

4.3 BIOLOGICAL RESOURCES

4.3.1 INTRODUCTION

This section provides a description of the biological and wetland resources on the project site, information on regulations that serve to protect sensitive biological resources, an evaluation of potential biological resources impacts as a result of the proposed Scott Ranch (project or “proposed project”) that includes the Davidon (28-lot) Residential Project component and the Putnam Park Extension Project component. As needed, mitigation measures to mitigate potentially significant impacts on sensitive resources are identified. This section also presents potential impacts to biological resources from the construction and operation of the proposed regional park trail that would extend from the western boundary of the project site to the existing Ridge Trail on Helen Putnam Regional Park (see **Section 4.3.4.4** below).

4.3.2 ENVIRONMENTAL SETTING

4.3.2.1 Project Site

The project site is located in the southwestern portion of the City of Petaluma within the City’s Urban Growth Boundary and adjacent to the southern city limit. The project site consists of two parcels of land: a 6.59-acre parcel on the north side of Windsor Drive and a 52.07-acre parcel on the south side of Windsor Drive and west of D Street (**Figure 3.0-2, Existing Conditions**). The northern parcel is made up of portions of two knolls and ranges in elevation from 210 feet above mean sea level (amsl) at the northern property line to an elevation of 150 feet amsl near Windsor Drive. The northern parcel consists of undeveloped land covered by grasslands with a group of six oak, bay, and buckeye trees along the northern property line. No water features are located on this parcel of the project site.

The southern parcel is largely undeveloped and is characterized by rolling hills utilized for grazing cattle. Elevations, within this parcel, range from approximately 100 feet amsl at Kelly Creek to 380 feet amsl in the southwest corner of the parcel. A section of Kelly Creek that runs east to west through the site is located on the southern parcel. Other major water features located on the southern parcel include a stock pond, several wetland areas, two ephemeral drainages, and a drainage that flows parallel to D Street and drains into Kelly Creek (hereinafter “D Street tributary”).¹ In addition, a barn complex, an unoccupied mobile home, and the remnants of a collapsed farm house are located in the eastern portion of this parcel along the northern edge of Kelly Creek. In addition to grasslands that occupy most of this parcel, there are

¹ The two ephemeral drainages drain the watershed that contains the stock pond. One is the original alignment of the drainage, and the other the outfall drainage from the spillway of the stock pond. Both are jurisdictional waters regulated by state and federal agencies, with seasonal wetlands scattered along them.

approximately 500 trees in scattered woodlands and stands of trees, and rock outcroppings are also present on this parcel. Additional oaks occur within the right-of-way that fronts the site parcels along Windsor Drive and D Street.

Lands to the northwest, north and northeast of the project site are developed with existing residential subdivisions. Land to the west is undeveloped and comprises the Helen Putnam Regional Park. Lands to the south and southwest are located in unincorporated Sonoma County and are also undeveloped or contain rural residences on large privately-owned parcels.

4.3.2.2 Project Site Surveys and Mapping

Biological resources on the project site were identified through the completion of reconnaissance-level field surveys, review and compilation of existing information, including detailed surveys, studies and mapping prepared for the project site. The site reconnaissance and review provided information on general resources in the area and the distribution and habitat requirements of special-status species which have been recorded from or are expected to occur in the project vicinity, including: records on occurrences of special-status species and sensitive natural communities maintained by the California Natural Diversity Data Base (CNDDDB) of the Department of Fish and Wildlife (CDFW); the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (electronic edition); the CDFW's list of special animals and plants (2019); among other sources. Some of these documents were prepared as part of the analysis for the proposed developments of the project site over the past 16 years, which included considerably more residential development. However, the findings of these studies that include information on biological and wetland conditions associated with the project site are still relevant for this analysis.

- Biological Resources, Existing Conditions by Zander Associates (2003). This letter report summarizes biological and wetland resources on the site, including plant communities and wildlife habitats, special-status species, and wetlands. This includes the results of detailed surveys for special-status plant species conducted on March 12 and April 18, 2003 by Kelley Associates, protocol surveys for California red-legged frog conducted on May 30 and June 2, 2003 by Wildlife Research Associates, and the findings of a preliminary wetland delineation.
- Request for Jurisdictional Determination by Zander Associates (2003). This letter report requests verification by the U.S. Army Corps of Engineers (USACE) of the draft wetland delineation of the site. The USACE verified the wetland delineation in their letter of November 13, 2003 (USACE File Number 28163N).

- California Red-legged Frog Protocol Surveys by Wildlife Research Associates (2003). This letter report summarizes the results of a habitat assessment and protocol surveys for California red-legged frog, and also addresses the potential for occurrence of California tiger salamander on the site. Of the four required surveys for California red-legged frog, only two were conducted. The surveys consisted of one day-time survey on May 30, 2003 and one-night survey on June 2, 2003. Additional surveys were considered unnecessary because California red-legged frogs were encountered during the first night survey.
- Focused Special-Status Plant Survey by Zander Associates (2004c). This letter report presents the results of supplemental survey for special-status plant species conducted on May 25, 2004.
- Pre-Construction Notification by Zander Associates (2004a). This report was submitted to the USACE as part of a Pre-Construction Notification (PCN) for fills in waters of the United States that would occur as a result of the previous 93 single-family home development proposal. The PCN included: maps of the project, proposed at that time, and limits of jurisdictional waters, cross-sections of stream crossings, map showing location of proposed replacement wetlands, summary of proposed approach to creating replacement wetlands and mitigation monitoring, and profile of proposed created wetlands; the Biological Resources, Existing Conditions report; and the California Red-legged Frog Protocol Surveys report.
- Additional Information for PCN by Zander Associates (2004b). This letter report served to acknowledge a modification to the success criteria and monitoring for the proposed created seasonal wetlands requested by the USACE.
- Bat Habitat Assessment and Results of Bat Habitat Assessment and Surveys by Wildlife Research Associates (2004, 2014). These letter reports summarize information on bat ecology, regulatory background, methods, results, and discussion. Recommendations were made to avoid possible impacts on bat species on the project site as a result of project construction.
- California Tiger Salamander Site Assessment by Wildlife Research Associates (2005b). This letter report provides an expanded assessment addressing the potential for occurrence of California tiger salamander. A supplemental field survey was conducted on January 11, 2005, which entailed walking the perimeter of the stock pond to look for any egg sacs on floating debris and emergent vegetation. A map was prepared showing the closest known occurrences of California tiger salamander in relation to the site, located over five miles to the northwest. The report concluded that California tiger salamander does not occur on the site in the professional opinion of the consultant because of a number of factors, including distance to closest reported occurrence, substantial barriers in the intervening area,

absence of any egg sacks in the stock pond, and fact that the site is outside of the known range of this species as mapped by the U.S. Fish and Wildlife Service (USFWS 2003).

- Kelly Creek and Tributary – California Red-legged Frog Habitat Evaluation by Wildlife Research Associates (2005a). This letter report provides a further assessment of the potential suitability of Kelly Creek and D Street tributary drainage as possible breeding habitat for California red-legged frog. A supplemental site visit was conducted on January 29, 2005, and aquatic habitat was evaluated for its likelihood to support egg sacs and whether it provides suitable refugia for California red-legged frog larvae.
- Letter dated December 4, 2020, from the USACE approving a Preliminary Jurisdictional Determination Pursuant to Section 404 Clean Water Act, SPN-2003-281630, Scott Ranch, dated December 2, 2020.
- Biological Assessment for a previous development proposal on the project site by Zander Associates (2009). This report was submitted to the U.S. Fish and Wildlife Service (USFWS) as part of the consultation process with the USACE. It focuses on the potential impacts of the previous 77 single-family residence proposal on California red-legged frog and concludes that California tiger salamander do not occur on the site.
- Scott Ranch Wetland Mitigation Program, including California Red-Legged Frog Mitigation prepared by Zentner and Zentner (2009) for a previous development proposal on the project site. This report provides a mitigation plan submitted to the USACE to address potential impacts of the previous 77 single-family residence proposal on wetlands and habitat for California red-legged frog.
- Burrowing Owl, Badger and Fossorial Mammal Survey Results by Zentner and Zentner (2013). This report summarizes the results of site surveys conducted on May 1, May 23, June 14 and August 19, 2013, focusing on burrowing owl but evaluating the potential for presence of badger and other fossorial mammals as well.
- Special Status Plant Species Assessment by Zentner and Zentner (2013). This report summarizes the results of supplemental surveys for special-status plants, where surveys were conducted because of the length of time since the original surveys were conducted in 2003 and 2004. Systematic surveys were conducted on March 13, May 23, and August 19, 2013.
- Tree Preservation Plan, Option A by Arborwell (2013a). This report provides an inventory of surveyed trees greater than four inches on the site, assesses the potential impacts to tree resources under the previous 66 single-family home development plan (Option A) for the project site, provides a tree valuation, and a tree protection plan for those trees to be retained.

- Scott Ranch Native Grassland Survey by Zentner and Zentner (2016a). This report provides information on native grasslands on the site based on field mapping conducted on April 21 and 30, 2015.
- Helen Putnam Park Native Grassland Survey by Zentner and Zentner (2016b). This report provides information on native grasslands on the adjacent Helen Putnam Regional Park found along the proposed trail alignment that would extend from the site along the Kelly Creek corridor.
- Arborist Letter for 28 Lot Revised Plan by Arborwell (2018). This memorandum summarizes anticipated tree removal for the Davidon (28-lot) Residential Project component of the proposed project.
- Tree Removal for Helen Putnam Park Extension by Prunuske Chatham, Inc. (2019a). This tabulated summary identifies trees proposed for removal to accommodate alternative trail alignments for the Scott Ranch project through the eastern edge of the project site.
- Updated Biological Assessment by Zentner Planning & Ecology (2018). This report provides an updated biological assessment of the potential impacts of the Davidon (28-lot) Residential Project component of the Scott Ranch project, and compares the significance levels to previous residential development plans.
- Responses to Biology Questions for the Kelly Creek Protection Project by Prunuske Chatham, Inc. (2019b). This memorandum provides further details on construction controls and proposed management activities associated with treatment of Kelly Creek and the stock pond on the project site.
- *Fuel Management Plan* report prepared by Wildland Resource Management (2020). This report describes existing fuel and fire risk conditions on the site, the effects of the proposed project to exacerbate this risk, and identifies fuel management zones (**Figure 4.15-3**) and a Fuel Management Program that specifies treatment activities to be implemented as part of long-term management of the project site to address wildfire risk. Maintenance standards specified in the Fuel Management Program would be applied as part of project implementation, as discussed further in the Project Description (see **Section 3.0, Project Description**).

In addition to the field reconnaissance surveys and assessments listed above, additional surveys were conducted between 2004 and 2019, as described below, to confirm existing conditions and assess potential impacts on biological resources associated with the developments previously proposed at the project site and the currently proposed project, as well as the regional park trail project at Helen Putnam Regional Park.

The additional reconnaissance surveys were conducted on August 30 and December 2, 2004. Follow-up reconnaissance surveys were conducted on June 24 and August 3, 2009, then again on September 29 and October 2, 2011, and then in April, September, and October 2015. A field reconnaissance survey was conducted on May 21, 2019, to verify that field conditions have not changed considerably over the past four years.

Adjacent lands in Helen Putnam Regional Park were initially inspected on December 2, 2004 and then again on April 15, 2015 along the proposed regional park trail alignment through the park and along the regional connector trail through the southern portion of the project site. At the time of the April 2015 survey, large stands of native grasslands were observed on both the parklands and the project site. Scattered clumps of native grasses and forbs had been observed on the site in previous inspections, but not to the current degree where they can now be classified as a sensitive natural community, presumably due to a reduction in the intensity of grazing on the site. Further surveys of Helen Putnam Regional Park were conducted in September 2015 to prepare maps showing the extent of native grasslands along the proposed regional park trail corridor through the Helen Putnam Regional Park.

4.3.2.3 Vegetation and Wildlife Habitat Present on the Project Site

As shown in **Figure 4-3.1, Vegetation and Wetlands Map**, grasslands and oak woodlands form the predominant natural community on the project site. In general, the project site supports a cover of non-native grassland, with oak-dominated woodlands occupying the Kelly Creek corridor and hillside slopes in the southwestern portion of the site. Smaller stands of woodland occur along D Street tributary in the southeastern portion of the site and a small stand of trees occurs north of Windsor Drive in the northeastern portion of the site. Freshwater marsh habitat occurs in the form of seasonal wetlands, seeps, and smaller drainages on the hillside south of Kelly Creek. A large thicket of willow occurs south of the stock pond and a smaller stand of willows occurs along the D Street tributary at the southeastern edge of the project site. However, heavy grazing and trampling by cattle have most likely suppressed the establishment and spread of freshwater marsh and willow riparian vegetation around the stock pond and D Street tributary. Non-native trees and ruderal groundcover species occur in the vicinity of the barn complex, the unoccupied mobile home, and the collapsed farm house on the project site, dominated by blue gum (*Eucalyptus globulus*) and Monterey cypress (*Cupressus macrocarpa*).

The mosaic of natural community types, available surface water, and the extent of adjacent largely undeveloped land to the south and southwest of the project site contributes to generally high wildlife habitat values on the project site. Wildlife use and movement is currently unrestricted across the site and onto the adjacent undeveloped lands to the south and southwest. An open wire fence along the border with Helen Putnam Regional Park currently disrupts movement by larger wildlife species to the west, but signs of access under the fence by black-tailed deer and other wildlife are evident. Roadways and vehicle traffic



FIGURE 4.3-1

Vegetation and Wetlands Map

along D Street and Windsor Drive also disrupt wildlife movement, and existing residential development limits opportunities for dispersal to remaining areas of natural habitat to the east and northeast. Kelly Creek and the D Street tributary function as wildlife movement corridors across the project site, continuing downstream under D Street and the residential neighborhood to the northeast, and upstream into the adjacent Helen Putnam Regional Park to the west and the rolling grasslands and scattered residences to the southeast. A summary of the various natural community types present on the project site and associated wildlife species is provided below.

Grassland

Grasslands form the predominant cover on the project site. Over the past century and a half, the composition of grasslands in California has been altered dramatically as a result of intensive livestock grazing and other factors. Native grasses and forbs have been largely replaced by non-native species, which have come to dominate the majority of grasslands throughout the state, including the Petaluma vicinity. Because of their rarity, where native grasslands remain relatively intact (generally where they contribute to 10 percent or more of the grassland cover over a relatively broad area), they are now considered a sensitive natural community by the California Department of Fish and Wildlife (CDFW).

As indicated in **Figure 4.3-2, Native Grasslands**, the stands of native grasslands are scattered across the project site and occupy much of the hillside slopes along the southern edge of the project site. Native species in the stands of native grassland vary in abundance and species composition. Characteristic native grass species include purple needle grass (*Stipa pulchra*), foothill needlegrass (*S. lepida*), California oatgrass (*Danthonia californica*), creeping wildrye (*Leymus triticoides*), among others. Native forbs include soap plant (*Chlorogalum sp.*), California poppy (*Eschscholzia californica*), yarrow (*Achillea millefolium*), blue-eyed grass (*Sisyrinchium bellum*), lupines (*Lupinus spp.*), and Bermuda buttercup (*Ranunculus californicus*), tritelia (*Triteleia lugens*), among others.

Grasslands on the site not mapped as native in **Figure 4.3-2** are non-native grasslands. Areas of non-native grassland are dominated by non-native grasses and forbs. Characteristic non-native species include slender wild oat (*Avena barbata*), dog-tail grass (*Cynosurus echinatus*), bromes (*Bromus spp.*), quaking grass (*Briza spp.*), Italian ryegrass (*Lolium multiflorum*), English plantain (*Plantago lanceolata*), and common vetch (*Vicia sativa*), among others. Some native grass and forb species occur in areas of non-native grasslands, but not in high enough abundance for the location to be considered a native grassland.

Many species of wildlife use the grasslands for foraging and breeding, such as western meadowlark, savannah sparrow, Brewer's blackbird, western fence lizard, gopher snake, deer mice, Bottae pocket gopher, and striped skunk. Scattered rock outcrops occasionally form a distinct habitat type within the grasslands, providing perching and sunning locations for lizards and birds. Numerous deer were observed browsing on the grassland slopes and oak woodlands on and upslope of the project site to the south, and

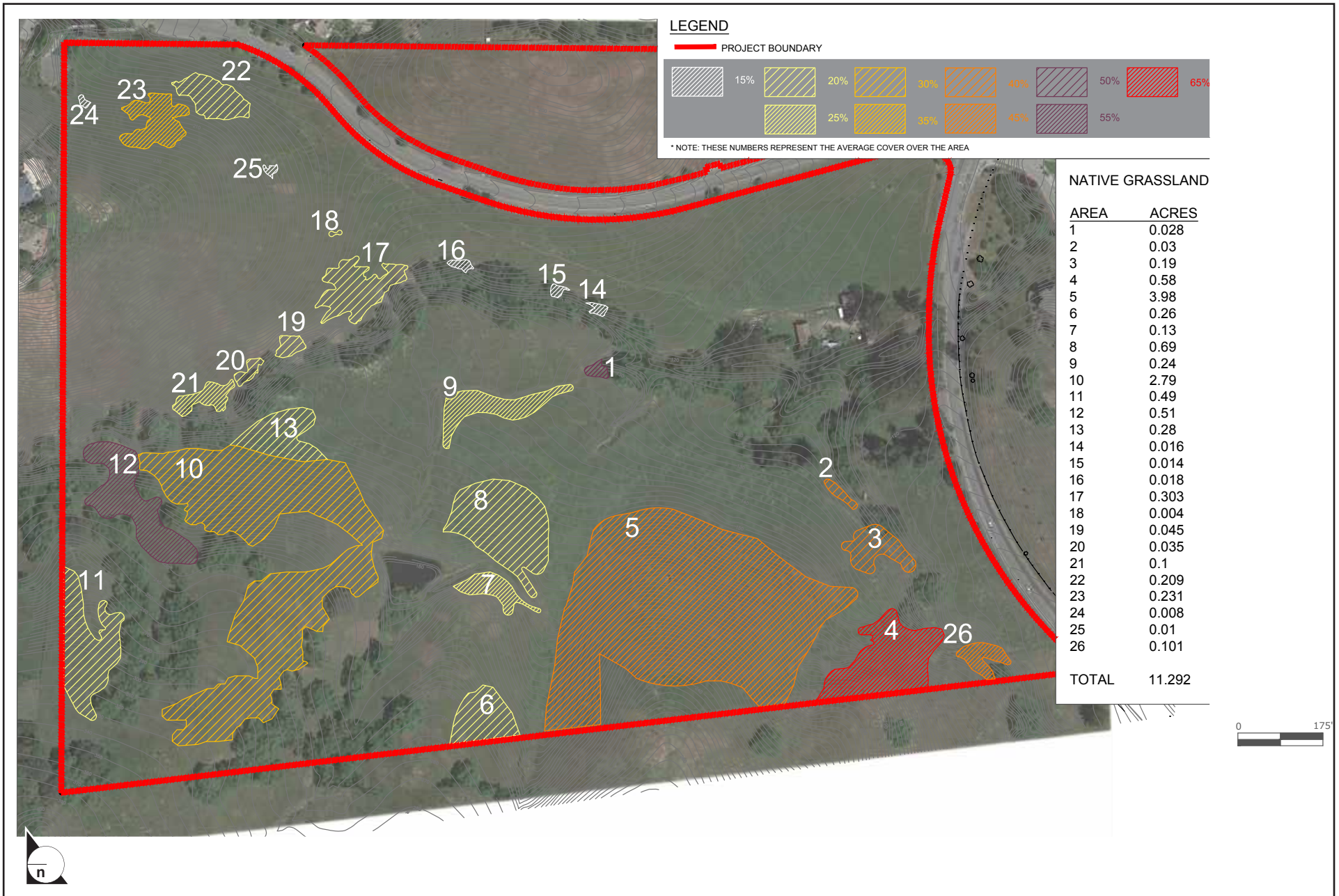
in the adjacent Helen Putnam Regional Park. A number of predatory birds and mammals rely on the insects and smaller mammals and birds of the grasslands as an important source of prey. These include species observed or suspected to utilize the site for foraging such as American kestrel, red-tailed hawk, great-horned owl, barn owl, prairie falcon, red fox, gray fox, and coyote.

The proximity of the project site to undeveloped grassland and woodland habitat to the south and west contributes to its use by larger mammals and raptors. In addition to the more common bird and mammal predators, mountain lions have been observed in the adjacent Helen Putnam Regional Park and may occasionally forage or move over portions of the project site.

Oak Woodland

Oaks and other native tree species form woodland cover along Kelly Creek, D Street tributary, and the southwestern portion of the project site. These stands of woodland continue off-site into Helen Putnam Regional Park where they form a continuous canopy through much of the upgradient watershed. The dominant tree species in the woodland is valley oak (*Quercus lobata*), with a mixed hardwood component including coast live oak (*Q. agrifolia*), California bay (*Umbellularia californica*), and California buckeye (*Aesculus californica*). Most of the trees in the woodland are mature specimens with trunk diameters exceeding 12 inches, indicating that regeneration may have been suppressed by livestock grazing. Understory vegetation in the woodland is generally composed of non-native grassland species with a few shrubs and vines such as native poison oak (*Toxicodendron diversilobum*), honeysuckle (*Lonicera sp.*), and snowberry (*Symphoricarpos spp.*). Highly invasive, non-native periwinkle (*Vinca major*) occurs along the segment of Kelly Creek near the existing barn complex on the project site.

Based on the most recent tree surveys conducted in 2013 and 2016, an estimated 509 trees with trunk diameters of four inches or more occur on the project site (Arborwell 2013a). Of these mapped trees, a total of 472 qualify as Protected Trees based on criteria set forth in the City of Petaluma Implementing Zoning Ordinance (IZO, Chapter 17). The locations of mapped trees from the 2013 and 2016 tree surveys are shown in **Figure 4.3-3, Tree Locations and Proposed Removal**. A total of sixteen species were mapped in the tree survey, with the majority valley oaks which dominate the woodlands along both the creek corridors and hillside slopes and represent approximately 60 percent of the Protected Trees on the project site. Native species represent about 96 percent of the Protected Trees on the project site. Based on ratings contained in the tree survey, the condition of trees on the project site varies, with the majority having a moderate to good rating (84 percent), fair (12 percent), and poor (4 percent) based on health, age, structural condition, and potential to remain an asset in the future (Arborwell 2013 and 2016).



SOURCE: Zentner and Zentner, 2016A

FIGURE 4.3-2

Native Grasslands

The trees and shrubs of the woodlands provide important potential nesting and foraging habitat for numerous species of birds, and protective cover for mammals such as deer mouse, grey fox, and bobcat. The trees provide important habitat for cavity-nesting birds and small mammals, including Nuttall's woodpecker, northern flicker, western bluebird, and ash-throated flycatcher. The abundant seed crops provided by oak and bay trees are important food sources for deer, scrub and Stellar's jay, woodpeckers, and other wildlife species. The tree canopy provides foraging habitat for songbirds, such as ruby-crowned kinglet, orange-crowned warbler, and warbling vireo, and may be used for nesting by raptors. While no large nests were observed during the field reconnaissance surveys, including the last survey conducted on May 21, 2019, these trees provide important perching habitat for birds and could support nests in the future.

Freshwater Marsh and Seasonal Wetlands

Freshwater marsh vegetation and seasonal wetlands occur in areas of wetland seeps and smaller drainages on the project site (see **Figure 4.3-1**; also see **Section 4.3.2.6, Wetlands**, below). Characteristic species associated with the seasonal seeps and wetlands include meadow barley (*Hordeum brachyantherum*), rabbitfoot grass (*Polypogon monspeliensis*), and iris-leaved rush (*Juncus xiphioides*). Clumps of cattail (*Typha latifolia*) are scattered around the perimeter of the stock pond, but are heavily grazed and trampled by cattle during the summer dry season. A stand of native willow (*Salix lasiolepis*) occurs to the south of the stock pond, providing important protective cover at its margin. The stock pond occupies approximately 0.2 acres of largely unvegetated open waters. It provides essential breeding habitat for California red-legged frog and a source of drinking water for other wildlife. Wetland vegetation is generally absent along the channel bank and bottom of Kelly Creek and the D Street tributary. Several heavily browsed stands of herbaceous marsh vegetation occur along the margins of the D Street tributary and a clump of willow occurs in the southeastern portion of the project site along the D Street tributary.

Factors affecting the value of riparian and wetland habitat to wildlife include the extent of protective cover, complexity of vegetation, availability of surface water, the proximity of existing development, and the potential for disturbance by humans and their pets. Drainages tend to serve as movement corridors for larger wildlife species, such as deer, raccoon, and grey fox, particularly where dense growth provides protective cover and retreat habitat. Kelly Creek continues as an open channel both upgradient and downgradient of the project site, and most likely serves as an important movement corridor to terrestrial and aquatic-dependent species. An existing plywood gate prevents the movement of larger wildlife such as black-tailed deer through the concrete box culvert under the D Street overcrossing. Similarly, the D Street tributary provides a connection between Kelly Creek and the largely undeveloped rolling hillsides to the south.

Developed/Ruderal

Non-native trees and remnant landscaping around the barn complex are dominated by blue gum and Monterey cypress trees. Other trees in the vicinity of the ranch complex include plum (*Prunus domestica*), pear (*Pyrus communis*), glossy privet (*Ligustrum lucidum*), black mulberry (*Morus nigra*), and Grecian laurel (*Laurus nobilis*). As noted previously, periwinkle forms a dense groundcover along Kelly Creek near the barn complex. Several black walnut (*Juglans hindsii*) trees also grow near the collapsed farm house, presumably planted in the garden area, and are therefore not considered of native origin.

Most of the wildlife species associated with the barn complex and planted eucalyptus and Monterey cypress are common to suburban habitat, utilizing the trees and shrubs for nesting and foraging. These include common birds such as European starling, English sparrow, house finch, American robin, and crow, and non-native mammals such as Eastern fox squirrel, Norway rat, and house mouse. Non-native barn owls are known to roost in the largest barn on the property, but no evidence of nesting by other raptors or roosting by bats was observed inside the structures.

4.3.2.4 Special-Status Species

Special-status species² are plants and wildlife that are legally protected under the state and/or federal Endangered Species Acts³ or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints

² Special-status species include: designated rare, threatened, or endangered and candidate species for listing by the CDFW; designated threatened or endangered and candidate species for listing by the USFWS and the National Marine Fisheries Service (NOAA Fisheries); species considered rare or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as those plant species identified on lists 1A, 1B and 2 in the Inventory of Rare and Endangered Plants of California of the California Native Plant Society; and possibly other species which are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on list 3 in the California Native Plant Society Inventory or identified as "California Species of Special Concern" (SSC) by the CDFW.

³ The federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

to development; particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take"⁴ of these species.

Records maintained by the CNDDDB indicate that a number of special-status species are known or are considered likely to occur in the Petaluma area. **Figure 4.3-4, Special-Status Plant Species**, and **Figure 4.3-5, Special-Status Wildlife Species**, show the known distribution of special-status plant and wildlife species reported by the CNDDDB in the Petaluma vicinity. These include occurrences of California red-legged frog (*Rana draytonii*) along Western Avenue to the west and San Antonio Creek to the southwest of the project site; pallid bat (*Antrozous pallidus*) along I Street to the east of the site; occurrences of yellow larkspur (*Delphinium luteu*) and showy Indian clover (*Trifolium amoenum*) along D Street to the south of the site; and numerous historic collections of several plant species from the central Petaluma area, such as alkali milk-vetch (*Astragalus tener* var. *tener*), Franciscan onion (*Allium peninsulare* var. *franciscanum*), Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*), round-leaved filaree (*Erodium macrophyllum*), and Sonoma spineflower (*Chorizanthe valida*). Prior to the discovery of California red-legged frog during surveys at the project site listed in **Section 4.3.2.2, Project Site Surveys and Mapping**, above, no occurrences of special-status species had been specifically reported from the project site.

Special-Status Plant Species

The habitat assessment by Zander Associates (2003) focused on 17 special-status plant species considered to have the highest potential for occurrence on the project site. In addition, as discussed previously, detailed surveys for special-status plant species were conducted in 2003 and 2004 (Zander Associates 2003 and 2004) and again in 2013 (Zentner and Zentner 2013) according to the CDFW and CNPS guidelines. Systematic surveys were performed to determine presence or absence of any special-status plant species, not just the focal species considered to have the highest potential for occurrence on the project site. The surveys indicate that no populations of special-status plant species occur on the project site, and no supplemental surveys are considered necessary. Stands of native grasslands were observed during surveys conducted in 2016,

⁴ "Take" as defined by the FESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. "Harm" is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFW also considers the loss of listed species habitat as take, although this policy lacks statutory authority and case law support under the CESA. Two sections of FESA contain provisions which allow or permit "incidental take." Section 10(a) provides a method by which a state or private action which may result in take may be permitted. The applicant must provide the USFWS with an acceptable conservation plan and publish notification for a permit in the Federal Register. Section 7 pertains to a federal agency which proposes to conduct an action which may result in take, requiring consultation with USFWS and possible issuance of a jeopardy decision. Under the CESA, take can be permitted under Section 2081 of the Fish and Game Code. The applicant must enter into a habitat management agreement with the CDFW, which defines the permitted activities and provides adequate mitigation.

but these are not considered to be special-status plant species and their sensitivity is discussed below under **Section 4.3.2.5, Sensitive Natural Communities.**

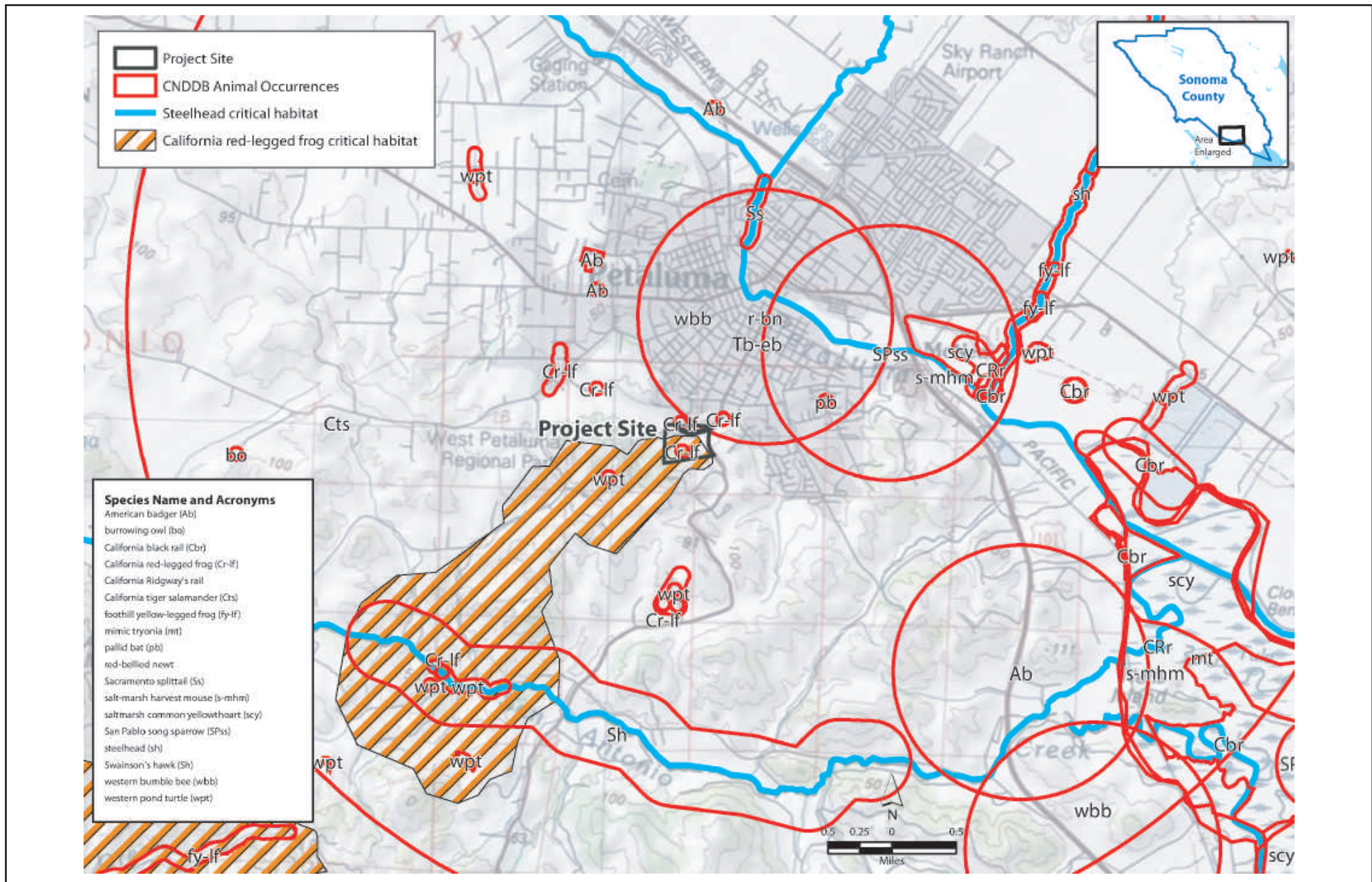
Special-Status Wildlife Species

Table 4.3-1, Special-Status Wildlife Species with the Potential to Occur in the Project Vicinity, provides information on special-status wildlife species considered to have the greatest potential for occurrence on the project site. More information is provided below on the species observed on the project site and those that were determined not to be present on the project site based on surveys and habitat assessment.

California Red-legged Frog

California red-legged frog (CRLF) is listed by the USFWS as threatened and is recognized as a California Species of Special Concern (SSC) by the CDFW. It inhabits ponds, marshes, and streams that typically support riparian vegetation, but can also be found in man-made stock ponds, near seeps, and in ephemeral streams with pools. This subspecies requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submerged or emergent vegetation. Adult CRLF are capable of dispersing long distances from aquatic habitat, and may utilize ephemeral water sources during the wet season. Individuals are known to disperse during the rainy season, presumably in search of new breeding locations. They may take refuge in small mammal burrows, beneath leaf litter, or in other moist areas during periods of inactivity or whenever it is necessary to avoid desiccation. A majority of the site (see Figure 4.3-5, Special-Status Wildlife Species), is contained within one of the Critical Habitat Units (SON-3) identified by the USFWS for this species.

Protocol surveys were conducted to determine presence or absence of CRLF on the site (Wildlife Research Associates 2003). The surveys were conducted according to the USFWS *Interim Guidance on Site Assessment and Field Surveys for California Red-Legged Frog* (USFWS 1997). The protocol typically specifies four separate surveys, but only two were conducted (one during day time and one during night time) as CRLF were found in the stock pond on the site. Approximately 20 adult CRLF were observed in the pond during the night survey, and hundreds of larvae were observed in the emergent vegetation along the northern edge of the pond during the day-time survey. The survey report provided a brief discussion of breeding habitat and movement corridors, stating that CRLF breeding may not be limited to the stock pond given potentially suitable breeding habitat in the D Street tributary. The survey report also indicates that the scattered seeps, springs, and intermittent drainages on the site may provide dispersal habitat for first year CRLF, and that off-site ponds may be used for population dispersal and alternative breeding locations. Stock ponds in the



SOURCE: CNDDDB, 2020; USFWS Critical Habitat Data, 2020

FIGURE 4.3-5

Special Status Animal Species

surrounding area are located at an estimated 3,036 feet to the southwest, 4,365 feet to the southeast, 4,453 feet to the southwest, 4,664 feet and 4,926 feet to the south, and 1.1 miles to the west (Wildlife Research Associates 2003).

**Table 4.3-1
Special-Status Wildlife Species with the Potential to Occur in the Project Vicinity**

Species Name	Status Federal/State	Habitat Characteristics (Occurrence within Project Site)
Amphibians/Reptiles:		
California tiger salamander	FT/ST, SSC	Grassland and open woodlands with temporary or permanent (unlikely)
Western pond turtle	-/SSC	Ponds, marshes, rivers and streams (unlikely)
California red-legged frog	FT/SSC	Permanent ponds, pools, and streams (known)
Foothill yellow-legged frog	_/C, SSC	Permanent streams with riffles and cobble bottom (unlikely)
Birds:		
Golden eagle	-/SSC, CP	Open mountains, foothills, and canyons (unlikely)
Burrowing owl	-/SSC	Open grassland and fields, farms, and ruderal areas (unlikely)
Cooper's hawk	-/-	Riparian and woodland habitat (possible)
Sharp-shinned hawk	-/-	Riparian and woodland habitat (possible)
Northern harrier	-/SSC	Marshes, fields, and grassland (unlikely)
White-tailed kite	-/CP	Open foothills, marshes, and grassland (possible)
California horned lark	-/-	Open habitat with sparse cover (unlikely)
Prairie falcon	-/-	Canyons, mountains, open grassland (unlikely)
Peregrine falcon	Delisted/ Delisted, CP	Canyons, mountains, open grassland (unlikely)
Loggerhead strike	-/SSC	Open habitat with scattered trees, shrubs, and other perches (possible)
Mammals:		
American badger	-/SSC	Open grassland, scrub and savanna (unlikely)
Pallid bat	-/SSC	Roosts in tree hollows, crevices, unused structures (unlikely)
Townsend western big-eared bat	-/SSC	Roosts in caves, mines, and unused buildings (unlikely)
Western red bat	-/SSC	Roosts in trees (possible)
Western yellow bat	-/SSC	Roosts in trees (possible)
Little brown bat	-/-	Roosts in caves and buildings (unlikely)
Yuma bat	-/-	Roosts in caves, mines and buildings (unlikely)

Status Designations:

Federal:

FE = Listed as Endangered under federal Endangered Species Act

FT = Listed as Threatened under federal Endangered Species Act

PE = Proposed for federal listing as "endangered"

PT = Proposed for federal listing as "threatened"

State:

SE = Listed as Endangered under the California Endangered Species Act

ST = Listed as Threatened under the California Endangered Species Act

C = Candidate species under review for listing, includes taxa for which the CDFW has sufficient biological information to support a proposal to list as endangered or threatened

CP = California fully protected species; individuals may not be possessed or taken at any time

SSC = Considered a "California Species of Special Concern" (SSC) by the CDFW; nests and roosts are recognized as significant biotic features

A supplemental habitat evaluation was conducted in 2005 to further assess the potential for Kelly Creek and D Street tributary to provide suitable breeding habitat for CRLF (Wildlife Research Associates 2005a). The on-site drainages were inspected and their suitability as breeding habitat for CRLF evaluated. The evaluation report concluded that Kelly Creek contains some pools that are potentially deep enough to support breeding by CRLF, but it is unlikely they are used for this purpose because of a lack of emergent vegetation on which to lay egg masses. The lack of emergent vegetation would also limit the potential for survival of any larvae and adult CRLF from predators. Because of the shallow waters, lack of emergent vegetation, and lack of refugia along the creek, it was also concluded that D Street tributary was not currently used for breeding. The evaluation report states that it is likely that CRLF young of the year and first year frogs use the tributary for refugia when dispersing and escaping adults in the stock pond. A dense stand of cattail and other herbaceous freshwater marsh vegetation was observed by the biologist along the tributary at the southern edge of the project site during a field reconnaissance in 2015 that would provide protective cover for dispersing adults, as would the adjacent thicket of willows.

California Tiger Salamander

California tiger salamander (CTS) is listed by the USFWS and CDFW as threatened. It occurs in grassland and savanna habitat, breeding in vernal pools and swales, seasonal drainages and man-made ponds, and spending most of the year in subterranean refugia such as rodent burrows, cracks, and under rocks and logs. Adults migrate to suitable breeding locations with the onset of sustained rainfall, and have been reported to move considerable distances. Most of the occurrences of CTS in Sonoma County are from the complex of vernal pools and drainages of the Santa Rosa Plain along the Laguna de Santa Rosa watershed, generally between Sebastopol, Santa Rosa, and Cotati. Extensive habitat conversion and fragmentation of breeding habitat has eliminated this species from much of its former range, and habitat conversion and fragmentation is considered a serious threat to the Sonoma County CTS population.

The habitat assessment for CTS in 2003 concluded that the stock pond on the project site provides suitable aquatic breeding habitat for this species, but that because the site is located outside the known potential range the species is not believed to be present (Wildlife Research Associates 2003). The USFWS and CDFW have identified the potential range for the Sonoma County CTS population as occurring north of Pepper Road, east of Highway 116, south of Windsor, and west of Old Redwood Highway, Petaluma Hill Road and Lichau Creek (USFWS 2003). The Recovery Plan for the Santa Rosa Plain includes a map showing the distribution of the Sonoma County CTS (USFWS, 2016), which shows an extirpated occurrence of CTS in the downtown Petaluma area (about 1.5 miles northeast of the project site), but all other known occurrences are over four miles north or west of the project site, and generally separated by the intensively developed area of central Petaluma and suburban residential development of the western hills, severely limiting the potential for any future dispersal to the project site. The supplemental assessment for CTS in 2005 reached

a similar conclusion (Wildlife Research Associates 2005b), as was the case in the biological assessment submitted to the USFWS (Zander Associates 2009). CTS is not believed to occur on the site based on distance to known occurrences, barriers to migration, absence of any observed egg sacs during the January 2005 field survey, and the fact that the project site is outside the known range for this species as mapped by the USFWS.

Bird Species

Several special-status birds have varying potential to frequent the project site, as indicated in **Table 4.3-1**. Most of these may forage to varying degrees in the grasslands and woodlands of the site vicinity. However, nesting habitat is generally absent for most of these species or no evidence of nesting activity was observed during field reconnaissance surveys of the site. Much of the project site and surrounding undeveloped grasslands provide suitable foraging habitat and potential nesting locations for loggerhead shrike, California horned lark, and burrowing owl. However, ground squirrel burrows necessary for nesting by burrowing owl were absent from the project site and there are no occurrences of burrowing owl reported in the project site vicinity by the CNDDDB, which does monitor known nesting colonies. This species was not observed during detailed surveys conducted by in 2013 (Zentner and Zentner 2013).

As noted previously, the open woodlands and grasslands provide foraging opportunities for numerous raptor species, including red-tailed hawk, American kestrel, Cooper's hawk, sharp-shinned hawk, white-tailed kite, and great-horned owl. Mature trees provide perch and roosting substrate, and may serve as nest locations in the future for some species of raptors. Suitable nesting habitat for prairie falcon, peregrine falcon, and golden eagle, which may occasionally forage in the vicinity, is absent from the site because of the lack of suitable cliff faces or ledges used by the falcons and the proximity to existing development which limits the suitability for golden eagle nesting. Golden eagle nests tend to be large stick structures and would have been discernable during the numerous field surveys conducted on the site. Other raptors, such as ferruginous hawk, merlin, and bald eagle may be infrequent winter migrants and uncommon aerial transients that may forage and roost in the project vicinity, but essential breeding habitat for these species is absent. The only raptor nesting and roosting activity observed on the project site was by barn owl in the large barn in the farm complex (Wildlife Research Associates 2004). Active nests for all of the identified special-status bird species are protected under the Migratory Bird Treaty Act (MBTA)⁵ and State Fish and Game Code. Raptor nests are also protected from destruction when in active use under the MBTA and

⁵ The Migratory Bird Treaty Act does not provide protection for habitat of migratory birds, but does prohibit the destruction or possession of individual birds, eggs, or nests in active use without a permit from the USFWS.

Section 3503.5 of the State Fish and Game Code.⁶ Even nests of common native bird species are protected under the MBTA and State Fish and Game Code when in active use.

Bat Species

A number of special-status bat species are known or expected to occur within the Petaluma vicinity. In 2004 and 2014, habitat assessments were conducted onsite to determine the potential for occurrence on the project site (Wildlife Research Associates 2004 and 2014). Bat species initially considered to be of particular concern for potential occurrence on the site included: pallid bat (*Antrozous pallidus*), Townsend's western big-eared bat (*Corynorhinus townsendii*), western red bat (*Lasiurus blossevillii*), western yellow bat (*Lasiurus xanthinus*), little brown bat (*Myotis lucifugus*), and Yuma bat (*Myotis yumanensis*). As indicated in **Table 4.3-1**, most of these are considered to be SSC species by the CDFW and three were previously recognized as federal Special Concern species before this designation was eliminated by the USFWS. While the western red bat and western yellow bat are currently not recognized as SSC species by the CDFW, they are classified as High Priority species in the region by the Western Bat Working Group (1998). Most of these species are typically known to roost in colonies established in buildings, caves, and crevices. However, western red and western yellow bats are primarily obligate tree-roosting species that roost in foliage, under bark or in cavities.

Evidence of bat activity encountered during the bat survey provides an indication of roosting in several of the buildings on the project site. These consist of possible day and night-time roosting in the hay barn, use of the roof interior of the two-story barn for day roosting, and occasional use of the garage barn for night roosting and possibly for day roosting (Wildlife Research Associates 2014). No bats were actually encountered during the day-time surveys, and it is uncertain what species may use the buildings for roosting, although observed fecal pellets were of more common species such as myotis (*Myotis* sp.) and Brazilian free-tailed bat (*Tadarida brasiliensis*). No tree roosts were observed, but several potentially suitable roost cavities were detected in coast live oak trees along Kelly Creek (Wildlife Research Associates 2004).

4.3.2.5 Sensitive Natural Communities

In addition to species-oriented management, protecting habitat on an ecosystem-level is increasingly recognized as vital to the protection of natural diversity in the state. Although sensitive natural communities have no legal protective status under the state or federal Endangered Species Acts, they are

⁶ This section of the State Fish and Game Code states that it is unlawful to take, possess, or destroy any birds-of-prey or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by code or regulation.

provided some level of protection under CEQA (The *CEQA Guidelines* identify potential impacts on a sensitive natural community as one of six significance criteria).

Sensitive natural community types on the project site include the riparian woodlands along Kelly Creek, areas of freshwater marsh wetlands, willow riparian scrub near the stock pond, woodlands dominated by valley oak, and stands of native grasslands. Each of these natural community types are considered to have a high inventory priority by the CNDDDB. Both of the identified woodlands are dominated by valley oaks, comprising over 60 percent of the tree cover, and therefore are considered sensitive natural community types. Freshwater marsh and riparian habitat are sensitive natural community types that are also regulated as jurisdictional state and federal waters, as discussed further below.

The stands of native grasslands, generally with a native species component of 10 percent or higher, are considered a sensitive natural community type by the CDFW. As indicated in **Figure 4.3-2**, an estimated 11.3 acres of native grasslands occur on the site, with a range in native species component from 15 to 65 percent. These native grasslands were not observed as distinct stands during earlier surveys of the site, including the special-status plant surveys conducted in 2003 and 2004, and the biological resource assessments prepared in 2003 and 2009. Although native grass and forb species were detected during previous surveys, their abundance was presumably suppressed by more intensive grazing on the project site in the last decade. As noted previously, the now conspicuous stands of native grasslands became apparent during a field reconnaissance in spring of 2015, and detailed field assessment and mapping was then prepared and refined (Zentner and Zentner 2016a). These include very high-quality stands on the north and northeast-facing hillside slopes in the southwestern portion of the site. Although they now qualify as native grasslands and are mapped as such in **Figure 4.3-2**, the stands on the south and south-east facing slopes in the northwestern portion of the site appear to be newer stands, with less native species diversity and lower native cover class values, and are typically dominated by only a few native species such as purple needlegrass, hayfield tarweed (*Hemizonia congesta*), and silver bush lupine (*Lupinus albifrons*), along with common non-native grasses and forbs.

Areas dominated by non-native grasslands, non-native trees, and ruderal cover are not considered sensitive natural communities. Introduced non-native species form the predominant cover in these locations. As noted previously, native grass species do occur in portions of the non-native grassland on the site, but not at densities where they would be considered a sensitive natural community type.

4.3.2.6 Wetlands

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as

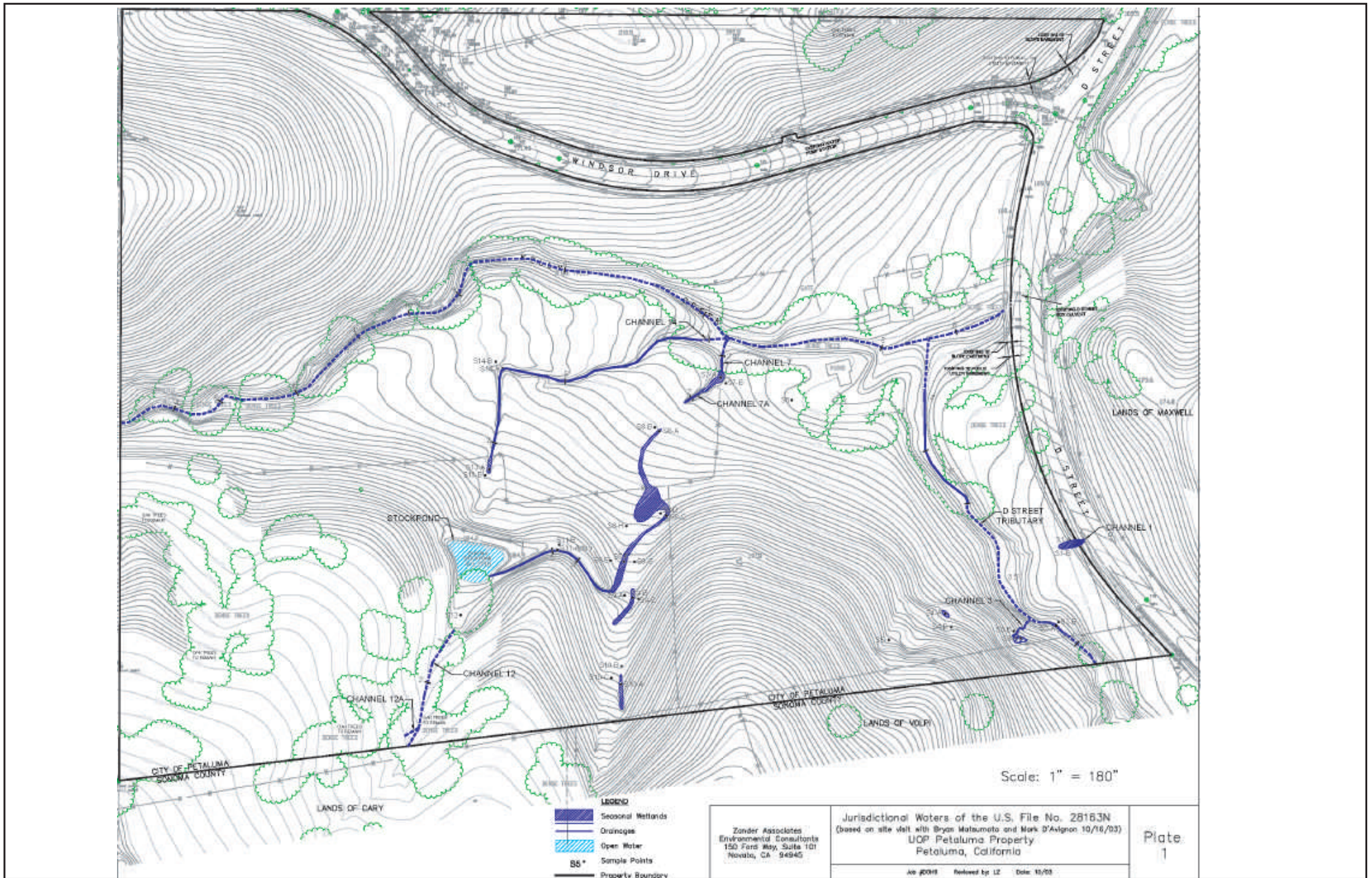
important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration and purification functions. The CDFW, Regional Water Quality Control Board (RWQCB), and USACE have jurisdiction over modifications to river banks, lakes, stream channels and other wetland features.⁷

The USACE issued a preliminary jurisdictional determination, on December 4, 2020 depicting wetlands and other waters of the U.S. on the site (see **Figure 4.3-6**). This map shows the extent of waters subject to the USACE's regulatory authority under Section 404 of the Clean Water Act (USACE 2020). Mapped jurisdictional waters on the project site consist of wetlands, drainages, and the open water of the stock pond. According to the preliminary jurisdictional determination by the USACE, a total of 0.74 acres of federal jurisdictional waters occur on the project site. These consist of 0.271 acres of seasonal wetlands associated with scattered seeps on the hillside slopes 0.317 acres of unvegetated drainages, and 0.152 acres of open water associated with the stock pond. The unvegetated drainages include 0.235 acres along Kelly Creek, 0.062 acres along the D Street Tributary, and 0.02 acres along smaller tributary channels.

4.3.2.7 Wildlife Movement Corridors

Wildlife corridors are pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or manmade obstacles such as urbanization. Fragmentation of natural habitat creates isolated "islands" of habitat that may not provide sufficient area or resources to accommodate sustainable populations for a number of species, adversely affecting both genetic and species diversity. Wildlife corridors partially or largely mitigate the adverse effects of fragmentation by (1) allowing animals to move between remaining habitats to replenish depleted populations and increase the gene pool available, (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or species extirpation from the local area or extinction for more vulnerable

⁷ Jurisdiction of the Corps is established through the provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material into "waters" of the United States without a permit, including wetlands and unvegetated "other waters of the U.S." The Corps uses three mandatory technical criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) to determine whether an area is a jurisdictional wetland. Jurisdictional authority of the CDFW over wetland areas is established under Section 1600-1606 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the Department, incorporating necessary mitigation, and obtaining a Streambed Alteration agreement. The RWQCB is responsible for upholding state water quality standards pursuant to Section 404 of the Clean Water Act and for regulating fill of hydrologically isolated wetlands under the Porter-Cologne Water Quality Control Act.



SOURCE: Zentner Planning and Ecology, 2020

FIGURE 4.3-6

Jurisdictional Delineation Map

special-status species with severely isolated distribution, and (3) serving as travel paths for individual animals moving throughout their home range in search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

As noted above in **Section 4.3.2.3**, wildlife use and movement is currently unrestricted across the project site and onto the adjacent largely undeveloped lands to the south and southwest. About five acres of the southern edge of the project site are mapped as part of a Regional Habitat Linkage that extends across southern Sonoma and north Marin County area that was prepared by the Bay Area Open Space Council and Conservation Lands Network as part of the Bay Area Critical Linkages project.⁸ These mapped regional linkages are not regulated habitats and site-specific conditions for wildlife movement opportunities are addressed in this section of the RDEIR. Under the proposed project, the portion of the site mapped as part of a Regional Habitat Linkage would remain as permanent open space, and the project would not conflict with its function for wildlife movement opportunities.

An open wire fence along the border with Helen Putnam Regional Park currently disrupts movement by larger wildlife species to the west, but signs of access under the fence by black-tailed deer and other wildlife are evident. Roadways and vehicle traffic along D Street and Windsor Drive also disrupt wildlife movement, and existing residential development limits opportunities for dispersal to remaining areas of natural habitat to the east and northeast. Kelly Creek and the D Street tributary function as wildlife movement corridors across the project site, continuing downstream under D Street and the residential neighborhood to the northeast, and upstream into the adjacent Helen Putnam Regional Park to the west and the rolling grasslands and scattered residences to the southeast. The drainages tend to serve as movement corridors for larger wildlife species, such as deer, raccoon, and grey fox, particularly where dense growth provides protective cover and retreat habitat. Kelly Creek continues as an open channel both upgradient and downgradient of the project site, and most likely serves as an important movement corridor to terrestrial and aquatic-dependent species. An existing plywood gate prevents the movement of larger wildlife such as black-tailed deer through the concrete box culvert under the D Street overcrossing. Similarly, the D Street tributary provides a connection between Kelly Creek and the largely undeveloped rolling hillsides to the southeast.

⁸ Bay Area Greenprint, 2020. Bay Area Critical Linkages. https://www.bayareagreenprint.org/report/?report=521&maplayers=bounds_county,balinkage,raster_connectivity#ReportOutputBottom-Biodiversity. Accessed: January 23, 2020.

4.3.3 REGULATORY CONSIDERATIONS

4.3.3.1 Federal

Federal Endangered Species Act (FESA)

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and wildlife species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has four major components: provisions for listing species, requirements for consultation with the USFWS and the NOAA Fisheries, prohibitions against “taking” of listed species, and provisions for permits that allow incidental “take.” The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the NOAA Fisheries share the responsibility for administration of the FESA. During the CEQA review process, each agency is given the opportunity to comment on the potential of the proposed project to affect federally listed plants and animals.

Clean Water Act (CWA), Section 404 and 401

The USACE and the United States Environmental Protection Agency (U.S. EPA) regulate the discharge of dredged or fill material into waters of the U.S., including wetlands, under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters of the U.S. are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Parts 328.4(a),(b),(c)). Activities in waters of the U.S. regulated under Section 404 include fill for development, water resource projects (such as dams and levees), infrastructure developments (such as highways and airports), and mining projects. Section 404 of the CWA requires a federal license or permit before dredged or fill material may be discharged into waters of the U.S., unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U. S. to obtain a certification from the state in which the discharge originates or would originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters. At the point where the discharge originates or would originate, the discharge would have to comply with the applicable effluent limitations and water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. In California, the responsibility for the protection of

water quality under the CWA rests with the State Water Resources Control Board (SWRCB) and its nine RWQCBs.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661-667e, March 10, 1994, as amended 1946, 1958, 1978, and 1995) requires that whenever waters or channel of a stream or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NOAA Fisheries and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur. In the case of the proposed project, the agency would be the CDFW. The consultation would have to address the conservation of birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act

The MBTA (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations (CFR) Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior (DOI). As used in the act, the term “take” is defined as meaning “to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires.” With a few exceptions, most birds are considered migratory under the MBTA. Disturbances that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA. In December 2017, the DOI issued a memorandum reversing the incidental take interpretation of the MBTA. Under the latest determination of the DOI, the take of a migratory bird or its active nest (i.e., with eggs or young) that is incidental to a lawful activity does not violate the MBTA.

The Bald Eagle Protection Act (16 U.S.C. 668) was passed in 1940 to protect bald eagles (*Haliaeetus leucocephalus*) and was later amended to include golden eagles (*Aquila chrysaetos*). Under the act it is unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, their parts, products, nests, or eggs. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing eagles.

4.3.3.2 State

California Endangered Species Act (CESA)

California enacted similar laws to the FESA, the California Native Plant Protection Act (NPPA) in 1977 and the CESA in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the FESA, CESA created the categories of “threatened” and “endangered” species. It converted all “rare” animals into the CESA as threatened species, but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and wildlife species. The CDFW implements NPPA and CESA, and its Biogeographic Data Branch maintains the CNDDDB, a computerized inventory of information on the general location and status of California’s rarest plants, wildlife, and natural communities. During the CEQA review process, the CDFW is given the opportunity to comment on the potential of the proposed project to affect listed plants and wildlife species.

Fully Protected Species and Species of Special Concern

The classification of “fully protected” was the CDFW’s initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The California Fish and Game Code sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with “fully protected” species states that these species “...may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species,” although take may be authorized for necessary scientific research. This language makes the “fully protected” designation the strongest and most restrictive regarding the “take” of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

California Species of Special Concern (SSC) are broadly defined as species not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these species by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation is also intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management

attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during proposed project review.

California Fish and Game Code, Sections 3503 and 3513

According to Section 3503 of the California Fish and Game Code it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (except English sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*)). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MTBA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW.

California Fish and Game Code, Section 1600

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the California Fish and Game Code. Any activity that will do one or more of the following generally require a 1602 Lake and Streambed Alteration Agreement: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. The term “stream,” which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Riparian is defined as, “on, or pertaining to, the banks of a stream.” Therefore, riparian vegetation is defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself.” Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

California Native Plant Society Rare Plant Ranking System

The California Native Plant Society (CNPS) has been involved in assembling, evaluating, and distributing information on special-status plant species in the state, as listed in the *Inventory of Rare and Endangered Plants of California* (2001 and electronic inventory update). CNPS has recently updated their rating system for the rarity of special-status plants, and now include both a California Rare Plant Rank and a Threat Rank.

Species are ranked according to their rarity status.⁹ CEQA requires government agencies to consider environmental impacts of discretionary projects and to avoid or mitigate them where possible. Under Section 15380, CEQA provides protection for both State-listed species and for any other species which can be shown to meet the criteria for state listing. The CDFW recognizes that special-status plants in the CNPS Inventory with a California Rare Plant Rank of 1A (Presumed extinct in California), 1B (Rare, threatened, or endangered in California and elsewhere), and 2 (Rare and endangered in California, but are more common elsewhere) consist of plants that, in a majority of cases, would qualify for listing and these species should be addressed under CEQA review. In addition, the CDFW recommends, and local governments may require, protection of species which are regionally significant, such as locally rare species, disjunct populations, essential nesting and roosting habitat for more common wildlife species, or plants with a CNPS California Rare Plant Rank of 3 (Plant species for which additional data is needed – a review list) and 4 (Plant species of limited distribution - a watch list).

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by federal, state, and local conservation plans, policies or regulations. The CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its CNDDDB. Sensitive vegetation communities are also identified by the CDFW on its List of California Natural Communities Recognized by the CNDDDB. Impacts to sensitive natural communities and habitats identified in local or regional plans, policies, regulations or by federal or state agencies must be considered and evaluated under CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

Although sensitive natural communities have no legal protective status under FESA and CESA, they are provided some level of protection under CEQA. The *CEQA Guidelines* identify potential impacts on a sensitive natural community as one of six significance criteria. As an example, a discretionary project that has a substantial adverse effect on any riparian habitat, native grassland, valley oak woodland, or other sensitive natural community would normally be considered to have a significant effect on the environment. Further loss of a sensitive natural community could be interpreted as substantially diminishing habitat, depending on its relative abundance, quality and degree of past disturbance, and the anticipated impacts

⁹ The CNPS Inventory contains the following listings:

- 1A = Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere.
- 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere.
- 2A = Plants Presumed Extirpated in California, But More Common Elsewhere.
- 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere.
- 3 = Plants About Which More Information is Needed – A Review List.
- 4 = Plants of Limited Distribution – A Watch List.

to the specific community type. Where determined to be a significant impact under CEQA, the potential impact would require mitigation through avoidance, minimization of disturbance or loss, or some type of compensatory mitigation when unavoidable.

Porter-Cologne Water Quality Control Act

Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. The term “Waters of the State” is defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact “Waters of the State,” are required to comply with the terms of the Water Quality Certification. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the USACE under Section 404. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements (WDR).

4.3.3.3 Local Plans and Policies

City of Petaluma 2025 General Plan

The City of Petaluma *2025 General Plan* was adopted in May 2008, and contains a number of policies related to the protection and enhancement of biological resources.

General Land Use Policies

Chapter 2: Community Design, Character, and Green Building

8. West Hills

Policy 2-P-68: Maintain a minimum of a 100'-setback along Kelly Creek and its tributaries. Preserve and maintain habitat areas and trees.

Chapter 4: The Natural Environment

4.1 Biology and Natural Resources

Policy 4-P-2: Conserve wildlife ecosystems and sensitive habitat areas in the following order of protection preference: 1) avoidance, 2) on-site mitigation, and 3) off-site mitigation.

Policy 4-P-3: Protect special status species and supporting habitats within Petaluma, including species that are state or federal listed as endangered, threatened, or rare.

As part of the development review process, site-specific biological resource assessments may be required to consider the impacts on riparian and aquatic resources and the habitats they provide for invertebrates, fish, amphibians, reptiles, birds, mammals, and plants. If development is located outside these ecologically sensitive regions, no site-specific assessment of biological resources may be necessary. Appropriate mitigation measures to reduce impacts to sensitive habitats and special status species shall be imposed on a project-by-project basis according to Petaluma's environmental review process.

Chapter 6: Recreation, Music, Parks, and the Arts

6.1 Parks and Recreation

Policy 6-P-19: Support efforts by the City's Tree Advisory Committee to disseminate current information to the public advocating the use of Best Management Practices for the care and perpetuation of the urban forest, including issues such as strategic tree planting that considers site conditions as well as shading in selection and placement of trees, proper planting and pruning techniques, and the importance of using Integrated Pest Management practices in order to minimize the use of chemicals harmful to the environment.

A. Development plans shall be reviewed to ensure adequate growing space and conditions for trees and other vegetation is provided, and that plant species choices are adaptable to the proposed planting environment.

Policy 6-P-20: Where trees larger than 8 inches in diameter must be removed to accommodate development, they shall be replaced at a ratio established in the Development Code. Replacement trees may be planted on, or in the vicinity of, the development of the site, subject to approval by the Community Development Department or through the discretionary approval process.

City of Petaluma Municipal Code

Section 20.32.320 of the Petaluma Municipal Code also contains general provisions to preserve existing on-site vegetation during review of proposed subdivisions. The Municipal Code notes that a subdivision shall

be so designed as to preserve the greatest amount of existing on-site vegetation, including trees with a trunk diameter of four inches or greater and other natural ground cover. In instances where the Planning Commission considers that proposed cuts and fills in a hillside subdivision to be of sufficient size or visibility to demand special treatment, the subdivider may be required to landscape such areas with suitable permanent plant materials and to provide for their maintenance.

City of Petaluma Implementing Zoning Ordinance

Chapter 17 (Tree Preservation) of the Implementing Zoning Ordinance (IZO) provides regulations for the protection, preservation, and maintenance of groves and stands of mature trees, and mature trees in general. The ordinance defines any California native oak with a diameter at breast height (DBH) of four inches or greater, California buckeye with a DBH of six inches or greater, California bay with a DBH of 12 inches or greater, and coast redwood with a DBH of 18 inches or greater as a “Protected Tree”. In addition, the ordinance also defines any tree located within a riparian corridor, a tree in a public right-of-way, or significant groves or stands of trees as a Protected Tree. The City’s objective is to establish regulations that will result in no net loss of tree canopy in the community. It is also the intent of this chapter to promote and perpetuate the urban forest through the replacement of trees removed as a result of new development.

4.3.4 IMPACTS AND MITIGATION MEASURES

4.3.4.1 Significance Criteria

The impacts of the proposed project on biological resources would be considered significant if they would exceed the following Standards of Significance, in accordance with Appendix G of the *State CEQA Guidelines*:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

4.3.4.2 Project Details and Methodology

Aspects of the proposed project have the potential to adversely affect sensitive resources regulated by state and federal resource agencies. The project has undergone considerable revision and reduction in proposed residential use, in part to avoid important biological habitat. The proposed residential use has been reduced in size over the course of three previous proposals that ranged from 104 to 63 single-family residences. This reduction in residential density was proposed in large part to provide additional protection to CRLF habitat around the existing stock pond, to provide improved connectivity between the stock pond and Kelly Creek, preserve habitat to the south of Kelly Creek, and maintain the existing barn complex and rural setting along D Street.

Implementation of the proposed project would still require disturbance of an estimated 22.1 acres of the site. Vegetation within the anticipated limits of grading would be removed as part of recontouring in the northwestern portion of the site to accommodate residential development, as well as localized grading for roadway, parking, and pathway construction in the public park areas for improved public access and habitat enhancement. Most of the affected vegetation would consist of grasslands, including an estimated 1.21 acres that qualify as native grasslands. Sensitive resources which would still be adversely affected by the proposed project include areas of riparian habitat for bridge crossings and drainage outfall improvements, stands of native grasslands, jurisdictional waters for trail crossings, dispersal and foraging habitat for CRLF, and existing wildlife habitat and opportunities for wildlife movement in the northwestern portion of the site where residential development is proposed. Vegetation on the site would also be managed and treated in accordance with the Fuel Management Program (**Section 3.0, Project Description**) to reduce risks from wildfire.

The analysis below compares identified impacts to the standards of significance stated above and determines the impact's level of significance under CEQA. If the impact is determined to be significant, the analysis identifies feasible mitigation measures to eliminate the impact or reduce it to a less-than-significant level. If the impact cannot be reduced to a less than significant level after implementation of all feasible

mitigation measures, then the impact is identified as significant and unavoidable. The project's potential contribution to cumulative impacts is also evaluated.

Based on the resources present on the project site and the types of impacts anticipated, the project Applicants would be required to obtain permits and authorizations from state and federal resource agencies under the CWA, FESA and CESA, and other laws. Those permitting processes would not conclude until after the Final EIR is prepared and certified. The City recognizes that these permitting processes will likely result in the imposition of compensatory mitigation requirements relating to impacts on aquatic resources and CRLF, and that such mitigation measures may be in addition to, of a different nature and/or of a different quantity than imposed in this RDEIR. The mitigation measures in this RDEIR represent the fulfillment of the City's obligations to identify and mitigate a broad range of environmental impacts under CEQA. The Applicants are required by law to obtain appropriate permits from state and federal resource agencies and to comply fully with all mitigation requirements imposed as conditions of these permits, in addition to the mitigation measures detailed below. As set forth in the mitigation measures presented below, evidence of securing any necessary agency permits would be submitted to the City prior to issuance of any grading or building permits, together with on-going compliance reports, thereby ensuring all issues are resolved and addressed to the satisfaction of the regulatory agencies.

4.3.4.3 Project Impacts and Mitigation Measures

Impact BIO-1: The proposed project would not affect special-status plant species but would result in substantial adverse effects on special-status wildlife species, including California red-legged frog, nesting birds, and roosting bats. (Potentially Significant; Less than Significant with Mitigation)

As discussed in **Section 4.3.2.3** above, the project site contains suitable habitat for certain special-status species. The potential for the proposed project to result in a substantial adverse effect on special-status species is evaluated below.

Special-Status Plant Species

No known populations of special-status plant species have been reported at the project site or were encountered in systematic surveys conducted in spring of 2003, 2004, and 2013 (Zander Associates 2003 and 2004c; Zentner and Zentner 2013), and no populations are expected to occur on the site. The surveys were conducted in accordance with the survey guidelines of the CDFW and CNPS, and provided for an adequate determination on the absence of any special-status plant species on the project site. No impacts to special-status plants are anticipated and no mitigation is required.

California Tiger Salamander

As discussed in **Section 4.3.2.4, Special-Status Species**, the closest known occurrences of California tiger salamander in relation to the site, are over four miles north or west of the project site. These locations are generally separated by the intensively developed area of central Petaluma and suburban residential development of the western hills, which severely limits the potential for any future dispersal to the project site. Therefore, California tiger salamanders are not expected to occur on the site because of the large distance to the currently known range of this species and lack of historic records for the area. No significant impacts are anticipated and no mitigation is required.

California Red-legged Frog

As discussed above in **Section 4.3.2.3, Special-Status Species**, the stock pond in the south-central portion of the project site is known to support breeding by CRLF. A supplemental habitat evaluation, conducted at the project site in 2005, concluded that although Kelly Creek contains some pools that are potentially deep enough to support breeding by CRLF, it is unlikely they are used for this purpose because of a lack of emergent vegetation on which to lay egg masses (Wildlife Research Associates 2005a). Similarly, due to shallow waters, lack of emergent vegetation, and lack of refugia along the creek, the supplemental habitat evaluation concluded that the D Street tributary was not believed to be used for breeding, although CRLF likely use the tributary for refugia when dispersing from the stock pond. The supplemental habitat evaluation also noted that the scattered seeps, springs, and intermittent drainages on the site may provide dispersal habitat for first year CRLF, and that off-site ponds to the south may be used for population dispersal and alternative breeding locations.

Construction activity under the proposed project in addition to post-construction occupancy of the residences and human activity associated with the management and use of the on-site public park extension would adversely affect the occurrence of CRLF on the project site. Potential impacts to this species as a result of the proposed project are summarized below, and include possible CRLF mortality during construction and post-construction maintenance, impact on breeding habitat, impact on foraging and estivation habitat, impact on dispersal and movement, and indirect impact on CRLF. As detailed below, while these potential impacts on CRLF would be significant, **Mitigation Measures BIO-1a and BIO-1b** would reduce the impacts to a less-than-significant level.

CRLF Mortality During Project Construction

Project construction activities would entail clearing of vegetation, grading to accommodate residential development, trails, trail head facilities, parking, rerouting and enhancement of the stock pond drainages, construction of pedestrian bridges and a livestock crossing over Kelly Creek, and installation of stormwater

outfalls into Kelly Creek. Long-term management of permanent open space areas would require routine treatment of existing vegetative cover to reduce fire fuel loads, as specified in the Fuel Management Program identified in the *Fuel Management Plan* report and described in **Section 3.0, Project Description**. These activities and the associated degradation of water quality could result in direct loss of CRLF both in aquatic habitat and uplands on the project site.

Impact on Breeding Habitat

As noted above, the existing stock pond is a documented CRLF breeding location. The project has been designed to avoid any direct impacts to the stock pond which would be preserved as part of the Putnam Park Extension Project component. As part of the proposed project, habitat associated with the stock pond would be managed to improve conditions for CRLF which are currently compromised from uncontrolled access by cattle. Because the stock pond is currently unfenced, cattle tend to congregate there in the summer in search of drinking water and shade. As a result, they trample and heavily browse the limited emergent vegetation and willows, contributing to erosion along the shoreline and degrading the existing water quality. The proposed project would restrict access to the stock pond by cattle, and therefore, reduce or eliminate degraded conditions. Other CRLF protection measures that would be implemented as part of the proposed project include monitoring and management, such as: allowing occasional short-term access by livestock (flash grazing), if needed, to maintain open water areas on the pond that are essential for CRLF; planting supplemental native riparian vegetation around the pond; and installing water troughs for livestock watering away from the pond. If pumping is necessary to deliver water to the troughs, proper screening of the intake pipe and other controls would be used to prevent physical harm to CRLF (Prunuske Chatham, Inc. 2019b). CRLF protection measures proposed as part of the project would include control of bullfrog, which are highly predatory on CRLF and could decimate the population if they were to occupy the pond in the future. However, Kelly Creek and D Street tributary do not appear to provide suitable breeding habitat. With direct avoidance of the stock pond and implementation of CRLF protection measures, loss of breeding habitat for CRLF would not occur as a result of project implementation, and habitat conditions would likely improve as a result of proper monitoring and maintenance.

Impact on Foraging and Estivation Habitat

Given the presence of the stock pond breeding location, the entire project site provides suitable foraging and estivation habitat for CRLF. The proposed project would develop approximately 11.7 acres of CRLF suitable habitat on the project site with residences, roadways, and two detention basins along Windsor Drive. An estimated additional 10.4 acres would be temporarily disturbed by grading. The 10.4 temporarily disturbed acres includes grading in the northwestern portion of the project site to accommodate the proposed Davidon (28-lot) Residential Project component, which would be inaccessible to CRLF during

construction and would likely have reduced suitability as habitat due to loss of natural cover, possible poor revegetation success, inaccessibility, or proximity to future development and other factors. The 10.4 acres to be temporarily disturbed also includes grading and other disturbance for the Putnam Park Extension Project component would include construction of the proposed parking lots and multi-use trails, three pedestrian bridges over Kelly Creek, habitat enhancement plantings, and installation of livestock fencing and piping to water troughs. This would leave approximately 36.56 acres (or about 62 percent) of the project site undisturbed by residential development, open space improvements, and construction-related disturbance.

Impact on Dispersal/Movement

New roadways, extensive grading, residential development, and public trails would create potential barriers and obstacles to movement of CRLF, converting most of the northwestern portion of the site to residential use and disrupting opportunities for movement along Kelly Creek and across upland areas. Of particular concern is the disruption of movement opportunities between the stock pond and Kelly Creek to the north. The paved multi-use trail could interrupt movement of individual frogs depending on the intensity of pedestrian, bicycle, and equestrian use of the trail along the south side of Kelly Creek.

The proposed bridge structures over Kelly Creek would be designed to avoid placement of fill in federal waters below the Ordinary High Water Mark¹⁰ (Prunuske Chatham, Inc. 2019b), which should minimize their disruption to movement of aquatic life in the creek channel, including CRLF. The proposed livestock crossing of Kelly Creek which would serve to connect the southern and northeastern grazing lands, has not been fully designed, but would likely either be an arched culvert or a rocked wet crossing with ramp (Prunuske Chatham, Inc. 2019b). Any frogs or other aquatic life moving along the channel bottom could be at risk of trampling by cattle and other livestock at the crossing location. However, the proposed project would restrict livestock access into the creek to a single narrow location, which would greatly reduce the extent of disturbance to the channel and also reduce the risk of injury or death to individual CRLF dispersing along Kelly Creek.

Indirect Impacts during Project Occupancy

Individual frogs would be vulnerable during project occupancy given the increased human activity on the project site, including future recreational access to the site and adjacent Helen Putnam Regional Park, maintenance and use of residential and open space areas, and likely increased presence of domesticated

¹⁰ The term Ordinary High Water Mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

dogs and cats. New residents, visitors to the site (including pedestrians, bicyclists, and equestrians), and their pets would increase the potential for harassment and predation of CRLF, particularly given the proximity of the proposed multi-use trail bisecting the likely dispersal corridors between the stock pond and Kelly Creek. The proximity of new residences in the northwestern portion of the project site could create new light and glare across portions of Kelly Creek and the Putnam Park Extension Project component, which can be disruptive to amphibian behavior and may alter the movement of any CRLF dispersing or foraging at night in the vicinity. Proposed tree plantings, as shown on the Conceptual Plan for the Putnam Park Extension Project component (see **Figure 3.0-4**) on the hillside slopes below the proposed residences closest to Kelly Creek, would provide some screening of night-time lighting once the trees are mature.

The proposed multi-use trail along the south side of Kelly Creek would place trail users in the likely path of dispersing CRLF attempting to access the creek, and would increase the likelihood of future encounters when frogs are dispersing from the stock pond. Similarly, the multi-use trail along the north side of the Kelly Creek corridor could interrupt opportunities for CRLF dispersal into the hillside slopes to the north, although most of this existing grassland habitat would be replaced by the Davidon (28-lot) Residential Project component. Future trail users and their dogs would be attracted to the creek channel and possibly the nearby stock pond, particularly during the hot summer months. The proposed project includes fencing and signage to control access to the stock pond and the undeveloped open space in the southern portion of the project site. However, given the relatively remote location of the site, measures to control access may not be fully effective.

Fire fuel management activities would be performed on an annual basis as specified in the Fuel Management Program, identified in the *Fuel Management Plan* report and described in **Section 3.0, Project Description**. Most of the open space areas would continue to be grazed by cattle or other livestock, but unfenced areas along the riparian corridors, the open space area below the Davidon (28-Lot) Residential Project component, and around the stock pond would only be treated on a periodic basis using flash grazing, weed whacking or other controlled methods. All workers involved in implementation of the Fuel Management Program would receive training regarding the presence of CRLF on the site, and appropriate precautions would be used to minimize the potential for loss as a result of fuel management activities. However, there is a possibility that individual CRLF could be inadvertently injured or taken during these practices.

Compensatory Mitigation

Given the presence of the federally-listed CRLF on the site, **Mitigation Measure BIO-1a** would require securing authorization from the USFWS under the Section 7 of the Endangered Species Act. Further

refinements to the project design or other compensatory mitigation may be required by the USFWS. **Mitigation Measure BIO-1a** would also require obtaining permits from CDFW, RWQCB, and USACE (e.g., 1600 series permits, 404 and 401 permits). Based on the mitigation requirements of the regulatory agencies, the proposed project would implement **Mitigation Measure BIO-1b**, which would require the preparation of a final California Red-Legged Frog Mitigation Plan by a qualified wildlife biologist to minimize and mitigate potential impacts of the project on CRLF.

The USACE would consult with the USFWS as part of the federal interagency coordination called for under Section 7 of the Endangered Species Act and the permit authorization under Section 404 of the Clean Water Act. The need and amount of any off-site mitigation would depend on the extent of on-site avoidance of essential habitat, provisions for on-site enhancement and habitat creation, and other factors all of which would be considered by the USFWS as part of the Section 7 consultation process. Off-site habitat preservation, enhancement, or creation is frequently used by the USFWS in meeting minimum acceptable mitigation requirements when complete on-site avoidance is not considered feasible. Further detailed habitat assessment, mitigation design, and property negotiations would be required for any off-site mitigation component.

Conclusions

Mitigation for potential impacts on CRLF would presumably be achieved through a combination of on-site and possibly off-site habitat preservation and enhancement. Temporary impacts on CRLF habitat would be addressed through appropriate construction restrictions and controls, through adequate revegetation of temporarily disturbed areas, and by enhancing the existing creek corridors, stock pond, and uplands to be retained as permanent open space. Permanent habitat impacts (habitat lost as a result of development) would presumably be mitigated at a 3:1 ratio, consistent with USFWS practices for impacts on CRLF. Based on preliminary estimates of permanent impacts to 16.2 acres of the project site for both the Davidon (28-lot) Residential Project component and the Putnam Park Extension Project component, protection of an estimated 48.6 acres would be required at a minimum. Assuming all of the on-site open space lands would qualify as conservation easement lands, about 42.4 acres would be available for mitigation purposes on-site. A minimum of 6.1 acres, at a yet to be identified off-site location, would be required to meet the standard mitigation ratio for permanent impacts. These estimates assume that the regulatory agencies would agree to a proposed mitigation program, which presumably would include permanent protection of on-site habitat by preserving the open space and mitigating the temporary impacts associated with grading and other construction-related disturbance on-site.

At the time a larger development was considered at the project site, informal consultation with the USACE and CDFW were initiated, and representatives of these agencies have been continuously updated with the

changes on the proposed development at the project site. As required by **Mitigation Measure BIO-1a**, would require formal consultation for the proposed project as part of the permit application review with the USACE for modifications to federally-regulated waters. Based on email correspondence summarizing meetings held on December 10, 2018 with Ryan Olah of the USFWS and on January 9, 2019 with James Hansen of the CDFW,¹¹ the agency representatives appear to be in agreement with the proposed approach to mitigation and importance of focusing habitat avoidance and enhancement in the Putnam Park Extension Project component south of Kelly Creek.

Although the potential impacts on CRLF associated with the project would be much less when compared with the developments previously considered at the project site, which had a much greater acreage of the site devoted to residential use, potential impacts remain significant. **Mitigation Measures BIO-1a** and **1b** are set forth to reduce the project's potential impacts on CRLF to a less-than-significant level. **Mitigation Measure BIO-1a** would require obtaining permits from the relevant regulatory agencies and implementing mitigation measures requested by those agencies. As part of **Mitigation Measures BIO-1a**, the proposed project would update the Wetland Mitigation Program (Zentner and Zentner 2009) prepared for the development previously proposed at the project site, under which the residential component extended over a much larger area. The updated mitigation program would address potential impacts associated with the extent of disturbance of the proposed project and would be submitted to the regulatory agencies for review and approval as part of the permitting process. **Mitigation Measure BIO-1b** would require the preparation and implementation of a Final CRLF Mitigation Plan that would define construction avoidance measures, habitat avoidance and mitigation provisions, and habitat connectivity and on-site management provisions. With implementation of **Mitigation Measures BIO-1a** and **BIO-1b**, impacts of the proposed project on CRLF would be reduced to less than significant.

Nesting Birds

Destruction of a bird nest when in active use (generally between February 15 and August 31) is a violation of the State Fish and Game Code and Migratory Bird Treaty Act (MBTA). Due to the proposed tree removal and construction in the vicinity of other trees, there remains a potential that one or more active bird nests protected under the MBTA and State Fish and Game Code could be adversely affected by the proposed project. This is considered a potentially significant impact. Removal of trees with non-active nests is permitted outside the nesting season (generally between September 1 and February 14). **Mitigation Measure BIO-1c** is set forth below to restrict tree removal during nesting season, and require that a qualified biologist conduct preconstruction surveys if tree and grubbing is initiated during the nesting

¹¹ USFWS, 2018. Email between the Davidon Applicant and Ryan Olah. December 18; CDFW, 2019. Email between the Davidon Applicant and James Hansen. January 16.

season. With implementation of **Mitigation Measure BIO-1c**, project's impact on nesting birds would be less than significant.

Bats

Bat surveys conducted at the project site did not identify any important roosting activity in the site structures (Wildlife Research Associates 2004 and 2014). However, the project would include demolition, rehabilitation and/or relocation of the existing structures, and there is a possibility that new bat roosts could be established before structures are demolished or disturbed. There is also a possibility that solitary tree roosting bats could be inadvertently taken during tree removal, which is considered a potentially significant impact. **Mitigation Measure BIO-1d** requires consideration of possible bat use of the site before demolition or renovation of any existing building or tree removal. With implementation of **Mitigation Measure BIO-1d**, project's impact on potential bat-roosting activities would be less than significant.

In addition to **Mitigation Measures BIO-1a** through **BIO-1d**, subsequent permitting processes with resource agencies could result in additional compensatory mitigation beyond that required by the City as part of the CEQA process. Any additional mitigation required by these agencies would be incorporated as a condition of their permit authorization.

Mitigation Measures:

BIO-1a The project Applicants shall obtain all required permits from the USFWS, CDFW, RWQCB, and USACE (e.g., 1600 series permits, 404 and 401 permits), incidental take permits and any others. The project Applicants will submit with the permit application a Wetland Mitigation Program for review and approval by the regulatory agencies. The project Applicants shall implement mitigation measures, as required by federal and state law and included in the permits, to avoid, minimize, or offset impacts to any species listed under either the state or federal Endangered Species Acts or protected under any other state or federal law. Evidence that the project Applicants have secured all required authorization from these agencies shall be submitted to the Community Development Department of the City of Petaluma prior to issuance of any grading or building permits for the project.

BIO-1b A Final California Red-Legged Frog Mitigation Plan (CRLFMP) shall be prepared by a qualified wildlife biologist to minimize and mitigate potential impacts of the project on CRLF. The Final CRLFMP shall be prepared in consultation with and be approved by the USFWS, CDFW, USACE, and City, and shall provide for the protection, replacement, and management of habitat for CRLF affected by proposed development and public open space use on the project site. The Final CRLFMP shall be required as a condition of approval for

the project Tentative Map, and shall include the following components and meet the following standards:

Preconstruction and Construction Avoidance Provisions

- a. Preconstruction surveys shall be conducted by a Service-approved biologist prior to any grading or major vegetation clearance to ensure that no individual CRLF are lost during construction. The Final CRLFMP shall: 1) describe in detail the survey approach and methodology, and 2) specify that grading or vegetation clearance may not occur in any area where individual CRLF are located until such time as the individual has either moved out of the disturbance zone or has been physically relocated by a Service-approved biologist legally authorized to handle the species.
- b. All project-related -vegetation clearing and grading activities within potential habitat for CRLF shall be monitored by a Service-approved biologist. The Final CRLFMP shall specify the duties of the Service-approved biologist.
- c. All construction personnel shall be trained in CRLF identification, habitat description, legal protective status, construction restrictions, and procedures to avoid unnecessary disturbance to potential habitat or incidental take of these species. The Final CRLFMP shall describe this training program.
- d. Exclusionary fencing shall be installed prior to grading or major vegetation clearance where appropriate to keep CRLF out of construction areas. The Final CRLFMP shall identify where such fencing is to be installed and provide procedures for fence installation, monitoring, and maintenance. The Final CRLFMP shall require that the exclusionary fencing be installed under the direct supervision of a Service-approved biologist and shall be maintained during the course of construction activities on the site.
- e. If necessary, identify the locations for use of permanent exclusionary fencing or other barriers to prevent and minimize dispersal of CRLF into areas with concentrated human activity, based on input from the USFWS and CDFW. This may be particularly important at locations along segments of the multi-use trail to the south of Kelly Creek or parking lot and staging area on the east side of the D Street tributary, to prevent the movement of individual frogs into areas, of intensive bike, pedestrian and vehicle activity. If used, the permanent exclusionary fencing/barriers shall be designed and installed during project construction under the supervision of a Service-approved biologist.
- f. Appropriate signage shall be designed and installed to restrict unauthorized human access into essential habitat areas for CRLF during construction.

Habitat Avoidance and Mitigation Provisions

- g. Avoid development and associated direct and indirect impacts on CRLF in accordance with project revisions required as part of the consultation process with CDFW and

USFWS. Compensatory mitigation shall be provided at a minimum of 3:1 for permanent impacts and 1:1 for temporary impacts to CRLF habitat. This may be accomplished through permanent protection and establishment of a conservation easement or other mechanisms of suitable habitat on-site and off-site, where necessary to achieve the minimum compensatory mitigation requirements.

- h. Control unauthorized access to the on-site stock pond and open space in the southwestern portion of the project site to protect these essential habitat features for CRLF. Install fencing and interpretive displays and restrictive signage along all trail systems as necessary to control access from the proposed multi-use trails and other locations where unauthorized access is likely.
- i. Where disturbance and improvements within essential habitat and movement corridors cannot be completely avoided and on-site mitigation is considered insufficient by the CDFW and USFWS, the loss shall be mitigated by permanently preserving similar quality habitat known to support CRLF at off-site locations preferably in the Petaluma vicinity of Sonoma County, as negotiated with the regulatory agencies. It is possible that the mitigation location, whether on-site or possibly off-site as well, could be used to achieve mitigation for other biological and wetland impacts, depending on its habitat characteristics, provisions for habitat creation and/or enhancement defined as part of the Final CRLFMP, and negotiations with the CDFW and USFWS.
- j. Identify methods to minimize the potential for harassment or take of listed and non-listed species as a result of increased human activity associated with development and open space use of the site. This shall include an educational program for future residents and visitors, fencing and interpretive signage at access points into natural open space, use of sensitive grade changes, culverted undercrossings, and bridged overcrossings in uplands where roadways or trails bisect movement corridors, and possible use of permanent exclusionary fencing.

Habitat Connectivity and On-Site Management Provisions

- k. Define methods to provide connectivity for CRLF between open space areas on site and to the surrounding undeveloped lands to the west, south, and east.
- l. Provide for permanent protection and adaptive management of open space lands (both on-site and possibly off-site) intended to function as potential habitat for CRLF.

BIO-1c

Any active nests of raptors or other birds protected under federal and state regulations in the vicinity of construction shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading, vegetation removal and demolition activities during the non-nesting period (August 30 through February 14), or if this is not feasible, by conducting a pre-construction survey for raptor and other bird nests. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

- a. To avoid “take” of barn owls in the large barn, any relocation or restoration work shall be initiated in the non-nesting period or shall be performed in conformance with the pre-construction survey procedures detailed below.
- b. If grading is scheduled during the active nesting period (February 15 through August 31), a qualified wildlife biologist shall conduct a pre-construction nest survey no more than 15 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.
- c. If active nests are encountered, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading and vegetation removal in the vicinity of the nest shall be deferred until the young birds have fledged or are no longer dependent on the nest. A nest-setback zone shall be established within which all construction-related disturbances shall be prohibited. These are typically at least 300 feet for all raptors and 100 feet for other birds protected under the Migratory Bird Treaty Act and State Fish and Game Code, unless site-specific conditions allow for some variation from these distances as determined by the qualified wildlife biologist in coordination with CDFW. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel restricted from the area.
- d. If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival.
- e. Demolition of any existing buildings and removal of any trees shall also consider possible bat use of the site, as defined below in **Mitigation Measure BIO-1d**.
- f. A survey report by the qualified biologist verifying that the young birds have fledged shall be submitted to the Community Development Department of the City of Petaluma prior to initiation of grading and vegetation removal in the nest-setback zone.

BIO-1d

Measures shall be taken to avoid possible loss of bats during project construction. Any buildings that are approved for demolition, rehabilitation, or relocation shall be done using the following provisions:

- a. Any buildings approved for removal shall be demolished between March 1 (or after evening temperatures rise above 45 degrees F and/or no more than ½” of rainfall within 24 hours occurs) to April 15 or from August 31 to October 15 (or before evening temperatures fall below 45 degrees F and/or more than ½” of rainfall within 24 hours occurs) to minimize the likelihood of removal during the winter roosting period when individuals are less active and more difficult to detect, and the critical pupping period (April 16 to August 30) when young cannot disperse.

- b. Buildings shall be surveyed by a qualified bat biologist possessing a Memorandum of Understanding with the CDFW no more than 2 weeks before demolition and/or relocation work is undertaken to avoid “take” of any bats that may have begun to use the structures for roosting subsequent to the assessments by Wildlife Research Associates (2004 and 2014). The buildings in which roosting would be most likely to occur are the large two-story barn, hay barn, and garage building.
- c. If the pre-demolition survey reveals bats or bat roosting activity, all doors and windows shall be opened and left open continually until demolition, relocation and/or rehabilitation work is to begin. Additional recommendations may be made by the qualified bat specialist following the pre-construction survey, including monitoring of demolition and/or relocation and other measures to avoid take of individual bats.
- d. A tree roost habitat assessment shall be conducted by a qualified bat biologist possessing a Memorandum of Understanding with the CDFW of any trees that will be removed as part of the project. The habitat assessment shall be conducted no more than 2 weeks prior to tree removal and vegetation clearing. Additional detailed measures may be required based on the results of the habitat assessment if evidence of bat roosting is observed. This may include supervision of tree removal by the qualified bat biologist, and systematic removal of selected trees and major limbs to encourage dispersal and avoid “take” of individual bats.

Significance after Mitigation: Implementation of **Mitigation Measures BIO-1a** through **-1d** would reduce the impacts special-status wildlife species to a less-than-significant level.

Impact BIO-2: **The proposed project would affect sensitive natural communities, including riparian habitat, native grasslands, and regulated seasonal wetlands. (Potentially Significant; Less than Significant with Mitigation)**

Proposed grading would generally occur in areas dominated by non-native grassland and largely avoids the Kelly Creek and D Street tributary riparian corridors. However, an estimated 1.21 acres of native grasslands and small areas of riparian habitat and seasonal wetlands would be affected, which would represent significant impacts on sensitive natural communities, as detailed below. Continued grazing in fenced open space areas and fire fuel management activities called for in the Fuel Management Program would also affect the vegetative cover on the site, which could include stands of native grassland and the riparian corridors as part of periodic fuel reduction. However, controls specified in the Fuel Management Program (**Section 3.0, Project Description**) and mitigation recommended below would serve to adequately protect areas of riparian habitat and native grasslands.

Riparian Woodlands

The proposed project would largely avoid native and non-native woodland habitat along Kelly Creek and the D Street tributary. The three new pedestrian bridge crossings, livestock crossing, and drainage outfalls have been designed to minimize tree removal and disturbance to native trees and riparian vegetation. Trees proposed for removal include native coast live oak, non-native London plane (*Platanus acerifolia*) and scarlet oak (*Quercus coccinea*) along Windsor Drive and the D Street frontage, and non-native eucalyptus to accommodate one of the bridge crossings through the eucalyptus grove along Kelly Creek (see **Figure 4.3-3**). Other vegetation could be trimmed or removed to accommodate improvements through areas of riparian woodland habitat along Kelly Creek. Periodic treatment for fire fuel reduction along the riparian corridors could include flash grazing, weed whacking and limbing of lower branches on trees as part of implementing the Fuel Management Program.

Extensive enhancement plantings are proposed as part of improvements under the Putnam Park Extension Project component (see **Figure 3.0-4**). The proposed project would replace the Protected Trees that would be removed in compliance with the City of Petaluma IZO Section 17.060 – Tree Removal. The City’s tree ordinance requires Protected Trees¹² determined to be in good to excellent condition to be replaced at a 1:1 trunk diameter ratio. Protected Trees determined to be in marginal to fair condition are required to be replaced at a 2:1 trunk diameter ratio. Protected Trees¹³ determined to be in poor condition are not required to be replaced (City of Petaluma IZO Section 17.065). In compliance with the City of Petaluma IZO Section 17.060 – Tree Removal,¹⁴ the proposed project would include planting 159 Oak trees of various sizes. Native trees, shrubs, and groundcover would be planted throughout the development areas. Street trees and a 5-foot sidewalk would be introduced along new public street, as required by City Standards.

Coast live oak, a native tree species, and riparian woodlands are protected by the City of Petaluma under the Tree Preservation Ordinance (IZO, Chapter 17). The ordinance calls for the protection, preservation, and maintenance of groves, stands, and individual mature trees with the objective of preventing any net loss of tree canopy and requiring adequate replacement of trees removed as a result of a new development. Based on the tree assessment prepared for the project (Arborwell 2018 and Prunuske Chatham, Inc. 2019a),

¹² As defined by the Tree Preservation Ordinance a Protected Tree is a: California native oak with a diameter at breast height (DBH) of 4 inches or greater, California buckeye with a DBH of 6 inches or greater, California bay with a DBH of 12 inches or greater, a coast redwood with a DBH of 18 inches or greater, or a tree of any species within the City right-of-way.

¹³ Example: A 24-inch protected tree in fair-to-marginal condition must be replaced with new trees totaling 12 inches in trunk diameter.

¹⁴ The City’s tree ordinance requires Protected Trees determined to be in good to excellent condition to be replaced at a 1:1 trunk diameter ratio. Protected Trees determined to be in marginal to fair condition are required to be replaced at a 2:1 trunk diameter ratio. Protected Trees determined to be in poor condition are not required to be replaced (City of Petaluma IZO Section 17.065).

approximately 30 trees would be removed, most of which qualify as Protected Trees under the City's Tree Preservation Ordinance given their location along the Kelley Creek corridor or along the Windsor Drive and D Street rights-of-ways.¹⁵ These consist of 12 native coast live oak, six non-native London plane (*Platanus acerifolia*), two non-native scarlet oak (*Quercus coccinea*) five non-native eucalyptus, and two Monterey cypress. Based on their size or location along the creek corridors or street frontages, all of these trees appear to qualify as Protected Trees under the City's Tree Preservation Ordinance, including the non-native species. Collectively, the Protected Trees to be removed as part of the proposed project represent an estimated 6 percent of the total number of Protected Trees on the site.

Trees not directly removed by grading or other improvements may be inadvertently damaged or adversely affected during construction or as a result of long-term changes to drainage patterns, irrigation, exposure and other factors. Mature oaks and other trees are sensitive to changes in canopy structure, drainage patterns, soil compaction, trenching, landscape irrigation, and other modifications within the root zone. To protect remaining trees and ensure replacement of removed trees, the proposed project would implement **Mitigation Measure BIO-2b**, which would require the preparation of a Tree Protection Plan. The Tree Protection Plan would include specific tree protection measures near grading, bridge and trail construction, and landscape improvements. The protection measures would prevent wounding of trunks and major roots during construction. The measure would require avoidance of areas within the dripline of trees to be preserved to prevent adverse changes which may affect their long-term health and condition. With implementation of **Mitigation Measure BIO-2b**, the proposed project's impact on remaining trees would be less than significant

Given the relatively small number of trees proposed for removal as part of the proposed project, the replacement plantings required in compliance with the City's Tree Preservation Ordinance could be easily installed on-site. These include supplemental plantings along the margins of the Kelly Creek and D Street tributary corridors, around the stock pond, in scattered locations in grasslands, along the southern edge of the Davidon (28-lot) Residential Project component, and around the large detention basin that parallels the southside of Windsor Drive. However, to further ensure adequate replacement of removed trees, the proposed project would implement **Mitigation Measure BIO-2c**, which requires the preparation of a Tree Replacement Program. Implementation of **Mitigation Measure BIO-2c** would ensure tree replacement would maintain the replacement values specified in the Municipal Code and Implementing Ordinance. While the tree plantings would serve to enhance existing habitat conditions, as discussed under **Native Grasslands** below, the Tree Replacement Program would determine the location of new plantings while taking into account the need to avoid and protect the native grasslands on the site, which are also a sensitive

¹⁵ The 30 trees to be removed includes a few trees that may require trimming or removal for the D Street off-site sidewalk improvement.

natural community type. With implementation of **Mitigation Measures BIO-2b** and **BIO-2c**, the project impact associated with tree removal and replacement would be less than significant.

Native Grasslands

Proposed grading and development would eliminate an estimated 1.21 acres of native grasslands on the site with approximately 0.85 acres to accommodate grading and development for the Davidon (28-lot) Residential Project component and the remaining 0.36 acres associated with improvements under the Putnam Park Extension Project component. This represents roughly 11 percent of the mapped 11.29 acres of native grasslands on the site. For most of the Putnam Park Extension Project component, incursion into the highest quality stands of native grasslands to the south of Kelly Creek would be avoided, based on species diversity and native species abundance. Most of the direct impacts would result from the proposed Davidon (28-lot) Residential Project component in the northwestern portion of the site, where species diversity is lower and stands are smaller in size. Indirect impacts could also occur to stands of native grasslands not directly affected by grading, trail improvements and other project-related impacts, such as vegetation management for fire control, overgrazing or other improper management of the open space, and trampling as a result of informal access into open space areas if not properly controlled. Maintenance standards identified in the Fuel Management Program include conditions to delay cutting of native grasslands if the Fire Department concurs that these plants do not constitute a means of rapidly transmitting fire to any structure. Of particular concern is the inadvertent conversion of grasslands to woodland habitat as a result of changes in grazing practices and fire suppression, as well as the proposed enhancement tree plantings that would extend into high quality stands of native grasslands as currently shown in the Conceptual Plan for the Putnam Park Extension Project component (see **Figure 3.0-4**). Therefore, the proposed project could result in direct and indirect significant impacts on native grasslands. The proposed project would implement **Mitigation Measure BIO-2e**, which requires the preparation a City approval of a Native Grassland Avoidance and Replacement Program to reduce the impacts on native grasslands to a less-than-significant level.

Freshwater Marsh and Other Wetlands

Modifications to scattered areas of freshwater seeps, seasonal wetlands, and riparian habitat would occur as a result of proposed grading and construction on the site. These consist of an estimated 0.07 acre of federally regulated waters, as well as construction related disturbance and shading, as well as possible installation of abutments and revetment within state-regulated waters below the top-of-bank. These include disturbance associated with the three new bridge crossings, the livestock crossing, the drainage outfalls into Kelly Creek, tributary drainage crossings associated with the multi-use trail on the south side of Kelly Creek, and enhancement of these drainages where they continue upslope towards the stock pond.

Fire fuel management activities specified in the Fuel Management Program would also periodically affect wetland and riparian vegetation along these regulated site features.

Potential impacts on these wetland-related natural community types (riparian woodlands, native grasslands, and freshwater marsh and other wetlands) would require avoidance and compensatory mitigation as part of the permit authorization by the USACE, CDFW, and RWQCB, as discussed in detail under **Impact BIO-3**. The Conceptual Plan for the Putnam Park Extension Project component (see **Figure 3.0-4**) shows considerable enhancement using similar techniques to those proposed in the original Wetland Mitigation Program along the two ephemeral drainages and seasonal wetlands south of the Kelly Creek corridor (Zentner and Zentner 2009). These features would be temporarily disturbed with the recontouring and native plant installation performed as part of the enhancement, but would eventually have much higher habitat quality and values to CRLF and other wildlife. **Mitigation Measure BIO-3** is set forth in this RDEIR, together with the final mitigation plans prepared as part of the permit approval process with these agencies would serve to fully address the potential impacts on these natural community types through a combination of habitat protection, creation, and enhancement, all of which could be accomplished on-site in the proposed open space areas. Compliance with permit requirements of federal and state agencies and implementation of **Mitigation Measure BIO-3** would reduce project impacts on natural communities including riparian woodlands, native grasslands, and freshwater march and other wetlands to a less-than-significant level.

Indirect Effects on Sensitive Natural Communities

Improved access onto the project site could result in off-road vehicle activity through open space, particularly during the construction phase of the project. Uncontrolled construction vehicle and equipment access could result in damage to sensitive natural communities and other important biological resources, including tree root zones and trunks, areas of seasonal wetlands and other jurisdictional waters, and stands of native grasslands. Unauthorized off-road vehicle activity could result in further damage to grassland and other vegetative cover, disturbance to sensitive wildlife features, and may contribute to erosion of hillside areas and sedimentation in creeks and drainages unless adequate measures are taken to prevent unauthorized vehicle access. In addition, informal trails could result in damage to native grasslands as well as erosion problems. Similarly, in the event that the regional park trail project that would connect the Kelly Creek multi-use trails to the existing trail on the Helen Putnam Regional Park is not constructed, recreational users of the Kelly Creek trail could trespass into the adjoining Helen Putnam Regional Park and create informal trails that could damage sensitive biological resources in the regional park.

Based on the preliminary landscape plan prepared for the proposed project, landscaping throughout the Davidon (28-lot) Residential Project component would most likely be composed of both non-native and

native species used in ornamental plantings, including a variety of trees, shrubs and groundcovers. Non-native ornamentals may compete with native plant species in open space areas, particularly if highly aggressive species such as eucalyptus and acacia are planted near the interface with undeveloped hillsides and riparian corridors, and could lead to further loss of native grasslands and other sensitive natural community types if not carefully controlled.

Project-related grading would also create suitable conditions for establishment of broom (*Cytisus* spp. and *Genista monspesullana*) which could result in the introduction and spread of this highly invasive species on the site. Broom tends to develop into dense thickets which out-compete and eventually replace grassland and herbaceous cover, which could include loss of native grasslands and other sensitive natural community types, if not carefully controlled. While broom currently is not a problem on the site, it does occur in surrounding areas, including areas in Helen Putnam Regional Park. Seed from broom often becomes lodged in the tires of grading equipment and is transported to new locations during construction. Introduction and spread of invasive species such as broom into the project site as a result of grading and development could compromise the value of the remaining sensitive natural community types, which would be a potentially significant impact. **Mitigation Measures BIO-2a** through **BIO-2e** require preparation of a Landscape and Vegetation Management Plan, Tree Preservation Plan, Tree Replacement Program, and Native Grassland Avoidance and Replacement Program. These measures would serve to address project impacts on riparian corridors, seasonal wetlands, and native grassland sensitive natural community types, would provide for the replacement of native trees removed as part of proposed development, and would serve to control the spread of broom and other invasive species on the project site, which could further compromise the value of these natural community types. Implementation of **Mitigation Measures BIO-2a** through **BIO-2e** would reduce project's impact on sensitive natural communities to a less-than-significant level.

Mitigation Measures:

BIO-2a A detailed Landscape and Vegetation Management Plan (Plan) shall be prepared by a qualified landscape architect in consultation with a plant ecologist experienced with native species. The Plan shall: 1) provide for re-establishment of grassland, riparian, and oak woodland cover on graded slopes in open space areas; 2) incorporate mitigation requirements to replace and enhance wetland habitat and provide for replacement of native trees removed as part of the project; 3) provide for replacement of native grasslands lost as a result of development and trail improvements; 4) identify unsuitable species which should not be used in landscaping; 5) prevent the establishment and spread of introduced broom; and 6) specify long-term management provisions to ensure re-

establishment of native and ornamental landscape improvements. Aspects of the plan shall include, but will not be limited to, the following:

- a. Graded slopes in open space areas shall be reseeded with a mixture of native perennial and annual grassland species to increase the diversity of the grassland cover. Suitable species to be used in the seed mix include: California brome (*Bromus carinatus*), purple needlegrass (*Stipa pulchra*), creeping wildrye (*Elymus tritichoides*), California poppy (*Eschscholtzia californica*), among others. Highly invasive non-native annuals, typically used for erosion control alone, should not be used.
- b. Landscaping and revegetation shall emphasize the use of native plant species along the fringe of proposed development, and plantings in open space areas should be restricted to native species. Suitable plant species for use in open space areas include: valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), California rose (*Rosa californica*), creeping wildrye, and purple needlegrass, among other species.
- c. Use of non-native, invasive species which may spread into adjacent undeveloped open space areas shall be prohibited in landscaping plans. Unsuitable species include: blue gum eucalyptus (*Eucalyptus globulus*), acacia (*Acacia spp.*), pampas grass (*Cortaderia selloana*), broom (*Cytisus spp.*), gorse (*Ulex europaeus*), bamboo (*Bambusa spp.*), giant reed (*Arundo donax*), periwinkle (*Vinca spp.*), English ivy (*Hedera helix*), and German ivy (*Senecio milanioides*). This prohibition shall be included in the CC&R for the proposed residential subdivision, as well as undeveloped areas to be retained as permanent open space.
- d. Graded slopes and areas disturbed as part of the project shall be monitored to prevent establishment and spread of introduced broom species (*Cytisus spp* and *Genista monspesullana*). This should apply to the lands on the project site that are placed under a conservation easement as well as common open space areas. The removal and monitoring program shall include annual late winter removal of any rooted plants when soils are saturated and cutting back of any remaining flowering plants in the spring before seed begins to set in late April.
- e. Provisions for maintenance of landscaping and revegetation of graded slopes shall be specified as part of the plan, with replacement plantings and seeding provided as necessary to ensure re-establishment of cover. Tree replacement shall be at ratios consistent with **Mitigation Measure BIO-2d** below and meet with the intent of Petaluma Municipal Code Section 20.32.320. Maintenance and monitoring of mitigation and habitat enhancement plantings in open space areas shall be provided for a minimum of five years.
- f. Vehicles and motorcycles shall not be allowed to travel off designated roadways and limits of grading to minimize future disturbance to grassland cover and other vegetation, and unauthorized access to the surrounding undeveloped lands and open space.

- BIO-2b** The *Tree Preservation Plans* shall be updated and refined to comply with the requirements of IZO Chapter 17. The Grading Plan and Landscape Plan shall include the mapped location of tree trunks, including those which will be preserved or removed, show the recommended tree protection zones, and identify locations of construction-restriction fencing.
- BIO-2c** A Tree Replacement Program shall be prepared as part of the Landscape and Vegetation Management Plan to provide for replacement of individual native trees removed by proposed development. The Tree Replacement Program shall provide for replacement of impacted individual native trees consistent with Petaluma Municipal Code Section 20.32.320 and Implementing Zoning Ordinance Section 17.065, and shall be accomplished on-site in designated open space areas. Tree plantings shall be monitored and maintained for a minimum of 5 years by a qualified biologist or landscape specialist. All water used for temporary irrigation shall be from wells and/or municipal supplies and not diverted out of Kelly Creek, the stock pond or tributary drainages to prevent any potential secondary adverse impacts to existing aquatic habitats. Any plantings lost within this monitoring period shall be replaced at a 1:1 ratio on an annual basis to maintain the replacement values specified in the Municipal Code and Implementing Ordinance.
- BIO-2d** To avoid creation of informal trails through native grasslands on Helen Putnam Regional Park adjacent to the project site, the existing fence between the project site and the regional park to the north of Kelly Creek shall be maintained and strengthened to control unauthorized entry into the regional park from the terminus of the Kelly Creek multi-use trail. As and when the regional park trail project is constructed, the fence may be removed.
- BIO-2e** A Native Grassland Avoidance and Replacement Program (Program) shall be developed by a qualified biologist to address the loss of native grasslands on the site and provide for adequate replacement. The Program shall define short-term construction controls and long-term maintenance requirements necessary to ensure grasslands are successfully reestablished and existing and restored native grasslands remain viable. The maintenance and management requirements shall include provisions for annual invasive species removal, and control on the establishment of both native and non-native trees and shrubs that could eventually shade out the grassland to be protected. The Final Program shall be subject to review and approval by the City, including peer-review by a qualified biologist selected by the City. The Program shall contain the following provisions and performance standards:

- a. The proposed limits of grading and enhancement tree plantings shall be modified to avoid additional areas of the stands of native grassland on the site and a compensatory mitigation component prepared and implemented to provide a minimum 1:1 replacement ratio for grasslands lost as a result of the project.
- b. Areas retained or restored as native grassland shall be permanently protected as open space and managed as native grassland by deed restriction or conservation easement.
- c. To prevent inadvertent disturbance of native grassland to be preserved, these areas shall be flagged in the field prior to any vegetation removal or grading for habitat restoration, and temporary orange construction fencing installed under supervision of the qualified biologist around all areas to be retained within 50 feet of proposed disturbance.
- d. Areas of native grassland within the limits of proposed grading and construction shall be salvaged and used in revegetation efforts implemented as part of the Program. Salvage material may include mature seed and intact stem and root material, which shall be stored and maintained until ready for reinstallation in the late fall/early winter when conditions are optimal for successful reestablishment.
- e. Personnel involved in habitat restoration activities shall be trained by the qualified biologist over the sensitivity of the native grasslands, purpose of the temporary orange construction fencing, and that all construction-related disturbance should be restricted outside of the fence.
- f. A monitoring program shall be implemented by the qualified biologist to oversee successful establishment of any native grasslands to be restored, and shall define both short-term and long-term requirements. Permanent monitoring transects shall be established as part of the program and vegetation data collected in the spring and summer months when plant identification is possible. Photo stations shall be established along each monitoring transect, and photographs taken every year during the required monitoring period. Performance standards, success criteria, and contingency measures shall be defined as part of the Program. Monitoring transects shall be established over each location to be vegetated as native grassland, and monitored on an annual basis. Within a five-year period, native grass shall be successfully established over all treatment areas and shall comprise a minimum 50 percent of the relative cover. Monitoring shall be extended where the success criteria are not met, and the minimum 1:1 replacement ratio is not reached. The Program and its requirements may be modified to require further measures if monitoring shows that performance standards are not being met.
- g. Annual monitoring reports shall be prepared by the qualified biologist and submitted to the Community Development Department of the City of Petaluma by December 31 of each monitoring year, for a minimum of five years or until the defined success criteria are met. The annual report shall summarize the results of the monitoring effort, performance standards, and any required contingency measures, and shall include photographs of the monitoring transects and program success. Maps shall be included

in the monitoring report to show the location of monitoring transects and photo stations.

Significance after Mitigation: Implementation of **Mitigation Measures BIO-2a** through **-2e** would reduce the indirect impacts on sensitive natural communities to a less than significant level.

Impact BIO-3: **The proposed project would have a substantial adverse effect on state and federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (Potentially Significant; Less than Significant with Mitigation)**

The proposed project would require fills and modifications to scattered areas of freshwater seeps, seasonal wetlands, and riparian habitat as a result of proposed grading and construction on the site. This would comprise an estimated 0.07 acre of federal waters regulated by the USACE. State waters regulated by the CDFW and RWQCB would also be affected by construction-related disturbance, shading and possible installation of abutments and revetment below the top-of-bank. These include disturbance associated with construction of the three new pedestrian bridge crossings, the livestock crossing, the drainage outfalls, and tributary drainage crossings associated with the multi-use trail on the south side of Kelly Creek. Regulated waters associated with these tributary drainages would also be affected by enhancement activities such as native plantings, installation of rock weirs to retain surface water and promote native wetland establishment, and other treatments to address existing erosion conditions. Although detailed design have not yet been prepared for the new pedestrian bridge crossings, they would be free span structures with buttresses above the limits of USACE jurisdiction (Prunuske Chatham, Inc. 2019b), which would avoid any potentially significant impacts to the creek bed and most of the bank. The proposed project would include the installation of a temporary coffer dam system as part of construction control measures during in-channel improvements, such as the drainage outfalls on the north bank of Kelly Creek and the proposed livestock crossing. Fire fuel management activities specified in the Fuel Management Program would also periodically affect wetland and riparian vegetation along these regulated site features.

In addition to impacts on regulated waters, indirect changes that could result include the increased potential for erosion and water quality degradation from increased urban runoff volumes and velocities from paved parking, trails and introduced hardscape surfaces. Soils exposed during grading and construction would contribute to increased sediment loads if adequate erosion control measures are not implemented. As discussed in **Section 4.7, Hydrology and Water Quality**, of this RDEIR, indirect impacts to soils during grading and other construction activities would be reduced with the implementation of a Storm Water Pollution Protection Plan (SWPPP) to prevent eroded soil from entering the stream channel.

Fill and modifications to the wetlands and other jurisdictional waters on the project site would be subject to review and approval by the USACE, RWQCB, and CDFW. The proposed project includes enhancement of the freshwater marsh and seasonal wetlands along the two ephemeral drainages and seasonal wetlands south of the Kelly Creek corridor. In addition, the proposed project would include native riparian and upland enhancement plantings along both sides of Kelly Creek and the D Street tributary, which ultimately would substantially increase the extent of wetland and riparian habitat on the project site. These conceptual plans for habitat enhancement would be further defined as part of the regulatory agency review and approval process, which would include details on performance standards, success criteria, and monitoring necessary to ensure successful establishment. **Mitigation Measure BIO-3** is set forth below to fully address potential impacts on jurisdictional wetlands and other waters to a less-than-significant level. **Mitigation Measure BIO-3** requires the preparation of a Wetland Replacement and Enhancement Program in consultation with the City, the RWQCB, the USACE, and the CDFW. The City recognizes that subsequent permitting processes with resource agencies could result in additional mitigation beyond that required by the City in the CEQA process. Any additional mitigation required by the agencies would be incorporated as conditions of their permit authorization.

Mitigation Measures:

- BIO-3** A Final Wetland Replacement and Enhancement Program (WREP) shall be prepared and implemented to compensate for the loss of jurisdictional waters on the project site. The Final WREP shall be prepared by a qualified wetland consultant in consultation with the City, the RWQCB, the USACE, and the CDFW. The Final WREP shall clearly identify the total wetlands and other jurisdictional areas affected by the project, shall identify compensatory mitigation to replace wetland habitat lost as a result of development, and provide for re-establishment, enhancement, and/or replacement of wetlands. The Final WREP shall include the following performance standards:
- a. Identify the location(s) of mitigation sites and provide for replacement of wetland habitat loss at a minimum replacement ratio of 2:1. Create or restore wetlands with high functions and values in accordance with USACE and RWQCB standards. Compensatory mitigation can be achieved through on- or off-site habitat creation or through the use of an approved mitigation bank, or a combination thereof.
 - b. Specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. This shall include expanding the compensatory mitigation to achieve a replacement ratio of at least 2:1 (or as otherwise required by regulatory agencies). Monitoring shall be conducted by the project applicant's consulting wetland specialist for a minimum of five years and continue until the success criteria are met.

- c. Define site grading, preparation and revegetation procedures, an implementation schedule, and funding sources to ensure long-term management of the Final WREP.
- d. The mitigation (habitat restoration or enhancement) effort shall be considered successful when the performance standards are met. Performance standards would be met when the habitat has sustained itself for a minimum of two years in the absence of significant maintenance measures.
- e. Subsequent permitting processes with resource agencies could result in additional mitigation beyond that required by the City in the CEQA process. Any additional mitigation required by the agencies (the RWQCB, the USACE, and the CDFW) would be incorporated as conditions of their permit authorization.

Significance after Mitigation: Implementation of **Mitigation Measure BIO-3** would reduce the project's impacts on state and federally protected wetlands to a less-than-significant level.

Impact BIO-4: **The proposed project would interfere substantially with the movement of 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. (Potentially Significant; Less than Significant with Mitigation)**

As noted earlier, wildlife use and movement is currently unrestricted across the project site and onto the adjacent undeveloped lands to the south and southwest. However, a wire fence along the border with Helen Putnam Regional Park currently disrupts movement by larger wildlife species to the west, although signs of access under the fence by black-tailed deer and other wildlife are evident. Roadways and vehicle traffic along D Street and Windsor Drive also disrupt wildlife movement, and existing residential development limits opportunities for dispersal to remaining areas of natural habitat to the east and northeast. Within the project site, Kelly Creek and the D Street tributary function as wildlife movement corridors across the site, continuing downstream under D Street and through the residential neighborhood to the northeast, and upstream into the adjacent Helen Putnam Regional Park to the west. An existing plywood gate prevents the movement of larger wildlife such as black-tailed deer through the concrete box culvert under the D Street overcrossing.

Opportunities for movement across the project site and to surrounding undeveloped lands would be affected by proposed development. The majority of the site would be preserved as open space and both Kelly Creek and the D Street tributary would be retained and enhanced as natural riparian corridors (see **Figure 3.0-4**). Residential development would be set back 100 feet from the centerline of Kelly Creek. Nonetheless, the new multi-use trails would border the southern and northern edges of Kelly Creek corridor, increasing pedestrian activity along this movement corridor for wildlife. Putnam Park Extension

Project component visitors and their pets would disrupt wildlife use of the site. The pedestrian bridges over Kelly Creek may encourage visitors to enter the creek channel. As discussed above under **Impact BIO-1**, it may be difficult to effectively exclude Putnam Park Extension Project component visitors from venturing into the creek corridors and the southern portion of the site, including the stock pond, which would be disruptive to CRLF and other wildlife. Proposed residential development in the northwestern portion of the project site would limit opportunities for deer and other terrestrial wildlife through this area, although narrow 5-foot wide movement corridors are proposed along the west and northern edges of the site (see **Figure 3.0-4**). Collectively, the potential impacts of the project on wildlife movement would be potentially significant.

Mitigation Measures BIO-4a through **BIO-4d**, set forth below, would reduce potential impacts on habitat connectivity and wildlife corridors to less-than-significant levels. Subsequent permitting processes with resource agencies could result in additional mitigation beyond that required by the City in the CEQA process. Any additional mitigation required by these agencies would be incorporated as conditions of their permit authorization.

Mitigation Measures:

BIO-4a An interpretive program shall be developed by a qualified biologist in cooperation with the project landscape architect which serves to educate park visitors and trail users of the sensitivity of Kelly Creek and D Street tributary as wildlife movement corridors, and the importance of remaining outside the southern portion of the site to protect the stock pond and surrounding uplands to CRLF and other wildlife that are sensitive to human disturbance. The interpretive program shall be integrated into the final Landscape Plan for the project. Interpretive elements of the program shall include use of permanent signage at the trail heads, all pedestrian bridge crossings, and other critical locations. The signage shall explain the sensitivity of the open space for wildlife and the importance of staying on the improved trails and out of restricted areas. Dogs, cats, and other pets shall be leashed at all times in the open space areas on the site, and signage shall be provided at the trail heads at D Street and Windsor Drive explaining this restriction and need to prevent harassment of wildlife by unleashed pets.

BIO-4b The existing plywood barrier fence on the east side of the D Street concrete box culvert undercrossing shall be removed as part of initial construction activities to improve opportunities for wildlife movement along the Kelly Creek corridor. Replacement fencing at this undercrossing shall be prohibited to prevent future obstruction of wildlife movement along Kelly Creek.

BIO-4c Fencing, signage, dense native vegetation, and other deterrents shall be used as part of the interpretive program to adequately contain livestock, equestrians and other visitors with their pets from sensitive wildlife areas, including Kelly Creek, the D Street tributary, and stock pond. Exclusionary fencing used to contain livestock and control access by visitors and their pets shall be wildlife-friendly in design, such as barbed wire with a smooth bottom wire. Signs shall be posted along the trails limiting access of equestrian to designated trails at all times.

BIO-4d The existing fencing between the western boundary of the project site and Helen Putnam Regional Park south of Kelly Creek shall be removed where it borders lands to be dedicated as permanent open space on the project site, and replaced with wildlife-friendly fencing, such as barbed wire with smooth bottom wire, if fencing is necessary. This would improve opportunities for wildlife movement between the existing parklands and the future open space lands on the project site.

Significance after Mitigation: Implementation of **Mitigation Measures BIO-4a** through **-4d** would reduce the impacts to a less than significant level.

Impact BIO-5: **The proposed project would conflict with a local policy for protecting biological resources, such as a tree preservation policy or ordinance. (Potentially Significant; Less than Significant with Mitigation)**

Chapter 4 of the Petaluma General Plan includes policies for the protection of biological resources. These include Policy 4-P-2 and Policy 4-P-3 which call for conservation of natural resources and protection of streams, wildlife corridors, and special-status species, and appropriate mitigation for the impacts of development on biological resources that includes avoidance, on-site mitigation, and off-site mitigation. The potential impacts of the project on the occurrence of CRLF on the project site, the removal of native oaks, native grasslands, and wetlands would conflict with the intent of these relevant policies which call for the preservation of sensitive natural resources. However, mitigation included in this DEIR and protection measures that would be further identified as part of the consultation process with the USACE, USFWS, CDFW, and RWQCB would ensure that project's impacts on natural resources would be less than significant, and general compliance with applicable policies is provided for the proposed project.

As discussed under **Impact BIO-2c**, Chapter 17 (Tree Preservation) of the IZO provides regulations for the protection, preservation, and maintenance of individual trees, tree groves, and stands. The project would require the removal of an estimated 30 trees regulated as protected by the City's ordinance. The Protected

Trees to be removed as part of the proposed project represent an estimated 6 percent of the total number of Protected Trees on the site. However, implementation of **Mitigation Measure BIO-2c** would ensure conformance with the City's ordinance.

The City's General Plan also contains Policy 2-P-68 that specifically applies to the project site and requires that development on the project site "Maintain a minimum of a 100' setback along Kelly Creek and its tributaries. Preserve and maintain habitat areas and trees." The proposed project would include pedestrian bridge crossings and segments of multi-use trails within this setback distance, but the proposed residential development in the northwestern portion of the site would be located over 100 feet from the centerline of Kelly Creek. Most of the trees and important habitat areas would be retained and enhanced as part of the project. As such, the project would conform with the intent of Policy 2-P-68 of the General Plan. No major conflicts with the General Plan policies or relevant ordinances related to biological resources are anticipated, and potential impacts would be less than significant with implementation of **Mitigation Measures BIO-2c**.

Significance after Mitigation: Implementation of **Mitigation Measures BIO-2c** would reduce the impacts to a less than significant level.

Impact BIO-6: **The proposed project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. (No Impact)**

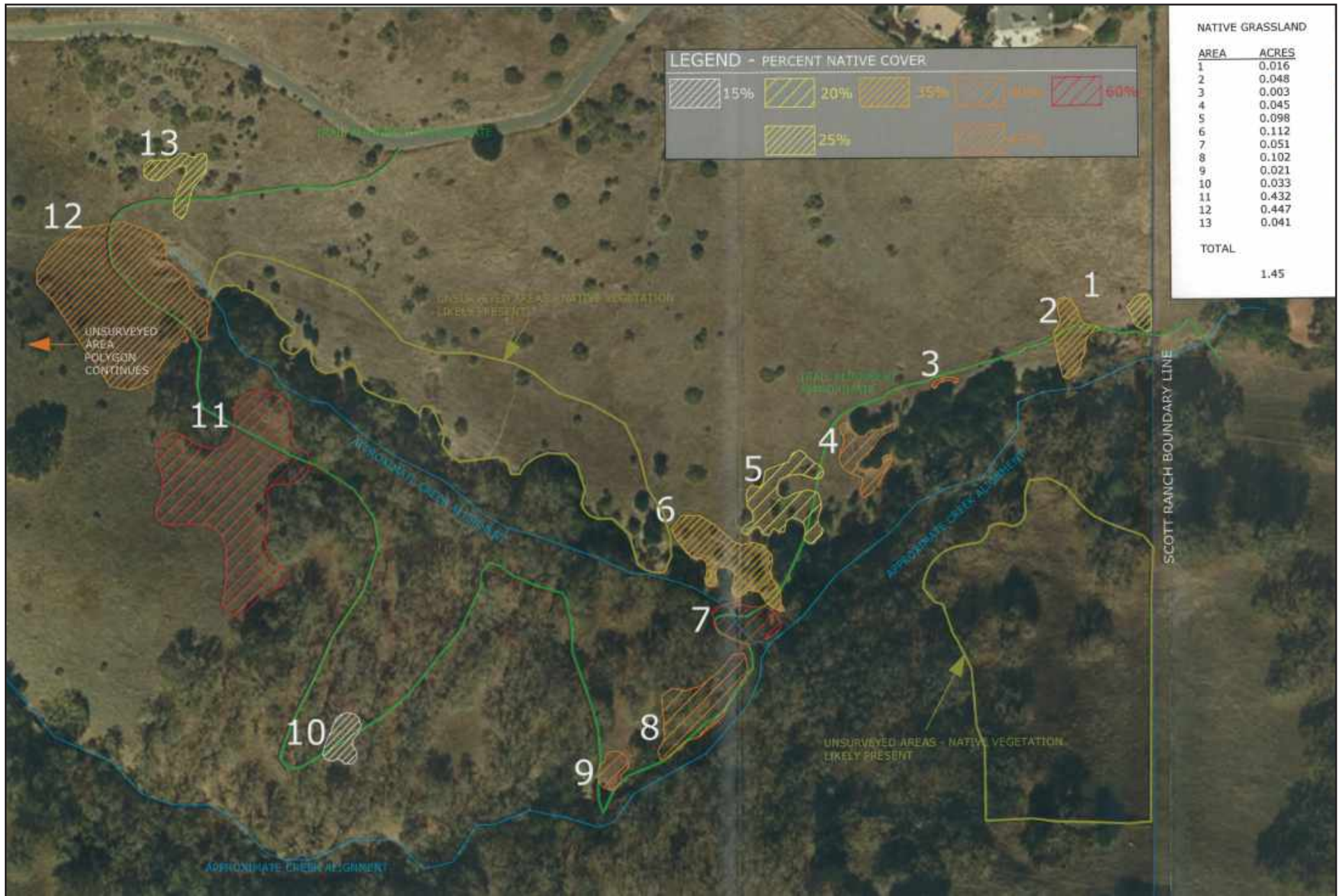
There are no habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans that encompasses the project site or its vicinity. There would be no impact.

Mitigation Measures: No mitigation measures are required.

4.3.4.4 Regional Park Trail Impacts and Mitigation Measures

Environmental Setting

Habitat conditions in the adjacent Helen Putnam Regional Park are similar to those found on the project site. Vegetative cover consists of a mosaic of non-native grasslands, native grasslands, and oak and riparian woodlands, with scattered wetland seeps and ephemeral drainages along the trail alignment and the main channel of Kelly Creek to the south of the trail alignment. **Figure 3.0-12, Regional Park Trail Section** (from **Section 3.0 Project Description**), shows the vegetative cover on the adjacent area of Helen Putnam Regional Park, and **Figure 4.3-7, Regional Park Trail Native Grassland Impacts**, show the extent of stands of native



SOURCE: Zentner and Zentner, 2016B

FIGURE 4.3-7

Park Trail Native Grassland Impacts

grasslands along the proposed regional park trail alignment as mapped by the consulting biologist in 2015 (Zentner and Zentner 2016b).

Helen Putnam Regional Park provides suitable habitat for a wide variety of wildlife, similar to conditions found on the project site. With regard to special-status wildlife species, portions of the regional park are contained within the USFWS designated critical habitat for CRLF (see **Figure 4.3-5, Special-Status Wildlife Species**). There is a high potential for CRLF individuals to disperse into the regional park along the Kelly Creek corridor and through upland habitat, similar to dispersal on the project site. CRLF have been observed in within the regional park in the upper San Antonio Creek watershed in a pond referred to as “Fish Pond”. The reach of Kelly Creek in the vicinity of the proposed regional park trail alignment contains no pools or sufficient emergent vegetation to serve as breeding habitat for CRLF. The regional park provides suitable habitat for a wide range of aquatic and terrestrial species, including black tailed deer, bobcat, mountain lion, raptors, and numerous other bird species.

Although no occurrences of special-status plant species have been reported at the regional park according to the CNDDDB records (see **Figure 4.3-4, Special-Status Plant Species**), the relatively undisturbed conditions and extensive areas of intact native grasslands provide an indication that one or more populations of special-status plant species may be present. Unlike the project site, where systematic surveys have been conducted verifying that no occurrences of special-status plants species are present, systematic appropriately timed surveys have not been conducted along the proposed regional park trail alignment through the regional park. Therefore, there remains a potential for one or more population of special-status plant species known from grasslands and woodlands in the Petaluma vicinity to occur along the trail alignment.

Jurisdictional waters along the proposed regional park trail alignment include the Kelly Creek corridor, several ephemeral tributary drainages, and scattered seeps which are generally associated with the ephemeral drainages.

Impacts and Mitigation Measures

RPT Impact BIO-1: **Implementation of the proposed regional park trail project could result in potential impacts to special-status plant and wildlife species, including California red-legged frog, special-status plant species, and nesting birds, which would be a significant impact. (Potentially Significant; Less than Significant with Mitigation)**

Construction, maintenance and use of the proposed regional park trail could result in adverse impacts to a number of special-status species, all of which would be potentially significant impacts. Of particular

concern is the potential for inadvertent take of CRLF, which is known to occur in both Helen Putnam Regional Park and adjacent project site. Equipment operation during trail construction could result in inadvertent take of individual frogs, if dispersing through the vicinity of the trail alignment during construction. **Mitigation Measures RPT-BIO-1a** would require obtaining relevant permits from regulatory agencies and implementing mitigation measures as required by federal and state law. In addition, **Mitigation Measure RPT-BIO-1b** would require the preparation of a Final California Red-Legged Frog Mitigation Plan in consultation with USFWS, CDFW, and USACE to minimize and mitigate potential impacts of the regional park trail project on CRLF. With implementation of **Mitigation Measures RPT-BIO1a** and **BIO-1b**, impact of the regional park trail on CRLF would be less than significant.

Construction of the regional park trail could also result in adverse impacts on nesting birds, if established nests are in active use at the time trail construction is initiated. This could result in nest abandonment, which would be a violation of the MBTA and State Fish and Game Code. **Mitigation Measure RPT-BIO-1c** would require avoidance of active nests of raptor, loggerhead shrike, or other birds protected under federal and state regulations near construction areas until young birds are able to leave the nest. With implementation of **Mitigation Measure RPT-BIO-1c**, impact of the regional park trail on nesting birds would be reduced to less than significant.

Construction activities such as grading and short cutting could lead to disturbance or loss of populations of one or more special-status plant species. The impact on special-status plant species, would be potentially significant. **Mitigation Measure RPT-BIO-1d** would require conducting pre-construction surveys and implementation of a Special-Status Plant Species Mitigation and Monitoring Program to avoid or minimize impacts on special-status species. With implementation of **Mitigation Measure RPT-BIO-1d**, impact of the regional park trail on special-status species would be reduced to less than significant.

The proposed regional park trail alignment through this portion of the regional park currently has little human activity. The development of the regional park trail at this location would lead to an increase in pedestrian, bicycle, equestrian, and most likely dog use. Future regional park trail users and their dogs and horses could injure, harass, or kill individual frogs. **Mitigation Measure RPT-BIO-1b** would require the development of educational program for future park visitors, installation of signage at key locations, and possible use of permanent exclusionary fencing as required by the regulatory agencies. Implementation of **Mitigation Measure RPT-BIO-1b** would reduce impacts of future users of the regional park trail to a less-than-significant level.

Mitigation Measures:

RPT BIO-1a Sonoma County Regional Parks or its agent shall obtain all required permits before construction from the USFWS, CDFW, RWQCB, and USACE (e.g., 1600 series permits, 404 and 401 permits), incidental take permits and any others and implement mitigation measures, as required by federal and state law, to avoid, minimize, or offset impacts to any species listed under either the state or federal Endangered Species Acts or protected under any other state or federal law.

RPT BIO-1b A Final California Red-Legged Frog Mitigation Plan (CRLFMP) shall be prepared by a qualified wildlife biologist to minimize and mitigate potential impacts of the project on CRLF. The Final CRLFMP shall be prepared in consultation with USFWS, CDFW, and USACE and shall provide for the protection, replacement, and management of habitat for CRLF affected by the regional park trail. The Final CRLFMP shall include the following components and meet the following standards:

- a. Preconstruction surveys shall be conducted by a Service-approved biologist prior to any grading or vegetation clearance to ensure that no individual CRLF are lost during construction. The Final CRLFMP shall: 1) describe in detail the survey approach and methodology, and 2) specify that grading or vegetation clearance may not occur in any area where individual CRLF are located until such time as the individual has either moved out of the disturbance zone or has been physically relocated by a Service-approved biologist legally authorized to handle the species.
- b. All vegetation clearing and grading activities within potential habitat for CRLF shall be monitored by a Service-approved biologist. The Final CRLFMP shall specify the duties of the Service-approved biologist.
- c. All construction personnel shall be trained in CRLF identification, habitat description, legal protective status, construction restrictions, and procedures to avoid unnecessary disturbance to potential habitat or incidental take of these species. The Final CRLFMP shall describe this training program.
- d. Exclusionary fencing shall be installed prior to grading or major vegetation clearance where appropriate to keep CRLF out of construction areas, if required by the USFWS and/or CDFW. The Final CRLFMP shall identify where such fencing is to be installed and provide procedures for fence installation, monitoring, and maintenance, if required. The exclusionary fencing be installed under the direct supervision of a Service-approved biologist and shall be maintained during the course of construction activities on the site.
- e. Sonoma County Regional Parks shall prohibit access by unleashed dogs and require that dogs be leashed, and that access be limited to designated trails at all times to minimize the potential for inadvertent take of CRLF.

- f. Sonoma County Regional Parks shall post signs along the trails limiting access of equestrian to designated trails at all times.
- g. Sonoma County Regional Parks shall implement measures to minimize the potential for harassment or take of listed and non-listed species as a result of increased human activity associated with the proposed trail. This shall include an educational program for future part visitors, signage at access points into open space and other key locations, and possible use of permanent exclusionary fencing, if required by the USFWS. Appropriate interpretive signage shall be provided instructing park users on access rules to prevent inadvertent take of CRLF.

RPT BIO-1c Active nests of raptor, loggerhead shrike, or other birds protected under federal and state regulations in the vicinity of construction shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading, vegetation removal and revegetation activities during the non-nesting period (August 30 through February 14), or if this is not feasible, by conducting a pre-construction survey for raptor, loggerhead shrike, and other bird nests. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

- a. If grading is scheduled during the active nesting period (February 15 through August 31), a qualified wildlife biologist shall conduct a pre-construction nest survey no more than 15 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.
- b. If active nests are encountered, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone of at least 300 feet for all raptors and 100 feet for loggerhead shrike and other birds protected under the Migratory Bird Treaty Act shall be established within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel restricted from the area.
- c. If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date.
- d. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to the Sonoma County Regional Parks prior to initiation of grading in the nest-setback zone.

RPT BIO-1d In advance of any trail construction through the Helen Putnam Regional Park, a qualified botanist shall conduct detailed preconstruction surveys in spring and summer to confirm absence of any special-status plant species along the trail alignment. The survey shall focus on special-status plant species considered to have a potential for occurrence in grassland, woodland scrub and riparian habitats from the Petaluma vicinity, and shall be conducted according to the latest CDFW survey guidelines. The surveys shall be completed and a report of findings shall be submitted to the Sonoma County Regional Parks before the start of any initial ground-disturbing activity or construction.

If populations of any special-status plant species are encountered along the trail alignment, then Sonoma County Regional Parks shall ensure that construction-related impacts are avoided through changes in trail alignment or adequately mitigated by retaining a qualified botanist to develop and implement a Special-Status Plant Species Mitigation and Monitoring Program (Program). A Program shall only be required if a listed species or those maintained on Lists 1B or 2 of the CNPS *Inventory* are encountered during the preconstruction survey and cannot be avoided. Potential impacts on any species maintained on Lists 3 and 4 of the CNPS *Inventory* would not be considered significant and no additional mitigation would be required for these species if encountered during the preconstruction survey.

The Program shall be prepared in consultation with the CDFW and shall be approved by Sonoma County Regional Park prior to any initial ground-disturbing activity or construction. The Program shall be based on the status and vulnerability of the species present with avoidance of all or a majority of any population(s) the preferred method of mitigation. Where complete or even partial avoidance of any special-status plant population(s) is considered infeasible, options for mitigation may include salvage and re-establishing the population at an alternative, suitable location. Details of any salvage and habitat recreation effort shall include the following criteria and performance standards:

- a. Collection of seeds/roots/vegetative material during the appropriate developmental stage of the plant.
- b. Procedures for sowing/replanting techniques appropriate to the life cycle of the plant.
- c. Development of a maintenance and monitoring plan specific to the environmental conditions necessary for survival of the new population. Maintenance and monitoring shall be provided for a minimum of five years to determine success of re-seeding and habitat creation, and need for additional preservation.

- d. Identification of funding sources by Sonoma County Regional Parks to provide implementation of the Program in consultation with the qualified plant ecologist.
- e. In addition, preservation of another existing occurrence of the affected special-status plant species shall be required if monitoring indicates that the re-establishment efforts have not been successful after five years. The preservation program shall provide for permanent protection of a different existing population in Sonoma County, which is equal or larger in size than that encountered on the site (minimum 1:1 replacement), through land acquisition, use of a conservation easement, or some other permanent land protection method. Any off-site mitigation lands shall include establishment of a management endowment as necessary to provide for long-term management of the preserved population.

Significance after Mitigation: Implementation of **Mitigation Measures RPT BIO-1a** through **RPT BIO-1d** would reduce impacts of the proposed regional park trail project on special-status plant and wildlife species to a less-than-significant level.

RPT Impact BIO-2: **Implementation of the proposed regional park trail project would result in potential impacts to a sensitive natural community as a result of trail construction, which would be a significant impact. (*Potentially Significant; Less than Significant with Mitigation*)**

Based on surveys conducted by Zentner and Zentner in 2016, the proposed regional park trail alignment would pass through several stands of native grasslands (Zentner and Zentner 2016b). Assuming a disturbance width of approximately 10 feet to install the four-foot wide trail, up to an estimated 0.2 acres of native grasslands could be affected by grading and trail construction activities. This estimate could be reduced through field adjustments in the trail alignment and careful restrictions on construction-related disturbance. Adequate area does occur along the trail alignment to accommodate replacement of native grasslands required as mitigation, including cut slopes created upslope of the proposed trail. However, given native grasslands are a sensitive natural community type, even with limited disturbance areas, this would be a significant impact. **Mitigation Measure RPT-BIO-2** would require the preparation of a Native Grassland Avoidance and Replacement Program to address the loss of native grasslands along the regional park trail alignment and provide for adequate replacement. Implementation of **Mitigation Measure RPT-BIO-2** would reduce the impact of the regional park trail on native grasslands to a less-than-significant level.

The trail alignment through oak woodlands has generally been designed to avoid removal of any mature trees, and no significant impacts on valley oak woodlands or other sensitive natural community types are anticipated.

For impacts on waters of the U.S., see **RPT Impact BIO-3** below.

Mitigation Measures:

RPT BIO-2 A Native Grassland Avoidance and Replacement Program (Program) shall be developed by a qualified biologist to address the loss of native grasslands along the trail alignment and provide for adequate replacement. The Program shall contain the following provisions and performance standards:

- a. Under the supervision of a qualified biologist, the proposed limits of grading shall be modified and controlled to avoid areas of native grassland along the trail alignment to the maximum extent feasible and a compensatory mitigation component prepared and implemented to provide a minimum 1:1 replacement ratio for grasslands lost as a result of trail improvements.
- b. Areas of native grassland adjacent to the trail alignment shall be flagged in the field prior to any vegetation removal or grading, and temporary orange construction fencing installed under supervision of the qualified biologist to avoid any inadvertent damage.
- c. Construction personnel shall be trained by the qualified biologist over the sensitivity of the native grasslands, purpose of the temporary orange construction fencing, and that all construction-related disturbance should be restricted outside of the fence.
- d. Areas of native grassland within the limits of proposed grading and construction shall be salvaged and used in revegetation efforts implemented as part of the Program. Salvage material shall include seed and both intact stem and root material, which shall be stored and maintained until ready for reinstallation in the late fall/early winter when conditions are optimal for successful reestablishment.
- e. A monitoring program shall be implemented by the qualified biologist to oversee successful establishment of any native grasslands to be restored, and shall define both short-term and long-term requirements. The Program and its requirements may be modified to require further measures if monitoring shows that performance standards are not being met.
- f. Annual monitoring reports shall be prepared by the qualified biologist for a minimum of five years or until the defined success criteria are met. The annual report shall summarize the results of the monitoring effort, performance standards, and any required contingency measures, and shall include photographs of the monitoring transects and program success. Maps shall be included in the monitoring report to show the location of monitoring transects and photo stations.

Significance after Mitigation: Implementation of **Mitigation Measure RPT BIO-2** would reduce impacts of the regional park trail on sensitive natural communities to a less than significant level.

RPT Impact BIO-3: **Construction of the proposed regional park trail project would result in potential impacts to jurisdictional waters. (*Potentially Significant; Less than Significant with Mitigation*)**

The proposed regional park trail alignment would cross two ephemeral drainages and would be located in the vicinity of a number of wetland seeps. Ephemeral crossings would involve installation of rocked ford crossings at Treatment Areas 6 and 9 (see **Figure 3.0-12**) and would fill an estimated 250 square feet (0.006 acre) of jurisdictional waters below the Ordinary High Water Mark of these drainages. The scattered seeps along the trail alignment could be effectively avoided through field adjustment during construction, which would avoid impacts to these features. However, proposed improvements would affect state and federal waters regulated by the USACE, RWQCB and CDFW, requiring appropriate authorizations from each of these agencies. Because of the sensitivity of regulated habitat, this would be a significant impact on jurisdictional waters. **Mitigation Measure RPT-BIO-3**, would require obtaining authorizations from regulatory agencies for the implementation of appropriate measures to minimize disturbance to jurisdictional waters, prevent erosion and sedimentation, and revegetate areas disturbed by trail construction. With implementation of **Mitigation Measure RPT-BIO-3**, impact of the regional park trail on jurisdictional waters would be less than significant.

Mitigation Measures:

RPT BIO-3 As called for in **Mitigation Measure RPT BIO-1a**, authorizations shall be secured by Sonoma County Regional Parks or its agent from the USACE, RWQCB, and CDFW for proposed trail improvements where they pass through jurisdictional waters, and all conditions and mitigation measures required under these authorizations shall be implemented as part of the project. Appropriate measures shall be developed and implemented to minimize disturbance to jurisdictional waters, prevent erosion and sedimentation, and revegetate areas disturbed by trail construction. This shall include: 1) construction during the dry season after all affected drainages are dry and surface water is absent; 2) installation of temporary orange construction fencing at the limits of proposed construction at the drainage crossings and vicinity of wetland seeps in advance of grading and other disturbance; 3) use of BMPs to minimize the potential for erosion and sedimentation such as installation of straw wattle, jute fabric or other surface controls on

graded slopes within 30 feet of the drainage crossings; and 4) revegetation of all disturbed slopes outside the actual footprint of the trail through broadcast seeding with native grass and forb seed or other technique within 30 feet of the drainage crossings.

Significance after Mitigation: Implementation of **Mitigation Measure RPT BIO-3** would reduce impacts of the regional park trail on jurisdictional waters to a less-than-significant level.

RPT Impact BIO-4: Implementation of the proposed regional park trail project would not interfere with wildlife movement. (*Less than Significant*)

The proposed regional park trail improvements through the regional park would alter existing wildlife habitat values and disrupt wildlife movement in the vicinity. This portion of the regional park is relatively isolated, with very little human access or disturbance. During construction and in the subsequent trail use, wildlife would be disturbed and displaced to surrounding areas. Species that are highly sensitive to human activity and disturbance, particularly predatory mammals and birds, may tend to avoid the vicinity of the trail alignment, at least during daylight hours. However, wildlife would eventually become acclimated to the future trail use. The impact of the regional park trail project on wildlife movement would be less than significant.

Mitigation Measures: No mitigation measures are required.

RPT Impact BIO-5: Implementation of the proposed regional park trail project would result in significant conflicts with local plans and policies. (*Potentially Significant; Less than Significant with Mitigation*)

The proposed regional park trail would be located in unincorporated Sonoma County. Policies related to biological resources are included in the Sonoma County General Plan Open Space and Resource Conservation Element. These policies tend to be general, but essentially Policy OSRC-7a to Policy OSRC-7j call for conservation of natural resources and protection of special status species, Policy OSRC-7k to Policy OSRC-7u relate to the protection of trees, Policy OSRC-8a to Policy OSRC-8l ensure the conservation of wildlife corridors, and Policy OSRC-8m and Policy OSRC-8n are set to ensure the protection of streams. The potential impacts of the regional park trail on the occurrence of CRLF on the site, the removal of native grasslands and disturbance to jurisdictional waters would all conflict with the intent of these relevant policies which call for the preservation of sensitive natural resources. However, **Mitigation Measures RPT_BIO-1a** and **RPT_BIO-3** set forth in this RDEIR that include consultation with the USACE, USFWS,

CDFW, and RWQCB would ensure that compliance with applicable policies and regulations is provided for the proposed regional park trail project. The impact would be less than significant.

Significance after Mitigation: Implementation of **Mitigation Measures RPT BIO-1a** and **RPT BIO-3** would reduce impact of the regional park trail related to conflicts with policies and regulations to a less-than-significant level.

4.3.4.5 Cumulative Impacts and Mitigation Measures

The scope of the geographical cumulative context for impacts to biological resources varies depending on the resources being affected, because affected species and/or habitats have minimum habitat size needs, ranges where they occur, sub-populations of interest within those ranges, and other species- or habitat-specific factors that are affected by the conditions present on a project site. In the case of the proposed project and the regional park trail project, the analyses above demonstrate that habitat for special-status species is present on the site and the site also supports native grasslands. Given these resources, the geographical cumulative context for the evaluation of cumulative impacts on biological resources is defined to include the City of Petaluma as well as portions of unincorporated Sonoma County that adjoin the city limits.

Cumulative Impact BIO-1: **The proposed Scott Ranch project and the regional park trail project, in conjunction with other past, present and reasonably foreseeable future development, could result in significant cumulative impacts on biological resources. (Potentially Significant; Less than Significant with Mitigation)**

Implementation of the proposed project and the related regional park trail project in conjunction with the projects listed in **Table 4.0-1, Approved and Pending Projects**, in **Section 4.0** of this RDEIR, would result in continued development in the City of Petaluma. Similar to the proposed project, the potential impacts of proposed developments on biological resources tends to be site specific, and the overall cumulative effect would be dependent on the degree to which significant vegetation and wildlife resources are protected on each property. This includes preservation of regulated trees, well-developed native vegetation (native grasslands, riparian woodland, and mature oaks), populations of special-status plant or wildlife species, and wetland features (including seasonal wetlands and stream channels). Further environmental review required for specific development proposals in the vicinity of the project site and the Helen Putnam Regional Park would serve to ensure that important biological resources are identified, protected, and properly managed to prevent any significant adverse development-related impacts. Similarly, to the extent

that the regional park trail project is implemented, mitigation measures set forth in this RDEIR would be implemented to prevent significant adverse impacts.

Cumulative development contributes to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance would be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. As discussed above, the proposed project would result in less-than-significant impact associated with the disturbance of wildlife habitat with the implementation of **Mitigation Measures BIO-1a, BIO-1b, and BIO-3**. Additional development may also contribute to degradation of the aquatic habitat in creeks in the area. Grading associated with construction activities generally increases erosion and sedimentation, and urban pollutants from new development would reduce water quality. As discussed in **Section 4.7, Hydrology and Water Quality**, rolling dips, switchbacks, and other hydrologic control measures would be incorporated in order to limit concentration of flow on long sections of the trail. In addition, appropriate erosion control and runoff protection measures would be incorporated at and near streams and crossings to provide additional protection against hydrologic impacts.

With implementation of **Mitigation Measures BIO-1a, BIO-1b, and BIO-3, HYD-1a**, contribution of the proposed project to the reduction of wildlife habitat would not be cumulatively considerable. Similarly, the regional park trail would not result in cumulatively considerable impact on wildlife habitat with implementation of **Mitigation Measures RPT-BIO-1a, RPT-BIO-1b, and RPT-BIO-3**.

With regard to development of the project site and its relationship to surrounding habitat, the proposed project would contribute to a cumulative loss of grassland and woodland habitat in the area, converting approximately 12 acres of grassland to suburban residential development. However, much of the grasslands on the rest of the project site would be permanently protected and enhanced through property managed as part of the proposed project, and substantial grassland habitat would remain to the south of the project site and regional park. Opportunities for foraging and dispersal from Helen Putnam Regional Park across the site and to locations to the east and southeast would be reduced as a result of proposed development and the effects of increased activity by humans and their pets. Mitigation measures recommended above would serve to address the potentially significant impacts of the project on sensitive resources, and would serve to address any project-related contribution to cumulative impacts on biological and wetland resources. Thus, with recommended mitigation incorporated, the cumulative impact of the proposed project and the regional park trail would be less than significant.

Significance after Mitigation: Implementation of **Mitigation Measures BIO-1a, BIO-1b, BIO-3, and HYD-1a**, and **Mitigation Measures RPT BIO-1a, RPT BIO-1b, and RPT BIO-3** would reduce cumulative

contribution of the proposed project and regional park trail to impacts on biological resources to a less-than-significant level.

4.3.5 REFERENCES

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