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ELKHORN ROAD PARCEL
APN 181-151-009
BIOLOGICAL ASSESSMENT

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And

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EXECUTIVE SUMMARY

A single-family residential project is proposed on the 18.1-acre parcel at 827 Elkhorn Road in Royal Oaks, Monterey County. The parcel (APN 181-151-009) is located east of Elkhorn Road and is accessed from a private driveway. The property is located within Monterey County's coastal zone and subject to regulations in the North County Coastal Land Use Plan. The parcel is currently undeveloped. The proposed project involves construction of a new 3-bedroon/3 bath single-family residence, a detached guest house/workshop and garage, related infrastructure (driveway, septic system, and utilities) and the placement of approximately 550 cubic yards of excavated spoils in the southeastern portion of the property. The project also includes defensible space as required by CalFire for fire safety and encompasses a 100-foot perimeter around the proposed residential developments. Land disturbance (permanent and temporary) for the proposed project is approximately 1.39 acre, affecting grassland and oak woodland.

A lot line adjustment (LLA) is proposed to facilitate upper driveway access to the development. The proposed LLA will result in approximately 5.12 acres of oak woodland, coastal scrub, and mixed grassland to be transferred from the subject parcel (APN 181-151-009) to the Elkhorn Slough Foundation (APN 181-011-022) in exchange for approximately 0.48 acre of land adjacent to the existing access road from APN 181-151-008 to APN 181-151-009. The donated area has the highest potential for special status wildlife species. The land donation will preserve this environmentally sensitive habitat area (ESHA) and is a beneficial effect of the project.

Botanical

A botanical assessment was conducted in summer 2022 and spring 2023 to document plant resources on the property and LLA area, with a focus given to areas proposed for residential development. The parcel was found to support these primary vegetation types: grassland (annual grassland, coastal prairie and mixed grassland), oak woodland, maritime chaparral, and coastal scrub. As per the North County Coastal Land Use Plan, maritime chaparral, coastal scrub, and oak woodland are sensitive resources. Coastal prairie, mixed grassland, maritime chaparral, and oak woodlands also are considered sensitive vegetation types by the California Department of Fish and Wildlife (CDFW). Small patches of maritime chaparral were found on the parcel supporting Pajaro manzanita (*Arctostaphylos pajaroensis)*, a special status shrub.

The proposed development will impact mixed grassland and oak woodland. Project construction will remove 20 trees greater than 6" in diameter, permanently affecting 0.04 acre of oak woodland. The project will temporarily impact 0.08 acre of mixed grassland. The project will not impact special-status plant species. As compensation for project impacts to oak woodland, oak woodland restoration and enhancement actions will occur on-site at a minimum 3:1 ratio and oak tree replacement will occur at a minimum 1:1 ratio, as per an approved forest management plan. As compensation for project impacts to mixed grassland, the temporarily disturbed areas will be revegetated with a native grass and forb seed mix. Successful implementation of the measures outlined in this report will reduce impacts to sensitive botanical resource to a less than significant level.

Wildlife

The property is located within the range of the state and federally threatened California tiger salamander (CTS) (*Ambystoma californiense*) and state and federally endangered Santa Cruz long-toed

salamander (SCLTS) (*Ambystoma macrodactylum croceum*). The property supports potential CTS and SCLTS upland habitats, based on the plant communities on the property and the proximity of known CTS and SCLTS breeding ponds in the region. Thus, a focused pitfall trapping study was performed during the 2022-23 winter, as part of this assessment (Bryan Mori Biological Consulting 2023). No CTS or SCLTS were recorded during the study. However, these species could occur on the property in the future, given its location in the distributional range of these species and their abilities to migrate/disperse over long distances. Since the trapping study is valid only for one year, an additional year of pitfall trapping will be performed during the upcoming 2024-25 winter, as requested by the California Department of Fish and Wildlife. Regarding other special-status wildlife, the presence of San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a state species of special concern, was confirmed on the property, and twelve other species are considered as potentially occurring on the property. Measures to protect significant wildlife resources are included in this report.

Intended Use of this Report

The findings presented in this botanical report are intended for the sole use of the current property owners (Norman Boccone and Victoria Igel), and Monterey County in evaluating the proposed residential project. The findings presented by Biotic Resources Group and Bryan Mori Biological Consulting Services in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or County law or ordinance pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

INTRODUCTION

Biotic Resources Group and Bryan Mori Biological Consulting collaborated to perform a biological assessment of the project parcel. The focus of the assessment was to identify special-status botanical and wildlife resources on the parcel and evaluate potential impacts to such resources from the proposed development. Measures to avoid, reduce or compensate for significant impacts also were identified. The findings of this evaluation are presented in this report.

Proposed Project

The project site is located along the east side of Elkhorn Road and is accessed off a private driveway (**Figure 1**). The 18.1-acre parcel is currently undeveloped. The proposed project is a new single-family residence, detached workshop, and related infrastructure (driveway, septic system, and utilities). The applicant proposes to place approximately 550 cubic yards of excavated soil within a 150'x 200' area in the southeastern corner of the property. The soil would be six inches deep, covering approximately 30,000 square feet (0.69 acre).

The project proposes a lot line adjustment (LLA) to facilitate upper driveway access to the development. The proposed LLA will result in approximately 5.12 acres of oak woodland, coastal scrub, and mixed grassland to be transferred from the subject parcel (APN 181-151-009) to the Elkhorn Slough Foundation (APN 181-011-022) in exchange for approximately 0.48 acre of land adjacent to the existing access road from APN 181-151-008 to APN 181-151-009. The donated area has the highest potential for special status wildlife species, especially the Santa Cruz long-toed salamander (SCLTS).

Land disturbance (permanent and temporary) for the proposed project is approximately 1.39 acre, affecting grassland and oak woodland.

METHODS

Botanical

The botanical resources on the parcel were assessed through literature review and field observations. A site survey was conducted by Kathleen Lyons (plant ecologist) on July 11, 2022 and April 10, 2023 to assess the proposed development area (i.e., project site) for sensitive habitat and/or potential rare species/habitat; parcel lands outside of the project site were viewed in a more cursory manner. The project site was traversed on foot to identify botanical resources and habitat conditions, and site features were recorded in a notebook.

Vegetation types were documented during the field surveys, based on the classification system in California Natural Communities List (CaCode) (California Department of Fish and Game, 2022) and A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) and amended to reflect site conditions. Modifications to the classification system's nomenclature were made, as necessary, to accurately describe the site's resources. The Jepson Manual – Vascular Plants of California (Baldwin *et al* 2012) and Plants of Monterey County (CNPS, 2013) were the principal taxonomic references used for the botanical work. Other data sources also were reviewed, including mapped data from Monterey County GIS, County LCP resource maps, and the Elkhorn Slough Foundation GIS; the subject parcel abuts the Foundation's 337-acre Blohm Ranch.

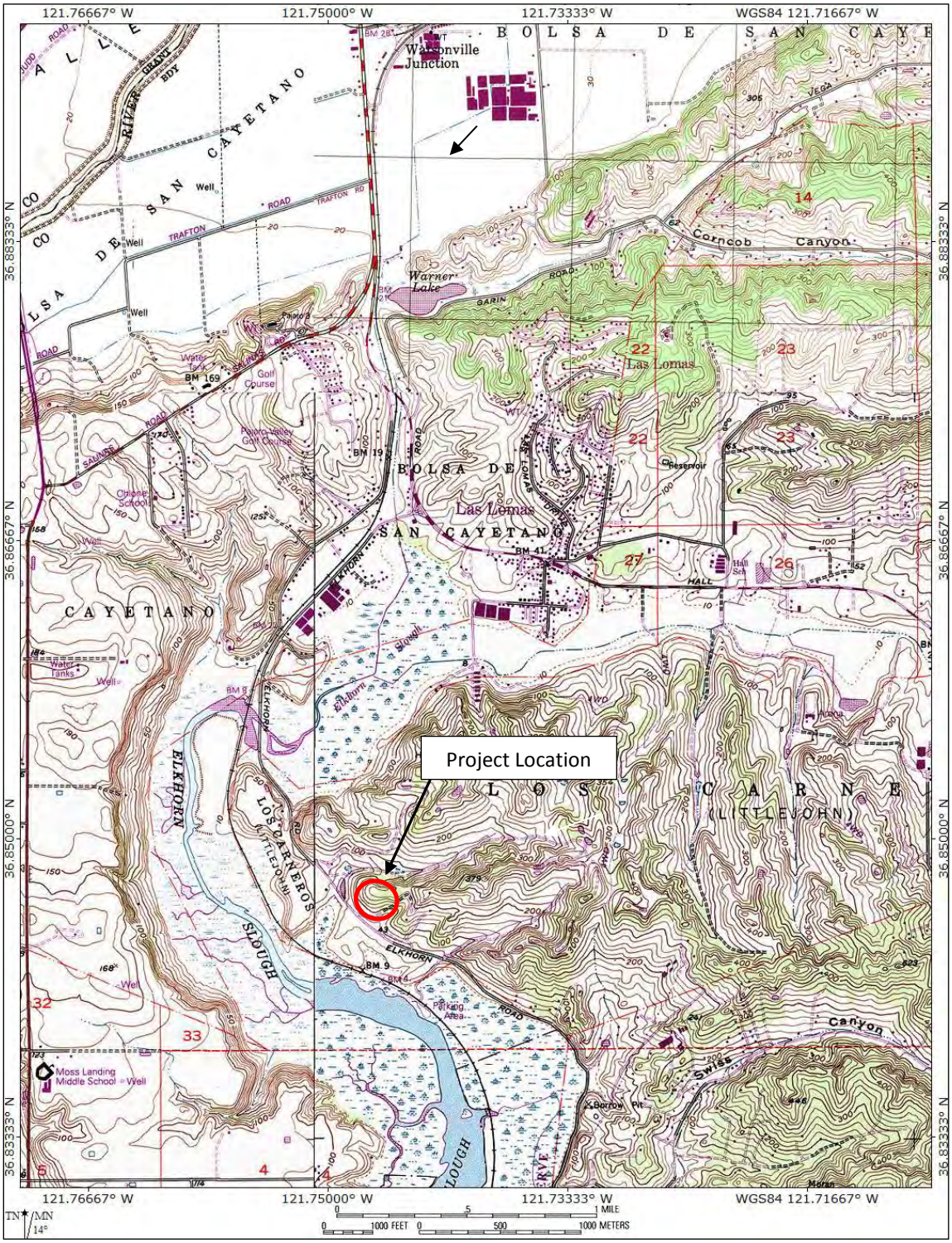

Figure 1. Location of Elkhorn Slough Parcel (USGS Prunedale Topographic Map)

To assess the potential occurrence of special-status botanical resources, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's (CNPS) Electronic Inventory (2022/23), and CDFW RareFind database (CDFW, 2022/23) for the USGS Prunedale and surrounding quadrangles. The summer 2022 and spring 2023 field surveys were conducted within the blooming/identification period for special-status plant species. In addition, the suitability of the site to support special-status species was determined based on a review of soil conditions, compaction, existing vegetation and the plant ecologist's knowledge of the habitat conditions required for the species.

Wildlife

California Tiger Salamander and Santa Cruz Long-toed Salamander. The CTS and SCLTS habitat assessment was performed following the protocols: Interim Guidance on Site Assessment for Determining the Presence or a Negative Finding of the California Tiger Salamander, October 2003 (USFWS and CDFG 2003) and Guidance on Site Assessment and Field Surveys to Detect Presence or Report a Negative Finding of the Santa Cruz Long-toed Salamander December 2012 (USFWS and CDFW 2012) and includes the identification of upland and aquatic habitats on and adjacent to the project site. As part of the habitat assessment, an upland pitfall trapping study was performed during the 2022-23 winter season under Federal Permit TE778668-10 and State Scientific Collection Permit No. 200160021, with prior approval from CDFW and the US Fish and Wildlife Service (USFWS). The details of the study, including methods, results and conclusions, can be found in a separate report: 827 Elkhorn Road Proposed Single Family Home & Guest House California Tiger Salamander (*Ambystoma californiense*) Santa Cruz Long-Toed Salamander (*Ambystoma macrodactylum croceum*) Habitat Assessment and 2022-23 Winter Pitfall Trapping Study (Bryan Mori Biological Consulting 2023). An additional pitfall trapping study will be performed during the upcoming 2024-25 winter, as requested by CDFW, as such studies are valid only for one year.

Other Special-Status Wildlife. A background literature review was conducted to identify special-status species occurrences, in addition to CTS and SCLTS, in the surrounding project vicinity. These included State Species of Special Concern, State Fully Protected Species, State and Federal Endangered and Threatened Species, and candidate or proposed species for state or federal listing. Sources for the literature search included the Moss Landing and Prunedale USGS quads of the CNDDB (2023), California Amphibian and Reptile Species of Special Concern (Thomson et al 2016), California Bird Species of Special Concern (Shuford and Gardali 2008), DRAFT Terrestrial Mammal Species of Special Concern in California (Bolster 1998), Atlas of the Breeding Birds of Monterey County (Roberson and Tenney 1993), Monterey Birds (Roberson 2002), and eBird records (https://ebird.org). Habitat suitability of the property for special-status species was evaluated concurrent to the CTS/SCLTS pitfall trapping study.

RESULTS - BOTANICAL

The project site supports the following primary vegetation types: grassland, oak woodland, maritime chaparral, and coastal scrub. **Figure 2** displays the location of the parcel and the area proposed for the LLA with the Elkhorn Slough Foundation on an aerial image from the Monterey County GIS system. As portrayed in **Table 1** below, three sub-sets of grassland were identified. The distribution of vegetation types is presented on **Figure 3**.

Table 1. Plant Community Types, Elkhorn Road Parcel and LLA Area

General Plant Community Type	CDFW Alliance	Alliance Code	Sensitive?
Oak Woodland	Coast live oak– poison oak/California blackberry/poison oak - grasses	71.060.13	N (CDFW) Y (County)
Maritime Chaparral	Pajaro manzanita/sticky monkey flower -grasses	37.316.01	Y (CDFW) Y (County)
Coastal Scrub	California sagebrush/sticky monkey flower/coyote brush/poison oak – bracken fern	32.010.11	Y (CDFW) Y (County)
Grassland	Coastal Prairie California oatgrass/purple needlegrass – lupine/California poppy/filaree	41.050.05	Y (CDFW) Y (County)
	Annual Grassland Wild oat/ripgut brome/filaree/English plantain	44.150.02	N (CDFW) N (County)
	Mixed Grassland Purple needlegrass/wild oat/Chilean brome/rattlesnake grass	41.150.05	Y (CDFW) Y (County)

The soils on the property and the LLA area are mapped as Arnold loamy sand, 15 to 50 percent slopes, MLRA 15 (AkF) and Santa Ynez fine sandy loam, 15 to 30 percent slopes (ShE). The area of the proposed residence is mapped as Arnold loamy sand. This soil type is somewhat excessively well-drained; it is not a hydric soil; bedrock may be encountered at 122 cm. The low elevation areas along Elkhorn Road are mapped as Santa Ynez fine sandy loam. This soil is moderately well-drained, with bedrock at 56 cm. It is not considered a hydric soil.

Figure 2. Location of Parcel and LLA on Aerial Photo (Source: Monterey County GIS)

Figure 3. Distribution of Vegetation Types

Oak Woodland

Oak woodland occurs in the central and northern portions of the parcel and within the proposed LLA area, as depicted on **Figure 3**. The woodland is characterized by trees of coast live oak (*Quercus agrifolia)*, with a few scattered Monterey pines (*Pinus radiata)*. In the central portion of the parcel, the woodland has a relatively sparse understory. Commonly observed species include poison oak (*Toxicodendron diversilobum)*, California blackberry (*Rubus ursinus)*, sticky monkey flower (*Diplacus aurantiacus)*, coyote brush (*Baccharis pilularis)* and young oaks. Herbaceous species observed include wild oat (*Avena sp.)*, ripgut brome (*Bromus diandrus)*, ryegrass (*Festuca perennis)*, Italian thistle (*Carduus pycnocephalus)*, coyote mint (*Monardella villosa)*, and scarlet pimpernel (*Anagallis arvensis)*. The character of this oak woodland is depicted in **Figure 4**. A portion of the oak woodland was thinned in 2022/23 wherein young oaks were cut, limbs removed from larger trees, and the understory brush cut. The approximate extent of the thinning work is depicted on **Figure 3**. The character of an area within this thinned oak woodland is depicted in **Figure 5**.

Figure 4. Character of Oak Woodland in Center of Parcel, July 2022

Figure 5. Character of Thinned Oak Woodland, April 2023

The north and east-facing slopes of the parcel support a more mesic oak woodland with dense understory vegetation. Coast live oak trees create a dense tree canopy, with an understory thick with poison oak, coffee berry (*Frangula californica)*, snowberry (*Symphoricarpos albus)*, California blackberry, mugwort (*Artemisia douglasiana)*, wood fern (*Dryopteris arguta)*, hedgenettle (*Stachys bullata)*, and patches of non-native poison hemlock (*Conium maculatum)*. The character of this oak woodland is depicted in **Figure 6**.

Figure 6. Character of Oak Woodland in North Portion of Parcel, July 2022

Grassland

Three types of grassland occur on the parcel: coastal prairie, annual grassland, and mixed grassland.

Coastal Prairie. The parcel supports a small area of coastal prairie in the south-central portion of the parcel. This vegetation type is defined as having a dominance or co-dominance of native bunchgrasses: California oatgrass (*Danthonia californica),* a native perennial bunchgrass, with or without other bunchgrasses. Other plant species include purple needlegrass (*Stipa pulchra)* (another native perennial bunchgrass), filaree (*Erodium botrys)*, catchfly (*Silene gallica)*, sky lupine (*Lupinus nanus)*, bicolor lupine (*Lupinus bicolor)*, and California poppy (*Eschscholzia californica)*. The location of the coastal prairie is shown on **Figure 3**.

Annual Grassland. The northwestern portion of the parcel supports annual grassland. This grassland type occurs in open areas next to the oak woodland, as depicted on **Figure 3.** Annual, non-native grasses present the most cover and include wild oat (*Avena sp.)*, ripgut brome (*Bromus diandrus)*, rattlesnake grass (*Briza maxima)*, false brome (*Brachypodium distachyon)*, and Chilean brome (*Bromus stamineus)*. The grassland also supports small patches of native purple needlegrass (*Stipa pulchra)* and California oatgrass; the cover provided by these two native grasses is less than 10%. Forbs are also present. Commonly observed native forbs include owl's clover (*Orthocarpus densiflora)*, skunkweed (*Navarretia squarrosa)*, purple sanicle (*Sanicula bipinnatifida)*, sky lupine*,* common aster (*Corethrogyne filagininifolia)*, soap plant (*Chlorogalum pomeridianum)*, and mule's ears (*Wyethia angustifolia*). Non-native forbs are prevalent, such as cat's ear (*Hypochaeris radicata)*, filaree, English plantain (*Plantago lanceolata)*, fiddle dock (*Rumex acetosella)*, scarlet pimpernel (*Anagallis arvensis)*, catchfly (*Silene*

gallica), wild radish (*Raphanus sativa)*, and Italian thistle. The character of the annual grassland is shown in **Figure 7**.

Mixed Grassland. The lower, western slopes of the parcel near Elkhorn Road support mixed grassland. Here, native and non-native grasses and forbs co-dominate. Wild oat and purple needlegrass intermix, with a pre-dominantly non-native forb component. Other species include suncups, sky lupine, bur clover (*Medicago polymorpha)*, mule's ears, and California poppy. **Figure 8** shows the mixed grassland near Elkhorn Road. **Figure 9** shows a wildflower field (sky lupine) within the mixed grassland.

Figure 7. Annual Grassland, April 2023

Figure 8. Mixed Grassland near Elkhorn Road, April 2023.

Figure 9. Wildflowers (sky lupine) within Mixed Grassland near Elkhorn Road, April 2023.

Maritime Chaparral

The parcel supports small areas of maritime chaparral. This chaparral is characterized by the presence of brittle-leaved manzanita (*Arctostaphylos crustacea)* and Pajaro manzanita (*Arctostaphylos pajaroensis)*. Pajaro manzanita is a rare evergreen shrub. The chaparral is located on the edge of oak woodland in the central portion of the parcel, as shown on **Figure 3**. Other plant species in the chaparral include sticky monkey flower and grasses and forbs typical to the adjacent grassland. **Figure 10** shows the Pajaro manzanita within the chaparral.

Figure 10. Maritime Chaparral with Pajaro manzanita in Central Portion of Parcel, April 2023.

Coastal Scrub

Coastal scrub is found on the parcel's northwest -facing slope, as shown on **Figure 3**. The vegetation is dominated by shrubs, such as California sagebrush (*Artemisia pycnocephalus)*, coyote brush, sticky monkey flower, poison oak, black sage (*Salvia mellifera)*, deerweed (*Acmispon glaber)*, and coffee berry. Herbaceous species are common in openings and include native species, such as bracken fern (*Pteridium aquilinum)*, soap plant, California horkelia (*Horkelia californica)*, California acaena (*Acaena pinnatifida var. californica)*, mule's ears, and coyote mint. Non-native forbs also are prevalent and consist of summer mustard (*Hirschfeldia incana)*, ragwort (*Senecio sp.), dandelion (Taraxacum officinale)*, bull thistle (*Cirsium vulgare)*, and yellow star thistle (*Centaurea solstitialis)*. The scrub is depicted in **Figure 11**.

Figure 11. Coastal Scrub in North-central Portion of Parcel, April 2023.

Sensitive Botanical Resources

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special-status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity.

Monterey County. The project area is located within an unincorporated area of Monterey County subject to regulations in the North County Coastal Land Use Plan (NCCLUP). Within the coastal zone, environmentally sensitive habitats areas (ESHA) are areas in which plant or animal life or their habitats are rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. These include Areas of Special Biological Significance as identified by the State Water Resources Control Board; rare and endangered species habitat, all coastal wetlands and lagoons, all marine wildlife, and kelp beds; and indigenous dune plant habitats. The County has adopted several policies pertaining the ESHA's and the subject property, as listed below:

1. With the exception of resource dependent uses, all development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures, shall be prohibited in the following environmentally sensitive habitat areas: riparian corridors, wetlands, dunes, sites of known rare and endangered species of plants and animals, rookeries, major roosting and haul out sites, and other wildlife breeding or nursery areas identified as environmentally sensitive. Resource dependent uses, including nature education and research hunting, fishing and aquaculture, where allowed by the plan, shall be allowed within environmentally sensitive habitats only if such uses will not cause significant disruption of habitat values.
2. Land uses adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource. New land uses shall be considered compatible only where they incorporate all site planning and design features needed to prevent habitat impacts, upon habitat values and where they do not establish a precedent for continued land development which, on a cumulative basis, could degrade the resource.
3. New development adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource. New subdivisions shall be approved only where significant impacts to environmentally sensitive habitats from development of proposed parcels will not occur.
4. To protect environmentally sensitive habitats and the high wildlife values associated with large areas of undisturbed habitat, the County shall maintain significant and, where possible, contiguous areas of undisturbed land for low intensity recreation, education, or resource conservation use. To this end, parcels of land totally within sensitive habitat areas shall not be further subdivided. On parcels adjacent to sensitive habitats, or containing sensitive habitats as part of their acreage, development shall be clustered to prevent habitat impacts.
5. Where private or public development is proposed in documented or potential locations of environmentally sensitive habitats - particularly those habitats identified in General Policy No. 1 - field surveys by qualified individuals or agencies shall be required in order to determine precise locations and to recommend mitigating measures to ensure protection of any sensitive habitat present. The required survey shall document that the proposed development complies with all applicable environmentally sensitive habitat policies.

6. The County shall ensure the protection of environmentally sensitive habitats through deed restrictions or dedications of permanent conservation easements. Where land divisions or development are proposed in areas containing environmentally sensitive habitats, such restrictions or easements shall be established through the development review process. Where development has already occurred in areas supporting sensitive habitat, property owners should be encouraged to voluntarily establish conservation easements or deed restrictions.
7. Where public access exists or is permitted in areas of environmentally sensitive habitats, it shall be limited to low intensity recreation, scientific or education uses such as nature study and observation, education programs in which collecting is restricted, photography, and hiking. Access in such locations shall be confined to appropriate areas on designated trails and paths. No access shall be approved which results in significant disruption of habitat.
8. Where development is permitted in or adjacent to environmentally sensitive habitat areas (consistent with all other resource protection policies), the County, through the development review process, shall restrict the removal of indigenous vegetation and land disturbance (grading, excavation, paving, etc.) to the minimum amount necessary for structural improvements.
9. The County shall require the use of non-invasive plant species in proposed landscaping and should encourage the use of appropriate native species or species that are compatible with native plants.
10. Construction activities, industrial, and public and commercial recreational uses which would affect rare and endangered birds shall be regulated to protect habitats of rare, endangered, and threatened birds during breeding and nesting seasons. Regulations may include restriction of access, noise abatement, and restriction of hours of operation of public or private facilities. Regulations shall not prohibit emergency operation of service and public utility equipment.

The Coastal Land Use Plan also has several policies that are specific to vegetation types, as presented, below.

1. Maritime chaparral is an uncommon, highly localized and variable plant community that has been reduced in North County by residential and agricultural development. Further conversion of maritime chaparral habitat to agricultural uses is highly discouraged. Where new residential development is proposed in chaparral areas, it shall be sited and designed to protect the maximum amount of maritime chaparral. All chaparral on land exceeding 25 percent slope should be left undisturbed to prevent potential erosion impacts, as well as to protect the habitat itself.
2. Oak woodland on land exceeding 25% slope should be left in its native state to protect this plant community and animal habitat from the impacts of development and erosion. Development within oak woodland on 25% slope or less shall be sited to minimize disruption of vegetation and habitat loss.
3. A fuel reduction program should be developed for North County's oak woodland and chaparral to reduce the potential risk of wildfires, to maintain the vigor of plant communities, and to maintain the diversity and value of habitat areas. Controlled burning should be strictly limited and managed in maritime chaparral areas.
4. Riparian plant communities shall be protected by establishing setback requirements consisting of 150 feet on each side of the bank of perennial streams, and 50 feet on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater. In all cases,

the setback must be sufficient to prevent significant degradation of the habitat area. The setback requirement may be modified if it can be conclusively demonstrated by a qualified biologist that a narrower corridor is sufficient or a wider corridor is necessary to protect existing riparian vegetation from the impacts of adjacent use.

5. Existing native trees and other significant vegetation shall be retained to the maximum extent possible, as an essential element of the scenic beauty and character of the North County coastal area. Removal of native trees and vegetation and landmark trees shall be permitted in accordance with this plan and other policies that may apply. In addition, a Tree Ordinance shall be developed and rigorously enforced that will regulate removal of trees and other significant vegetation throughout the North County Coastal Zone

US Army Corps of Engineers (USACE). The USACE regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High-Water mark (tidal areas) or below the Ordinary High-Water mark (freshwater areas). Areas with a significant hydrological connection to navigable waters are also regulated by the USACE. No drainage swales or other wetland features were observed on the parcel.

Regional Water Quality Control Board (RWQCB). Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the RWQCB. The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board's basin plans. The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features and saline waters. Should there be no Section 404 nexus (i.e., isolated feature not subject to USACE jurisdiction), a report of waste discharge (ROWD) is filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies. No drainage swales or other features within RWQCB jurisdiction were observed on the parcel.

California Department of Fish and Wildlife (CDFW). CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the Sections 1600-1603 of the California Fish and Game Code. CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW also regulates the deposit of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. CDFW defines a "stream" as 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 surface or subsurface flow that supports or has supported riparian vegetation. No drainage swales or other features within CDFW jurisdiction were observed on the parcel. CDFW also identifies sensitive natural communities. CDFW also recognizes several vegetation types as sensitive. These include the maritime chaparral, mixed grassland, and coastal prairie (CDFW, 2022).

Special-Status Plant Species

Species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS (List 1B). Based on a search of the CNPS and CNDDB inventories, there are several species of concern within the greater project area, as listed in **Table 2**. **Figure 12** displays information from the CNDDB on plant species with records from a 5-mile radius of the subject parcel.

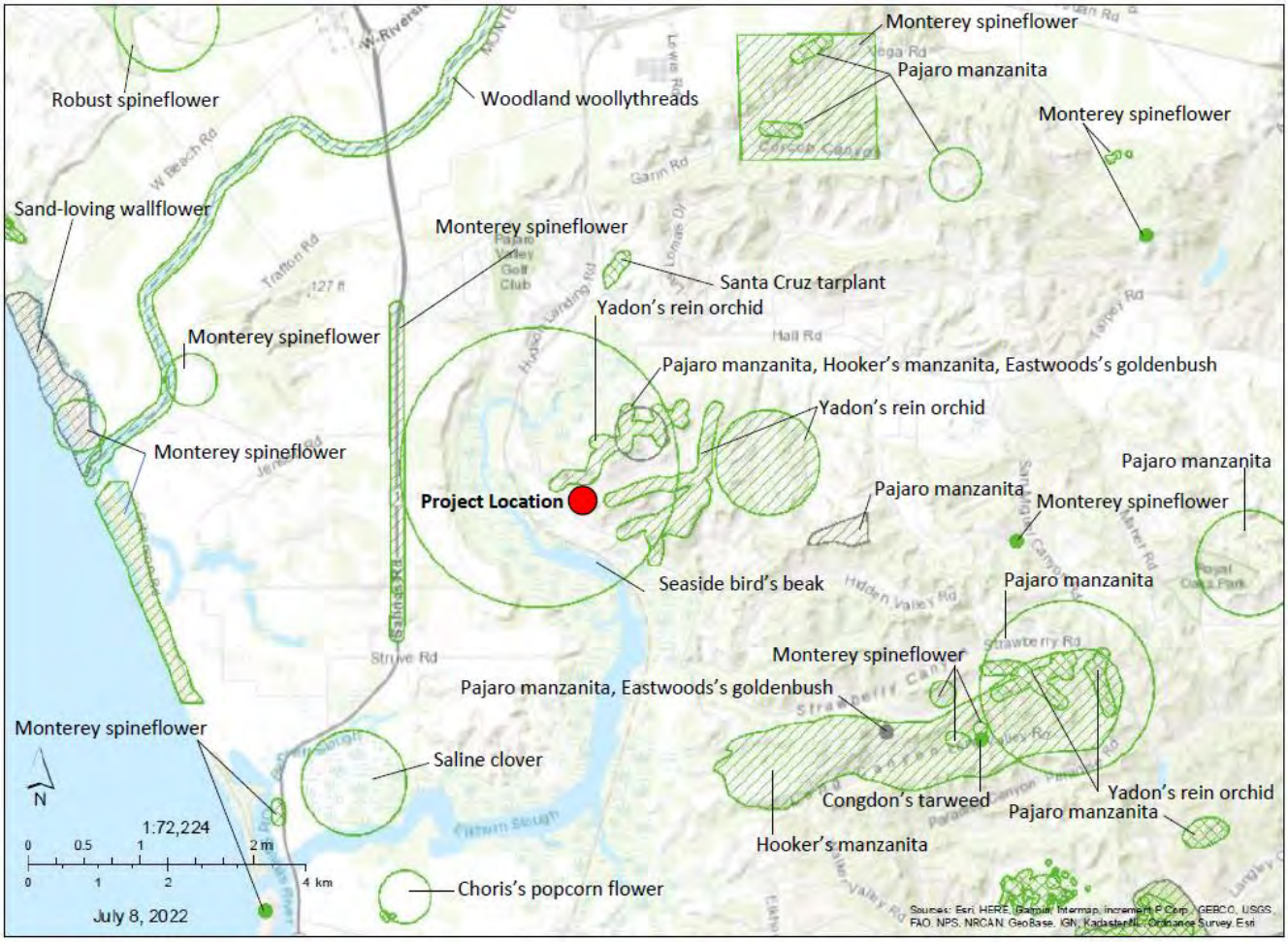

Figure 12. Special Status Plant Records from Project Vicinity (Source: CNDDB, 2022)

The July 2022 and April 2023 surveys were suitable for the detection of special status plant species. The site was found to support Pajaro manzanita (*Arctostaphylos pajaroensis)*, a species ranked List 1B.1 (rare) by the CNPS. No other special status plant species were found on site.

Pajaro manzanita (*Arctostaphylos pajaroensis).* The Pajaro manzanita is considered rare (List 1B.1) by the California Native Plant Society. The species is not listed under the California Endangered Species Act (CESA) or the Federal Endangered Species Act (FESA). This evergreen perennial shrub occurs in maritime chaparral on sandy soils in northern Monterey County. It is readily identified by its leathery leaves that clasp onto the stems. The species is known from several colonies in the greater project area, including lands north of the

subject parcel (see **Figure 9)**. A patch of Pajaro manzanita shrubs were observed on the parcel, as shown in the area mapped as maritime chaparral on **Figure 3.**

Monterey spineflower (*Chorizanthe pungens pungens)* and robust spineflower (*Chorizanthe robusta robusta).* Both the Monterey spineflower and robust spineflower are annual species that grow in sandy soils within Monterey and Santa Cruz counties. As shown on **Figure 12** there are occurrences in the greater project vicinity. The spineflower is characterized by its whitish to pinkish flowers, low-growing habit and spiny bracts surrounding the flowers. No individuals of Monterey spineflower or robust spineflower were observed on the parcel during the 2022 or 2023 field surveys. Both spineflower species flower in May, with some flowering and seed set extending into the month of June and July. Although some suitable habitat is present onsite within the grassland and in some of the open areas with loose, bare sandy substrate in the oak woodland and coastal scrub, no spineflower individuals were detected.

Santa Cruz tarplant (*Holocarpha macradenia*). The Santa Cruz tarplant is federally listed as threatened under FESA. This species is listed as endangered by the State of California. It is ranked in List 1B1.1 (rare) by the California Native Plant Society. The Santa Cruz tarplant is an annual species that grows in grassland, typically on coastal terraces. There are records in the CNDDB from the Porter Ranch, located north of the subject parcel. The tarplant is characterized by its distinct yellow composite flower and foliage. No individuals of Santa Cruz tarplant were observed on the parcel during the July 2022 field survey. The species is in flower and identifiable in the month of July; therefore, the species would have been identifiable if present.

Yadon's rein orchid (*Piperia yadonii*). This species is federally listed as endangered under FESA. This species has no listing by the State of California, but it is ranked in List 1B1.1 (rare) by the California Native Plant Society. This orchid, a monocot arising from an underground tuber, inhabits pine forests and maritime chaparral in Monterey County. When in flower, the plant can reach 20 inches high, with bicolored flowers. The plant typically blooms June – July, with plants usually still evident into August. As shown on **Figure 12** there are occurrences in the greater project vicinity, including lands east and north of the subject parcel; however, no plants were detected on the parcel in 2022 or 2023.

Seaside bird's beak (*Cordylanthus rigidus ssp. littoralis)*. This annual herb is listed as endangered under the CESA. This species has no listing by the State of California, but it is ranked in List 1B1.1 (rare) by the California Native Plant Society. It grows on young marine sand deposits in maritime chaparral and the edges of oak woodland. As it is a root parasite, the entire plant is yellow with marron-striped flower pouches. The plant typically blooms May to August and the flowering plant can reach heights of 1 to 4 feet. As shown on **Figure 12** there is a historic record (polygon) that includes the subject parcel; however, no plants were detected on the parcel in 2022 or 2023.

Hooker's manzanita (*Arctostaphylos hookeri).* This evergreen shrub is ranked in List 1B1.2 (rare) by the California Native Plant Society. It grows within maritime chaparral and oak woodlands were the substrate is sandy. A perennial, this shrub can reach heights of 4' - 5' and is characterized by its small, pointed leaves. As shown on **Figure 12** there are occurrences in the greater project vicinity, including lands north of the subject parcel; however, no plants were detected on the parcel in 2022 or 2023.

Eastwood's goldenbush (*Ericameria fasciculata).* This evergreen shrub is ranked in List 1B1.1 (rare) by the California Native Plant Society. It grows within maritime chaparral, coastal scrub, and along the edges of oak woodlands were the substrate is sandy. A perennial, this shrub can reach heights of 4' and is characterized by its branched, resinous stems and narrow leaves; the plant flowers July to October. As shown on **Figure 12**, there are occurrences in the greater project vicinity, including lands north of the subject parcel; however, no plants were detected on the parcel in 2022 or 2023.

Table 2. List of Special Status Plant Species Evaluated for Elkhorn Road Parcel Development Area

Species	CNPS Ranking	State Status	Federal Status	Phenology	Habitat Preference/Potential on Site (with focus on proposed development area)
Vernal pool bent grass (*Agrostis lacuna-vernalis)*	1B.1	None	None	Annual; blooms Apr-May	**ABSENT**. Vernal pools; no suitable habitat; not observed
Hickman's onion (*Allium hickmanii)*	1B.2	None	None	Perennial; blooms Mar - May	**ABSENT.** Closed-cone coniferous forest; chaparral (maritime); coastal prairie; coastal scrub; valley and foothill grassland; suitable habitat but not observed
Anderson's manzanita (*Arctostaphylos andersonii)*	1B.2	None	None	Perennial shrub; blooms Nov-May	**ABSENT**. Chaparral and forests; recorded from Santa Cruz Mountains; not observed
Hooker's manzanita *(Arctostaphylos hookeri ssp. hookeri*)	1B.2	None	None	Perennial shrub; blooms Jan - Jun	**ABSENT**. Sandy slopes, often intermixed with oak woodland; known from nearby property; potential on property, yet not observed in development area
Toro manzanita *(Arctostaphylos montereyensis)*	1B.1	None	None	Perennial shrub; blooms Feb-Mar	**ABSENT**. Sandy slopes, often intermixed with chaparral and oak woodland; not observed
Pajaro manzanita *(Arctostaphylos pajaroensis*)	1B.1	None	None	Perennial shrub; blooms Dec-Mar	**PRESENT**. Sandy slopes, often intermixed with oak woodland; known from nearby parcel; observed in northern portion of parcel, yet outside of development area.
Sandmat manzanita *(Arctostaphylos pumila)*	1B.1	None	None	Perennial shrub; blooms Feb-Mar	**ABSENT**. Sandy slopes, often intermixed with chaparral and oak woodland; not observed
Alkali milk-vetch (*Astragalus tener var. tener)*	1B.2	None	None	Annual; blooms Mar - Jun	**ABSENT**. Alkali playas, vernal pools, mesic grassland; no suitable habitat in development area; not observed
Pink Johnny-nip *(Castilleja ambigua var. insalutata)*	1B.1	None	None	Annual; blooms May – Aug	**ABSENT**. Coastal prairie, coastal scrub; suitable habitat; however not observed in development area
Congdon's tarplant (*Centromadia parryi ssp. congdonii)*	1B.2	None	None	Annual; blooms May – Oct	**ABSENT**. Mesic grassland, heavy clay, alkaline; no suitable habitat; not observed
Fort Ord spineflower *(Chorizanthe minutiflora)*	1B.2	None	None	Annual; blooms Apr	**ABSENT**. Sandy slopes, oak woodland, coastal scrub; marginal habitat; not

Table 2. List of Special Status Plant Species Evaluated for Elkhorn Road Parcel Development Area

Species	CNPS Ranking	State Status	Federal Status	Phenology	Habitat Preference/Potential on Site (with focus on proposed development area)
				– Jul	observed in development area
Monterey spineflower *(Chorizanthe pungens var. pungens)*	1B.2	None	Threatened	Annual; blooms Apr – Jun	**ABSENT**. Sandy slopes, can be intermixed with oak woodland/maritime chaparral; marginal habitat, not observed in development area.
Robust spineflower *(Chorizanthe robusta var. robusta)*	1B.1	None	Endangered	Annual; blooms Apr – Jun	**ABSENT**. Sandy slopes, often intermixed with oak woodland/maritime chaparral; marginal habitat, not observed in development area
Seaside bird's-beak (*Cordylanthus rigidus sp. littoralis)*	1B.1	Endangered	None	Annual; blooms Apr – Oct	**ABSENT**. Sandy slopes, often intermixed with oak woodland/maritime chaparral, coastal scrub; suitable habitat, not observed in development area
Eastwood's goldenbush (*Ericameria fasciculata)*	1B.1	None	None	Perennial; blooms Jul – Oct	**ABSENT**. Sandy slopes, often intermixed with oak woodland/maritime chaparral, coastal scrub; suitable habitat, not observed in development area
Sand-loving wallflower (*Erysimum ammophilum)*	1B.2	None	None	Perennial; blooms Feb – Jun	**ABSENT**. Sandy slopes, often sand dunes and dune scrub; no suitable habitat, not observed in development area
Menzies wallflower (*Erysimum menziesii)*	1B.1	Endangered	Endangered	Perennial; blooms Mar - Sep	**ABSENT**. Sandy slopes, coastal dunes; no suitable habitat, not observed in development area
Fragrant fritillary (*Fritillaria liliacea)*	1B.2	None	None	Perennial; blooms Feb – Aug	**ABSENT**. Oak woodland/ chaparral, coastal scrub; often serpentines; not observed in development area
Monterey gilia *(Gilia tenuiflora ssp. arenaria)*	1B.2	Threatened	Endangered	Annual; blooms Apr - Jun	**ABSENT**. Coastal dunes; recorded from Sunset State Beach; not observed; no suitable habitat; not observed in development area
Santa Cruz tarplant *(Holocarpha macradenia)*	1B.1	Endangered	Threatened	Annual: blooms June – Oct	**ABSENT**. Grasslands, often on coastal terrace deposits; marginal habitat; not observed in development area.
Kellogg's horkelia *(Horkelia cuneata ssp. sericea)*	1B.1	None	None	Perennial; blooms Apr – Sep	**ABSENT**. Oak woodland, chaparral, coastal scrub; suitable habitat but not observed in development area
Point Reyes horkelia *(Horkelia marinensis)*	1B.2	None	None	Perennial; blooms May– Sep	**ABSENT**. Coastal prairie, coastal scrub; suitable habitat, but not observed in development area
Perennial goldfields (*Lasthenia californica ssp. macrantha)*	1B.2	None	None	Perennial; blooms Jan – Nov	**ABSENT**. Coastal scrub, coastal dunes; marginal habitat; not observed in development area.
Contra Costa goldfields (*Lasthenia conjugens)*	1B.1	None	Endangered	Annual; blooms Apr – Jun	**ABSENT**. Mesic alkaline vernal pools, grasslands; no suitable habitat; not observed in development area.

Table 2. List of Special Status Plant Species Evaluated for Elkhorn Road Parcel Development Area

Species	CNPS Ranking	State Status	Federal Status	Phenology	Habitat Preference/Potential on Site (with focus on proposed development area)
Legenere (*Legenere limosa)*	1B.1	None	None	Annual; blooms Apr – Jun	**ABSENT**. Vernal pools; no suitable habitat; not observed in development area.
Marsh microseris (*Microseris paludosa)*	1B.2	None	None	Perennial; blooms Apr-Jun/Jul	**ABSENT**. Woodland, coastal scrub, grasslands; marginal habitat; not observed in development area.
Northern curly-leaved monardella (*Monardella sinuata ssp. nigrescens)*	1B.2	None	None	Annual; blooms May – Jul	**ABSENT**. Sandy slopes, often intermixed with oak woodland, chaparral, coastal scrub; marginal habitat, not observed in development area.
Woodland woollythreads *(Monolopia gracilens)*	List 1B.2	None	None	Annual; blooms Mar – Jul	**ABSENT**. Chaparral; serpentine grassland; sandy/rocky areas; not observed in development area
Dudley's lousewort *(Pedicularis dudleyi)*	List 1B.2	None	None	Perennial; blooms Apr-Jun	**ABSENT**. Woodlands; not observed in development area
White-rayed pentachaeta *(Pentachaeta bellidiflora)*	List 1B.1	Endangered	Endangered	Perennial; blooms Mar - May	**ABSENT**. Mesic grasslands and woodlands; not observed in development area
Yadon's rein orchid *(Piperia yadonii)*	List 1B.1	None	Endangered	Perennial; blooms May - Aug	**ABSENT**. Grasslands and woodlands; recorded from nearby properties not observed in development area
Choris's popcorn flower *(Plagiobothrys chorisianus var. chorisianus)*	List 1B.2	None	None	Annual; blooms Mar - Jun	**ABSENT**. Mesic grasslands, often on coastal terrace deposits; recorded from grassland south of Elkhorn Slough; unlikely habitat; not observed in development area.
San Francisco popcorn flower (*Plagiobothrys diffusus)*	List 1B.2	Endangered	None	Annual; blooms Mar - June	**ABSENT**. Mesic grasslands, often on coastal terrace deposits; not observed in development area
Pine rose *(Rosa pinetorum)*	List 1B.2	None	None	Perennial; blooms May - Jul	**ABSENT**. Woodlands and pine forests; not observed in development area
Santa Cruz clover *(Trifolium buckwestiorum)*	List 1B.1	None	None	Annual; blooms Apr - Oct	**ABSENT**. Mesic grasslands; not observed in development area
Saline clover *(Trifolium hydrophilum)*	List 1B.2	None	None	Annual; blooms Apr – Jun	**ABSENT**. Mesic alkali grasslands; no suitable habitat; not observed in development area

CNPS Status: List 1B: These plants (predominately endemic) are rare through their range and are currently vulnerable or have a high potential for vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of populations. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFW Code.

RESULTS – WILDLIFE

California Tiger Salamander

Natural History and Status. The California tiger salamander is a federal and state threatened species (USFWS 2004a). CTS primarily inhabit valley floor and foothill grasslands, open oak woodlands and scrub habitats surrounding aquatic breeding sites (Trenham 2001; USFWS 2000). Adults and juveniles live in upland rodent burrows for most of their lives (Trenham 2001; Trenham *et al* 2000; Loredo *et al* 1996). During the rainy season, typically November - March, adults migrate at night to breeding sites, which include vernal pools, seasonal ponds, reservoirs, and occasionally stream pools (Loredo and Van Vuren 1996; Trenham *et al* 2000; Searcy and Shaffer 2008; Alvarez *et al* 2021). Searcy (2013) recorded median migration distances of 49 m, 615 m, and 667 m for metamorphs, juveniles, and adults, respectively. Migration distances greater than 1 km are not considered rare (P. Trenham, California Tiger Salamander Workshop 2011) and individuals have been documented up to 1.4 miles from a breeding pond (Ford *et al* 2013). The adults remain at breeding ponds from one day to several weeks, then return to upland refugia (Loredo and Van Vuren 1996). Eggs are laid singly, or in small groups of up to four, on stalks of submerged vegetation or other objects (e.g., rocks woody material, etc.), typically along the shoreline. The eggs hatch in 10 days to approximately three weeks (USFWS 2000; Jennings and Hayes 1994; Storer 1925). Larvae typically metamorphose in two to three months, from late spring to summer, when ponds begin to dry (USFWS 2000), and in rare cases, overwintering larvae have been documented (M. Allaback, pers. comm; Alvarez 2004). Metamorphs emerge from ponds and seek shelter mostly in the immediate vicinity in burrows, cracks in the ground or under debris, but sometimes as far as 200m away, even in the absence of rain (Trenham 2001; Trenham and Shaffer 2005; Loredo *et al* 1996). During the rainy-season, the juveniles continue to disperse farther to seek refuge in upland areas mostly within 640 m of the breeding pond. Threats and reasons for decline include loss of breeding and upland habitat due to agricultural and urban developments; the introduction of bullfrogs (*Lithobates catesbeiana*) and predatory non-native fishes into breeding sites; historical use of larvae as fishing bait; and hybridization with introduced non-native tiger salamanders (USFWS 2000; Seth *et al* 2003).

Local Occurrences: Within a 2-mile radius of the project site, CTS are known to breed at eight locations. Of these, the pond known as Leaky Pipe is the nearest to the project site and is located 0.85 miles to the east (**Figure 13**). **Table 3** presents a summary of the remaining seven locations. As shown on **Figure 13**, several potential CTS breeding ponds also are interspersed in the project site vicinity.

Site Assessment: CTS breeding habitat (i.e., ponds) is absent on the property. However, the south-facing live oak woodlands and coastal prairie grasslands on the site appear to be suitable as upland habitat for adults and juveniles seeking refugia, as small mammal burrows were observed throughout the grasslands and in accessed parts of oak woodlands. Additionally, the property lies within dispersal distance to Leaky Pond, as well as other potential breeding ponds in the project vicinity, and barriers to CTS movement between the property and known and potential ponds appear to be absent.

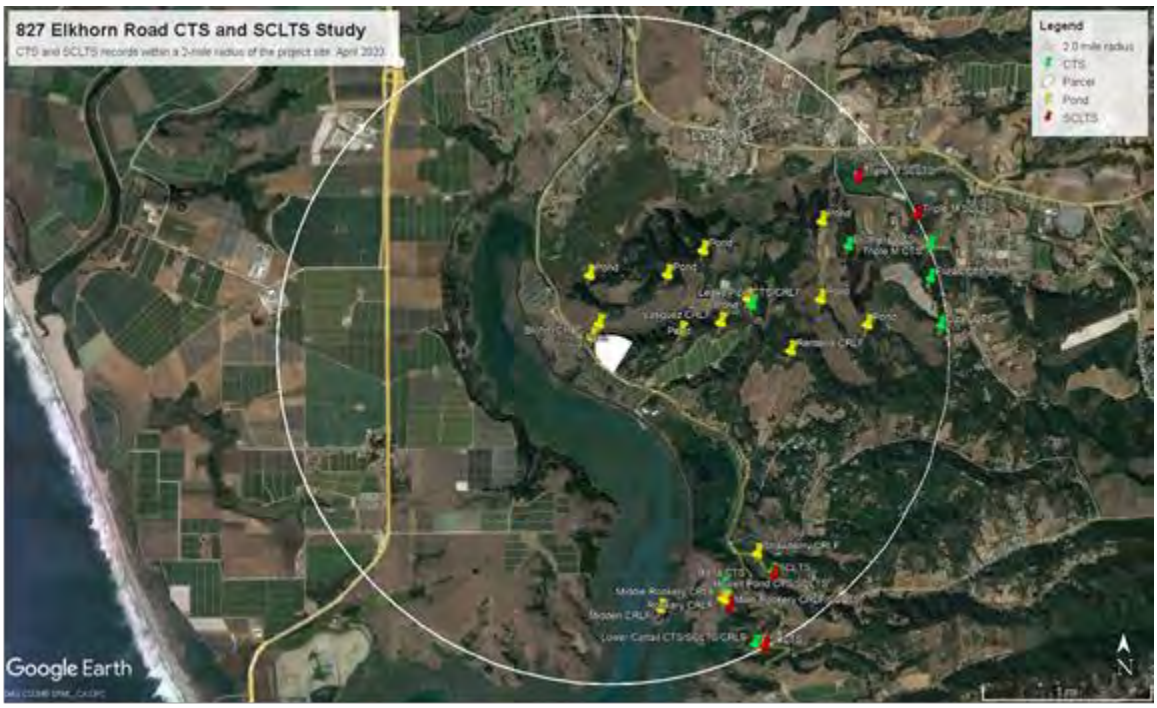

Figure 13. Known CTS and SCLTS Breeding Sites and Potential Breeding Ponds within a 2-mile Radius of the Project Parcel, which is Shown as a White Polygon.

Table 3. CTS and SCLTS Breeding Ponds within a 2-mile Radius of the Project Site

Species	Site	Distance from Project Site
California Tiger Salamander	Leaky Pipe Pond	0.85 mile east
California Tiger Salamander	Brother's Pond	1.44 miles east
California Tiger Salamander	Rana Pond	1.54 miles southeast
California Tiger Salamander Santa Cruz Long-toed Salamander	Howell Pond	1.60 miles southeast
Santa Cruz Long-toed Salamander	Triple M Ranch Pond	1.65 miles northeast
Santa Cruz Long-toed Salamander	Main Rookery Pond	1.67 miles southeast
California Tiger Salamander	Elizas Pond	1.82 miles east
Santa Cruz Long-toed Salamander	Triple M Ranch Pond	1.86 miles northeast
California Tiger Salamander	Elizas Pond	1.86 miles east
California Tiger Salamander	Triple M Ranch Pond	1.88 miles northeast
California Tiger Salamander Santa Cruz Long-toed Salamander	Lower Cattail/Upper Cattail	1.94 miles southeast

Santa Cruz Long-Toed Salamander

Status and Natural History. The Santa Cruz long-toed salamander was first discovered in 1954 at Valencia Lagoon, near Aptos, in Santa Cruz County, California (Russell and Anderson 1956). The SCLTS is the southernmost subspecies of *Ambystoma macrodactylum* (Russell and Anderson 1956), and geographically isolated from the southern long-toed salamander (*A. m. sigillatum*) population. The SCLTS was listed as endangered by the U.S. Fish and Wildlife Service (USFWS) in 1967 (USFWS 2004), and subsequently in 1970 by the State of California under the California Species Preservation Act (Ruth 1989). Adult and sub-adult SCLTS spend most of the year in upland refugia, including rodent burrows, leaf litter, underneath surface objects, and in rotting logs, within dense oak woodlands, willow thickets and mesic coastal scrub (Ruth 1989). Adults migrate from upland habitats to seasonal/semi-perennial breeding ponds at night, during late fall and winter rains, generally from November through March. In contrast, juvenile dispersal is mostly confined to the first substantial fall rains, sometimes as early as August (M. Allaback, pers. comm.). SCLTS appear to travel in nearly straight lines, with marked individuals documented to migrate 0.6 mile from breeding ponds to upland habitat (USFWS 2004; M. Allaback, pers. comm.). However, unmarked long-toed salamanders have been observed 1 mile from the nearest breeding pond (USFWS 2004). Mating and egg-laying generally peak in January and February (USFWS 2004). After mating, the adults return to upland habitat, typically by March (Ruth 1989; USFWS 2004). The female deposits 200-400 singly on stems of emergent vegetation (Andersen 1967). The eggs hatch within 15 - 30 days and metamorphose into juveniles between May and September, depending on aquatic conditions. The distribution of the Santa Cruz long-toed salamander is highly restricted, making the species especially vulnerable to habitat loss resulting from agricultural and urban developments, predation from bullfrogs and non-native predatory fishes, as well as natural catastrophes related to changes in climate and disease outbreaks (Ruth 1989; USFWS 2004).

Local Occurrences: Within a 2-mile radius of the project site, SCLTS are known to breed at five locations, the nearest of which is Howell Pond located ~1.60 miles to the southeast, off of Strawberry Canyon Road (**Figure 13**). The remaining three locations are summarized on **Table 3**. In addition, several potential SCLTS breeding ponds are interspersed in the project vicinity, as shown on **Figure 13**.

Site Assessment: Potential SCLTS breeding habitat (i.e., ponds) is absent on the property and much of the coastal prairie and south-facing live oak woodlands and scrub appear unsuitable or marginal as upland habitat, due to their arid nature (refer back to **Figure 4**). However, north-facing live oak woodlands are present on the northern section of the property and considered suitable as potential upland habitat, as the live oak understory is dense, multi-layered and characterized by a wide variety of plant species (refer back to **Figure 6**). Additionally, the property lies within the distributional range of this species and is somewhat equidistant between Howell Pond and Triple M Ranch, with other potential breeding ponds in the surrounding landscape (**Figure 13**), and barriers to SCLTS movement between the property and known and potential ponds appear to be absent.

Other Special-Status Wildlife

Special-status species are defined herein as federal and state listed species, state species of special-concern, and proposed and candidate species for state or federal listing. Thirty-three (33) special-status wildlife species were evaluated for this study, based on literature review, habitat conditions and personal knowledge of their regional patterns of occurrence and distribution. The exception to this was a USFWS and CDFW approved CTS/SCLTS presence-absence study performed as part of this assessment (Bryan Mori Biological Consulting 2023). No CTS or SCLTS were captured during the study.

Of the 33 species, 11 were considered as possibly occurring on the project site: CTS, SCLTS, California red-legged frog (*Rana draytoni*), northern legless lizard (*Anniella pulchra*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus hudsonius*), merlin (*Falco columbarius*), loggerhead shrike (*Lanius ludovicianus*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), grasshopper sparrow (*Ammodramus savannarum*) and pallid bat (*Antrozous pallida*). Although CTS and SCLTS were not recorded at the project site during the 2022-23 focused survey, both are still considered as possibly occurring on the project site, since the property lies within the distributional range of these species and both are capable of long-distance movements. Also, SCLTS protocol presence-absence studies are valid for one year only (USFWS and CDFW 2012). One species, the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), was recorded on the property, where several woodrat houses were seen scattered throughout the oak woodland understory (**Figure 14**). The remaining species are not considered further in the assessment for one or more of the following reasons: 1) the species is expected to occur in the study area only briefly as a transient during migration or foraging; 2) the study area does not support suitable habitat; 3) the study area appears to be outside of the species' local distributional range. **Table 4** summarizes the regulatory status, natural history and site assessment for each species.

Figure 14. An Example of One of Several Dusky-footed Woodrat Stick Houses Observed on the Property in the Live Oak Woodland Understory.

Table 4. Special-status Wildlife Species Evaluated for the Elkhorn Road Parcel Development Area

SPECIES	STATUS	HABITAT	STATUS AT THE PROJECT SITE
California Tiger Salamander (*Ambystoma californiense*)	FT, ST	Annual grasslands and open oak woodlands are used as upland habitat for adults and juveniles seeking small mammal burrows as refugia. During the rainy season, seasonal and certain permanent ponds are used for breeding. Individuals move long distances of up to 1 mile during migration and dispersal.	**POSSIBLE*.** No CTS were captured during the 2022-23 winter upland pitfall trapping study performed for this assessment. The study was performed during a record rainfall year; thus, the negative results are considered valid for the 2022-23 breeding season. An additional winter 2024-25 study is presently awaiting approval. ***However, CTS may occur at the project site in future years, given the project site's location within the distributional range of the species and several records are scattered around the project vicinity. Please see Bryan Mori Biological Consulting 2023 for detailed information on the study results*.
Santa Cruz Long-toed Salamander (*A. macrodactylum croceum*)	FE, SE, FP	Moist oak woodlands, coastal scrub and willow thickets are used as upland habitat for adults and juveniles seeking small mammal burrows as refugia. During the rainy season, seasonal and fish free perennial ponds are used for breeding. Individuals have been recorded moving over a half-mile (M. Allaback, pers. comm.) during migration.	**POSSIBLE*.** No SCLTS were captured during the 2022-23 winter upland pitfall trapping study performed for this assessment. The study was performed during a record rainfall year; thus, the negative results are considered valid. **However, SCLTS may occur at the project site in future years, given the project site is located within the distributional range of the species and several records are scattered around the project region. Also, the SCLTS survey protocol states that the results of a study are valid for one year only. Therefore, an additional winter 2024-25 study is presently awaiting approval. Please see Bryan Mori Biological Consulting 2023 for detailed information on the study results.*
California Red-legged Frog (*Rana draytoni*)	FT, SSC	Ponds, freshwater marshes, quiet stream pools for breeding or year-round. Various mesic habitats are used during migration and dispersal. Individuals may move up to 2 miles between breeding and non-breeding habitats.	**POSSIBLE**. CRLF are known to occur throughout the project region and has been documented at Blohm Pond, which forms below an intake culvert along the east side of Elkhorn Road, approximately 240 feet from the western perimeter of the property. Aquatic habitat is absent on the property, but individuals may be found during dispersal and migration. None were captured during the 2022-23 CTS/SCLTS winter upland trapping study.
Western Pond Turtle (*Emys marmorata*)	SSC	Inhabits rivers, ponds, reservoirs and lakes. Nests in grasslands and other open vegetation in soils with clay content.	**UNLIKELY**. Pond turtles are known to occur throughout the project region, but the nearest record is from the Elkhorn Slough Reserve (pers. obs.). No aquatic habitat is present on the project site, and the nearest pond is under the canopy of a well-shaded drainage that lacks basking sites and is considered marginal.

Table 4. Special-status Wildlife Species Evaluated for the Elkhorn Road Parcel Development Area

SPECIES	STATUS	HABITAT	STATUS AT THE PROJECT SITE
California Horned Lizard (*Phrynosoma blainsvillii*)	SSC	Inhabits a variety of open habitats with sandy or loose loam soils.	**UNLIKELY**. Potential habitat may be present in areas supporting sandy soils, but no horned lizards were recorded during the 2022-23 upland salamander study, despite the capture of three other lizard species. Additionally, there are no CNDDB records of this species in the project region and the species may be extirpated from the area (Jennings and Hayes 1994).
California Legless Lizard (*Anniella pulchra*)	SSC	Mostly fossorial and occurs in a variety of habitats with sandy or loose loam soils, and alluvial deposits.	**POSSIBLE.** Potential habitat is present in areas supporting sandy or sandy-loam soils. CNDDB records of legless lizards are mostly from the coastal dunes, however, one record is off of Walker Valley Road in oak woodland habitat, ~2.4 miles SE of the project site. Although not captured during the 2022-23 salamander upland study, legless lizards primarily live underground and are not known to disperse over long distances, thus may have been overlooked.
Brandt (*Branta bernicla*)	SSC (Wintering)	Offshore and in coastal estuaries with eel-grass.	**UNLIKELY.** Does not breed locally and habitat absent at the project site. A spring and fall migrant off the coast, and regular in winter and summer at Elkhorn Slough (Roberson 2002).
Redhead (*Aythya americana*)	SSC (Nesting)	Nests in freshwater marshes with dense emergent vegetation.	**UNLIKELY**. Does not breed locally and habitat is absent at the project site. Occurs along the coast as a rare migrant and winter visitor and has been recorded at Elkhorn Slough (eBird).
Barrow's Goldeneye (*Bucephala islandica*)	SSC (Nesting)	Nests at inland lakes and rivers of forests.	**UNLIKELY**. Does not breed locally and habitat is absent at the project site. Occurs along the coast as a very rare winter and spring transient and has been recorded at Elkhorn Slough (eBird).
American White Pelican (*Pelecanus erythrorhynchos*)	SSC (Nesting)	Nests on the ground at lakes, marshes and bays.	**UNLIKELY**. Does not breed locally and habitat is absent at the project site. Occurs all seasons at Elkhorn Slough as a non-breeder (eBird).
Brown Pelican (*Pelecanus occidentalis*)	SSC (Nesting)	Nests on ground or cliff ledges of coastal islands.	**UNLIKELY**. Does not breed locally and habitat is absent at the project site. A non-breeding visitor along the central coast, most abundant in summer, but present year-round. Uses Elkhorn Slough for foraging, bathing and roosting (eBird)
White-tailed Kite (*Elanus leucurus*)	FP	Nests in trees of open landscapes.	**POSSIBLE**. Individuals occur in all seasons in the Elkhorn Slough watershed (eBird) and nesting has been documented 2 miles south of the project site (CNDDB). Nesting habitat (i.e., trees) is present at and around the project site.
Golden Eagle (*Aquila chrysaetos*)	FP	Nests on cliffs and in tall, secluded trees. Ranges widely and forages over grasslands for jack rabbits and ground squirrels.	**UNLIKELY.** Suitable nesting habitat is absent on the property. A pair have nested on Elkhorn Ranch (Roberson and Tenney 1993) and individuals occur in the Elkhorn Slough watershed year-round (eBird), thus transients are likely to fly over the project site on occasion. There are no CNDDB records of golden eagles nesting in the project region.

Table 4. Special-status Wildlife Species Evaluated for the Elkhorn Road Parcel Development Area

SPECIES	STATUS	HABITAT	STATUS AT THE PROJECT SITE
Bald Eagle (*Haliaeetus leucocephalus*)	FP	Nests along coastal cliffs and in tall, secluded trees near lakes and rivers.	**UNLIKELY**. Suitable nesting habitat is absent on the property. A few individuals occur in the Elkhorn Slough watershed year-round (eBird), thus transients are likely to fly over the project site on occasion. There are no CNDDB records of bald eagles nesting in the project region.
Northern Harrier (*Circus hudsonius*)	SSC	Nests in secluded coastal scrub, tall grasslands and marshes.	**POSSIBLE**. Occurs in the Elkhorn Slough watershed throughout the year (eBird). The coastal prairie/scrub interface along the western section of the property may provide potential nesting habitat. There are no CNDDB records of nesting harriers from the project region.
Merlin (*Falco columbarius*)	SSC (Wintering)	Winters along the coast and in open habitats.	**POSSIBLE**. Occurs in the Elkhorn Slough watershed as an uncommon but regular winter resident (eBird). May forage on/over the project site. There are no CNDDB records of merlins for the project region. *The limited scope of the project is not expected to impact wintering merlins*.
American Peregrine Falcon (*Falco peregrinus*)	FP	Nests on secluded cliff faces and bluffs, or cliff ledge analogues on man-made structures.	**UNLIKELY**. Suitable nesting habitat is absent on the property. Occurs in the Elkhorn Slough watershed as a regular, uncommon, year-round resident (eBird), thus may fly over the project site on occasion. Nests nearby at the Moss Landing power plant (CNDDB; pers. obs.).
California Ridgway's Rail (*Rallus obsoletus obsoletus*)	FE, SE, FP	Tidally influenced saltwater and brackish marshes with abundant pickleweed.	**UNLIKELY**. Suitable nesting habitat is absent on the property. eBird records indicate this species is likely extirpated from Elkhorn Slough. The CNDDB lists only several historic observations, yet considers the species extant.
Western Snowy Plover (*Charadrius alexandrinus nivosus*)	FT	Nests and winters on wide, sandy beaches and sparsely vegetated dunes.	**UNLIKELY**. Suitable nesting habitat is absent on the property. Occurs in the lower Elkhorn Slough watershed as a regular, year-round resident (eBird). Nests nearby at the Moss Landing State Beach, Moss Landing salt ponds and Zmudowski State Beach (CNDDB).
Black Tern (*Chlidonias niger*)	SSC (Nesting)	Nests in marshes on ground or on mats of emergent vegetation.	**UNLIKELY**. Presently, does not breed locally and suitable nesting habitat is absent on the property. Occurs at Elkhorn Slough as a rare spring and fall migrant (eBird; Roberson 2002).
California Least Tern (*Sterna antillarum browni*)	FE, SE, FP	Nests on secluded wide, sandy beaches and sparsely vegetated dunes.	**UNLIKELY.** Suitable nesting habitat is absent on the property. Occurs in the lower Elkhorn Slough watershed as a rare spring and fall migrant (Roberson 2002). Formerly nested locally at Moss Landing State Beach (Roberson 2002).
Black Skimmer (*Rynchops niger*)	SSC (Nesting)	Nests on ground on open sandy beaches.	**UNLIKELY**. Presently, does not breed locally and suitable nesting habitat is absent on the property. Occurs at Elkhorn Slough as a rare spring and fall migrant and very rare winter visitor (eBird; Roberson 2002).

Table 4. Special-status Wildlife Species Evaluated for the Elkhorn Road Parcel Development Area

SPECIES	STATUS	HABITAT	STATUS AT THE PROJECT SITE
Burrowing Owl (*Athene cunicularia*)	SSC (Nesting and Wintering)	Grasslands, fallow fields with sparse vegetation, dune scrub (winter). Uses ground squirrel burrows or burrow equivalents.	**UNLIKELY**. Not expected to occur on the project site, due to the lack of ground squirrel colonies. Rare spring and fall migrant and regular winter visitor from October through February (eBird; Roberson 2002). Presently, not considered a nesting species in the project region. The project site does not support denning habitat due to the absence of ground squirrel burrows.
Long-eared Owl (*Asio otus*)	SSC (Nesting)	Nesting habitat is typically in dense live oak woodlands and riparian trees, with open meadow foraging habitat nearby.	**UNLIKELY**. Long-eared owls are rare residents with scarce nesting records in the northern Santa Lucia Range (Roberson and Tenney 1996). Also occurs as a rare coastal migrant, with records from Elkhorn Slough (Roberson 2002). eBird records are hidden from public view.
Short-eared Owl (*Asio flammeus*)	SSC (Nesting)	Nests in freshwater marshes and tall grasslands of lowland valleys.	**UNLIKELY**. Nesting habitat is absent on the property. Short-eared owls are rare winter residents and fall migrants regionally, with recent records from Elkhorn Slough (Roberson 2002; eBird). Formerly nested in the lower Salinas Valley (Roberson and Tenney 1996).
Loggerhead Shrike (*Lanius ludovicianus*)	SSC (Nesting)	Nests in scattered shrubs and trees with dense branching in grasslands, open scrub and agricultural areas.	**POSSIBLE**. Occurs in the Elkhorn Slough watershed as an uncommon resident, with numbers increasing in winter, but rare as a breeder along the coast from the Pajaro River south to Ft. Ord (Roberson 2002). There are no CNDDB nesting records from the project region.
Olive-sided Flycatcher (*Contopus cooperi*)	SSC (Nesting)	Nests in forest and woodland edges and eucalyptus groves.	**UNLIKELY.** Potential nesting habitat (tall trees) is lacking on the property. This species is an uncommon nesting species in the project region from the Pajaro River valley east to Prunedale (eBird; Roberson 2002), primarily using eucalyptus groves. There are no CNDDB nesting records of this species in the project region.
Bryant's Savannah Sparrow (*Passerculus sandwichensis alaudinus*)	SSC (Nesting)	Nests in tidally influenced marshes and coastal, dense grasslands within the fog belt.	**POSSIBLE.** The County supports a small**,** localized breeding population in the Elkhorn Slough watershed, with numbers increasing in winter from the influx of migrants (Roberson 2002; eBird). There are no CNDDB nesting records from the project region.
Grasshopper Sparrow (*Ammodramus savannarum*)	SSC (Nesting)	Nests in coastal prairie and annual grasslands with low vegetation height and scattered shrubs or patches of tall herbaceous plants, such as mustard or thistle used for singing posts.	**POSSIBLE.** Occurs in the Elkhorn Slough watershed as a locally common breeder and rare winter resident in mild winters (Roberson 2002). While there are no CNDDB nesting records from the project region, eBird shows several breeding season observations from the area.

Table 4. Special-status Wildlife Species Evaluated for the Elkhorn Road Parcel Development Area

SPECIES	STATUS	HABITAT	STATUS AT THE PROJECT SITE
Tricolored Blackbird (*Agelaius tricolor*)	ST, SSC	Nests colonially in open habitats, using secluded emergent wetlands, dense thickets or tall grasslands as nest sites. Breeding sites shift annually or seasonally, based on local conditions. Mesic habitats preferred.	**UNLIKELY.** Potential nesting habitat, such as freshwater marshes, is lacking on the property. This species is a year-round resident of the County (eBird; Roberson 2002). The CNDDB contains nesting records of this species from general the project region. Nesting has been documented from the Moss Landing area (Roberson 2002).
Pallid Bat (*Antrozous pallida*)	SSC	Roosts in buildings, large tree hollows, rock outcrops and under bridges.	**POSSIBLE.** Potential roosting habitat is present in mature live oak trees and snags with cavities. The proposed project may impact this species, depending on the location and timing of construction activities. The CNDDB does not contain pallid bat records from the project region.
Western Red Bat (*Lasiurus blossevillii*)	SSC	Typically roosts in the foliage of deciduous trees and shrubs in edge habitats near streams, open fields and orchards. Also in mixed conifer-hardwood forests along the coast.	**UNLIKELY.** Roosting habitat appears to be lacking at the project site. No records of western red bat are contained in the CNDDB for the project region.
Monterey Shrew (*Sorex ornatus salarius*)	SSC	This species ranges from south of the Pajaro River coastally to Carmel. Mostly inhabits lowland riparian and brackish and freshwater wetlands, but also may be found moist upland terrestrial communities.	**UNLIKELY**. Potential habitat (wetlands) is lacking at the project site. Additionally, no shrews were captured during the CTS/SCLTS upland pitfall trapping study performed, as part of this assessment. The CNDDB contains historic records and a recent 2002 collection from the Moss Landing area.
San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*)	SSC	Found in a variety of woodland and scrub habitats with dense understory. Typically builds large stick houses (dens) on the ground but sometimes in trees. May also den in snags, downed logs and brambles.	**PRESENT*.** Several woodrat houses were seen throughout the oak woodlands understory on the property and adjacent parcels. Based on a distribution map in Hall 1981, two woodrat subspecies could inhabit the area – *N. fuscipes annectens* and *N. lepida petricola*. The species of woodrat on the property was not determined, as the capture of specimens is needed for confirmation. The CNDDB does not contain records of either species. ***For the purposes of this assessment, the SFDFW is presumed present*.

Key: FE = Federal endangered species; FT = Federal threatened species; SE = State endangered species; ST = State threatened; FP = State fully protected species; SSC = State species of special concern.

Note: Occurrence evaluations for species other than CTS and SCLTS are based on observations of habitat conditions and literature review and no focused surveys were performed. A CTS/SCLTS winter pitfall trapping study was performed and available as a separate, stand-alone document.

Migratory Bird Treaty Act and CDFW Regulations

Birds and active nests of all native species are protected under the Migratory Bird Treaty Act (MBTA), regardless of their lack of regulatory status as state or federally threatened/ endangered, or California species of special concern. The MBTA does exclude protection for migratory birds that have been introduced to North America, such as rock pigeon (Columba livia), Eurasian collared dove (*Streptopelia decaocto*), house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*). The MBTA is administered by the FWS. On the State level, it is unlawful to take, possess, or needlessly destroy a nest or eggs of any bird, under California Department of Fish and Wildlife Code 3503.

A focused bird survey was not performed as part of this study. Generally, the local nesting season spans 1 February – 1 September. The property is expected to support a variety of nesting birds, especially in the oak woodland and scrub habitats. At a minimum, the trees and shrubs on the property are expected to provide nesting sites for common resident and migratory birds including, but not limited to, red-tailed hawk (*Buteo jamaicensis*), acorn woodpecker (*Melanerpes formicivorous*), Nuttall's woodpecker (*Picoides nuttallii*), northern flicker (*Colaptes auratus*), mourning dove (*Zenaida macroura*), California scrub jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), oak titmouse (*Baeopholus inornatus*), Bewick's wren (*Thryomanes bewickii*), western bluebird (*Sialia mexicana*), American robin (*Turdus migratorius*), California towhee (*Melazone crissalis*), spotted towhee (*Pipilo* maculatum) and dark-eyed junco (*Junco hyemalis*), all of which are common regionally.

IMPACT ASSESSMENT AND RECOMMENDATIONS

Impact Criteria

The thresholds of significance presented in the CEQA Guidelines were used to evaluate project impacts and to determine if implementation of the proposed Project would pose significant impacts to botanical resources. For this analysis, significant impacts are those that substantially affect, either directly or through habitat modifications:

a) A species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
b) Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
c) State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d) 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;
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation plan, or other approved local, regional, or state habitat conservation plan.

The proposed project (site plan) is presented on **Figure 15**.

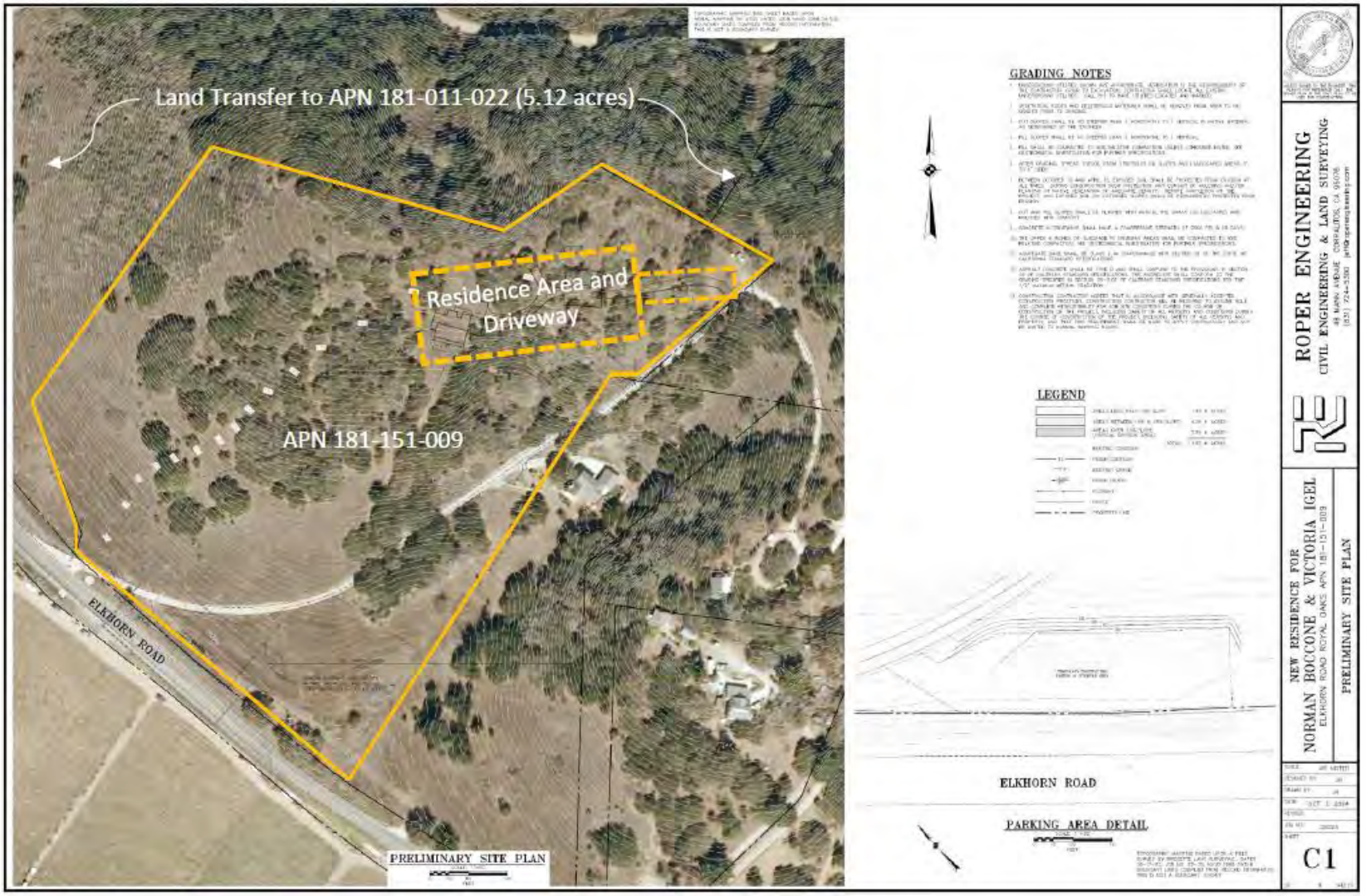

Figure 15. Site Plan

The proposed project involves construction of a new 3-bedroon/3 bath single-family residence, a detached guest house/workshop and garage, related infrastructure (driveway, septic system, and utilities) and the placement of approximately 550 cubic yards of excavated spoils in the southeastern portion of the property. The project also includes defensible space as required by CalFire for fire safety. The defensible space is a 100-foot perimeter around the proposed residential developments. Land disturbance (permanent and temporary) for the proposed project is approximately 1.39 acre, affecting grassland and oak woodland.

A lot line adjustment (LLA) is proposed to facilitate upper driveway access to the development. The proposed LLA will result in approximately 5.12 acres of oak woodland, coastal scrub, and mixed grassland to be transferred from the subject parcel (APN 181-151-009) to the Elkhorn Slough Foundation (APN 181-011-022) in exchange for approximately 0.48 acre of land adjacent to the existing access road from APN 181-151-008 to APN 181-151-009. The donated area has the highest potential for special status wildlife species, especially SCLTS. The land donation will preserve environmentally sensitive habitat areas (ESHA's) and is a beneficial effect of the project.

Impact Analysis

a) Special Status Plant Species. The proposed residential development area does not support special status plant species, based on site surveys in June 2022 and April 2023. However, maritime chaparral, supporting Pajaro manzanita (rare species), was found on the parcel outside of the development area. No direct impacts are expected to this species. Portions of the parcel provide open areas, with loose, sandy soil that is suitable for growth of Monterey spineflower and Yadon's rein orchid, two species recorded in close proximity to the subject parcel; however, the survey for these species was negative. The survey was conducted during the blooming/seed set/identifiable period for these species and no individuals of these species (or others, see **Table 2**) were observed.

> **Recommended Measure BIO-1.** Identify in the field, with stakes and orange construction fencing, the occurrences of Pajaro manzanita and maintain protective fencing around these occurrences throughout the residential construction period. Retain the maritime chaparral habitat on site in perpetuity.

b) Sensitive Habitat. The parcel supports oak woodland, coastal scrub, maritime chaparral, and native grasslands that are sensitive resources. The proposed project will directly impact oak woodland and mixed grassland. The residential project will permanently impact approximately 0.04 acre of oak woodland, and temporarily impact 0.08 acre of mixed grassland, as presented in **Table 5**. Project construction will remove 20 trees greater than 6" in diameter. As per the arborist's report 15 of these trees are considered "protected" trees and one is a fallen landmark tree, as defined in County Code.

Table 5. Impacts to Sensitive Habitat

Habitat	Permanent Impact	Temporary Impact
Oak Woodland	0.04 acre	0.009 acre
Mixed Grassland	0	0.08 acre
TOTAL	**0.04 acre**	**0.089 acre**

Recommended Measure BIO-2. The project shall implement oak woodland restoration and enhancement and revegetate temporarily disturbed grasslands. In addition, the landowners shall agree to voluntarily preserve the oak restoration areas and remaining sensitive habitat areas on the property (oak woodland, maritime chaparral, and mixed grassland) in perpetuity.

Implement Oak Woodland Restoration. To compensate for the impact to oak woodland, the landowner shall implement a forest management plan that includes oak woodland restoration and enhancement. The plan shall provide a 3:1 restoration or enhancement to impact ratio. This ratio will provide suitable mitigation by replacing native oak woodland impacted by construction. The plan shall specify restoration/enhancement of a minimum of 0.12 acres of oak woodland concurrent with, or within one year after development of the single-family residence. The primary restoration actions would be: removal/control of invasive, non-native plant species, reduction of annual, non-native annual grasses; seasonal weeding and mowing of restored area(s), and seasonal control/removal of invasive, non-native plant species from the restored area(s). Restoration/enhancement area(s) should be maintained and monitored for 5 years (or longer until success criteria are met), with annual monitoring results submitted to the County each year, or as so indicated by County Conditions of Approval. In addition, the plan shall specify oak tree replacement plants at a minimum 1:1 replacement ratio. Please refer the arborists report and the arborist's Forest Management Plan for tree protection and replacement requirements.

Revegetation of Temporarily Disturbed Mixed Grassland. As compensation for project impacts to mixed grassland, the temporarily disturbed areas shall be revegetated with a native grass and forb seed mix. Suitable grass species include California brome (*Bromus carinatus)*, purple needlegrass (*Stipa pulchra)*, California oatgrass (*Danthonia californica)* and blue wild rye (*Elymus glaucus)*. Forbs shall also be added to the seed mixture, such as common yarrow (*Achillea millefolium)*, California poppy (*Eschscholzia californica)*, and sky lupine (*Lupinus nanus)*.

Revegetation of Soil Stockpile Area: The soil placement area shall receive erosion control treatment after placement and be revegetated to grassland. A native grass and forb seed mix shall be applied prior to October 15th. Suitable grass species include California brome (*Bromus carinatus)*, purple needlegrass (*Stipa pulchra)*, California oatgrass (*Danthonia californica)* and blue wild rye (*Elymus glaucus)*. Forbs shall also be added to the seed mixture, such as common yarrow (*Achillea millefolium)*, California poppy (*Eschscholzia californica)*, and sky lupine (*Lupinus nanus)*.

c) Wetlands**.** No impact.

d) **Special-status Amphibians and Reptiles.** Construction activities could result in take of CTS, SCLTS, CRLF and California legless lizard (CLL), depending on the location and/or period of ground disturbance construction activities, such as grubbing, grading, trenching, etc., as well as fire management needed for defensible spaces. Although CTS and SCLTS were not recorded at the project site during the 2022-23 winter trapping study, both are still considered as possibly occurring on the project site, since the property lies within the distributional range of these species and both are capable of long-distance movements. Additionally, presence-absence studies for SCLTS is valid

only for one year. Presently, an additional trapping study is schedule for the upcoming 2024-25 winter, as requested by CDFW. The new study will be revised to reflect the current site plan and LLA. In the interim, the measures below are recommended and intended to avoid direct impacts to special-status amphibians and reptiles and be compatible with policy no. 5 of the NCCLUP. These measures also address USFWS concerns regarding defensible spaces.

Recommended Measure BIO-3. Within 72 hours of project start, a *qualified biologist* should perform a pre-construction survey for CTS, SCLTS, CRLF and CLL. The pre-construction survey should focus on searching beneath cover objects, such as large rocks, downed logs and other woody debris and boards, etc., within the work limits of the project site (e.g., staging/storage areas, access roads and grading envelope). If CTS, SCLTS or CRLF are observed, CDFW shall be contacted for further guidance. No work may proceed until authorization is obtained from CDFW and USFWS*. An Incidental Take Permit (ITP) from CDFW may be needed to continue work*. If CLL are observed, relocate the individuals to appropriate habitat out of harm's way. Handling of CLL and other special-status species should be performed by a permitted biologist and approved by CDFW and FWS.

Recommendation Measure BIO-4. Prior to the start of the project, a *qualified biologist* should present an endangered species environmental training to all construction workers. The training should include distribution of a handout addressing natural history and legal status of all species of concern potentially occurring at the project site, and the protection measures to be implemented as part of the project. All workers should sign a certification sheet following the training. *All new workers must be trained, prior to working on the project site, either by the qualified biologist or previously trained site supervisor*.

Recommendation Measure BIO-5. Prior to the start of the project, environmentally sensitive areas (ESA) should be delineated with orange construction fencing. No ground disturbances (e.g., discing, grading, etc.), storage of materials, spoils and staging of heavy equipment shall be allowed within designated ESA.

Recommendation Measure BIO-6. Grading and other earthwork (e.g., grubbing, trenching, potholing, etc.) of all phases of the project (e.g., access road, water line, building pad, septic, etc.) shall only be performed between 15 April and 15 October, or until the first fall rains following 15 October, if agreed upon by the County. If all ground disturbance activities cannot be completed in this timeframe, the project shall resume the following spring. No winter season earthwork shall be permitted. Additional studies may be needed at the request of state and federal agencies, if the start of project ground disturbances is delayed beyond October 15, 2024.

Recommendation Measure BIO-7. A *qualified biologist* should be present at the project site during initial vegetation removal and grading activities. Once the vegetation removal and initial grading activities have been completed, subsequent construction monitoring can be performed by the construction site supervisor. If special-status species are observed by the crew or site supervisor during construction activities, all work in the immediate area must cease and the *qualified biologist* contacted to capture and relocate individuals out of harm's way. Work may not resume until approved by the *qualified biologist*. *Work crew shall not handle wildlife*.

Recommendation Measure BIO-8. If CTS, SCLTS or CRLF is found during any phase of construction, CDFW and USFWS shall be notified, and all work on the project site shall stop immediately and be postponed until authorization to proceed has been obtained from CDFW and USFWS. The project applicant may be asked to obtain an ITP to proceed with the project.

Recommendation Measure BIO-9. In the event work cannot be completed by 15 October, or no later than 48- hours prior to the prediction of unseasonable rainfall of a minimum 0.25", encircle the entire perimeter of work sites with exclusion fencing to prevent CTS, SCLTS and CRLF from trespass into work areas. The exclusion fence shall incorporate a one-way design with backfilled gaps to allow for wildlife within the enclosures to move out of work areas. 3' x 3'cover boards should be placed every 100 feet along the inside and outside lengths of the fence to provide shelter for wildlife travelling along the fences. Standard silt fence material can be used for the exclusion fence. The silt fence should be buried a minimum 6 inches below grade. If an entrance is needed for workers or machinery to pass, place a removable, minimum 6-inch tall wood plank across the gap and secure with stakes or rebar after the end of each day's work for a two-week period following rainfall. The installation of the fence should be checked by a *qualified biologist* to ensure appropriate installation or to implement recommendations for improvement.

Recommendation Measure BIO-10. Following unseasonable rains of 0.25 inches or greater, a qualified wildlife biologist should inspect around storage piles, under vehicles parked overnight, and all open holes and trenches at the beginning of each work day to check for wildlife.

Recommendation Measure BIO-11. All open trenches and potholes must have ramps or other features installed to allow for entrapped wildlife to escape. Trenches or potholes that cannot accommodate escape ramps must be covered at the end of each work day, then inspected by the construction supervisor at the start of each work day. If entrapped wildlife is observed, contact the monitoring biologist to capture and relocate the species out of harm's way into suitable habitat.

Recommendation Measure BIO-12. New night lighting shall not be directed into the riparian corridor. All night lights shall be of minimum intensity necessary for safe accessibility and have shields to limit the extent of illumination.

Recommendation Measure BIO-13. The landowners shall agree to voluntarily preserve the sensitive habitat areas on the property (oak woodland and mixed grassland) in perpetuity to protect potential CTS and SCLTS upland habitats.

Recommendation Measure BIO-14. Manage vegetation in defensible spaces in a manner that is sensitive to the biological resources and compatible with CalFire guidelines. To reduce the fire ladder to the tree canopy, maintain a low (12-18 inches tall) understory of native vegetation and remove tree limbs up 6 feet. Leave some logs scattered on bare soil to provide cover for wildlife. Avoid removing vegetation beyond the CalFire guidelines, for example, clearing all understory vegetation and leaving behind bare ground.

Recommendation Measure BIO-15. Wherever curbs are proposed, construct rounded curbs or angled curbs of 60 degrees or less to avoid creating movement barriers for amphibians.

Recommendation Measure BIO-16. In the design of drainage systems, incorporate the use of French drains that avoid grated openings that unintentionally capture amphibians. Avoid grates with ¼'' openings or greater or incorporate the use of mesh screens.

Special-status and MBTA Protected Birds. Construction activities could disrupt nesting activities of potential special-status breeding birds such as white-tailed kite, northern harrier, loggerhead shrike, Bryant's savannah sparrow and grasshopper sparrow, along with raptors and other native species nesting adjacent to the project site. Failure of active nests due to construction activities could be in violation of the MBTA and CDFW regulations. Therefore, implement the following measures, which are consistent with policy No. 10 of the NCCLUP.

Recommendation Measure BIO-17. Perform pre-construction nesting bird surveys no longer than one week before the scheduled start of construction activities. The nesting survey should be performed by a *qualified biologist* and cover the project site and a 500-foot radius, since potential nesting raptors may require buffers of a minimum 300 feet.

Recommendation Measure BIO-18. In the event active nests are observed, the nest site shall be flagged and a buffer shall be established to prevent nest failure. The buffer widths shall be determined by the *qualified biologist*, based on species, site conditions and anticipated construction activities. Active nests should be monitored at a frequency determined by the monitoring biologist, but at a minimum of once per week, until the nestlings have fledged.

Recommendation Measure BIO-19. In the event that construction activities appear to be interfering with nest maintenance (e.g., feedings and incubation), then the buffers should be enlarged or construction activities postponed, until the young have fledged, as determined by the *qualified biologist*.

Pallid Bat. Removal of trees and/or snags and construction activities beneath and adjacent to potential bat roosts could result in the direct loss of roost sites or abandonment of roosts through noise or vibrations. Maternity roosts are most important as negative impacts can have broad, far reaching effects, since such roosts are critical for reproduction and can support multiple generations of bats. Therefore, the following protection measure is recommended.

Recommendation Measure BIO-20. No longer than two weeks prior to the anticipated start of construction activities, a bat specialist should survey the trees and snags in and immediately adjacent to the work areas for bat roosts. If present, implement recommendations of the bat specialist, which could include buffer zones, installing exclusion devices and/or scheduling constraints, depending on whether maternity, bachelor, or night roosts are identified.

San Francisco Dusky-footed Woodrat. Construction activities could result in the direct take of woodrat houses. Therefore, the following protection measures are recommended.

Recommendation Measure BIO-21. A *qualified biologist* should perform a pre-construction survey for woodrat houses within the project work boundaries and a 25-foot buffer around the project site perimeter. Flag and establish buffers around each woodrat house observed. The buffer width should be determined by the qualified biologist, but will not be less than 20 feet. If a woodrat house is present within the work area and cannot be avoided, then the *qualified biologist* shall contact CDFW for approval to implement a woodrat relocation plan. This could involve live trapping and the construction of alternate houses in adjacent suitable habitat. The woodrat relocation plan must be implemented by a *qualified biologist* possessing a Scientific Collection Permit authorizing the handling of woodrats. Authorization by CDFW must be obtained prior to the implementation of this measure. Post-relocation monitoring may be required by CDFW, as part of the plan

e) **Local Policies**. Policies in the North County Coastal Land Use Plan regulates activities within the sensitive habitats on the parcel, including areas that support special status species. Provision within the Coastal Land Use Plan are applicable to the proposed project. Recommended measures BIO-1 through BIO-21 provide compensatory mitigation as allowed in the Plan.

f) **Conflict with HCP or NCCP**. No impact. The site is not located within an area covered by an HCP or NCCP.

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Personal Communications

Mark Allaback, Biosearch, Santa Cruz, CA.

827 ELKHORN ROAD
MONTEREY COUNTY, CALIFORNIA

YEAR 2 UPDATE
CALIFORNIA TIGER SALAMANDER AND SANTA CRUZ LONG-TOED SALAMANDER
2024-25 WINTER PITFALL TRAPPING STUDY
&
CALIFORNI RED-LEGGED FROG HABITAT ASSESSMENT

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April 15, 2025 Project No. 535-02

SUMMARY

This report presents the results of the California tiger salamander (*Ambystoma californiense*) (CTS) and Santa Cruz long-toed salamander (SCLTS) (*A. macrodactylum croceum*) 2024-25 winter pitfall trapping study performed for the proposed single-family residential and guest house project on 827 Elkhorn Road, Monterey County, CA.

For the second year, no CTS or SCLTS were recorded during winter upland study, despite their known occurrences elsewhere in the project region. Despite the negative findings, the property does support dense, mesic live oak woodlands, which is considered suitable potential SCLTS upland habitat, and the south-facing live oak woodlands, scrub and coastal prairie present throughout much of the property is potential suitable upland habitat for CTS. Therefore, both species could occur on the property in areas of the property not studied or in the future, given the project site's location in their distributional range and their abilities to migrate/disperse over long distances. Thus, CTS/SCLTS take avoidance measures are included in this report.

Conversely, five young-of-year (YOY) California red-legged frogs (CRLF) (*Rana draytoni*), another federal listed species, were captured during the study. The captures were surprising, as none were documented during the initial 2022-23 study, but not unexpected, given the widespread distribution of CRLF in the study region and their ability to migrate long distances. Following the initial CRLF capture, the US Fish and Wildlife Service (USFWS), Buena Vista Field Station (Chad Mitcham) was contacted for early guidance. Per communications with Mitcham, a Habitat Conservation Plan (HCP) would not be requested of the applicant, given the project proposes to place additional land into conservatorship of the Elkhorn Slough Foundation and if take avoidance measures are incorporated. This report considers the CTS and SCLTS take avoidance measures presented in this report as appropriate for CRLF protection.

INTRODUCTION

The project site is located at 827 Elkhorn Road (APN 181-151-009), Monterey County (**Figure 1**). A reconnaissance level field survey was performed on 11 July 2022, as part of a general biological assessment (Biotic Resources Group 2024). The proposed project includes a single-family residential unit, ADU, driveway, septic system and water line. During the site visit, the property was determined to lie within the distributional range of CTS and SCLTS and support potential habitat for both species. CTS and SCLTS are listed as threatened or endangered by the California Department of Fish and Wildlife (CDFW) and USFWS. As such, informal consultations were initiated by the project applicant with both agencies to determine a course of action to address these species in the planning process. At the recommendation of both CDFW and USFWS, an upland pitfall trapping study was performed during winter 2022-23 to determine the presence/absence of CTS and SCLTS in the areas proposed for development (Bryan Mori Biological Consulting Services 2023). However, the project application process was delayed beyond the one year expiration period of the study, plus the project layout was modified. Therefore, CDFW requested an additional year of winter upland trapping, as part of the application process. This report presents the findings of the second winter trapping study.

Figure 1. Study site location map.

METHODS

Agency-approved protocols for CTS and SCLTS site assessments were used as guides in performing this study. These include Interim Guidance on Site Assessment for Determining the Presence or a Negative Finding of the California Tiger Salamander, October 2003 (USFWS and CDFG 2003) and Guidance on Site Assessment and Field Surveys to Detect Presence or Report a Negative Finding of

the Santa Cruz Long-toed Salamander December 2012 (USFWS and CDFW 2012). Due to the collective, in-depth understanding of the patterns of distribution and occurrences of CTS and SCLTS in the project region, the application of the protocols was abbreviated.

Pitfall Trapping Study

The CTS/SCLTS pitfall trapping study was performed under Federal Permit TE778668-10 and State Scientific Collection Permit No. 200160021, with prior approval from CDFW and USFWS.

The pitfall trap arrays were established at four locations to provide breadth of site coverage and relevance to potential off-site source ponds (**Figure 2**). The array locations differ slightly from the 2022-23 study, due to project modifications and removal of alternative building sites. The array installations were performed by the project applicant and monitored by Bryan Mori (Recovery Permit holder). **Figures 3 – 7** show sections of the individual trap arrays.

Figure 2. Upland pitfall trap array locations.

Figure 3. Photo depicting the installation of the northern perimeter array. View is northwestward.

Figure 4. Photo showing installation of the western perimeter array. View from the driveway looking northwestward.

Figure 5. Installation of the southern corner array. View is from the south corner looking northeast.

Figure 6. Installation of the northeastern array segment. View is from the driveway looking northeast.

The fences were constructed with Caltrans grade plastic-weave silt fence material with attached wooden stakes. The silt fences were buried a minimum of 6 inches into the ground and extended roughly 2.5 feet above grade. The total length of the drift fence arrays was approximately 1826 feet. Ten-foot gaps were placed between each 100-foot fence segment to allow for wildlife passage. Paired, plastic 2-gallon buckets (traps) were buried approximately every 50 feet along the fence line, for a total of 120 traps (**Figure 7**). A plywood coverboard was used at each trap to provide cover from predators, while the traps were open. When the traps were closed, the cover boards and bricks were used to securely close the trap lids. Each trap was numbered for identification. Bilingual "Do Not Disturb" placards, with a brief description of the study, permit numbers and contact information, were stapled to the fence near each trap location. The installation of pitfall trap arrays was completed by 1 November 2025, before the first significant rains of the study period.

Figure 7. A trap includes a 2-gallon bucket buried flush to grade, plastic lid and plywood cover-board.

Trap monitoring was performed from 2 November 2024 to 15 March 2025. Traps were opened during the afternoon on rainy days or when rain was predicted for that night, then checked the following morning and closed if no further rain was expected, or left open if rain still was in the forecast. All wildlife species captured were identified and recorded in a field notebook.

In addition to when the traps were opened, the fences were checked weekly during the dry period for vandalism, disturbance by predators and maintenance needs. The fence lines and traps were maintained throughout the study by the project applicant. On several occasions, traps were lifted in response to flooding from surface flow and soil saturation. All traps were permanently closed on 15 March and completely removed by 18 March by the project applicant and field verified by the permitted biologist.

Precipitation Data: Daily rainfall data during the study period was obtained from the Weather Underground website (https://www.wunderground.com/weather/us/ca/watsonville/KCAWATSO38)

for the nearby Royal Oaks personal weather station KCAWATSO38. Daily rainfall totals are for a 24-hour period preceding the morning inspection of traps (i.e., 0700 – 0700).

Regional Winter 2024-25 CTS/SCLTS Observations: Information regarding regional CTS/SCLTS winter movement was obtained for general comparative purposes and included personal communications with Mark Allaback, Consulting Biologist, Biosearch; Susie Fork, Biologist, Elkhorn Slough National Estuarine Research Reserve (ESNERR); and Ken Collins, Elkhorn Slough Foundation (ESF).

EXISTING CONDITIONS

Project Site

The project parcel (APN 181-151-009) is located off of Elkhorn Road, Elkhorn, Monterey County (**Figure 2**) and encompasses 18.325 acres. The principal habitats on the property are coastal prairie, open live oak woodland, coastal scrub on the south- to west-facing slopes, and lush live oak woodland along the north-facing slopes. Aquatic habitat is absent on the property. A detailed account of the habitats present on the property as observed during site visits on July 11, 2022 and April 10, 2023 is presented in the general biological assessment prepared for the proposed project (Biotic Resources Group 2024). However, in the interim since the 2022-23 winter trapping study, minor habitat changes occurred on the property. These include the additional removal of dead and dying oaks identified in the arborist report; installation of a shed and temporary greenhouse and associated vegetation disturbance along the north of the proposed development envelope; grubbing of vegetation along pathways created in and around the development envelope; and placement of a temporary gazebo and portable tool shed northeast of the proposed project (**Figures 8 – 10**).

Figure 8. Photo of shed and greenhouse in the back ground and pile of cut oak limbs to the left. October 22, 2024.

Figure 9. Example of a pathway created in the proposed development envelope.

Figure 10. Temporary gazebo and portable tool shed northeast of the proposed development envelope.

Off-Site

The general habitat descriptions of off-site habitats follow the guidelines of the CTS/SCLTS protocols and include areas within a 1.24-mile radius of the project site. Within this radius the surrounding landscape is largely rural, with Elkhorn Slough roughly bisecting the area, based on interpretation of Google Earth satellite images and observations from public roads (**Figure 11**). Agricultural developments dominate the landscape west of the slough, whereas east of the slough, grassland,

live oak woodlands and scrub habitats form a matrix within which agricultural uses and low density rural residential developments are scattered throughout, with development increasing northward.

Elkhorn Slough is presumed to be a barrier to east-west movement by amphibians, due to its saline character and breadth. Therefore, only relevant aquatic habitats east of the slough are included in this assessment. Numerous ponds were identified through review of Google Earth images and the ESNERR database of special-status amphibians. Of these, only one offsite pond, Blohm Frog Pond, was observed directly, due to private property limitations; this pond forms at the inlet culvert at Elkhorn Road and receives flow from a narrow drainage that borders the northern perimeter of the project parcel.

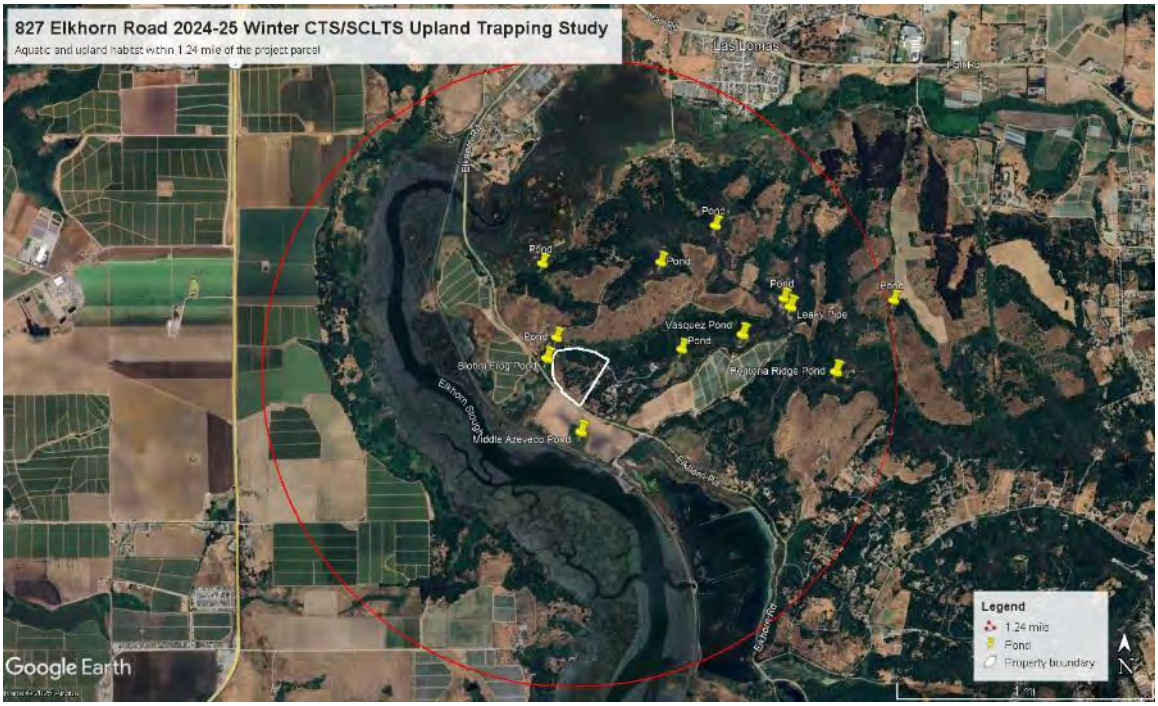

Figure 11. Upland and Aquatic habitats within 1.24 mile of the project site.

NATURAL HISTORY AND REGULATORY STATUS

Please refer to the 2022-23 winter upland trapping study (Bryan Mori Biological Consulting Services 2023) for discussion on the natural history of CTS and SCLTS. In lieu, a discussion of CRLF has been added to this report, given their occurrence on the project site during this study.

California Red-legged Frog

The California red-legged frog is a federal threatened species and a Priority 1 state species of special concern (CDFW 2025; Thomson *et al.* 2016; USFWS 2002). Historically, the statewide range of this species extended southward from the Marin County coast, and inland from Shasta County, south to Baja California (Jennings and Hayes 1994). However, the CRLF has been extirpated from 70% of its former range (USFWS 1996), and presently is found primarily in central coastal California, typically in natural and artificial ponds, quiet pools along streams, and coastal marshes (USFWS 1996). During the breeding season, optimal aquatic habitat is characterized by dense emergent or shoreline vegetation and a water depth of 2 feet or more (Hayes and Jennings 1988). However, seasonal ponds located in grasslands with little emergent/shoreline cover also may be used for breeding,

where sufficient water levels promote the metamorphosis of larvae and rodent burrows offer cover (Thomson *et al.* 2016; USFWS 2002; pers. obs.). Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Egg masses containing 2,000 - 5,000 eggs are deposited near the water surface on emergent vegetation, but occasionally on the pond bottom where attachment sites are absent. Eggs require 6 - 14 days to hatch, and metamorphosis generally occurs within 3.5 - 7 months of hatching, although larvae have been recorded to over-winter at some localities (pers. obs; Fellers, *et al.* 2001). Metamorphosis generally occurs between July and September. Young-of-year juveniles are 25 - 35 mm in size and seek cover in vegetation along the shoreline and floating algal mats over open water. Adult migrations and juvenile dispersal generally begin with the first rains of the weather-year, although all size classes will move in response to receding water at seasonal ponds. Radio telemetry data indicate that adults engage in straight-line movements irrespective of riparian corridors or topography, and they may move up to 3.0 miles between non-breeding and breeding sites (Bulger, *et al.* 2003; Fellers and Kleeman 2007). At permanent ponds, most CRLF remain in the immediate vicinity of the pond, but may move up to 300 feet into surrounding uplands where individuals may spend days or weeks in suitable refugia, especially following rains (Bulger, *et al.* 2003; pers. obs.). At seasonal breeding sites, frogs will move at least as far as the nearest suitable non-breeding habitat, such as riparian corridors, seepages, freshwater marsh, etc. (Fellers and Kleeman 2007). CRLF may take refuge in small mammal burrows, leaf litter, or other moist areas during periods of inactivity or when necessary to avoid desiccation (Rathbun, *et al.* 1993; Jennings and Hayes 1994; pers. obs.).

Much of this species' habitat has undergone significant alteration by agricultural, urban development, and water projects, leading to the extirpation of many populations (USFWS 1996). Other factors contributing to the decline of red-legged frogs include their historical exploitation as food; competition and predation by bullfrogs (*Rana catesbeiana*); introduction of predatory fishes (Jennings and Hayes 1985; Hayes and Jennings 1988; Lawler, *et al.* 1999); and increased salinity of coastal breeding sites (Jennings and Hayes 1990). Chytrid fungus, while linked to the decline of some amphibian species, does not appear to have significantly impacted CRLF (Thomson *et al.* 2016).

RESULTS

Trapping Study

One hundred twenty (120) traps were monitored for thirty-two nights between 2 November 2024 and 15 March 2025, totaling 3,840 trap-nights. No CTS or SCLTS were recorded during the study. However, five CRLF YOY were captured from 11 November 2024 through 5 February 2025, with four of five captures occurring before January. All individuals were measured, photographed and released in suitable habitat on the opposite side of the trapline (**Figure 12**). The CRLF observations are summarized on **Table 1** and depicted on **Figure 13**. Additionally, ten other non-target wildlife species were captured, including Gabilan Mountains slender salamander (*Batrachoseps gavilanensis*), Monterey ensatina (*Ensatina eschscholtzii*), arboreal salamander (*Aneides lugubris*), Sierra treefrog (*Pseudacris sierrae*), western fence lizard (*Sceloporus occidentalis*), Skilton's skink (*Plestiodon skiltonianus*), southern alligator lizard (*Elgaria multicarinata*), broad-handed mole (*Scapanus latimanus*), California meadow vole (*Microtus californicus*) and pocket gopher (*Thomomys bottae*).

Figure 12. A CRLF YOY captured on 11 November 2024.

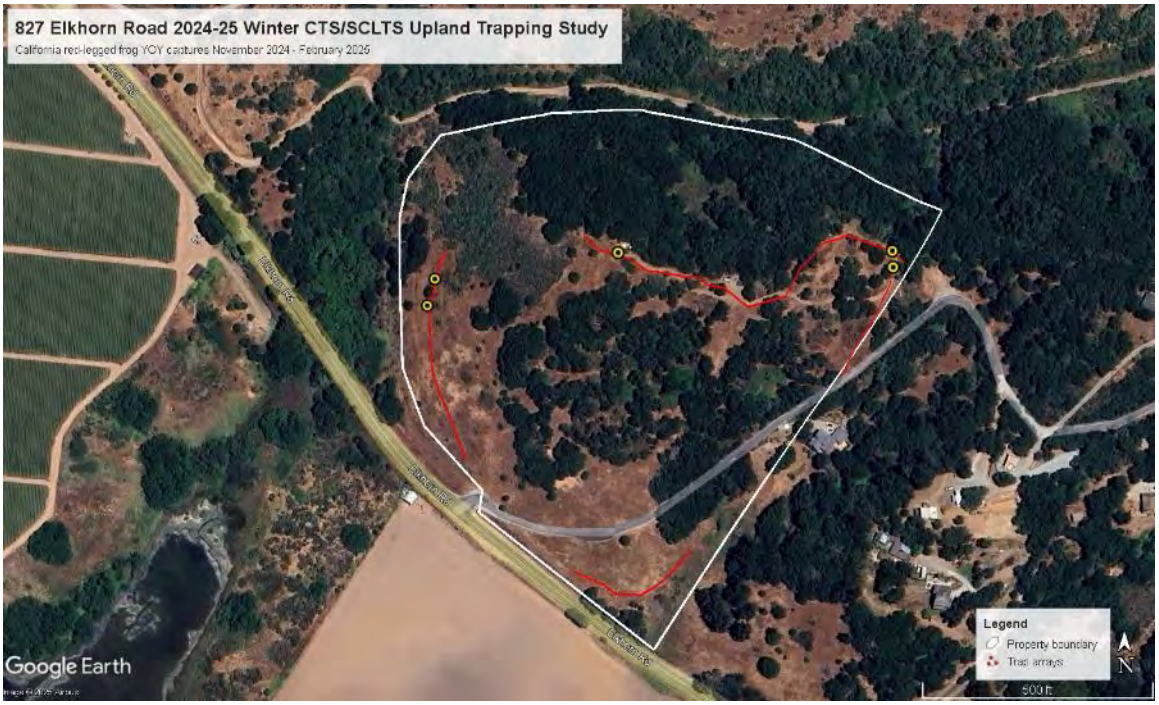

Figure 13. CRLF YOY capture locations are marked with a yellow bullseye.

Table 1. Summary of CRLF captures during the 2024-25 winter upland trapping study.

Capture Date	Capture Location	Notes
11 November 2024	North array	~35 mm; inside trap
23 November 2024	West array	~35 mm; outside trap
23 November 2024	Northeast array	~35 mm; inside trap
24 December 2024	North array	~35 mm; outside trap
5 February 2025	West array	~35 mm; outside trap

Focusing on amphibians recorded, slender salamanders were captured more frequently and in greater abundance than other species, with 241 total. Slender salamanders were recorded throughout the duration of the study, but peaked on 2 February, when 36 were captured (**Figure 14**). Thereafter, daily captures dropped despite continued rainfall. The second most commonly recorded amphibian was Monterey ensatina, with 45 total.

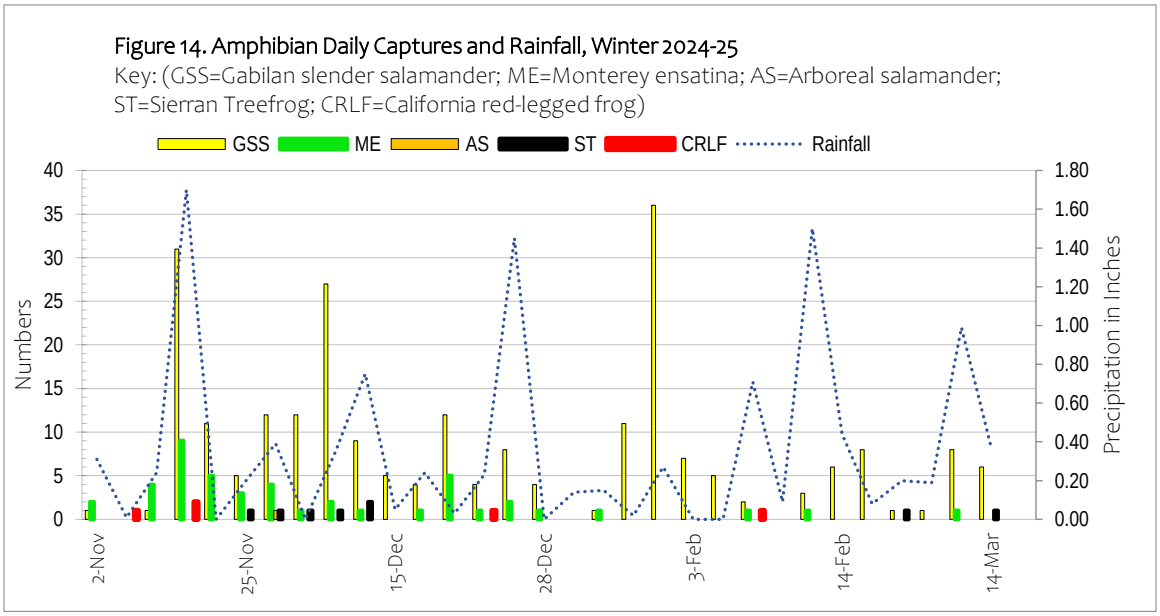

Figure 14. Amphibian Daily Captures and Rainfall, Winter 2024-25
Key: (GSS=Gabilan slender salamander; ME=Monterey ensatina; AS=Arboreal salamander; ST=Sierran Treefrog; CRLF=California red-legged frog)

Local Precipitation

In the Watsonville region, rainfall between November and March, the period corresponding to the 2024-25 study period, averages 19.76 inches (https://www.usclimatedata.com/climate/watsonville/california/united-states/usca1215). The Watsonville area was selected due to its proximity to the project site and the absence of a weather station closer to the project site for which long-term averages are available. Watsonville recorded 16.41 inches from November 2024 – March 2025, indicating the project region experienced below normal rainfall during the study period. The rainfall information may not be representative of the project site vicinity and is, therefore, presented for general comparative purposes only.

Concurrent 2024-25 Winter CTS and SCLTS Observations

CTS and SCLTS observations recorded concurrent to the study were obtained from personal communications with local biologists to provide a regional context of CTS and SCLTS movements for general comparative purposes. Both species were documented migrating or at breeding ponds in

the Elkhorn Slough watershed, and SCLTS movements also were recorded in Santa Cruz County during winter 2024-25. The observations are summarized, below.

- A CTS sub-adult was observed moving towards Steep Pond (Elkhorn) on 17 December 2024.
- Six CTS reproductive adults were documented at Tinman Pond (Elkhorn) on 25 November 2024.
- Two SCLTS adults were observed beneath a coverboard at Upper Cattail Pond (Elkhorn) early January 2025.
- In Santa Cruz County, small numbers of SCLTS were captured at Wee LiLi Reserve through from November 2024 through early March 2025 (M. Allaback, pers. comm.).

DISTRIBUTION of CTS, SCLTS and CRLF BREEDING SITES in the PROJECT VICINITY

The distribution of CTS, SCLTS and CRLF frog breeding sites in the project vicinity are depicted on **Figures 15 - 17** and summarized on **Table 2**. The differing radiuses from the project parcel reflect the application of species specific protocols (e.g., CTS – 1.24 miles; SCLTS – 3.1 miles; CRLF – 1 mile).

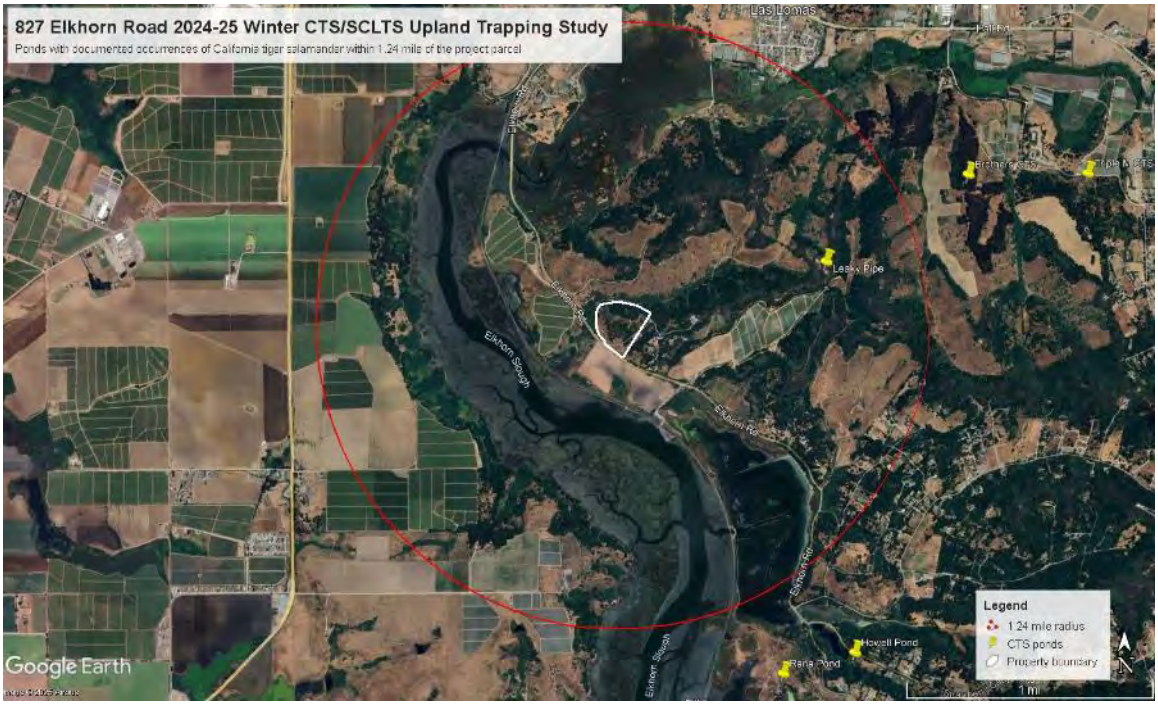

Figure 15. Leaky Pond represents the lone documented CTS breeding pond within 1.24 miles of the project parcel.

Figure 16. The image depicts six known SCLTS breeding sites within 3.1 miles of the project parcel.

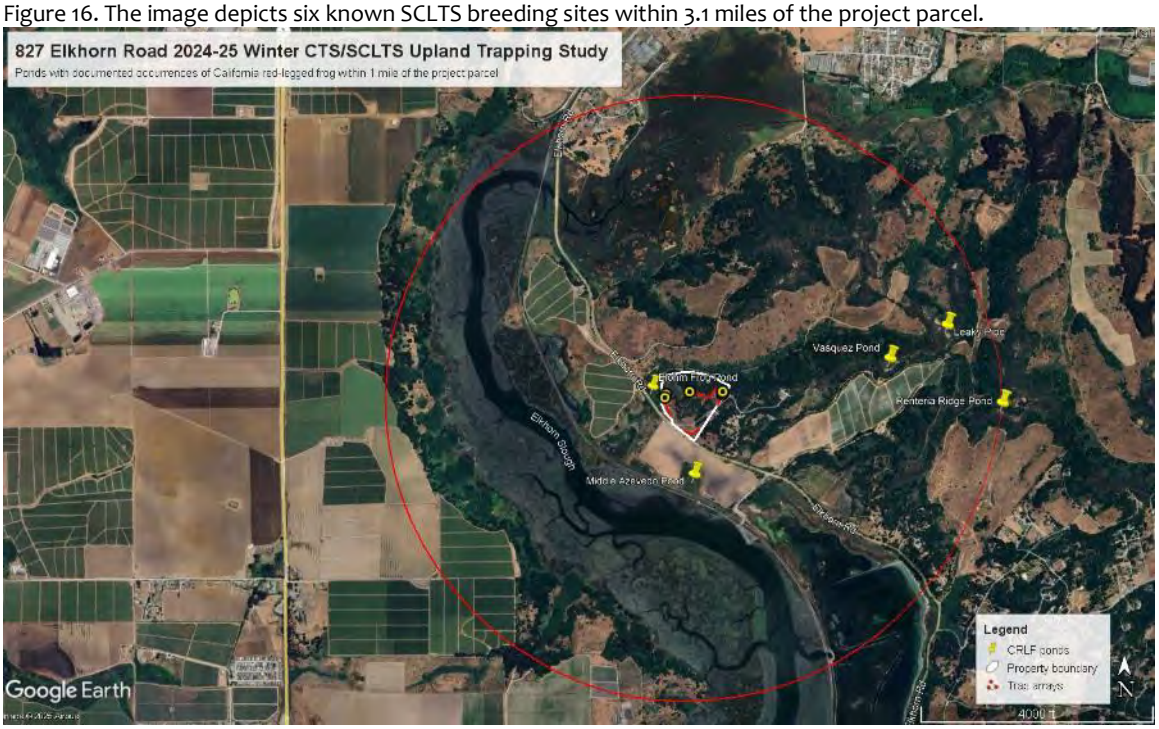

Figure 17. The image displays five ponds with documented CRLF occurrences within 1 mile of the project parcel.

Table 2. CTS, SCLTS and CRLF breeding ponds (see Figures 15 – 17)

Species	Site	Distance to Property	Comments
California Tiger Salamander	Leaky Pipe Pond	0.85 mile east	CRLF also present; 2016-2017 (NDDB).
Santa Cruz Long-toed Salamander	Howell Pond	1.60 miles southeast	SCLTS per C. Mitcham, USFWS; also CTS larvae 2016 (NDDB).
	Triple M Ranch Pond	1.65 miles northeast	eDNA assay 2022 (Ralson *et al* 2025).
	Main Rookery Pond	1.67 miles southeast	SCLTS larvae 2002; CRLF also present 1997 - 2006 (NDDB).
	Triple M Ranch Pond	1.86 miles northeast	SCLTS larvae 2005 (pers. obs.)
	Lower Cattail/Upper Cattail	1.94 miles southeast	SCLTS larvae 2003; CTS larvae 2015; CRLF present from 1997 (NDDB).
California Red-legged Frog	Blohm Frog Pond	180 feet west	CRLF calling 2003 (NDDB).
	Middle Azevedo Pond	690 feet south	CRLF larvae and adults heard calling 2005 (NDDB).
	Vasquez Pond	0.50 mile east	CRLF adults calling 2007 (NDDB).
	Leaky Pond	0.72 mile east	CRLF observed 2007 (NDDB).
	Renteria Ridge Pond	0.88 mile east	CRLF observed 2004–05; larvae and adults calling 2006–07 (NDDB).

HABITAT ASSESSMENT

California Tiger Salamander

The subject property lies within dispersal distance to Leaky Pond, a known CTS breeding site, as well as other potential breeding ponds in the vicinity, and barriers to CTS movement between the parcel and such ponds appear to be absent. Although CTS breeding habitat is absent on the property, the south-facing live oak woodlands and coastal prairie grasslands on the property offer potential upland habitat for CTS adults and juveniles seeking refugia in small mammal burrows.

Santa Cruz Long-toed Salamander

SCLTS breeding habitat (i.e., ponds) is absent on the property and much of the coastal prairie and south-facing live oak woodlands and scrub appear unsuitable or marginal as upland habitat, due to their arid nature. However, the north-facing live oak woodlands along the northern section of the property is considered suitable upland habitat, as the live oak understory is dense, lush and characterized by a wide variety of plant species. Additionally, the property lies within the distributional range of this species and is somewhat equidistant between Howell Pond and Triple M Ranch, where they are known to breed, and other off-site potential breeding ponds are located closer to the subject parcel. Barriers to SCLTS movement between the property and known and potential ponds appear to be absent.

California Red-legged Frog

Although aquatic breeding habitat for CRLF is absent on the project parcel, five ponds with documented occurrences of CRLF lie within dispersal distance to the property. The two nearest ponds are Blohm Frog Pond and Middle Azevedo Pond, 180 feet and 690 feet from the property, respectively. Breeding behavior (calling frogs) has been observed at Blohm Frog Pond and larvae have been documented at Middle Azevedo Pond. Given that CRLF are capable of moving up to 3 miles between breeding and non-breeding habitats, CRLF are expected to occur on the property occasionally during migration and dispersal. Interestingly, no CRLF were recorded during the first upland trapping study performed during winter 2022-23 (Bryan Mori Biological Consulting 2023), despite record rainfall throughout California. Thus, this year's captures were surprising but expected, given the widespread distribution of CRLF in the study region. Based on YOY capture locations and distances from documented CRLF ponds in the project vicinity, the source ponds appear to be Blohm Frog Pond and/or Middle Azevedo Pond.

DISCUSSION

Study Validation

During the 2024-25 study period, the Watsonville region received 16.41 inches of rain for the study period (November – March), which is 3.35 inches below the regional long term average of 19.76 inches. According to the CDFW/FWS CTS and SCLTS protocols, a presence/absence study must be performed during a rain year with precipitation 70% of normal for CTS (13.8") or 80% for SCLTS (15.8") to be considered valid. Given these parameters, the 2024-25 study appears to meet the weather criteria for both species. Therefore, the results of this study should be considered legitimate, as far as regional rainfall is considered. Additionally, observations of both CTS and SCLTS in other unrelated studies locally and regionally indicate that rainfall in the project region was sufficient to generate migration (see above).

CTS and SCLTS

The 2024-25 and 2022-23 studies were performed with the intent to provide the best available information regarding CTS and SCLTS occurrence on the project parcel for planning purposes. No CTS or SCLTS were captured during the 2024-25 study, supporting the initial findings indicating that these species presently do not inhabit the uplands of the project site. However, given the distribution of known breeding sites and potential ponds in the surrounding landscape and their abilities to move far distances, it is reasonable to presume CTS and SCLTS could occur on the property in the future, with CTS likely to inhabit the south-facing live oak woodlands, scrub and coastal prairie habitats and SCLTS the mesic oak woodlands on the northern section of the property.

CRLF

The capture of five YOY during the 2024-25 study indicates the project parcel serves as dispersal/migration habitat for CRLF. Taking into account the absence of CRLF captures during the 2022-23 study, the breeding population at either Blohm Frog Pond or Middle Azevedo Pond appears to be small and/or inconsistent from year to year. Regardless, their occurrence on the property is likely transitory and limited to the winter rainy season, when CRLF move about the landscape in search of suitable breeding or non-breeding habitats. Since aquatic resources are lacking on the property, CRLF are likely to be absent on the property during the dry season.

RECOMMENDATIONS

Based on the results of the 2022-23 and 2024-25 studies, the likelihood of CTS/SCLTS take is considered very low. However, due to the distribution of these species in the project vicinity, precautionary protection measures should be implemented, as part of the final approved project (see, below).

Following the initial CRLF capture, the USFWS (Chad Mitcham, Biologist, Buena Vista Field Station) was contacted by email on 12 November 2024 for early guidance. In response, the Service indicated that a Habitat Conservation Plan (HCP) would not be requested of the applicant, considering theproposes to place additional land into conservatorship of the ESF and if take avoidance measures are incorporated into the project. The biological assessment for the project (Biotic Resources Group 2024) identified the CRLF as a possible inhabitant of the property during migration and dispersal. As part of this study, the mitigation measures (**BIO 3 – BIO 16**) presented in the biotic assessment pertaining to the protection of special-status amphibians and reptiles were reviewed for take avoidance suitability. The implementation of seasonal restrictions (**BIO-6**) and exclusion fencing (**BIO-9**) are especially critical in addressing the presumed pattern of CRLF occurrence on the project parcel. Taken together, the fourteen mitigation measures are considered appropriate to safeguard against take of CRLF and are presented, below, for reference. These measures are subject to modifications by the County, USFWS and CDFW, upon further administrative review.

Recommended Measure BIO-3. Within 72 hours of project start, a *qualified biologist* should perform a pre-construction survey for CTS, SCLTS, CRLF and CLL. The pre-construction survey should focus on searching beneath cover objects, such as large rocks, downed logs and other woody debris and boards, etc., within the work limits of the project site (e.g., staging/storage areas, access roads and grading envelope). If CTS, SCLTS or CRLF are observed, CDFW and USFWS[1] shall be contacted for further guidance. No work may proceed until authorization is obtained from CDFW and USFWS. *An Incidental Take Permit (ITP) from CDFW may be needed to continue work.* If CLL are observed, relocate the individuals to appropriate habitat out of harm's way. Handling of CLL and other special-status species should be performed by a permitted biologist and approved by CDFW and FWS. A memo describing the findings of the pre-construction will be submitted to state and federal agencies (if required) and the County Housing and Community Development Department within 30 days.

Recommendation Measure BIO-4. Prior to the start of the project, a *qualified biologist* should present an endangered species environmental training to all construction workers. The training should include distribution of a handout addressing natural history and legal status of all species of concern potentially occurring at the project site, and the protection measures to be implemented as part of the project. All workers should sign a certification sheet following the training. *All new workers must be trained, prior to working on the project site, either by the qualified biologist or previously trained site supervisor*. A memo describing the worker training will be submitted to state and federal agencies (if required), and the County Housing and Community Development Department within 30 days.

Recommendation Measure BIO-5. Prior to the start of the project, environmentally sensitive areas (ESA) should be delineated with orange construction fencing. No ground disturbances (e.g., discing,

[1]Correction. USFWS unintentionally omitted in biotic assessment

grading, etc.), storage of materials, spoils and staging of heavy equipment shall be allowed within designated ESA.

Recommendation Measure BIO-6. Grading and other earthwork (e.g., grubbing, trenching, potholing, etc.) of all phases of the project (e.g., access road, water line, building pad, septic, etc.) shall only be performed between 15 April and 15 October, or until the first fall rains following 15 October, if agreed upon by the County. If all ground disturbance activities cannot be completed in this timeframe, the project shall resume the following spring. No winter season earthwork shall be permitted. Additional studies may be needed at the request of state and federal agencies, if the start of project ground disturbances is delayed beyond October 15, 2025.

Recommendation Measure BIO-7. A *qualified biologist* should be present at the project site during initial vegetation removal and grading activities. Once the vegetation removal and initial grading activities have been completed, subsequent construction monitoring can be performed by the construction site supervisor. If special-status species are observed by the crew or site supervisor during construction activities, all work in the immediate area must cease and the *qualified biologist* contacted to capture and relocate individuals out of harm's way. Work may not resume until approved by the *qualified biologist*. *Work crew shall not handle wildlife*.

Recommendation Measure BIO-8. If CTS, SCLTS or CRLF is found during any phase of construction, CDFW and USFWS shall be notified, and all work on the project site shall stop immediately and be postponed until authorization to proceed has been obtained from CDFW and USFWS. *The project applicant may be asked to obtain an ITP to proceed with the project*.

Recommendation Measure BIO-9. In the event work cannot be completed by 15 October, or no later than 48 hours prior to the prediction of unseasonable rainfall of a minimum 0.25", encircle the entire perimeter of work sites with exclusion fencing to prevent CTS, SCLTS and CRLF from trespass into work areas. The exclusion fence shall incorporate a one-way design with backfilled gaps to allow for wildlife within the enclosures to move out of work areas. 3' x 3'cover boards should be placed every 100 feet along the inside and outside lengths of the fence to provide shelter for wildlife travelling along the fences. Standard silt fence material can be used for the exclusion fence. The silt fence should be buried a minimum 6 inches below grade. If an entrance is needed for workers or machinery to pass, place a removable, minimum 6-inch tall wood plank across the gap and secure with stakes or rebar after the end of each day's work for a two-week period following rainfall. The installation of the fence should be checked by a *qualified biologist* to ensure appropriate installation or to implement recommendations for improvement.

Recommendation Measure BIO-10. Following unseasonable rains of 0.25 inches or greater, a qualified wildlife biologist should inspect around storage piles, under vehicles parked overnight, and all open holes and trenches at the beginning of each work day to check for wildlife.

Recommendation Measure BIO-11. All open trenches and potholes must have ramps or other features installed to allow for entrapped wildlife to escape. Trenches or potholes that cannot accommodate escape ramps must be covered at the end of each work day, then inspected by the construction supervisor at the start of each work day. If entrapped wildlife is observed, contact the monitoring biologist to capture and relocate the species out of harm's way into suitable habitat.

Recommendation Measure BIO-12. New night lighting shall not be directed into adjacent sensitive habitats[2]. All night lights shall be of minimum intensity necessary for safe accessibility and have shields to limit the extent of illumination.

Recommendation Measure BIO-13. If the 2024/25 study for CTS and SCLTS is positive (i.e., animals found on site), the landowner will dedicate a conservation scenic easement (CSED) for the oak woodland and mixed grassland and implement the Sensitive Habitat Adaptive Care Program, as outlined in Recommended Measure BIO-2.

Note: Since CTS and SCLTS were not captured during both the 2022-23 and 2024-25 studies, this recommendation is no longer applicable.

Recommendation Measure BIO-14. Manage vegetation in defensible spaces in a manner that is sensitive to the biological resources and compatible with CalFire guidelines. To reduce the fire ladder to the tree canopy, maintain a low (12-18 inches tall) understory of native vegetation and remove tree limbs up 6 feet. Leave some logs scattered on bare soil to provide cover for wildlife. Avoid removing vegetation beyond the CalFire guidelines, for example, clearing all understory vegetation and leaving behind bare ground.

Recommendation Measure BIO-15. Wherever curbs are proposed, construct rounded curbs or angled curbs of 60 degrees or less to avoid creating movement barriers for amphibians.

Recommendation Measure BIO-16. In the design of drainage systems, incorporate the use of French drains that avoid grated openings that unintentionally capture amphibians. Avoid grates with ¼" openings or greater or incorporate the use of mesh screens.

[2] Correction. Original biotic assessment refers to *riparian corridor* in error.

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