contaminants in runoff, and other stressors associated with development. The dimensions of such setbacks vary depending on local regulations, the size of the creek, the quality of riparian habitat, slope, and other factors. The Town of Portola Valley does not have established setback regulations for development adjacent to the unnamed intermittent tributary at the edge of the Residential Development Area. As shown in Figure 7.1, the Residential Development Area is not located within riparian habitat.

Although the small intermittent stream near the Residential Development Area has some value for plants and wildlife, its ecological functions and values are low compared to a larger and/or perennial stream for which regulated setbacks are in place. Therefore, because the Project would avoid development within the riparian habitat, and the proximity of development to the riparian habitat is limited to a very small portion of the site, and this particular habitat value is relatively low, the setback from the Residential Development Area is considered adequate from a biological standpoint.

The locations of the fire access road and the hiking/equestrian trails do not involve crossing or otherwise impacting the riparian habitat along the intermittent stream on the northern edge of the site and would therefore avoid any direct impacts on riparian habitats. Where the fire access road is proposed to exit off of Alpine Road, however, it would be within 50 feet of the ephemeral stream. Grading for the fire access road would create disturbed soil conditions, potentially resulting in erosion and sedimentation of this ephemeral stream.

Implementation of the VMP would involve initial vegetation treatments throughout much of the 69-acre open space portion of the Project site. Treatment methods would include mechanical methods employing track- mounted excavators to carry out mastication and chipping of woody vegetation, as well as manual treatment methods using of hand tools to cut, uproot, crush, compact, or chop vegetation. While the exact locations of these treatments have not been identified, it is assumed they could occur throughout the Project site, and would therefore occur in the vicinity of the riparian habitat that occurs along the intermittent stream occurring along the northern edge of the parcel along the unnamed tributary to Los Trancos Creek. While this corridor is narrow, this habitat is still considered sensitive, and any direct impact to this habitat from vegetation treatment activities would be considered significant. In addition, in the absence of avoidance and minimization measures, indirect impacts such as runoff from the areas of ground disturbance into the riparian habitat could have the potential to degrade this habitat and would be considered a significant impact.

The VMP states that vegetation treatment methods, or “prescriptions”, should avoid sensitive resources, including riparian habitat, to the extent feasible. It is anticipated that the fuel reduction prescriptions proposed in the VMP can largely avoid vegetation removal within the riparian corridor associated with the intermittent stream. In such a manner, vegetation management activities would avoid most, and possibly all, direct impacts on riparian communities from vegetation removal.

However, if vegetation removal within riparian corridors cannot be completely avoided, the loss of riparian vegetation would constitute a significant impact under CEQA owing to the importance of this habitat type to regional biodiversity.

Mitigation Measures

Bio-8a: **Avoidance (all construction and all Vegetation Management Activities): BMPs for Work within/near Sensitive Habitats.** The following measures shall be implemented to reduce impacts on mixed riparian forest and streams during construction on the Residential Development Area, during the grading of the fire access road and hiking/equestrian trails, and during all vegetation management activities:

i. If the CDFW and/or RWQCB determine potentially impacted areas are under their jurisdiction, the applicant shall acquire permits from CDFW and RWQCB and comply with all permit conditions.

ii. Personnel shall prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water into channels.

iii. Spill prevention kits shall always be in close proximity when using hazardous materials.

iv. No equipment servicing shall be done in the stream channel or immediate floodplain, unless equipment stationed in these locations cannot be readily relocated (i.e., pumps, generators).

v. Existing native vegetation shall be retained by removing only as much vegetation as necessary to accommodate the fire access road and trail clearing width.

vi. If riparian vegetation is to be removed with chainsaws, consider using saws currently available that operate with vegetable-based bar oil.

vii. If goat grazing is to be used as a long-term vegetation management tool in the future, temporary fencing shall be erected when goats are introduced to keep them out of riparian habitats.

viii. Control exposed soil by stabilizing slopes (e.g., with erosion control blankets) and protecting channels (e.g., using silt fences or straw wattles).

ix. Control sediment runoff using sandbag barriers or straw wattles.

x. Stabilize site ingress/egress locations.

xi. Temporary disturbance or removal of aquatic and riparian vegetation shall not exceed the minimum necessary to complete the work.

xii. Vehicles operated within and adjacent to streams shall be checked and maintained daily to prevent leaks of materials that, if introduced to the water, could be deleterious to aquatic life.

xiii. Potential contaminating materials must be stored in covered storage areas or secondary containment that is impervious to leaks and spills

xiv. All disturbed soils shall be revegetated with native plants suitable for the altered soil conditions upon completion of construction. Local watershed native plants shall be used if available. All disturbed areas that have been compacted shall be de-compacted prior to planting or seeding. Cut-and-fill slopes shall be planted with local native or non-invasive plants suitable for the altered soil conditions.

Bio-8b: **Compensatory Mitigation if Avoidance is Infeasible (All Vegetation Management Activities): Riparian Habitat**. The riparian habitat within the Project site consists of a mature overstory composed of California bay, California buckeye, and coast live oak. Riparian vegetation may be removed during vegetation treatment activities. All trees removed within mixed riparian forest habitat shall be replaced with the same species that was removed during project implementation, which shall be planted within the same reach where impacts occur or along streams on other Stanford University lands. Trees shall be replaced at a ratio of at least 1:1.

Additionally, if trees are to be removed within mixed riparian forest habitat, a qualified biologist shall develop a Riparian Mitigation and Monitoring Plan, which shall contain the following components (or as otherwise modified by regulatory agency permitting conditions):

i. Summary of habitat impacts and proposed mitigation ratios

ii. Goal of the restoration to achieve no net loss of habitat functions and values

iii. Location of mitigation site(s) and description of existing site conditions

iv. Mitigation design:

    a. Soil amendments and other site preparation elements as appropriate

    b. Planting plan

    c. Irrigation and maintenance plan

    d. Remedial measures/adaptive management, etc.

v. Monitoring and Success Criteria: the mitigation site shall be monitored by an ecologist during a 5- year monitoring period. The interim site performance success criterion is annual replacement of any dead trees and shrubs during Years 1-3. The final success criterion at Year 5 shall be defined as 60% average cover of native trees and shrubs combined.

vi. Reporting requirements

With best management practices to avoid and minimize direct and indirect impacts to the ephemeral stream near the fire access road as detailed in Mitigation Measure Bio-8a and minimization and

compensation for impacts on riparian habitat during vegetation management activities as detailed in Mitigation Measure Bio-8b, the potential for direct or indirect impacts to riparian habitat would be reduced to ***less than significant***.

Degradation of Habitats by Invasive Plant Species

Impact Bio-9: **Introduction and/or Spread of Invasive Plants**. Project construction and vegetation management activities could contribute to the introduction or spread of non-native invasive vegetation, some of which could degrade the quality of sensitive habitats. This impact is ***less than significant with mitigation***.

Nonnative, invasive plant species were observed in limited numbers within the Project site, including the following species that are considered by California Invasive Plant Council (Cal-IPPC) to have a "moderate" invasive rating and therefore can cause substantial ecological impacts on physical processes, plant and animal communities, and vegetation structure (California Invasive Plant Council 2020): wild oats (Avena barbata and Avena fatua), black mustard (Brassica nigra), ripgut brome (Bromus diandrus), Italian thistle (Carduus pycnocephalus), bull thistle (Cirsium vulgare), and poison-hemlock (Conium maculatum). In addition, one species with a "high" Cal- IPPC rating, red brome (Bromus madritensis ssp. rubens) was also observed within the Project site. Additional invasive species with high ratings, such as yellow starthistle (Centaurea solstitialis), French broom (Genista monspessulana), and Scotch broom (Cytisus scoparius), are known to occur in the immediate vicinity of the Project site.

Invasive species can spread quickly and can be difficult to eradicate, as they produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by nonnative, invasive species that occur locally, or whose propagules are transported by personnel, vehicles, and other equipment. The spread of nonnative invasive species could degrade the ecological values of nearby riparian habitat and adversely affect native plants and wildlife that occur there.

The residential development would result in a large area being subject to soil disturbance, in a location adjacent to open space and near riparian habitat. Activities such as vegetation removal, grading, and equipment staging and are all factors that would contribute to disturbance. Areas of disturbance could serve as the source for promoting the spread of nonnative species, which could degrade the ecological values of the nearby riparian habitat, and adversely affect native plants and wildlife that occur there.

The construction of the fire access road and the hiking/equestrian trails would result in the creation of a new area of disturbance in an area that was not previously disturbed. Similar to the manner described above, disturbance would be created by the clearing of vegetation and grading for either the fire access road or the new trails. In addition, both these Project elements would introduce new vectors or avenues along which invasive species could be spread. The spread of invasive species along these corridors could lead to the introduction and spread of invasive species into sensitive riparian habitats within the Project site, and adversely affect native plants and wildlife that occur there.

Vegetation management activities would result in the disturbance of large amounts of vegetation throughout the Project site by mastication, mowing, trimming, and removal of vegetation. There is the potential for either the motorized equipment or the equipment used for manual treatments to have propagules of weed species (e.g., seeds, or dirt containing rhizomes) from other sites, and if not properly cleaned prior to coming onto the Project site, to introduce novel species.

Mitigation Measure

Bio-9: **Implement Invasive Weed BMPs.** The invasion and/or spread of noxious weeds shall be avoided by the use of the following invasive weed BMPs:

i. During construction activities in the Residential Development Area, all seeds and straw materials used on-site shall be weed-free rice straw (or similar material acceptable to the Town), and all gravel and fill material shall be certified weed-free to the satisfaction of the Town.

ii. Prior to equipment coming onto the site for construction or vegetation management activities, all equipment (e.g., masticators, haul vehicles, excavators, and other heavy equipment) shall be washed (including wheels, undercarriages, and bumpers). Vehicles shall be cleaned at existing construction yards or legally operating car washes.

iii. Following construction of the residential development and the fire access road and hiking/equestrian trails, a standard erosion control seed mix (acceptable to the Town) from a local source shall be planted within the temporary impact zones on any disturbed ground that shall not be under hardscape, landscaped, or maintained. This will minimize the potential for the germination of the majority of seeds from non-native, invasive plant species.

iv. If areas are left bare by vegetation treatments as carried out by the VMP, a standard erosion control seed mix (acceptable to the Town) from a local source and consisting of native species shall be planted on any disturbed ground.

With implementation of best management practices to prevent the spread of invasive species as outlined in Mitigation Measure Bio-9, the Project's impact related to degrading the quality of wildlife habitats through spread of invasive species would be reduced to ***less than significant***.

WETLANDS AND WATERS OF THE U.S.

3. Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact Bio-10: **Indirect Impacts on Wetlands**. While no wetlands occur on the Project site, the ephemeral streams on the Project site could carry sediment or contamination in stormwater to wetlands outside the project area. However, with required compliance with existing regulations requiring stormwater control and pollution prevention during construction and operation, the impact would be ***less than significant***.

No wetlands occur within the Project site. The ephemeral streams on the Project site are outside of the Residential Development Area as well as the footprints of the fire access road and hiking/equestrian trails. Vegetation treatment activities would not occur directly in the ephemeral streams. However, development of the Residential Development Area, construction of the fire access road, and implementation of the vegetation treatments, have the potential to affect water quality within the on-site streams, which have hydrologic connectivity to Los Trancos Creek downstream, through indirect impacts caused by soil disturbance adjacent or near these aquatic features.

Construction projects in California causing land disturbances that are equal to 1 acre or greater must comply with State requirements to control the discharge of stormwater pollutants under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A Storm Water Pollution Prevention Plan (SWPPP) must be developed and maintained during the Project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control best management practices, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors.

In many Bay Area counties, including San Mateo County, projects must also comply with the California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (MRP) (Water Board Order No. R2-2015-0049). This MRP requires that all projects implement BMPs and incorporate Low Impact Development practices into the design to prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site after construction has been completed. To meet these permit and policy requirements, projects must incorporate project elements to reduce the volume of runoff generated and bioretention and/or detention basins to slow release off-site. Thus, impacts on water quality and indirect impacts on downstream wetlands and other aquatic habitats would be reduced to less than significant levels through compliance with regulations.

WILDLIFE MOVEMENT AND NURSERY SITES

4. Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Reduced Wildlife Movement

Impact Bio-11: **Reduced Wildlife Movement**. While development of a portion of the Project site would reduce the ability for wildlife to use and move across the Project site, wildlife would still be able to move between the surrounding higher quality habitat patches. This is a ***less than significant*** impact.

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

Much of the habitat on the Residential Development Area has been subjected to moderate levels of disturbance including horse boarding and grazing, storage, and general grounds-keeping activities. Native trees are scattered across the site, but the understory is mostly dominated by non-native vegetation. Still, native resident wildlife do occupy the site, and migratory wildlife occasionally visit the site. The more natural, less disturbed habitat within the remainder of the Project site where the fire access road, hiking/equestrian trails, would be constructed, and vegetation management activities would occur, provides even higher-quality wildlife habitat. Depending on how much habitat is removed from the Residential Development Area, these species would likely not be able to occupy the site after it is constructed. However, the more natural portion of the site would remain largely undeveloped.

After they are constructed, the fire access road and trails would not create a barrier to movement. Furthermore, although initial and long-term vegetation management activities would alter this more natural area from its current condition, the areas would continue to provide habitat for native resident and migratory wildlife. Additionally, high quality habitat is also present on the adjacent lands, including lands surrounding Felt Lake to the east. With exception of Alpine Road along the eastern border of the site, the site is contiguous with these lands and the Project would not interfere with the movement of wildlife between these areas. Alpine Road does likely slow movement of wildlife between these areas, but it is not a barrier to movement. Thus, while development of the site would reduce the ability for wildlife to use and move across the Project site, wildlife would still be able to move between these surrounding higher quality habitat patches. Further, because no aquatic habitat is present within the Residential Development Area and work associated with the fire access road, trails, and vegetation management activities would avoid stream habitats, the Project would not interfere with the movement of any resident or migratory fish. Because Project implementation would not substantially interfere with wildlife movement, this impact would be ***less than significant***.

Bird Collisions

Impact Bio-12: **Bird Collisions**. While the proposed residential development would add structures that could present a risk of bird collisions as they travel across the site between surrounding habitats, the specific design of the proposed structures, including the lack of extensive glazing elements, would minimize this risk below levels where it could substantially impact sensitive species. This is a ***less than significant*** impact.

Development of the proposed Project would result in the construction of 30 two-story buildings. Glass windows and building facades have the potential to result in injury or mortality of birds due to collisions with these surfaces. Because birds do not perceive glass as an obstruction the way humans do, they may collide with glass when the sky or vegetation is reflected in glass (e.g., they see the glass as sky or vegetated areas); when transparent windows allow birds to perceive an unobstructed flight route through the glass (such as at corners); and when the combination of transparent glass and interior vegetation (such as in planted atria) results in attempts by birds to fly through glass to reach that vegetation. These risks are highest for buildings in or near areas of high avian activity or movement, such as migratory corridors, large open spaces, large water bodies, and riparian habitats.

Currently, terrestrial land uses and habitat conditions within and adjacent to the Residential Development Area are relatively degraded, but the scattered trees and shrubs provide foraging, nesting, and roosting habitat for a variety of locally-common breeding birds and wintering birds, and the undeveloped natural habitat on the remainder of the site supports a variety of locally-common breeding and wintering species that use oak woodland and rural habitats in the area. Based on a review of the proposed site plans and building renderings, the proposed buildings would primarily support non-glass exterior walls, with a small number of windows, in a variety of sizes, incorporated on both levels and on each side of the structures. In general, the buildings are designed to keep with the wooded nature of the site and do not include extensive glass that could cause bird collisions. Although birds may occasionally collide with windows on the proposed residential structures, the frequency and overall number of such collisions would be low due to the very limited extent of glazing. The birds that would be impacted are expected to consist primarily of locally resident species that are regionally abundant. Therefore, the Project would not result in a significant impact on birds due to collisions with the new residential buildings (***less than significant***).

Nursery Sites and Nesting Birds

Impact Bio-13: **Disturbance of Nesting Birds**. The removal of trees and shrubs during the February 1 to August 1 breeding season could result in mortality of nesting avian species if they are present. This could include but is not limited to species of special concern, which could also be disturbed when they are wintering at the site, outside of breeding season. This impact is ***less than significant with mitigation***.

Disturbance related to construction of the Residential Development Area, fire access road, and hiking/equestrian trails, and vegetation management activities during the avian breeding season (February 1 through August 31) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests located on or near the construction or vegetation management areas.

While the habitats in and adjacent to the Residential Development Area represent a very small proportion of the habitats that support these species regionally and they are relatively degraded, the habitats in the larger portion of the site are more natural and represent a larger proportion of habitats that are used by local breeding species. Still, all species of birds currently using the Residential Development Area are expected to nest and forage or continue these activities on the larger portion of the Project site after the Project is completed because this habitat would still be available, even if modified by vegetation management activities. Furthermore, some species may continue to nest on the developed residential portion of the site, depending on how much habitat is left intact or what landscaping vegetation is provided. Nevertheless, in the absence of mitigation measures, the number of active nests of birds that could be impacted would constitute a significant impact under CEQA. Furthermore, all native bird species are protected from direct take by federal and state statutes (see Regulatory Setting section).

Mitigation Measures

Bio-13a: **Nesting Bird Avoidance, Substrate Pre-removal, Pre-activity Surveys, and Buffers.** The applicant shall conduct or include in work contracts the following measures related to nesting birds for construction and vegetation management activities:

i. To the extent feasible, construction and vegetation management activities should be scheduled to avoid the nesting season (February 1 to August 31). If these activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and California Fish and Game Code shall be avoided.

ii. If construction of the residential development, fire access road, or trails would not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by these project features may be removed prior to the start of the nesting season (e.g., prior to February 1). This would preclude the initiation of nests in this vegetation, and prevent the potential delay of the project construction due to the presence of active nests in these substrates.

iii. If it is not possible to schedule construction or vegetation management activities between September 1 and January 31 then pre-activity surveys for nesting birds should be conducted by a qualified ornithologist to ensure that no nests shall be disturbed during project implementation. We recommend that

these surveys be conducted no more than seven days prior to the initiation of all project activities. During this survey, the ornithologist shall inspect all trees and other potential nesting habitats (e.g., shrubs, ruderal grasslands, trees, horse paddocks) in and immediately adjacent to the impact areas for nests.

iv. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist shall determine the extent of a construction- or disturbance-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code shall be disturbed during Project implementation.

Bio-13b: **Maintain Nesting Substrate during Vegetation Management**. To the extent feasible, maintain a variety of tree, shrub, and herbaceous nesting substrates during vegetation management activities. This would involve maintaining (1) plant species diversity, and structural and age class diversity to accommodate a variety of tree-nesting species, (2) islands or scattered locations of live and dead or dying trees that support nest cavity habitat, and (3) islands or scattered locations supporting moderately dense pockets of shrubs, and other low-lying vegetation for shrub and ground-nesting species.

With nesting season avoidance, pre-removal of substrate in construction areas prior to mating season, pre-activity surveys for nesting birds, and buffers from active nests as appropriate, as outlined in Mitigation Measure Bio-13a, as well as maintaining a variety of nesting substrate during ongoing vegetation management activities as detailed in Mitigation Measure Bio-13b, the Project's impact related to disturbance of nesting birds would be reduced to ***less than significant***.

Disturbance of nesting Pallid Bat maternity roosts is addressed under Impact and Mitigation Measure Bio-6. As discussed under the Special-Status Animals section, no other species are expected to rely on the site as a nursery site and there would be no other significant impacts in this respect.

CONFLICT WITH LOCAL BIOLOGICAL POLICIES

5. Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact Bio-14: **Tree Removal**. The proposed development as well as vegetation management activities would result in the removal of an unknown but substantial number of trees, some of which may qualify as "Significant Trees" under the Town's Municipal Code. However, the applicant is required to comply with the Town's regulations, including the need for permits and payment of fees as appropriate and would therefore not conflict with local policies. This is a ***less than significant*** impact.

Per the Town of Portola Valley Municipal Code 15.12.275: Protection of Significant Trees, permits from the Town's planning department and payment of a fee are required for the removal of any trees that meet the definition of a significant tree (see Regulatory Setting above).

The total number of trees that would be removed or pruned, as well as the total number of "significant trees" that would be impacted, has not yet been determined, and cannot be known with certainty until the VMP is implemented and Stanford is able to determine precisely where vegetation management involving trees (e.g., removal or pruning) is necessary. It is estimated that the density of trees on the

Project site is approximately 70-80 per acre. Only a subset of these trees meet the Town's definition of a "significant tree", and only a subset of all trees, and significant trees, would be removed or pruned.

The Project would be required to comply with the Town's significant trees ordinance, including obtaining a permit from the Town to remove protected trees, paying any applicable fees, and complying with permit conditions (which may include planting appropriate native replacement trees). Because the applicant would comply with the Town's tree ordinance, potential impacts related to conflict with local policies or ordinances protecting heritage trees would be ***less than significant***.

CONFLICT WITH HABITAT CONSERVATION PLAN OR NATURAL COMMUNITY CONSERVATION PLAN

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

The Project site is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Although Stanford University has a Habitat Conservation Plan for activities on portions of its lands, the Stanford Wedge Project site is located outside the Habitat Conservation Plan boundary. Therefore, the Project would not have the potential to conflict with any such plans. There would be ***no impact*** with respect to conflict with conservation plans.

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