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Habitat Assessment

Kenefick Winery Use Permit P16-00021-UP
Planning Commission Hearing March 6, 2019

Habitat Assessment

2200 Pickett Road
Calistoga, Napa County, CA

July 28, 20153

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Habitat Assessment
2200 Pickett Road, Calistoga

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SUMMARY

The 2200 Pickett Road proposed project includes development of includes a 20,000 case wine production building, winery office, parking delivery area and road extension, as depicted on the Use Permit Application Drawings (More Associates 2011). Of the 44.28-acre parcel, development will occur in northern central portion of the parcel, on 0.413 acres.

This Habitat and Site Assessment presents the findings of our review of scientific literature and reports detailing previous studies conducted in the area, and the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDB) for reported occurrences of special-status vegetation communities, plants and animals.

Two vegetation community types occur on the property: *Quercus douglasii* woodland alliance or blue oak woodland and *Avena (barbata, fatua)* semi-natural herbaceous stands or wild oats grasslands (Sawyer et. al. 2009).

As part of this Habitat Assessment, we conducted a site visit on July 15, 2015, of all habitats on the site to evaluate the potential for occurrence of 26 special-status plant species, and 19 special-status wildlife species. All vegetation and structures were assessed for potentially suitable bird and bat habitat, although no surveys for occupancy were conducted.

Based on the literature review, presence of drainages on site, seasonal periods of bird nesting and bat maternity roosting activity and limitations of the surveys conducted for this assessment, the following are action items to be addressed prior to ground breaking:

- For all areas proposed for grading, comply with the County of Napa General Plan policies which require either preservation or replacement at a 2:1 ratio for oak trees removed by the project.
- A nesting bird survey should be conducted within one week of the removal of tree nesting habitat, unless removal occurs after August 15 and before March 1.
- A bat habitat assessment of the existing structures on the site shall be conducted prior to removal.

INTRODUCTION

Mr. Thomas Kenefick, of Kenefick Ranch, contracted with Jane Valerius Environmental Consulting and Wildlife Research Associates to conduct a Habitat Assessment of the 44.28-acre parcel for their proposed includes a 20,000 case wine production building, winery office, parking delivery area and road extension development. The 2200 Pickett Road parcel (APN: 020-340-007) is located in the eastern portion of the City of Calistoga, in the northern portion of Napa County, California. This habitat assessment was conducted to determine the potential for special-status vegetation communities, plant and animal species to occur within the proposed project and to identify the limitations to potential development of the project.

This Habitat Assessment is part of the preliminary analysis of both the existing environment and potential impacts from the proposed project as required under the California Environmental Quality Act (CEQA) for new projects. Federal and state agencies that have purview over biological resources include the following:

- U.S. Army Corps of Engineers (USACE),
- U.S. Fish and Wildlife Service (USFWS),
- National Marine Fisheries Service (NMFS),
- California Regional Water Quality Control Board (RWQCB), and the
- California Department of Fish and Wildlife (CDFW).

The USACE regulates the discharge of dredged or fill material into waters of the United States. Waters of the U.S. are defined as waters that are hydrologically connected to waters with interstate or foreign commerce, and includes tributaries to any of these waters, and wetlands, which are areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support vegetation typically adapted to life in saturated soil conditions. The USFWS has regulatory authority over federally listed plant and animal species. The NMFS, a division of the National Oceanic and Atmospheric Administration (NOAA), has regulatory authority over essential fish habitat, which is habitat necessary to maintain sustainable fisheries in the United States. The California RWQCB protects all waters with special responsibility for wetlands, riparian areas, and headwaters. The CDFW has regulatory authority over state listed plants and animals as well as streams and lakes within the State.

Napa County Open Space and Conservation Element

The Napa County General Plan Policy Con-24 addresses removal of oak woodlands. For development projects such as this one, the Policy requires preservation of existing woodlands or replacement at a 2:1 ratio in relation to the woodland removed by a project. In addition, the Napa County General Plan Open Space and Conservation Element directs the County to retain existing oaks to the extent feasible as part of residential, commercial, industrial and agricultural land division approvals. Projects should include management plans for fishery and wildlife including provisions to employ supplemental planting and maintenance of trees to provide adequate vegetation cover to keep watersheds in good condition and provide shelter and food for wildlife. The Oak Woodland Conservation Program in the Napa County Open Space and Conservation Element requires hardwood cutting to maintain adequate stands of oaks for wildlife, slope stabilization, soil protection, and acorn production. This program requires that natural groups of oaks be retained and replanting is required.

Site Location

The rectangular-shaped parcel is located in the eastern portion of the City of Calistoga, east of Hwy 29 and at the eastern end of Pickett Road, east of Silverado Trail. The northern end of Napa Valley is characterized by a narrowing of the sides of the Valley on three sides of Calistoga. Wooded hillsides are located to the west; relatively steep slopes and the palisades with Mt. St. Helena beyond are located to the north, and more arid slopes with visible palisades are located to the east.

The parcel is located generally in the western portion of Simmons Canyon , southwest of Bald Hill, west of Sugarloaf Mountain, with a south-facing orientation and a south-facing valley on the east side of the parcel. The property is demarcated along the northern valley by the depression created between two ridges. The southern property boundary is bounded by wineries. The eastern portion of the site is located at the toe of the slope of a hardwood-conifer habitat. Several native trees including blue oak (*Quercus douglasii*), coast live oak (*Quercus agrifolia*), California bay laurel (*Umbellularia californica*) and foothill pine (*Pinus sabiniana*) occur within the project study area. Non-native trees such as olive (*Olea europea*), walnut (*Juglans* sp.) and birch (*Betula* sp.) also occur within the study area.

Proposed Project
The proposed project includes a 20,000 case wine production building, winery office, parking delivery area and road extension. The proposed 20,000 case wine production building includes 2,640 square feet (sf) for fermentation and storage, 600 sf tasting room, two 48" x 72" landings and a maximum 1:12 ramp slope. There will also be a 1" slope walkway to the wine production building. The proposed winery office is 528 sf. The 18,010 square foot (0.413 acres) development includes a paved drive turnaround and work area with six parking spaces measuring 9 feet wide by 19 feet long.

A total of 7 oak trees are proposed for removal, as well as one pine tree.

METHODS

Information on special-status plant species was compiled through a review of the literature and database search. Database searches for known occurrences of special-status species focused on the Calistoga U.S. Geologic Service 7.5-minute topographic quadrangle, which provided a three mile radius around the proposed project area. The following sources were reviewed to determine which special-status plant and wildlife species have been documented in the vicinity of the project site:

- U.S. Fish and Wildlife Service (USFWS) quadrangle species lists (USFWS 2015)
- USFWS list of special-status animals for Napa County (USFWS 2015)
- California Natural Diversity Database records (CNDDB) (CDFW 2015)
- California Department of Fish and Wildlife's (CDFW) Special Animals List (CDFW 2015)
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2015)
- California Native Plant Society (CNPS) Electronic Inventory records (CNPS 2015)
- California Department of Fish and Game (CDFG) publication "California's Wildlife, Volumes I-III" (Zeiner, *et al.*, 1990)

Botanical nomenclature used in this report conforms to Baldwin, *et al*. (2012) for plants and to Sawyer, *et al*. (2009) for vegetation communities. Nomenclature for special-status animal species conforms to CDFW (2014).

Site Survey: Trish Tatarian, wildlife biologist of Wildlife Research Associates, and Jane Valerius, botanist and wetland specialist of Jane Valerius Environmental Consulting, conducted a daytime survey on July 15, 2015, between the hours of 0900 and 1030.

The proposed development area, or study area, was walked and all plant species identifiable at the time of the site survey were noted (Appendix D). The survey was conducted outside of the flowering period for some special status plant species, most of which would not occur due to lack of potential or suitable habitat on site. Vegetation communities present in the study area were recorded and evaluated for their potential to support any special status plants that have the potential to occur in the area.

The project area was evaluated for suitable bird nesting habitat using 8 x 42 roof-prism binoculars, noting presence of old bird nests and cavities in trees. The reconnaissance-level site visit was intended only as an evaluation of on-site and adjacent habitat types; no special-status species surveys were conducted as part of this effort.

All buildings on the site were individually surveyed for potential openings and suitable cavity or crevice roost habitat using 8 x 40 binoculars. The exteriors were surveyed for suitable openings, staining, and accumulated bat fecal pellets.

All trees were assessed for suitable potential habitat for colonial bat species, consisting of cavities, crevices and exfoliating bark. Additionally, foliage habitat suitable for use by obligate tree-roosting, solitary bat species was also assessed. The assessment was conducted using 8 x 42 roof-prism binoculars. Presence/absence surveys were not conducted.

EXISTING CONDITIONS

The project area is located within the San Francisco Bay Coastal Bioregion (Welsh 1994). This bioregion is located within central California and encompasses the San Francisco Bay and the Sacramento Delta, extending from the Pacific Ocean to the eastern portion of the tule marsh zone, which is defined by Highway 99 (Welsh 1994). Habitats within this bioregion include both mesic (moist) habitats, such as freshwater marsh, and xeric (dry) habitats, such as chaparral, and are typical of a Mediterranean type climate.

The project area is located in unsectioned portion of the Carne Humana Rancheria in the northwestern portion of the Calistoga 7.5-minute topographic quadrangle, within Township 9N and Range 6W (Figure 1). Surrounding land uses consist of mainly open space lands, ranches and vineyards.

Vegetation Communities

Two vegetation communities occur within the project study area: *Quercus douglasii* woodland alliance or blue oak woodland and *Avena (barbata, fatua)* semi-natural herbaceous stands or wild oats grassland (Sawyer et. al 2009). Some landscape plants occur near the adjacent buildings and include species such as birch, olive, walnut and rosemary (*Rosmarinus officinalis*). Vegetation within the project study area is primarily non-native and highly disturbed as the proposed development site occurs within areas that currently have old and delapidated buildings.

Blue oak woodland: This vegetation community, which occurs primarily on the adjacent hillsides, is dominated by blue oak trees and includes some coast live oak, foothill pine and bay trees (Fig. 2). Shrub species associated with this type include whiteleaf manzanita (*Arctostaphylos manzanita* ssp. *glaucescens*), toyon (*Heteromeles arbutifolia*), and poison oak (*Toxicodendron diversilobum*). The herbaceous understory is comprised of non-native wild oats grassland described below.

Wild oats grassland: This vegetation community is the main vegetation type within the study area and is comprised of a mixture of non-native annual grasses including wild oats, false brome (*Brachypodium distachyon*), rigput brome (*Bromus diandrus*), soft chess (*Bromus hordaeceus*), large quacking grass (*Briza maxima*), dogtail grass (*Cynosurus echinatus*), nit grass (*Gastridium nitidum*), and hare barley (*Hordeum murinum* ssp. *leporinum*). Non-native and weedy forb species noted include black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), Queen Anne's lace (*Daucus carota*), rough cat's-ear (*Hypochaeris radicata*), and English plantain (*Plantago lanceolata*).

Wildlife Habitats

Wildlife habitat classifications for this report is based on the California Department of Fish and Game's Wildlife Habitat Relationships (WHR) System (CDFG 1988) which places an emphasis on dominant vegetation, vegetation diversity and physiographic character of the habitat. The value of a site to wildlife is influenced by a combination of the physical and biological components of the immediate environment, and includes such features as type, size, and diversity of vegetation communities present and their degree of disturbance. As a plant community is degraded by loss of understory species, creation of openings, and a reduction in canopy area, a loss of structural diversity generally results. Degradation of the structural

diversity of a community typically diminishes wildlife habitat quality, often resulting in a reduction of wildlife species diversity.

Wildlife habitats are typically distinguished by vegetation type, with varying combinations of plant species providing different resources for use by wildlife. The following is a discussion of existing habitats found on site and the wildlife species they support.

Blue oak woodland: This habitat type is variable and depends on the canopy cover, the slope aspect and the climate in which the woodland is present. On the project site, on a western sloping hill, in the dry conditions of the Napa Valley, this habitat is drier and does not support an understory. As a result, the leaf litter and canopy cover are the primary structure of habitat in this wildlife habitat. Amphibians that can be found under the leaf litter and downed logs include Pacific slender salamander (*Batrachoseps attenuatus*) and arboreal salamander (*Aneides lugubris*). Smaller passerines, such as black-capped chickadee (*Poecile atricapillus*), bushtit (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), yellow-rumped warbler (*Dendroica coronata*) and acorn woodpecker (*Melanerpes formicivorus*), all observed on the site, may nest and forage in the woodlands, feeding on insects on the bark and

Grasslands: Grassland habitat, including native and non-native grasslands, provides both primary habitat, such as nesting and foraging, and secondary habitat, such as a movement corridor. Small species using this habitat as primary habitat include reptiles and amphibians, such as southern alligator lizard (*Gerrhonotus multicarinatus*), western fence lizard (*Sceloporus occidentalis*), and Pacific slender salamander (*Batrachoseps attenuatus*), which feed on invertebrates found within and beneath vegetation and boulders within the vegetation community. This habitat also attracts seed-eating and insect-eating species of birds and mammals. Signs of wildlife using the undisturbed grasslands on the northern parcel include Botta's pocket gopher (*Thomomys bottae*), striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*).

Trees: Both birds and bats may use individual trees for nesting or roosting. Typically the trees are senescent or have been damaged, creating habitat in the form of cavities, crevices or peeling bark (Fig. 3-5). Bird species that are cavity nesters include American kestrel (*Falco sparverius*), Northern flicker (*Colaptes auratus*), woodpeckers (*Melanerpes formicivorus, Picoides villosus, Picoides pubescens, Picoides nuttallii*), violet-green swallow (*Tachycineta thalassina*), tree swallow (*Iridoprocene bicolor*), white-breasted nuthatch (*Sitta carolinensis*), brown creepers (*Certhia americana*), western bluebirds (*Sialia mexicana*), Bewick's wren (*Thryomanes bewickii*), oak titmouse (*Baeolophus inornatus*), chestnut –backed chickadee (*Poecile rufescens*), and western flycatcher (*Empidonax difficilis*), among others.

Bats that use trees fall into three categories; 1) solitary, obligate tree-roosting bats that roost in the foliage or bark such as Western red-bat (*Lasiurus blossevillii*), a California Species of Special Concern (SSC) species, or hoary bat (*Lasiurus cinereus*); 2) frequent tree-roosting bats that form colonies of varying size in tree cavities, such as silver-haired bats (*Lasionycteris noctivagens*), and 3) more versatile bat species that will use a wide variety of roosts from buildings to bridges to trees, such as various *Myotis* species, pallid bat (*Antrozous pallidus*), another SSC species, and others. Solitary-roosting bats consist either of single males or females either alone or with young. Colonial-roosting bats form maternity colonies in tree cavities or crevices, whereas with man-made structures, young are left behind while females forage, then return to nurse their young. Greater impacts can occur as a result of removal of trees that support cavity-roosting bat species than those that provide habitat for solitary foliage-roosting species.

Buildings. Part of the proposed project that will be to be removed at a future date, are several winery storage buildings that occur in the proposed project site (Fig 5-6). No signs of bat use in the building were observed although this may change depending on when the buildings are removed. Many colonial bat species have adapted to using man-made structures such as houses, barns, sheds, garages, bridges, and culverts. Statewide and in the project region, buildings provide significant roosting habitat for bat species, including more common species such as Brazilian free-tailed bat (*Tadarida brasiliensis*) and Yuma myotis (*Myotis*

yumanensis), as well as more rare species such as pallid bat (*Antrozous pallidus*), a State Special Concern (SSC) and Townsend's big-eared bat (*Corynorhinus townsendii*), proposed for listing under CDFW.

In general, day roost habitat is considered more critical than night roost habitat, because it provides shelter for bats from light, air currents, predators, and other disturbance, and are where bats mate, raise young, roost during dispersal, and overwinter, either in torpor or hibernation. Because of this, and because demolition typically occurs during daytime hours, the risks of direct mortality of bats is very high at day roosts. Although night roosts are also very important for bats for various purposes (conservation of energy during foraging bouts, social interaction, etc.), buildings are not usually demolished at night, so although the habitat is lost, direct mortality does not usually occur.

Movement Corridors

Wildlife movement includes migration (i.e., usually one way per season), inter-population movement (i.e., long-term genetic flow) and small travel pathways (i.e., daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations.

These linkages among habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement among populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Potentially low frequency genetic flow may lead to complete isolation, and if pressures are strong, potential extinction (McCullough 1996; Whittaker 1998).

The project location is considered to be within the southern portion of the North Coast Ecoregion of the California Essential Habitat Connectivity Project (Spencer, *et al*. 2010). No Natural Landscape Blocks (i.e., large, relatively natural habitat blocks that support native biodiversity), or Essential Connectivity Areas (i.e., areas essential for ecological connectivity between Natural Landscape Blocks) are identified in this portion of Napa County (Spencer, *et al*. 2010). Although the Napa River is identified as a Riparian Connection that provides both terrestrial and aquatic connectivity (Spencer, *et al.* 2010), the 2200 Pickett Road project site is not hydrologically connected to the river.

Wildlife connectivity of this site to other open lands in the area occurs throughout the parcel. The proposed buildings to be located on the eastern portion of the parcel will not impede small (i.e., western gray squirrels (*Sciurus griseus*), medium (i.e., raccoon, and skunk) or large wildlife (i.e., black-tailed deer (*Odocoileus hemionus*).

SPECIAL-STATUS BIOLOGICAL RESOURCES

Certain vegetation communities, and plant and animal species are designated as having special-status based on their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special-status is a combination of these factors that leads to the designation of a species as sensitive. The Federal Endangered Species Act (FESA) outlines the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur. The California Endangered Species Act (CESA) amends the California Fish and Wildlife Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA.

Special-Status Vegetation Communities
No special status vegetation communities as defined by CDFW and the CNDDB occur on the project site. However, the Napa County General Plan Policy Con-24 addresses removal of oak woodlands. For development projects such as this one, the Policy requires preservation of existing woodlands or replacement at a 2:1 ratio in relation to the woodland removed by a project. In addition, the Napa County General Plan Open Space and Conservation Element directs the County to retain existing oaks to the extent feasible as part of residential, commercial, industrial and agricultural land division approvals. Projects should include management plans for fishery and wildlife including provisions to employ supplemental planting and maintenance of trees to provide adequate vegetation cover to keep watersheds in good condition and provide shelter and food for wildlife. The Oak Woodland Conservation Program in the Napa County Open Space and Conservation Element requires hardwood cutting to maintain adequate stands of oaks for wildlife, slope stabilization, soil protection, and acorn production. This program requires that natural groups of oaks be retained and replanting is required.

The proposed project will remove 7 oak trees. It is recommended that at least 14 oak trees should be planted to compensate for the loss of the 7 oak trees to provide a 2:1 ratio of compensation to loss.

Special-Status Plant Species
Special-status plant species are those species that are legally protected under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA) as listed or proposed for listing as threatened or endangered, as well as species that are considered rare by the scientific community. For example, the California Native Plant Society (CNPS) has identified some species as List 1 or 2 species and may be considered rare or endangered pursuant to Section 15380(b) of the State CEQA Guidelines. The CDFW has compiled a list of "Special Plants" (CDFW 2015), which include California Special Concern species. These designations are given to those plant species whose vegetation communities are seriously threatened. Although these species may be abundant elsewhere they are considered to be at some risk of extinction in California. Although Special Concern species are afforded no official legal status under FESA or CESA, they may receive special consideration during the planning stages of certain development projects and adverse impacts may be deemed significant under the California Environmental Quality Act (CEQA).

A total of 26 special-status plant species have been reported occurring on the Calistoga 7.5-minute USGS topographic quadrangles (CNDDB 2015). Please refer to Appendix B for a list of these species and their potential for occurrence. Many species were considered to have no potential to occur either because these species are restricted to areas with serpentinite, rhyolitic, sandy or clay soils and these substrates are lacking within the study area, or the species occurs in habitats not present within the study area such as chaparral, lower montane coniferous forest, closed-cone coniferous forest, North Coast coniferous forest, coastal bluff scrub, marshes and swamps, ,meadows and seeps, and vernal pools.

No special status plants were observed during the July 15, 2015 site visit and none are expected to occur due to the highly disturbed nature of the grassland, dominance by non-native plants and lack of native herbaceous species.

Special-status Animal Species
Special-status animal species include those listed by the USFWS (2015) and the CDFW (2015). The USFWS officially lists species as either Threatened or Endangered, and as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act *(e.g*., bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA), and state protection under CEQA Section 15380(d). In addition, many other species are considered by the CDFW to be species of special concern; these are listed in Remsen (1978), Williams (1986), and Jennings and Hayes (1994). Although such species are afforded no official legal status, they may receive special consideration during the planning and CEQA review stages of certain development projects. The CDFW further classifies some species under the following categories: "fully protected", "protected fur-bearer", "protected amphibian", and "protected reptile". The designation "protected" indicates

that a species may not be taken or possessed except under special permit from the CDFW; "fully protected" indicates that a species can be taken for scientific purposes by permit only.

Of the 19 special-status animal species identified as potentially occurring in the vicinity of the project area, including a 3 mile radius (CNDDB 2015), several additional species were evaluated for their potential to occur within the study area, based on: 1) review of the CNDDB, 2) the "Special Animals" list (CDFW 2015) that includes those wildlife species whose breeding populations are in serious decline, and 3) the habitat present on site. See Appendix C for a list of the 19 species evaluated.

Several of these species are prominent in today's regulatory environment and are discussed below. This document does not address impacts to species that may occur in the region but for which no habitat occurs on site.

California red-legged frog (*Rana draytonii*) is a federally Threatened species with Critical Habitat in the eastern portion of Santa Rosa. California red-legged frog is typically found in streams, marshes, and ponds, and is generally associated with aquatic habitats with at least two feet of water depth and nearby plant cover. Preferred stream habitats are usually reaches with slow moving water or pools with emergent or overhanging vegetation. Plunge pools or pools created by log jams or root masses are also important habitat features.

Project Area Occurrence: No surveys were conducted for this Habitat Assessment. The site is within the range of the species. However, the site does not support, a) essential aquatic habitat (comprised of breeding and non-breeding habitat with a minimum depth of 20 inches for at least 4 months), b) associated uplands (within 300 feet of suitable aquatic habitat), or c) dispersal habitat connecting two or more essential aquatic habitats that is barrier free. The closest reported sighting is more than 3 miles to the south, east or north. There is no hydrologic connection to the population in the east in Pope Valley.

No further analysis is required.

Nesting Passerines: As stated previously, passerines, protected under the MBTA and Fish and Wildlife Code 3503, have potential to nest within the proposed project area. The proposed project is located within the Bird Conservation Region 32, Coastal California (USFWS 2008) which lists 27 upland and riparian species of concern potentially occurring in the region, with another 20 pelagic or coastal marsh birds.

General Ecology and Distribution: Passerines (perching birds) observed potentially nesting in the trees on site include Anna's hummingbird, acorn woodpecker (*Melanerpes formicivorus),* Bewick's wren (*Thryomanes bewickii*), bushtit (*Psaltriparus minimus*) and oak titmouse (*Baeolophus inornatus*). As early as mid-February, passerines begin courtship and once paired, they begin nest building, often around the beginning of March. Nest structures vary in shapes, sizes and composition and can include stick nests, mud nests, matted reeds and cavity nests. For example, black phoebes may build a stick nest under the eaves of a building. Depending on environmental conditions, young birds may fledge from the nest as early as May and, if the prey base is large, the adults may lay a second clutch of eggs.

Project Area Occurrence: No nesting bird surveys were conducted as part of this habitat assessment. One nest was observed from a previous year but was unoccupied at the time of the July survey. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these nesting bird species.

Nesting Raptors: Like passerines, raptors (birds of prey), such as red-shouldered hawk (*Buteo lineatus*), and sharp-shinned hawk (*Accipiter striatus*), are protected under the Federal Migratory Bird Treaty Act and Fish and Wildlife Code 3503.5

General Ecology and Distribution: Raptors nest in a variety of substrates including, cavities, ledges and stick nests. For example, Sharp-shinned hawks are small bird hunters, using forested areas and forest edges along grassland areas for hunting. In the higher elevations, this species prefers to nest in trees with a minimum

diameter at breast height of 8-15 inches, usually in species such as Douglas fir, lodgepole pine, Jeffrey pine and ponderosa pine, as well as mixed conifer. If nesting in a canyon or valley a preference of nesting sites 50-100 yards upslope from the valley floor has been observed (Call 1978). In general, the breeding season for raptors occurs in late March through June, depending on the climate, with young fledging by early August.

Project Area Occurrence: No nesting bird surveys were conducted as part of this habitat assessment. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these nesting bird species.

Roosting bats – including Townsend's big-eared bat, pallid bat, and western red bat
Status: Proposed for listing as Threatened by CDFW, State Species of Concern, as well as Fish and Wildlife Code Sections 86, 2000, 2014, 3007, Title 14, Sections 15380, 15382.

General Ecology and Distribution: Bats in this region of California are not active year-round. During the maternity season, non-volant young of colonial bats remain in the roost until late summer (end of August), after which they may disperse from the natal roost or remain into or throughout the winter. Obligate tree-roosting bat species, and to some extent, colonial bats, may switch tree roosts frequently, particularly after young are volant, but are sometimes faithful for longer periods (weeks). During winter months, bats typically enter torpor, rousing only occasionally to drink water or opportunistically feed on insects. The onset of torpor is dependent upon environmental conditions, primarily temperature and rainfall. To prevent direct mortality of either non-volant young or torpid bats during winter months, roosts must not be disturbed or destroyed until bats are seasonally active, and only after they have been provide a means of escape from the roost.

Townsend's big-eared bats are found unevenly throughout most of the state from sea level to the Sierras, but are more restricted in their roost habitat selection, and more sensitive to human disturbance. This species is more strongly associated with cave and mine habitat, preferring large, open roosts, compared to smaller cavities or crevices. Roosts for this nomadic species may serve multiple functions throughout the year, and multiple sites may be used for different life stages (pregnancy, parturition, rearing, etc.). Males remain solitary during maternity season.

Pallid bats are eclectic in their roosting habitat selection, and to some extent distribution, and can be found in crevices and small cavities in rock outcrops, tree hollows, mines, caves, and a wide variety of man-made structures such as buildings, bridges and culverts, generally in lower to mid-elevation sites. This species forms maternity colonies, composed of dozens to sometimes hundreds of females and their young, and smaller bachelor colonies composed of males and not-yet reproductive females.

Western red bats have a broad, but disjunct, distribution throughout the state, and a wide range of elevations. Reproductive females are more common in the inland portions of the state than the Bay Area, where males are more common during the summer months. This is a foliage-roosting species typically associated with large-leaf trees, such as willows, cottonwoods, and sycamores, and is often found near riparian zones. Western red bats are typically solitary, however females give birth to two to five young, which is atypical compared to other bat species.

Project Area Occurrence: Buildings: Pallid bats and Townsend's big-eared bats have potential to roost in the vacant buildings, and evidence of bats was found during our site visit, which occurred during the 2014 hibernacula season. All structures contain suitable day and/or night roost habitat to varying degrees, and all were accessible to bats. Because the buildings are unoccupied by humans, there is the potential that bats could begin to use the structures after dispersing from maternity roosts that could be located in the project area. It is also possible that bats could overwinter in some of the buildings, most possibly the residence, during which time they would be in torpor, inactive. In addition to pallid bats and Townsend's big-eared bats, non-CSC bat species such as Brazilian free-tailed bats (*Tadarida brasiliensis*), Yuma myotis (*Myotis yumanensis*) and other Myotis species have potential to occur in the buildings and to a lesser extent, trees containing suitable habitat. If large colonies of Brazilian free-tailed or Yuma myotis were to become

established in the buildings, a significant impact to local breeding populations could occur if buildings are demolished without first conducting humane bat eviction or other appropriate measures. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of roosting bats in buildings on this site.

Trees: Three trees on the project site contained suitable potential roost habitat. Pallid bats could roost in those trees with cavities, crevices and/or exfoliating bark; these could also support non-CSC bats such as hoary bats (*Lasiurus cinereus*), an obligate tree-roosting species, and Myotis species. In addition, western red bats could potentially roost in the foliage of larger mature trees throughout the project site.

Please refer to the Impacts and Mitigation Measures for details on avoidance measures of roosting bats in trees on this site.

IMPACTS AND MITIGATION MEASURES

This section summarizes the potential temporary biological impacts from construction activities within the study area. The analysis of these impacts is based on a single reconnaissance-level survey of the study area, a review of existing databases and literature, and personal professional experience with biological resources of the region.

CEQA Guidelines Sections 15206 and 15380 were used to determine impact significance. Impacts are generally considered less than significant if the habitats and species affected are common and widespread in the region and the state.

A species may be treated as rare or endangered even if it has not been listed under CESA or FESA. Species are designated endangered when it survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, disease or other factors.

For the purposes of this report, three principal components in the evaluation were considered:

- Magnitude of the impact (e.g., substantial/not substantial)
- Uniqueness of the affected resource (rarity)
- Susceptibility of the affected resource to disturbance (sensitivity)

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small-magnitude impact (e.g., disturbing a nest) to a state or federally listed species would be considered significant because the species is at low population levels and is presumed to be susceptible to disturbance. Conversely, a common habitat such as non-native grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact (e.g., removal of extensive vegetation) would be required for it to be considered a significant impact.

Special-Status Plants
Impact: No special status plants were observed during the July 15, 2015 site visit and none are expected to occur due to the highly disturbed nature of the grassland, dominance by non-native plants and lack of native herbaceous species.

Vegetation Community
Impact: Blue oak woodland is not a special status vegetation community. However the Napa County General Plan addresses removal of oak woodland. Approximately 7 oak trees will be removed as part of the project.

Mitigation Measure: For compensation for the loss of 7 oak trees at least 14 oak trees of the same species will be planted as a 2:1 compensation to loss mitigation ratio. These trees could be planted on site within the existing adjacent oak woodland.

Wildlife Movement Corridors
The current conditions of the parcel allows for movement of wildlife without impendence. Placement of structures along the eastern portion of the parcel will not impede movement of wildlife.

Birds
Impact: Several passerine (perching birds) species observed on site, such as California towhee and scrub jays, build stick nests in trees and shrubs, while others, such as the oak titmouse and woodpecker, nest in tree cavities. Disturbance during the nesting season (February 15- August 15) may result in the potential nest abandonment and mortality of young, which is considered a "take" of an individual.

Mitigation Measure: The following mitigation measures should be followed in order to avoid or minimize impacts to passerines and raptors that may potentially nest in the trees:

1) Grading or removal of nesting trees should be conducted outside the nesting season, which occurs between approximately February 15 and August 15.
2) If grading between August 15 and February 15 is infeasible and groundbreaking must occur within the nesting season, a pre-construction nesting bird (both passerine and raptor) survey of the grasslands and adjacent trees shall be performed by a qualified biologist within 7 days of ground breaking. If no nesting birds are observed no further action is required and grading shall occur within one week of the survey to prevent "take" of individual birds that could begin nesting after the survey.
3) If active bird nests (either passerine and/or raptor) are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest tree(s) until the young have fledged, as determined by a qualified biologist.
4) The radius of the required buffer zone can vary depending on the species, (i.e., 75-100 feet for passerines and 200-300 feet for raptors), with the dimensions of any required buffer zones to be determined by a qualified biologist in consultation with CDFW.
5) To delineate the buffer zone around a nesting tree, orange construction fencing shall be placed at the specified radius from the base of the tree within which no machinery or workers shall intrude.
6) After the fencing is in place there will be no restrictions on grading or construction activities outside the prescribed buffer zones.

Roosting Bats

Impacts to Buildings: Demolition of buildings may cause direct mortality of roosting bats that use the structures, if the structures are removed during seasonal periods of inactivity (maternity season or winter), or without first conducting humane bat eviction or partial dismantling under supervision of a qualified bat biologist experienced with bats using man-made roosts.

Mitigation Measure: To prevent direct mortality of bats in the empty buildings on the project site, a bat habitat assessment must be conducted by a qualified bat biologist at least 3-6 months ahead of demolition. The bat habitat assessment will provide specific recommendations for humane bat eviction and/or partial dismantling to be followed for each building. In general, humane eviction of bats must occur during seasonal periods of bat activity, ***between March 1, or when evening temperatures are above 45F and rainfall less than ½" in 24 hours occurs, and April 15, prior to parturition of pups. The next acceptable period for humane eviction with suitable roosting habitat is after pups become self-sufficiently volant – September 1 through about October 15, or prior to evening temperatures dropping below 45F and onset of rainfall fretter than ½" in 24 hours.***

Impacts to Trees: Removal of trees containing suitable bat roosting habitat comprised of cavities, crevices, and/or exfoliating bark, may cause direct mortality of roosting bats if removed during maternity season prior to self-sufficient volancy of pups, or in winter during torpor or hibernation. Removal of larger mature trees has the potential of causing direct mortality of solitary tree-roosting species such as western red bat or hoary bat. The reconnaissance level site visit did not have the trees proposed for removal. As a result, the condition of the trees to be removed needs to be assessed.

Mitigation Measure: To prevent direct mortality of bats roosting in the trees on the project site, a bat habitat assessment must be conducted by a qualified bat biologist. Tree removal must only occur during seasonal periods of bat activity, ***between March 1, or when evening temperatures are above 45F and rainfall less than ½" in 24 hours occurs, and April 15, prior to parturition of pups. The next acceptable period for tree removal with suitable roosting habitat is after pups become self-sufficiently volant – September 1 through about October 15, or prior to evening temperatures dropping below 45F and onset of rainfall fretter than ½" in 24 hours.***

1) Tree removal shall be conducted using a *two-step process conducted over two consecutive days* (e.g. Tuesday and Wednesday, or Thursday and Friday). With this method, small branches and small limbs not containing cavity, crevice or exfoliating bark habitat on habitat trees as identified by a qualified bat biologist (who must be present on the site during the first day of tree trimming or cutting) are removed first on Day 1, using chainsaws only (no dozers, backhoes, etc.). The following day (Day 2), the remainder of the tree is removed. The disturbance caused by chainsaw noise and vibration, coupled with the physical alteration, has the effect of causing bats to abandon the roost tree after nightly emergence for foraging. Removing the tree the next day prevents re-habituation and re-occupation of the altered tree.

Trees containing suitable potential habitat must be trimmed on Day 1 under initial field supervision by a qualified bat expert to ensure that the tree cutters fully understand the process, and avoid incorrectly cutting potential habitat features or trees. After tree cutters have received sufficient instruction, the qualified bat biologist does not need to remain on the site. If different tree cutters will be conducting work on subsequent days, it may be necessary for the qualified bat biologist to return for additional instruction and supervision.

2) Non-habitat trees and all other vegetation proposed for removal further than 25 feet from identified habitat trees may be removed immediately, using any suitable means that does not cause damage to the habitat tree.

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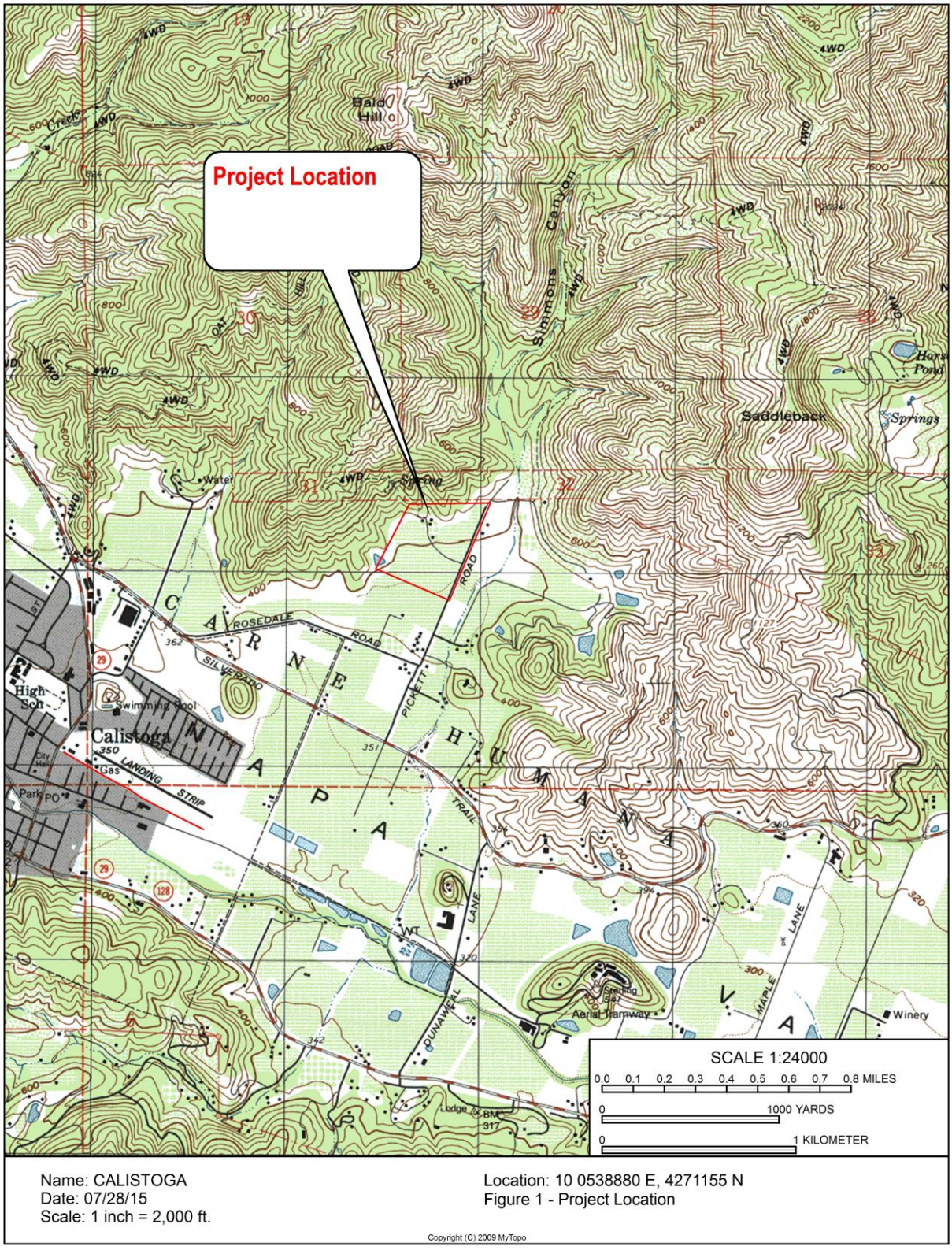

Figure 1-Project Location

Figure 2. Example of blue oak woodland.

Figure 3. Trees around building to be replaced.

Figure 4. Looking north in project site.

Figure 5. Trees along existing building to be removed.

Figure 6. Rafters of building to be replaced. Suitable potential bat habitat occurs in this building.

Figure 7. Location of new building.

APPENDIX A: FEDERAL AND STATE AND POLICIES, REGULATIONS AND ORDINANCES

Federal Endangered Species Act - U.S. Fish and Wildlife Service

Pursuant to ESA, the U.S. Fish and Wildlife Service (USFWS) has regulatory authority over federally listed species. Under ESA, a permit to "take" a listed species is required for any federal action that may harm an individual of that species. Take is defined under Section 9 of ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Under federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Section 7 of ESA requires all federal agencies to consult with USFWS to ensure that their actions are not likely to "jeopardize the continued existence" of any listed species or "result in the destruction or adverse modification" of designated critical habitat. No federal approvals or other actions are anticipated as being required to implement the project at this time. Therefore, consultation under Section 7 of ESA is not expected. However, if USACE determines that wetlands and/or other waters of the United States on the project site are subject to protection under Section 404 of the CWA, or any other federal action becomes necessary, consultation under Section 7 of ESA would be required.

For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain a permit for incidental take under Section 10(a) of ESA. Section 10(a) of ESA allows USFWS to permit the incidental take of listed species if such take is accompanied by a habitat conservation plan (HCP) that includes components to minimize and mitigate impacts associated with the take. The permit is known as an incidental take permit. The project proponent must obtain a permit before conducting any otherwise-lawful activities that would result in the incidental take of a federally listed species.

California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) (FGC §§ 2050–2116) is administered by the California Department of Fish and Wildlife. The CESA prohibits the "taking" of listed species except as otherwise provided in state law. The CESA includes FGC Sections 2050–2116, and policy of the state to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat. The CESA requires mitigation measures or alternatives to a proposed project to address impacts to any State listed endangered, threatened or candidate species, or if a project would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy. Section 86 of the FGC defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Unlike the ESA, CESA applies the take prohibitions to species under petition for listing (state candidates) in addition to listed species. Section 2081 of the FGC expressly allows DFG to authorize the incidental take of endangered, threatened, and candidate species if all of the following conditions are met:

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- Issuance of the permit will not jeopardize the continued existence of the species.
- The permit is consistent with any regulations adopted in accordance with §§ 2112 and 2114 (legislature-funded recovery strategy pilot programs in the affected area).
- The applicant ensures that adequate funding is provided for implementing mitigation measures and monitoring compliance with these measures and their effectiveness.

The CESA provides that if a person obtains an incidental take permit under specified provisions of the ESA for species also listed under the CESA, no further authorization is necessary under CESA if the federal permit satisfies all the requirements of CESA and the person follows specified steps (FGC § 2080.1).

California Environmental Quality Act (CEQA)

CEQA is a California statute passed in 1970, shortly after the United States federal government passed NEPA, to institute a statewide policy of environmental protection. CEQA does not directly regulate land

uses, but instead requires state and local agencies within California to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects and adopt all feasible measures to mitigate those impacts.

The CEQA statute, California Public Resources Code § 21000 et seq., codifies a statewide policy of environmental protection. According to CEQA, all state and local agencies must give major consideration to environmental protection in regulating public and private activities, and should not approve projects for which there exist feasible and environmentally superior mitigation measures or alternatives.

Species Protection under California Department of Fish and Wildlife
The CDFW is established under the Fish and Game Code (FGC) (FGC § 700) and states that the fish and wildlife resources of the state are held in trust for the people of the state by and through CDFW (FGC § 711.7(a)). All licenses, permits, tag reservations and other entitlements for the take of fish and game authorized by FGC are prepared and issued by CDFW (FGC § 1050 (a)).

Provisions of the FGC provide special protection to certain enumerated species such as:

§ 3503 protects eggs and nests of all birds.
§ 3503.5 protects birds of prey and their nests.
§ 3511 lists fully protected birds.
§ 3513 protects all birds covered under the federal Migratory Bird Treaty Act.
§ 3800 defines nongame birds.
§ 4150 defines nongame mammals.
§ 4700 lists fully protected mammals.
§ 5050 lists fully protected amphibians and reptiles.
§ 5515 lists fully protected fish species.

In addition, the Native Plant Protection Act (NPPA), directs the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." As a result, the NPPA allows the California Fish and Game Commission to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants.

California Native Plant Society (CNPS)
The California Native Plant Society (CNPS) is a statewide non-profit organization dedicated to the monitoring and protection of sensitive species in California. The CNPS publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California, focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California. The list serves as the candidate list for listing as threatened and endangered by the CDFW. The Inventory assigns plants to the following categories:

A. Presumed Extinct in California
B. Rare or endangered in California and elsewhere
Rare or endangered in California, more common elsewhere
Plants for which more information is needed
Plants of limited distribution.

Additional rarity, endangerment, and distribution codes are assigned to each taxa.

Plants Ranked 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and the Department recommends they be addressed in CEQA projects (CEQA Guidelines Section 15380). However, a plant need not be in the Inventory to be considered a rare, threatened, or endangered species under CEQA. In addition, the DFW recommends, and local governments may require, protection of plants which are regionally significant, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Rank 3 and 4.

Appendix B: Potentially Occurring Special-Status Plant Species in the Study Area

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS list**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Amorpha californica var. *napensis* Napa false indigo	-/-/1B	Broadleafed upland forest (openings), chaparral, cismontane woodland. Blooms April-July. Elevation: 120-2000m.	**None**. Not observed during survey-this shrub species would have been identifiable by its leaves.
Arctostaphylos stanfordiana ssp. *decumbens* Rincon Ridge manzanita	-/-/1B	Chaparral on rhyolitic soils and cismontane woodland. Blooms February to April (sometimes May). Elevation: 75-370m.	**None**. Typical habitat not present in study area. Not observed during survey.
Astragalus breweri Brewer's milk-vetch	-/-/4	Meadows and seeps, valley and foothill grassland in open and often gravelly areas and often on serpentinite or volcanic soils. Blooms April-June. Elevation: 90-730m.	**None.** No habitat in study area.
Astragalus claranus Clara Hunt's milk-vetch	FE/CT/1B	Openings in chaparral, cismontane woodland, valley and foothill grassland on serpentinite or volcanic, rocky or clay soils. Blooms March to May. Elevation: 75-275m.	**None.** No habitat in study area.
Brodiaea leptandra Narrow-anthered brodiaea	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland on volcanic soils. Blooms May to July. Elevation: 110-915m.	**None.** Typical habitat not in study area.
Ceanothus confusus Rincon Ridge ceanothus	-/-/1B	Closed-cone coniferous forest, chaparral, cismontane woodland on volcanic or serpentinite. Blooms February to June. Elevation: 75-1065m.	**None.** No habitat present in study area. No Ceanothus shrubs in study area.
Ceanothus divergens Calistoga ceanothus	-/-/1B	Chaparral on serpentinite or volcanic, rocky soils. Blooms February to April. Elevation 170-950m.	**None.** No habitat present in study area. No Ceanothus shrubs in study area.
Centromadia parryi ssp. *parryi* Pappose tarplant	-/-/1B	Chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, valley and foothill grassland on vernally mesic, often alkaline sites. May-November. Elevation: 2-420m.	**None.** No habitat present in study area. No coastal salt marshes, vernally mesic areas or alkaline sites.
Clarkia breweri Brewer's clarkia	-/-/4	Chaparral, cismontane woodland, coastal scrub, often on serpentinite. Blooms April to June. Elevation: 215-1115m	**None.** Typical habitat not present in study area. Not observed during survey.
Erigeron biolettii Streamside daisy	-/-/3	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest on rocky and mesic sites. Blooms June-October. Elevation 30-1100m.	**None.** No species of Erigeron observed in study area. Typical habitat not present.
Eryngium constancei Loch Lomond button-celery	FE/CE/1B	Vernal pools. Blooms April-June. Elevation: 460-855m.	**None.** No habitat in study area.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS list**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Lasthenia burkei Burke's goldfields	FE/CE/1B	Meadows and seeps (mesic), vernal pools. April-June. Elevation: 15-600m.	**None.** No habitat in study area.
Lasthenia conjugens Contra Costa goldfields	FE/-/1B	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/ mesic. Blooms March-June. Elevation: 0-470m.	**None.** No habitat in study area.
Leptosiphon jepsonii Jepson's leptosiphon	-/-/1B	Chaparral, cismontane woodland, on volcanics or the periphery of serpentinte substrates. Blooms March to May. Elevation: 100-500m.	**None.** Potential habitat in study area. Not observed during survey. Area proposed for development already highly disturbed. Nearest recorded occurrence is from Calistoga.
Lessingia hololeuca Woolly-headed Lessingia	-/-/3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentinite. Blooms June-October. Elevation: 15-305m.	**None.** No habitat in study area.
Limnanthes vinculans Sebastopol meadowfoam	FE/CE/1B	Meadows and seeps, valley and foothill grassland, vernal pools/vernally mesic. April-May. Elevation: 15-305m.	**None.** No habitat in study area.
Lomatium repostum Napa lomatium	-/-/4	Chaparral, cismontane woodland on serpentinite. Blooms March-June. Elevation: 90-830m.	**None.** No habitat in study area.
Lupinus sericatus Cobb Mountain lupine	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane conferous forest. Blooms March-June. Elevation: 275-1525m.	**None.** Not observed during surveys. This perennial species would have been identifiable by leaves at the time of the survey.
Monardella viridis Green monardella	-/-/4	Broadleafed upland forest, chaparral, cismontane woodland. June-September. Elevation: 100-1010m.	**None.** Not observed during survey. No species of Monardella were observed.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	-/-/1B	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools/mesic. Blooms April to July. Elevation: 5-1740m.	**None.** No habitat in study area.
Penstemon newberrryi var. *sonomensis* Sonoma beardtongue	-/-/1B	Chaparral (rocky). Blooms April-August. Elevation: 700-1370m.	**None.** No habitat in study area.
Plagiobothrys strictus Calistoga popcornflower	FE/CT/1B	Meadows and seeps, valley and foothill grassland, vernal pools/alkaline areas near thermal springs. Blooms March-June. Elevation 90-160m.	**None.** No habitat in study area.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS list**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Poa napensis Napa bluegrass	FE/CE/1B	Meadows and seeps, valley and foothill grassland/alkaline, near thermal springs. Blooms May-August. Elevation: 100-200m.	**None.** No habitat in study area.
Ranunculus lobbii Lobb's aquatic buttercup	-/-/4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Blooms February to May. Elevation: 15-470m.	**None.** No habitat in study area.
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	-/-/1B	Chaparral on rhyolitic soils. Blooms April-June. Elevation: 415-610m.	**None.** No habitat in study area.
Trifolium hydrophilum Saline clover	-/-/1B	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. April-June. Elevation: 0-300m.	**None.** No habitat in study area.
SPECIAL STATUS/SENSITIVE NATURAL COMMUNITIES			
Coastal and Valley Freshwater Marsh			None

NOTES:

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened

CALIFORNIA DEPT. OF FISH AND WILDLIFE

CE = California listed Endangered
CR = California listed as Rare
CT = California listed as Threatened

CALIFORNIA NATIVE PLANT SOCIETY -

Rank 1: Plants of highest priority
Rank 1A: Plants presumed extinct in California
Rank 1B: Plants rare and endangered in California and elsewhere
Rank 2: Plants rare and endangered in California but more common elsewhere
Rank 3: Plants about which additional data are needed

Appendix C: Potentially Occurring Special-Status Animal Species in the Project Area

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
FEDERAL			
Invertebrates			
California freshwater shrimp *Syncaris pacifica*	FE/SE	Endemic to Napa, Sonoma and Marin Counties. Occurs in low elevation and low gradient streams with moderate to heavy riparian cover. Reported from Napa River (CNDDB 2015).	None: no suitable habitat present.
Fish			
Delta smelt *Hypomesus transpacificus*	FT/-	Sacramento-San Joaquin delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10ppt. Most often at salinities <2ppt.	None: no suitable habitat present.
steelhead - Central California Coast DPS *Onchorhynchus mykiss*	FT/-	Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen. Reported in Napa River (CNDDB 2015).	None: no suitable habitat present.
Amphibians			
California red-legged frog *Rana draytonii*	FT/	Prefers permanent stream pools, and ponds with emergent and/or riparian vegetation. Species reported in Howell Mountain Road, 0.4 mi SW of Pope Valley (CNDDB 2015).	None: no suitable habitat present.
STATE			
Reptiles			
western pond turtle *Emys marmorata*	-/SSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires upland sites for egg-laying. Species reported in Conn River on E side of Napa Valley (CNDDB 2015).	None: no suitable habitat present.
Birds (All Protected under Migratory Bird Treaty Act)			
Sharp-shinned hawk *Accipiter striatus*	/WL	Dense canopy pine or mixed conifer forest and riparian habitats. Water within one mile required. Species reported 1 mile WSW of Calistoga (CNDDB 2015)	**Moderate**: suitable nesting habitat within project area.
Tri-colored blackbird *Agelaius tricolor*	BCC/SSC	Nests primarily in dense freshwater marshes with cattail or tules, but also known to nest in upland thistles. Forages in grasslands. Found along Butts Canyon Road (CNDDB 2015)	None: no suitable nesting habitat within project area
Bell's sparrow *Amphispiza belli*	BCC/WL	Nests in dense stands of chamise and chaparral.	None: no suitable nesting habitat within project area
Short-eared owl *Asio flammeus*	BCC/SSC	Nests in open areas in grasslands, marshes, or dunes on the ground sheltered by tall grasses, reeds or bushes.	None: no suitable habitat present.

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
burrowing owl *Athene cunicularia hypugea*	BCC/SSC	Nests in open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Prefers short grasses and moderate inclined hills.	None: no suitable habitat present.
Oak titmouse *Baeolophus inornatus*	BCC/	Breeds in cavities in oak woodlands, gleaning insects from the bark. Occurs from southern Oregon to northern Mexico along the Central Valley and xeric coastal foothills.	Moderate: suitable nesting habitat occurs on site.
Red-shouldered hawk *Buteo lineatus*	-/-	Nests in trees along riparian corridors and open fields.	None: no suitable habitat present.
Swainson's hawk *Buteo swainsoni*	BCC/ST	Nests in scattered trees in open areas, with nests usually high in the tree. Nests are reused annually and are made of sticks, with a diameter of 21-28 inches.	None: no suitable nesting habitat within project area
Costa's hummingbird *Calypte costae*	BCC/-	Resident of the Sonoran and Mojave Deserts.	Outside species range.
olive-sided flycatcher *Contopus borealis*	BCC/ SSC	Nests in open conifer or mixed oak woodland. Nests on horizontal branches, among a cluster of twigs and needles.	Moderate: suitable nesting habitat occurs on site.
Prairie falcon *Falco mexicanus*	/WL	Nests in cliffs and forages in open, arid and semi-arid habitats, hunting small birds and reptiles	None: no suitable habitat present.
Peregrine falcon *Falco peregrinus anatum*	BCC/FP	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers or marshes. Species reported on east side of Valley (CNDDB 2014)	None: no suitable habitat present.
Bald Eagle *Halieetus leucocephalus*	BCC/SE	Nests in tall snags near open water and forages on fish in large bodies of water. Species reported at Lake Hennessey (CNDDB 2014)	None: no suitable habitat present.
Least bittern *Ixobrychus exilis*	BCC/SSC	Nests in freshwater or brackish marshes with tall emergent vegetation. Creates nesting platform in dense stands of vegetation.	None: no suitable habitat present.
loggerhead shrike *Lanius ludovicianus*	BCC/SSC	Nests in woodland and scrub habitats at margins of open grasslands. Often uses lookout perches such as fence posts. Resident and winter visitor in lowlands and foothills throughout California.	Moderate: suitable nesting habitat occurs on site.
Short-billed dowager *Limnodromus griseus*	BCC/-	Winters on coastal mud flats and brackish lagoons. In migration prefers saltwater tidal flats, beaches, and salt marshes. Found in freshwater mud flats and flooded agricultural fields.	None: no suitable habitat present.
Lewis's woodpecker *Melanerpes lewis*	BCC/SSC	Found in open forest and woodland, often logged or burned, including oak, coniferous forest, riparian woodland, orchards, less often pinyon-juniper. Closely associated with open ponderosa pine forest in western North America. Most commonly uses pre-made or natural cavities. Wintering areas must provide storage sites for grain or mast.	Moderate: suitable nesting habitat occurs on site.

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Fox sparrow *Passerella iliaca*	BCC/-	Nests in forests and chaparral on the ground or in low crotches of bushes or trees.	None: no suitable habitat present.
Nuttall's woodpecker *Picoides nuttallii*	BCC/-	Found primarily in oak woodlands and riparian woods. Cavity nester.	Moderate: suitable nesting habitat occurs on site.
northern spotted owl *Strix occidentalis caurina*	FT, BCC/CT	Dense coniferous and hardwood forest, shaded, steep sided canyons.	None: no suitable habitat present.
Lesser yellowlegs *Tringa flavipes*	BCC/-	Breeds in open boreal forest with shallow wetlands. Winters in wide variety of shallow fresh and saltwater habitats.	None: no suitable habitat present.
Mammals			
pallid bat *Antrozous pallidus*	-/SSC	Day roosts include rock outcrops, mines, caves, buildings, bridges, and hollows and cavities in a wide variety of tree species.	**Moderate**: Suitable roosting habitat present.
Townsend's big-eared bat *Corynorhinus townsendii*	-/SSC	Roosting sites include caves, mine tunnels, abandoned buildings and other structures. Species reported at Old Stone Winery, 4 mi NE of St Helena (CNDDB 2014).	**Moderate**: Suitable roosting habitat present.
Silver-haired bat *Lasionycteris noctivagans*	-/-	Primarily a coastal and montane forest dweller. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks.	**Moderate**: Suitable roosting habitat present.
Hoary bat *Lasiurus cinereus*	-/-	Roosts singly (except female-young association) in dense foliage of medium to large coniferous and deciduous trees. Highly migratory, but occurs year-round in California, overwintering in S.F. Bay Area. Forages over tree canopy, often high altitude, often long distances from day roost.	None: no suitable habitat present.
Fringed myotis *Mytotis thysanodes*	-/-	Roosts in colonies in caves, cliffs and attics of old buildings. Will also use trees as day roosts. Species reported in Boethe State park in grist mill (CNDDB 2015)	**Moderate**: Suitable roosting habitat present.

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened
FC = federal candidate for listing
BCC = Birds of Conservation Concern
MBTA = Migratory Bird Treaty Act.

CALIFORNIA DEPT. OF FISH AND WILDLIFE

CE = California listed Endangered
CT = California listed as Threatened
FP = Fully protected
SSC = Species of Special Concern

Appendix D: Plant species observed on July 15, 2015.

Scientific Name	Common Name
Arctostaphylos manzanita ssp. *glaucescens*	Whiteleaf manzanita
Avena barbata	Wild oats*
Avena fatua	Oats*
Baccharis pilularis	Coyote brush
Betula sp.	Birch*
Brachypodium distachyon	False brome*
Brassica nigra	Black mustard*
Briza maxima	Large quaking grass*
Briza minor	Small quaking grass*
Bromus diandrus	Ripgut brome*
Bromus hordaeceus	Soft chess*
Carduus pycnocephalus	Italian thistle*
Chlorogalum pomeridianum	Soaproot
Convolvulus arvensis	Bindweed*
Cynosurus echinatus	Dogtail grass*
Daucus carota	Queen Anne's lace*
Elymus glaucus	Blue wildrye
Epilobium brachycarpum	Willow herb
Erodium cicutarium	Red-stemmed filaree*
Festuca myuros	Rattail fescue*
Festuca perennis	Rye grass*
Galium parisiense	Wall bedstraw*
Galium porrigens	Climbing bedstraw
Gastridium nitidum	Nitgrass*
Genista monspessulana	French broom*
Geranium dissectum	Cut-leaf geranium*
Heteromeles arbutifolia	Toyon
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley*
Hordeum murinum ssp. *leporinum*	Hare barley*
Hypochaeris radicata	Rough cat's-ear*
Juglans sp.	Walnut*
Kickxia elatine	Fluellin*
Olea europea	Olive*
Pinus sabiniana	Foothill or Grey Pine
Plantago lanceolata	English plantain*
Polygonum aviculare	Knotweed*
Quercus agrifolia	Coast live oak
Quercus douglasii	Blue oak
Rosmarinus officinalis	Rosemary*
Torilis arvensis	Spreading hedgeparsley*
Torilis nodosa	Knotted hedgeparsley
Toxicodendron diversilobum	Poison oak
Trichostemma lanata	Vinegar weed
Trifolium hirtum	Rose clover*
Umbellularia californica	California bay laurel
Vicia sp.	Vetch*
Vinca major	Periwinkle*
Vitis vinifera	Wine grapes*

* = Non-native species

Appendix E: Wildlife Species Observed on July 15, 2015.

Scientific Name	**Common Name**
Calypte anna	Anna's hummingbird
Melanerpes formicivorus	Acorn woodpecker
Aphelocoma californica	Western scrub jay
Corvus corax	Common raven
Poecile rufescens	Chestnut-backed chickadee
Junco hyemalis	Dark-eyed junco
Pipilo crissalis	California towhee
Baeolophus inornatus	Oak titmouse
Sturnus vulgaris	European starling
Odoicoileus hemionius californicus	Black-tailed deer (sign)
Procyon lotor	Raccoon (sign)

In order of observation.