BIOLOGICAL SITE ASSESSMENT REPORT
RANCHO LOS REYES PROJECT
MARIN COUNTY, CALIFORNIA

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1.0 INTRODUCTION

1.1 Purpose of this Biological Site Assessment Report

At the request of Cui Family Trust (Applicant), Huffman-Broadway Group, Inc. (HBG) prepared this Biological Site Assessment Report (BSA) related to the potential planned "Rancho Los Reyes" project (Project) referred herein as the Project Site. The Project Site is an approximately 82-acre area comprised of four parcels in Point Reyes Station, Marin County, California.

To satisfy requirements of Item #36, Biological Site Assessment, in Marin County's list of project application materials and County guidelines as spelled out in the County's document "Preparation of Biological Site Assessments, this BSA: (1) assessed the Project Site for the potential occurrence of special status plant and animal species and their habitats and Environmentally Sensitive Habitat Areas (ESHA's) as defined by the Marin County Local Coastal Program, (2) analyzed the potential for significant Project effects to ESHA's, (3) analyzed the potential for significant biological impacts following the *California Environmental Quality Act (CEQA) Checklist* questions regarding biological resources, and (4) provided mitigation recommendations based on a review of existing literature, the results of the site reconnaissance, a review of the boundaries of potentially regulated aquatic resources, pedestrian wildlife and botanical surveys, and an evaluation of the impacts of the proposed future development in the Project Site.

Based on the evaluation herein, we find that the proposed development at the Project Site could be accomplished without causing significant biological impacts dependent upon the implementation of mitigation measures. The mitigation measures are designed to address potential significant impacts to Environmentally Sensitive Habitat Areas such as wetlands, streams, and riparian zone and to special status species including special status plant species, federally listed threatened California red-legged frog and California designated animal species of special concern including western bumble bee, northwestern pond turtle, burrowing owl, tricolored blackbird, and American badger. In addition, mitigation measures are recommended herein and would be implemented to address potentially significant impacts to nesting birds protected by the Migratory Bird Treaty Act and California Fish and Game Code, and potential populations of roosting bats protected by the California Fish and Game Code.

1.2 Project Location

The subject property (82.32 acres) is located near 11798 State Route 1, Point Reyes Station, in the unincorporated area of Marin County (APN: 119-050-04, 119-050-09, 119-140-03, and 119-140-09). It is within the village limit boundaries of the community of Point Reyes Station and located within the Coastal Zone. The property is bounded by Point Reyes-Petaluma Road and Lagunitas Creek on the south, State Route 1 to the west, rural residential housing to the north, and open pastureland to the east. The Project Site is currently vacant and undeveloped. The Project Site is accessible by entering a gate at the end of Water Tank Road off of State Route 1 and from the *Point Reyes Arabian Adventures* company parking lot at 11925 State Route 1. The approximate center point of the Project Site is Latitude 38.0781400° N and Longitude -122.799437° W.

The regional location of the Project Site is shown in Appendix A, Figure 1, Figure 2 shows the location of the site on the Inverness 7.5-minute USGS quadrangle map and Figure 3 shows an aerial image of the Project Site and the surrounding area.

1.3 Project Description

The Project Site is proposed to be subdivided into 69 parcels for future single-family residential development. Of the subdivided 69 parcels, 62 parcels will be planned for market rate single family housing development, 4 parcels will be designated for affordable housing development for low-income households, 2 parcels with existing perennial wetlands will be preserved as "Wetland Preservation Area", and 1 parcel will be a leftover without specific use (this parcel is located at the southeast corner of the land). The proposed total number of housing units is 84 with 22 units designated as affordable housing for low-income households. This subdivision plan has taken careful considerations of the Land Use Plan, Zoning, Local Coastal Program (LCP) and Community Plan policies, and various constraints especially the onsite "community" wastewater treatment capacity constraints.

Access to the development will be provided via (1) a new access driveway from State Route 1 a few hundred yards north of the existing Water Tank Road, (2) an eastward extension of the existing Water Tank Road, (3) a new driveway extending from Point Reyes-Petaluma Road in the southwest corner of the site, and (4) a new driveway extending from Point Reyes-Petaluma Road in the southeast corner of the site.

The Project will not impact Environmentally Sensitive Habitat Areas (ESHA's) such as the wetlands, streams, or riparian zone. In addition, except for minor encroachments, the Project will not impact the ESHA 100-Foot Buffers.

The Applicant will construct the access roads and driveway to the Project Site and install waste water leach fields and other ancillary structures associated with the subdivision. Individuals who purchase lots will construct their own building pad and ancillary structures associated their building pad and be required to obtain permits from Marin County and comply with current and updated Marin County LCP requirements or other federal, state, and local requirements. The Mitigation Measures presented in Section 5 will apply during all the construction of components required by the Applicant and by persons purchasing and then building on their lots.

2.0 REGULATORY SETTING

The following is a description of relevant federal, state, and local environmental regulations and policies designed to protect sensitive plants and animals, their habitats, and sensitive natural communities that may impact development planning and ultimate Project approval.

2.1 Federal Regulations

Clean Water Act - Section 404. The U.S. Army Corps of Engineers (USACE or Corps) regulates discharges of dredged or fill material into Waters of the United States under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into Waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2(f)). In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

The geographic extent of wetlands is defined by the collective presence of a dominance of wetland vegetation, wetland hydrology conditions, and wetland soil conditions as determined following the Corps' 1987 Wetlands Delineation Manual (1987 Manual); the Corps' 2008 Regional Supplement to Corps of Engineers Wetland Delineation Manual: Arid West, Version 2.0 (Arid West Regional Supplement); and supporting guidance documents. The geographic extent of other Waters of the U.S. is defined by an ordinary high-water mark (OHWM) in non-tidal waters (33 CFR. §328.3(e)) and by the High Tide Line within tidal waters (33 CFR. §328.3(d)). The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 C.F.R. §328.3(e)). Tidal waters are also under the jurisdiction of the Corps. The landward limits of jurisdiction in tidal waters extend to the high tide line…"or, when adjacent non-tidal Waters of the United States are present, to the limits of jurisdiction for such non-tidal waters" (33 C.F.R.§328.4(b)). High tide is further defined to include the line reached by spring high tides and other high tides that occur with periodic frequency (33 C.F.R.§328.3(d)). The definition of a Water of the US is defined in 33 CFR, Title 33, Part 328 titled *Revised Definition of "Waters of the United States": Conforming*, dated September 8, 2023. In addition, the Department of the Army provided guidance defining the term "continuous surface connection" in a memorandum dated March 12, 2025.

Clean Water Act - NPDES Requirements. In 1972, the Clean Water Act was amended to provide that the discharge of pollutants to Waters of the United States from any point source is unlawful unless the discharge complies with a National Pollution Discharge Elimination System (NPDES) permit. The regulations provide that discharges of stormwater from construction projects that encompass one or more acres of soil disturbance are effectively prohibited unless the discharge complies with an NPDES Permit.

The California State Water Resource Control Board has developed a general construction stormwater permit to implement the requirements for the federal NPDES permit. The permit requires submittal of a Notice of Intent to comply, fees, and the implementation of a Storm Water Pollution Prevention Plan that specifies Best Management Practices (BMPs) that will prevent construction pollutants from entering stormwater and keep products of erosion from migrating off-site into downstream receiving waters. The Construction General Permit includes post-construction requirements that site design provides no increase in overall site runoff or the concentration of drainage pollutants and requires implementation of Low Impact Development ("LID") design features. The Construction General Permit is implemented and enforced by California's nine Regional Water Quality Control Boards (Water Boards).

Federal Endangered Species Act. The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The FESA establishes an official listing process for plants and animals considered to be in danger of extinction, requires development of specific plans of action for the recovery of listed species, and restricts activities perceived to harm or kill listed species or affect critical habitat (16 USC 1532, 1536).

The FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined as harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Taking can result in civil or criminal penalties. Federal regulation 50 CFR 17.3 further defines the term "harm" in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. Additionally, FESA prohibits the destruction or adverse modification of designated critical habitat. In the Service's regulations at 50 CFR 402.2, destruction or adverse modification is defined as a "direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.

Critical Habitat is defined in Section 3 of ESA as: 1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and 2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

U.S. Fish and Wildlife Service Birds of Conservation Concern. The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, USFWS published a list of Birds of Conservation Concern (BCC) (USFWS 2008) for the United States. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered)

that represent USFWS' highest conservation priorities. Depending on the policy of the lead agency, projects that result in substantial impacts to BCC may be considered significant under CEQA.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The regulations governing migratory bird permits are in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. Most bird species within California fall under the provisions of the Act. Excluded species include nonnative species such as house sparrow, starling, and ring-necked pheasant and native game species such as quail.

Fish and Wildlife Coordination Act. The USFWS also has responsibility for project review under the Fish and Wildlife Coordination Act. This statute requires that all federal agencies consult with USFWS, NMFS, and the state's wildlife agency (California Department of Fish and Wildlife, CDFW) for activities that affect, control, or modify streams and other water bodies. Under the authority of the Fish and Wildlife Coordination Act, USFWS, NMFS, and CDFW review applications for permits issued under Section 404 and provide comments to the Corps about potential environmental impacts.

2.2 State Regulations

California Coastal Commission. The California Coastal Commission has jurisdiction over environmentally sensitive habitat areas in the coastal zone under both state legislation (California Coastal Act of 1976, Public Resources Code § 30000 et seq.) and federal legislation (Coastal Zone Management Act, 16 U.S.C. § 1451 et seq.). Under the California Coastal Act (CCA), the Coastal Zone generally extends 1,000 yards inland from the mean high tide line, except in certain areas where it extends inland to the closest of either the first major ridgeline parallel to the sea or five miles from the mean high tide line. The Project site is located within the Coastal Zone.

The policies most relevant to biological resources at the Project site are provided below:

> Section 30107.5 of the Coastal Act states: "*Environmentally sensitive area" means any area in which plant or animal life or their habitats are either 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."*
>
> Section 30121 of the Coastal Act states: "*Wetland' means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, fresh water marshes, open or closed brackish water marshes, swamps, mudflats, and fens*."
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> (Additional Coastal Act definitions related to wetland environments are referenced in Section 4.2.3, Summary of Regulations Pertaining to Wetlands and Water Courses).
>
> Section 30231 of the CCA states that "*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where*

feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats and minimizing alteration of natural streams."

Section 30240 of the CCA states that:

"(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreations areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas. "

To meet the standard of review for policy conflict resolution, the proposed project must fulfill the requirements of, and be in conformity with, '"the policies of Chapter 3" (meaning California Public Resources Code ("PRC") Sections 30200 - 30265.5). In general, a proposal must be consistent with all relevant policies in order to be approved. Thus, if a proposal is inconsistent with one or more policies, it must normally be denied.

Porter-Cologne Water Quality Control Act. Pursuant to section 401 of the federal Clean Water Act, projects that require a Corps permit for the discharge of dredge or fill material must obtain water quality certification that confirms a project complies with state water quality standards before the Corps permit is valid. State water quality is regulated/administered by the Water Board and its nine Regional Water Quality Control Boards (Water Boards). A water quality certification from a Water Board must be consistent with not only the Clean Water Act, but with the California Environmental Quality Act (CEQA), the California Endangered Species Act (CESA), and the SWRCB's requirement to protect beneficial uses of waters of the State.

The State also maintains independent regulatory authority over the placement of waste, including fill, into waters of the State under the Porter-Cologne Water Quality Control Act. Waters of the State are defined more broadly than "waters of the US" to mean "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code section 13050(e)). Examples include, but are not limited to, rivers, streams, lakes, bays, marshes, mudflats, unvegetated seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked baylands, seasonal wetlands, and riparian woodlands.

The Water Board's State Wetland Definition and Procedures for Discharges of Dredge of Fill Material to Waters of the State adopted April 2, 2019 (the Procedures) along with the Implementation Guidance for the Procedures dated April 2020 (the Implementation Guidance) defines a wetland as an area that under normal circumstances, (1) has continuous or recurrent saturation of the upper substrate caused

by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Procedures, along with the Interim Guidance, also include procedures for the submission, review, and approval of applications for activities that could result in the discharge of dredged or fill material to any Waters of the State and include elements of the Clean Water Act Section 404(b)(1) Alternatives Analysis Guidelines, thereby bringing uniformity to SWCQB's regulation of discharges of dredged or fill material to all waters of the state. Typically, the Corps requires a Clean Water Act 404(b)(1) Alternatives Analysis for wetland impacts greater than 0.50 acre. The Procedures require an Alternatives Analyses to be completed in accordance with a three-tier system. The level of effort required for an alternatives analysis within each of the three tiers shall be commensurate with the significance of the impacts resulting from the discharge.

California Endangered Species Act. The State of California enacted the California Endangered Species Act (CESA) in 1984. The CESA is similar to the FESA but pertains to state listed endangered and threatened species. CESA requires state agencies to consult with the CDFW when preparing CEQA documents to ensure that the state-lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that "overriding considerations" exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

The CESA generally prohibits the taking of state listed endangered or threatened plant and wildlife species, however, for projects resulting in impacts to state listed species, CDFW may authorize take through issuance of an Incidental Take Permit (ITP) pursuant to Section 2081 of the California Fish and Game Code. Section 2081 requires that such projects implement an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy. CDFW requires preparation of mitigation plans in accordance with published guidelines that require, among other things, measures to fully mitigate impacts to State listed species. CDFW exercises authority over mitigation projects involving state listed species, including those resulting from CEQA mitigation requirements. No authorization of take under Section 2081 is permitted for species listed in state statutes as Fully Protected Species. Where Fully Protected Species are involved, projects must be designed to avoid all take of the species. CDFW cannot issue an ITP until the CEQA Lead Agency has provided documentation in the form of a Notice of Determination that the project has complied with CEQA.

California Department of Fish and Wildlife - Lake and Streambed Alteration Agreement. Section 1602 of the California Fish and Game Code requires any person, governmental agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel, or bank, zone of any river, stream, or lake, or proposing to use any material from a streambed, to first notify CDFW of such proposed activity.

CDFW's regulations implementing the Fish and Game Code define the relevant rivers, streams, and lakes over which the agency has jurisdiction to constitute "all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which have intermittent flows of water." (Title 14 *California Code of Regulations* [CCR] § 720). CDFW does not have a methodology for the identification and delineation of the jurisdictional limits of streams except for the general guidance provided in *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607 California Fish and Game Code* (CDFG 1994). In making jurisdictional determinations, CDFW staff typically rely on field observations of physical features that provide evidence of water flow through a bed and channel such as observed flowing water, sediment deposits and drift deposits and that the stream supports fish or other aquatic life. Riparian habitat is not specifically defined by the Fish and Game Code, but CDFW takes jurisdiction over areas within the flood plain of a body of water where the vegetation (grasses, sedges, rushes, forbs, shrubs, and trees) is supported by the surface or subsurface flow.

California Fish and Game Code Special Protections for Birds. In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes several sections that specifically protect certain birds.

- Section 3800 states that it is unlawful to take non-game birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.
- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.
- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

California Department of Fish and Wildlife - Fish and Game Code Section 4150. Bats and other non-game mammals are protected in California. Section 4150 of the Fish and Game Code states that all non-game mammals or parts thereof may not be taken or possessed except as otherwise provided in the code or in accordance with regulations adopted by the Fish and Game Commission. Thus, destruction of an occupied, nonbreeding, bat roost, resulting in the death of bats, or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), is prohibited.

California Department of Fish and Wildlife - Sensitive Plant Communities. CDFW has designated special status natural communities which are considered rare in the region, rank as threatened or very threatened, support special status species, or otherwise receive some form of regulatory protection. Sensitive plant communities are those natural plant communities identified in local or regional plans, policies, ordinances, regulations, or by the CDFW which provide special functions or values.

Documentation pertaining to these communities and special status species (including species of special concern) is kept by CDFW as part of the California Natural Diversity Database (CNDDB). All known occurrences of sensitive habitats are mapped onto 7.5-minute US Geological Survey (USGS) topographic quadrangle maps maintained by the CNDDB. Sensitive plant communities are also identified by CDFW on their List of California Natural Communities Recognized by the CNDDB. Impacts to sensitive natural communities must be considered and evaluated under CEQA.

California Department of Fish and Wildlife - Species of Special Concern. CDFW tracks species in California whose numbers, reproductive success, or habitat may be threatened. Species that may be considered for review are included on a list of "Species of Special Concern" developed by the CDFW. Even though these species may not be formally listed under FESA or CESA, such plant and wildlife species must be evaluated during the CEQA review of development projects, and mitigation should be developed to prevent significant impacts to such species.

California Department of Fish and Wildlife - Fully Protected Animal Species. The classification of Fully Protected was an effort by the State of California in the 1960's to identify and provide additional protection for those animals that were rare or faced possible extinction. Most Fully Protected species have also been listed as threatened or endangered species under state endangered species laws and regulations. Species classified as Fully Protected Species by the CDFW may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock (as per California Fish and Game Code § 3511(a)(1)).

Native Plant Protection Act. The NPPA of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to "preserve, protect and enhance rare and endangered plants in this state." The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as "endangered" or "rare." The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California Endangered Species Act (CESA).

2.3 Local Regulations

Marin County Local Coastal Program. The Project Site is within the Marin County Coastal Zone and is subject to relevant policies of the Marin County Local Coastal Program (LCP). The primary goal of the LCP is to ensure that the local government's land use plans, zoning ordinances, zoning district maps, and implementing actions meet the requirements of, and implement the provisions and policies of, the California Coastal Act (CCA) at the local level. Marin's LCP includes many new and improved policies and code provisions designed to protect natural resources, preserve agricultural uses, and clarify permit processes among other benefits.

Wetlands and streams in California's coastal zone are regulated under the CCA which is administered by the California Coastal Commission (CCC). Streams and wetlands are protected as Environmentally

Sensitive Habitat Areas (ESHA) as defined by the CCA. California Coastal Act definitions of an ESHA, stream and wetland are included below:

> **ESHA.** Section 30107 of the CCA defines Environmentally Sensitive Habitat Areas as "any area in which plant or animal life or their habitats are either 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."
>
> **Stream**. Streams are defined in 14 CCR 13577(a) as an area measured "100 feet landward from the top of the bank of any stream mapped by USGS or identified in a local coastal program. The bank of a stream shall be defined as the watershed and relatively permanent elevation or acclivity at the outer line of the stream channel which separates the bed from the adjacent upland, whether valley or hill, and serves to confine the water within the bed and to preserve the course of the stream. In areas where a stream has no discernable bank, the boundary shall be measured from the closest line to the stream where riparian vegetation is permanently established. For purposes of this section, channelized streams not having significant habitat value should not be considered.
>
> **Wetland.** For purposes of local coastal programs in which CCC retains coastal development permit jurisdiction after program certification, CCA Section 30121 defines "wetlands" as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." Coastal Act criteria also requires the establishment of wetland buffer areas of a minimum of 100 feet.
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> In the California Code of Regulations (CCR), wetlands are defined as follows (14 CCR 13577(b)):
>
> > *. . . land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated soil at some time during each year and their location within, or adjacent to, vegetated wetland or deepwater habitats.*

The CCA considers a wetland to be any area that is sufficiently wet for a long enough period of time to support a preponderance of hydrophytic vegetation or result in the development of hydric soils. For wetlands, the CCA interpretation is based on a definition developed by the U.S. Fish and Wildlife Service (USFWS). According to this definition, generally, wetlands exist where the soil is predominantly hydric (wet), the plant cover is predominantly hydrophytic (plants grow in water or in very moist ground), and the land is flooded or saturated at some time of the year.

Wetlands and streams in California's coastal zone are regulated under the CCA which is administered by the CCC. Streams and wetlands are protected as ESHAs as defined by the CCA. LCP Policy C-BIO-18

states that wetland buffer zones should be established that are "a minimum of 100 feet in width, in a natural condition along the periphery of all wetlands." Exceptions to this policy allowing wetland buffer adjustments are detailed in LCP Policy C BIO-19. None of the listed exceptions apply to the proposed project.

Natural Resource policies of the LCP also include those related to stream corridors. Certain streams and streams are protected by LCP policies, and this protection extends to both the stream itself and the riparian vegetation growing adjacent to it. The LCP (Policy C-BIO-24) requires a riparian protection area that includes all riparian vegetation and a stream buffer defined as "the wider of the following on both sides of the stream: (a) the areas 50 feet landward from the outer edge of the riparian vegetation, or (b) the area 100 feet landward from the top of the stream banks, or (c) as recommended by the BSA. The LCP provides for stream buffer exceptions and adjustments as detailed in Policy C-BIO-25, none of which apply to the proposed Project.

Marin County Code. Marin County Code Section 22.20.040 requires procedures to protect roosting bats, nesting birds, and the state and federally listed northern spotted owl. In areas where a Biological Site Assessment identifies a high probability for the presence of roosting bats, Code Section 22.20.040(E) requires a two-step process for removal of trees with potential bat habitat during certain times of the year. If a Biological Site Assessment identifies areas with a high probability of the presence of nesting birds and the project requires tree removal, grading, or other site disturbances during the nesting season, Code Section 22.20.040(F) requires pre-construction bird nesting surveys and, if nesting birds are found, establishment of appropriate buffer zones and installation of exclusion fencing to ensure no disturbance to active nests until young have fledged. In addition, Marin County Code Section 22.20.040(G) requires the implementation of special conditions to protect northern spotted owl if a Biological Site Assessment identifies a northern spotted owl nest within 500 feet of proposed outdoor construction activity involving tree removal, grading, or other site disturbances.

Tree replacement policies from the Marin County Code may also be relevant to the proposed project. Specifically, Section 22.26.040 (Landscaping Objectives) states "any trees that are to be removed and for which a Tree Removal Permit is required shall be replaced at a minimum ratio of two new, appropriately sized and installed trees for each tree removed, unless a greater replacement ratio is determined to be appropriate." Section 22.27.040 indicates that "in the event that tree planting on the site is not feasible or appropriate, the County may require in lieu of planting on the specific property, the payment of money in the amount of $500 per replacement tree to be deposited into the Tree Preservation Fund managed by the Marin County Parks and Open Space Department for planting, maintenance, and management of trees and other vegetation.

2.4 Other

California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the CNPS Rare Plant Inventory.

Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review, especially for those plant species included in California Rare Plant Ranks 1 and 2 (see below).

CNPS Rank	Status
California Rare Plant Rank 1A	Plants presumed extirpated in California and either rare or extinct elsewhere.
California Rare Plant Rank 1B	Plants rare, threatened, or endangered in California and elsewhere.
California Rare Plant Rank 2A	Plants presumed extirpated in California, but more common elsewhere.
California Rare Plant Rank 2B	Plants rare, threatened, or endangered in California, but more numerous elsewhere.
California Rare Plant Rank 3	Plants about which more information is needed – a review list.
California Rare Plant Rank 4	Plants of limited distribution – a watch list.
Threat Code Extensions	
.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
.2	Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat).
.3	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

3.0 METHODS

Both desktop and field surveys were conducted. The following describes how special status species and sensitive natural communities are defined, and methods used to assess their potential to be present in the Project Site.

3.1 Definitions

3.1.1 Special Status Species

CEQA requires that impacts to special status species be considered and evaluated under CEQA. Special status species include plants or animals that:

1. are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA).
2. are listed or are candidates for future listing as threatened or endangered under the California ESA.
3. meet the definitions of endangered or rare under § 15380 of the CEQA Guidelines.
4. are plants listed as rare under the California Native Plant Protection Act (NPPA) (California Fish and Game Code, § 1900 et seq.).
5. are considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California", “plants about which more information is needed,” or “plants of limited distribution – a watch list” (i.e., species with a California Rare Plant Rank [CRPR] of 1B, 2, 3, or 4).
6. are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).
7. are identified as a species of special concern (SSC) by the California Department of Fish and Wildlife (CDFW).
8. are birds identified as birds of conservation concern (BCC) by the U.S. Fish and Wildlife Service (USFWS).

3.1.2 Sensitive Natural Communities

CEQA requires that impacts to sensitive natural communities be considered and evaluated under CEQA. Sensitive natural communities are plant communities CDFW designates as sensitive which are either considered rare in the region, rank as threatened or very threatened, support special status species, or otherwise received some form of regulatory protection. Sensitive plant communities also include those plant communities identified in local or regional plans, policies, ordinances, regulations, or by CDFW as those communities that provide special functions or values. CDFW identifies sensitive plant communities on their *List of California Natural Communities* and records their mapped presence as part of the information documented within the CNDDB. The mapped information in the CNDDB provides a general location of sensitive plant communities and sensitive natural community types.

3.1.3 Environmentally Sensitive Habitat Areas

Refer to Section 2.2 *California Coastal Commission for the definition of an ESHA.*

3.2 Desktop Review

The following sources were reviewed to develop relevant environmental and biological information to determine if special status species, critical habitat, and sensitive natural communities have been previously documented on or within 10 miles of the Project Site:

- Aerial imagery available from online from Google Earth Pro.
- Watershed mapping National Hydrography Dataset (NHD) HUC 10 and HUC 12 available online from the US Geological Survey (USGS).
- Custom Soil Resources Report available online from Natural Resources Conservation Service (NRCS).
- Flood Insurance Rate Map available online from the Federal Emergency Management Agency (FEMA).
- California Wildlife Habitat Relationship System (CHWR).
- California Natural Diversity Database (CNDDB) search for special status species and sensitive natural communities for the Project Site 7.5-minute quadrangles within a 10-mile radius available online from the California Department of Fish and Wildlife (CDFW).
- Information for Planning and Consultation (IPaC) Database available online from the USFWS.
- National Marine Fisheries Service (NMFS) list of species and other resources under NMFS jurisdiction that are known or expected to be on or near the Project Site.
- CNPS Rare Plant Inventory for the Project Site 7.5-minute quadrangle and the eight surrounding USGS quadrangles available online from the CNPS.
- Topographic survey provided by the Applicant.

3.3 Field Surveys

The Project Site was visited on multiple occasions during 2023 and 2024 by professional biologists and an arborist to develop information regarding general ecological conditions and potential presence/absence of special status plant and animal species and sensitive natural communities including aquatic resources. These studies/biological surveys are summarized below.

On April 27, 2023, and May 21, 2024, HBG biologist Robert Perrera investigated the Project Site for the presence of wetlands and other “waters of the U.S.” potentially subject to federal jurisdiction under the Clean Water Act or state or local jurisdiction under the Porter-Cologne Act, the Section 1602 Fish and Game Code jurisdiction of CDFW, and the Stream Protection provisions of Marin County LCP Land Use Plan. The review included an investigation of existing landforms, vegetation, hydrology, and soil conditions.

Plant and wildlife species and habitat surveys were conducted on the Project Site by HBG wildlife biologists Robert Perrera (April 27, 2023, and May 21, 2024), Emilie Strauss (May 1, 2023) and Gary Deghi (May 30, 2024). These surveys included observations of the composition and distribution of plant communities, wildlife observations, identification of sensitive habitats and a comparison of site characteristics for similarity to sites known to support special status species within the area. Wildlife observations at the Project Site were based on visual sightings and observations of tracks, dens, and scat. Additional surveys were conducted on May 21, 2024, by Dr. Mark Jennings of Rana Resources,

and HBG biologist Robert Perrera specifically related to assessing the suitability of the onsite habitats for the potential presence of special status species.

In November of 2024, arborist Ben Anderson of Urban Forestry and Associates Inc. conducted a tree inventory to collect tree species data and the diameter of each tree. This data was then used by the arborist to assess which trees would need removal, an assessment of "major vegetation" impacts which includes "heritage trees" and a tree protection plan.

3.4 Special Status Species Presence Assessment

Based on species occurrence information provided by the CNDDB and IPaC databases, special status plant and animal species were summarized in table format (Appendix B) with listing status information together with descriptions of macro and micro habitat requirements. A report of the IPaC Database is included in Appendix C.

Using the criteria listed below, each plant and animal species listed and community listed was then evaluated as to its potential for being present on the Project Site. The evaluation was based on information obtained relevant to the Project Site and vicinity which included: (1) general ecological information regarding land use, climate, topographic, soils, hydrology, and vegetation type and animal species typically associated with the existing Project Site; and (2) specific technical information regarding listed plant and animal species distribution range, habitat, and known threats together with onsite general level plant, wildlife, and aquatic resource surveys.

- **No Potential**: Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

- **Unlikely**: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

- **Moderate Potential**: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

- **High Potential**: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

- **Present**: Species is observed on the site or has been recorded (i.e., CNDDB, other reports) on the site recently.

If determined potentially present, the plant species, animal species, and/or sensitive natural community was evaluated to determine if the Project would have a substantial adverse effect, either directly or through habitat modifications. If necessary, recommended action(s) either before or after

proposed project approval, but prior to ground-disturbing activities are included in this BSA (also provided in Section 5.0).

4.0 RESULTS

4.1 Land Use

The Project Site has been used in the recent past for livestock grazing. The *Point Reyes Arabian Adventures* company has a long-term lease with the Applicant to house several horses on the property and provide riding tours from the Project Site to adjacent lands such as the Black Mountain Ranch which abuts the Project Site along the northeastern boundary.

The Project Site is within the zoning of C-ARP-3 -- Coastal, Agricultural, Residential Planned (1 unit per 3 acres). The C-ARP land use zoning is designed to preserve productive lands for agricultural use through the clustering of allowed residential development. The Project Site is subject to the Marin Countywide Plan (CWP)'s C-AG3 (Coastal Agricultural 3; 1 unit per 1 – 9 acres) land use designation. The C-AG3 land use category was established for residential use within the context of small-scale agricultural and agriculturally related uses.

4.2 Climate

Like other portions of northern California, Point Reyes Station experiences a Mediterranean climate characterized by warm, dry summers and cool, wet winters. Coastal low clouds and fog are common, especially during the late night and early morning hours. Average annual precipitation in the Inverness area is slightly less than 40 inches, with most rain in the Bay Area's winter "rainy season" (November through March).

4.3 Topography and Soils

The topographic relief on the majority of the Project Site is very steep with slopes ranging from 15-40 percent. Site topography is shown in the Inverness USGS 7.5-minute quadrangle topographic map.

The Project Site lies just to the east of the San Andreas Fault and is comprised of Franciscan Complex which is composed of very deformed and highly metamorphosed graywacke, mudstone, volcanic materials, chert, and limestone. Soil survey information for the Project Site was obtained from the National Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2024). Seven (7) different soil types are mapped by NRCS within the Project Site: Los Osos-Bonnydoon complex, 15 to 30 percent slopes; Los Osos-Bonnydoon complex, 30 to 50 percent slopes; Olompali loam, 9 to 15 percent slopes; Olompali loam, 15 to 30 percent slopes; Tocaloma-McMullin complex, 50 to 75 slopes; Yorkville clay loam, 30 to 50 percent slopes; and Water. A map of soil types within the Project Site is shown in Figure 5. The NRCS Soils Report is included as Appendix D.

4.4 Hydrology

Watersheds. A review of the US Geological Survey (USGS) National Hydrography Dataset (NHD) Hydrologic Unit Code (HUC) data shows that the Project Site lies within the Tomales-Drake Bays - HUC 18050005 subbasin. A map of HUC 10 and HUC 12 watersheds is shown on Figure 6 and 7.

Direction of Surface Water Flow. Of the five streams on the Project Site, the northernmost and largest drains to Tomasini Canyon which contains two perennial palustrine aquatic bed wetlands in-line with the streams. The five smaller streams originating along the southern portion of the Project Site, with

one containing several palustrine emergent wetlands in line with the stream, are hydrologically connected to Lagunitas Creek located about 0.25 miles to the south of the Project Site on the south side of Point Reyes Petaluma Road. These intermittent streams either flow under Point Reyes/Petaluma Road through three culverts and discharge into Lagunitas Creek (a perennial stream that discharges into Tomales Bay). The larger stream flows under State Route 1 through one large box-culvert that discharges into a stream that flows into Tomales Bay. All of these intermittent streams originate in the Project Site and surface water that flows within the Project Site is the direct result of precipitation, and overland sheet flow.

4.5 FEMA Flood Zone

FEMA Flood Insurance Rate Map for "Marin County" indicates the Project Site is not within a FEMA flood zone. The FEMA flood zone map can be found in Appendix A, Figure 8.

4.6 Vegetation Communities and Rarity Ranking

Vegetation communities are assemblages of plant species growing in an area of similar biological and environmental factors. Vegetation community alliances and their respective Global (G#) and State (S#) rarity ranking are based on CDFW's current California Natural Community List dated February 27, 2025.

Based on results of field surveys conducted by HBG, the Project Site contains eight plant communities and one urban area habitat type: (1) Wild Oats and Annual Brome Grasslands, (2) California Bay Forest and Woodland (3) Coastal Live Oak Woodland and Forest, (4) Coyote Brush Scrub, (5) Cattail Marshes, (6) Soft and Western Rush - Sedge Marshes, (7) Arroyo Willow Thickets, (8) Eucalyptus and (9) Urban. General descriptions of these plant communities within the Project Site follows, and a list of plant species observed on the site during field reviews by HBG during the Spring of 2023 and spring of 2024 is included as Appendix B Table 1. The location and extent of each vegetation community is shown on Figure 9 *CDFW Vegetation Communities and Rarity Ranking Map.*

Wetland habitats potentially subject to federal or state jurisdiction were further classified using the U.S. Fish and Wildlife's Service's (USFWS) Classification System for Wetland and Deepwater Habitats (Cowardin et al. 1979, see Aquatic Resource Discussion in Section 4.9).

Wild Oats and Annual Brome Grasslands (Global and State Ranking N/A)
Grass species in the wild oats and annual brome grassland alliance on the Project Site are dominated by non-native species such as wild oat (*Avena fatua*), soft brome (*Bromus hordaceus*), ripgut brome (*Bromus diandrus*), hedgehog dogtail (*Cynosurus echinatus*), Italian ryegrass (*Festuca perennis*), six weeks fescue (*Vulpia bromoides*), wall barley (*Hordeum murinum*), little quaking grass (*Briza minor*), and rattlesnake grass (*Briza maxima*). Native grass species are scattered throughout the Project Site but do occupy a consist dominant stands. Native grass species found include purple needlegrass (*Stipa pulchra*), California brome (*Bromus stichensis* var. *carinatus*), meadow barley (*Hordeum brachyantherum*), Torrey's rush (*Juncus torreyi*), and toad rush (*Juncus bufonius*). Common herbaceous species in the grasslands include a variety of native wildflower species such as blue-eyed grass (*Sisyrinchium bellum*), common yarrow (*Achillea millefolium*), California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californicus*), Ithuriel's spear (*Tritilea laxa*), sky lupine (*Lupinus nanus*), silver lupine (*Lupinus albifrons*), common madia (*Madia elegans*), Pacific false

bindweed (*Calystegia purpurata*), and shamrock clover (*Trifolium dubium*). Other native wildflower species in the grasslands include footsteps of spring (*Sanicula artopoides*), narrow-leaf mule-ears (*Wyetha angustifolia*), dwarf checkerbloom (*Sidalcea malviflora*), and sun cup (*Taraxia ovata*), and others. Non-native herbaceous species are also present and include pale flax (*Linum bienne*), sheep-sorrel (*Rumex acetosella*), common cat's ear (H*ypochaeris radicata*), yellow glandweed (*Bellardia viscosa*), field bindweed (*Convolvulus arvensis*), bird's foot trefoil (*Lotus corniculatus*), bur clover (*Medicago polymorpha*), scarlet pimpernel (*Lysimachia arvensis*), bull thistle (*Cirsium vulgare*), purple star thistle (*Centaurea calcitrata*), milk thistle (S*ylybum marianum*), English plantain (*Plantago lanceolata),* and others.

California Bay Forest and Woodland (G4, S3)

The dominant species in the canopy layer of the California Bay Forest and Woodland on the Project Site is California bay laurel (*Umbellularia californica*) with lesser amounts of Coast live oak (*Quercus agrifolia*). Understory vegetation contains growth of California blackberry (*Rubus ursinus*), Himalaya berry (*Rubus ameniacus*), pink honeysuckle (*Lonicera hispidula*), California rose (*Rosa californica*), common mugwort (*Artemisia douglasiana*), common bedstraw (*Gallium aparine*). Cowla lily (*Zantedeschia aethiopica*), velvet grass (*Holcus lanatus*), and many other species.

Coastal Live Oak Woodland and Forest (G5, S4)

The Coastal Live Oak Woodland and Forest alliance on the Project Site is often found extending out from streams and forms a tree canopy beyond the riparian zone consisting of Coast live oak (*Quercus agrifolia*) along with other species such as California buckeye (*Aesculus californica*) and California bay laurel (*Umbellularia californica*). This habitat type is also found on three areas not associated with a stream. Two of these three areas are on a steep slope near the northern corner and along the eastern boundary of the Project Site and one is along the southwestern boundary. Typical understory shrubs include California blackberry, poison oak, toyon (*Heteromeles arbutifolia*), bush monkey flower (*Mimulus aurantiacus*), California coffeeberry (*Frangula californica* spp. *californica*), and multiflora rose (*Rosa multiflora*). Other species include poison hemlock (*Conium maculatum*), common cow-parsnip (*Heracleum lanatum*), prickly sowthistle *(Sonchus asper*), common bracken fern (*Pteridium aquilinum*), broadleaf forget-me-knot (*Myosotis latifolia*), coastal hedgenettle (*Stachys chamissonis*), rice cutgrass (*Leersia oryzoides*), and other species found elsewhere on the site like bull thistle, Italian thistle, and pale flax, among others.

Coyote Brush Scrub (G5, S5)

The Coyote Brush Scrub alliance on the Project Site is found is several aeras often associated with the hillslopes abutting the intermittent streams. The coyote brush (*Baccharis pilularis*) is the dominant plant with the spaces around the coyote brush dominated by mostly non-native annual grasses such as wild oat (*Avena fatua*), soft brome (*Bromus hordaceus*), ripgut brome (*Bromus diandrus*), hedgehog dogtail (*Cynosurus echinatus*), Italian ryegrass (*Festuca perennis*), six weeks fescue (*Vulpia bromoides*), wall barley (*Hordeum murinum*), little quaking grass (*Briza minor*), and rattlesnake grass (*Briza maxima*).

Cattail Marshes (G5, S5)
Two large perennial wetlands, shown on Figure 10 and 11 as W6 & W9, are situated in-line with the main stream just east of State Route 1 and may fall within the cattail marsh alliance. The marsh habitats have formed within ponded areas behind earth levees. Emergent vegetation in the marshes is dominated by species such as broadleaf cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*). Also present in these wetlands are species such as floating marsh pennywort (*Hydrocotyle ranunculoides*) and prostrate knotweed (*Polygonum aviculare*), along with duckweed (*Lemna* sp.) and water fern (*Azolla* sp.) floating on the water surface. Cowardin classification of the two cattail marshes are palustrine aquatic bed, perennial.

Wetland plant species around the edges of the marsh include species such as soft rush (*Juncus effusus*), Baltic rush (*Juncus balticus*), irisleaf rush (*Juncus xiphioides*), jointed rush (*Juncus articulatus*), sedge (*Carex* sp.), common spikerush (*Eleocharis macrostachya*), tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), and velvet grass (*Holcus lanatus*).

Soft and Western Rush - Sedge Marshes (G4? S3/S4)
Nine smaller seasonal wetlands are composed of a mixture of vegetation and do not fit perfectly into a specific alliance. For the purpose of assessing potential impacts to ESHA's HBG determined the Soft and Western Rush - Sedge Marshes alliance was a reasonable category. Cowardin classification of these wetlands (W-1, 2, 3, 4, 5, 7, 8, 10, and 11) are palustrine emergent, persistent.

Emergent vegetation in these wetlands is dominated by species such as soft rush (*Juncus effusus*), Baltic rush (*Juncus balticus*), irisleaf rush (*Juncus xiphioides*), jointed rush (*Juncus articulatus*), sedge (*Carex* sp.), common spikerush (*Eleocharis macrostachya*), tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), Italian ryegrass (Festuca perennis), and velvet grass (*Holcus lanatus*).

Arroyo Willow Thickets (G4, S4)
Two areas support arroyo willow thickets alliance. One area is situated abutting a stream with a relatively steep topographic slope and is likely not covered periodically or permanently with shallow water and does not supports hydric soils. The second is on the downstream end of an intermittent stream abutting State Route 1 and is labeled on Figure 10 as W12. This arroyo willow thicket does appear to be covered periodically with shallow (sediment deposits). This area is relatively flat topographically, supports a small intermittent stream flowing through the middle, and likely floods for long periods during the winter. The emergent vegetation in this marsh is dominated by what are likely arroyo willows (*Salix lasiolepis*), which is a facultative wetland plant species (FACW).

One area in line with the intermittent stream labeled as R-11, 12, and 13 on Figures 10 and 11 is dominated by willow which is likely arroyo willow (*Salix lasiolepis*). Understory vegetation contains growth of California blackberry (*Rubus ursinus*), Himalaya berry (*Rubus ameniacus*), and velvet grass (*Holcus lanatus*).

A second area in line with the stream labeled R-9 is also dominated by willow which is likely arroyo willow (*Salix lasiolepis*). This willow dominated habitat is found at the end of R-9 abutting State Route 1, is relatively flat topographically, and likely floods for long periods during the winter. Due to the long duration of flooding this arroyo willow thicket is would be considered a "wetland' in accordance with

the Marin HCP and CCA definition of wetlands. This vegetation community is classified as palustrine forested wetland and labeled as W-12 on Figure 10 *ESHA's and 100-Foot Buffer Map*.

Eucalyptus (GNA, SNA)

Trees along the western boundary of the Project Site are dominated by blue gum eucalyptus (*Eucalyptus globulus*), likely planted as a windbreak, but a few other tree species such as Monterey cypress (*Hesperocyparis macrocarpa*) and California bay are also present in lesser numbers. The eucalyptus trees support a sparse understory of California blackberry, poison hemlock, and other species.

Urban (Global and State Ranking N/A)

The Urban habitat on the Project Site is found on areas abutting Point Reyes-Petaluma Road and on the area occupied by Point Reyes Arabian Adventures parking lot and horse stable area. Vegetation is sparse and areas are either paved, compacted gravel, or compacted earth which suppresses the growth of herbaceous vegetation.

4.7 Environmentally Sensitive Habitat Areas.

The wetland habitat, intermittent streams up to the top-of-bank of each stream, and the riparian zone/vegetation associated with each intermittent stream are considered Environmentally Sensitive Habitat Areas (ESHA's). In addition, the wetland labeled W9 does support a population of northwestern pond turtle and California red-legged frog, and it is likely W6 also supports the northwestern pond turtle and California red-legged frog. These two wetlands are considered ESHA's because they are wetlands and because they support two rare animals, the northwestern pond turtle and California red-legged frog. The Project Site does not support other non-aquatic terrestrial ESHA's such as habitats such as coastal dunes, roosting, and nesting habitats such as groves of trees that provide colonial nesting and roosting habitat for monarch butterflies, avian species, large colony bat roosting sites, or other wildlife, as referenced in Marin County LCP BIO-10, or riparian vegetation that is not associated with a perennial or intermittent stream.

A 100-foot buffer from the ESHA's were drawn from the edge of each wetland landward and the top-of-bank of each stream landward. The buffers provided are wider than if the buffer extended 50-feet landward from the edge of the riparian zone.

Refer to Figure 10 *ESHA's and 100-Foot Buffers Map* for the extent and location of ESHA's and the 100-foot buffer.

4.8 Animal Populations

General Characteristics of Onsite Habitats. The habitats on the Project Site and in the surrounding area support many wildlife species, mostly those typically found in disturbed grassland, riparian and oak woodland habitats, and perennial wetlands with open water in this part of Marin County.

Trees like those found on the Project Site generally provide shelter and cover for a variety of amphibians, reptiles, birds, and mammals and provide foraging and breeding habitat for a variety of aquatic and terrestrial wildlife species. Coast Live Oak Woodlands also provide food and cover for many species of wildlife, and the oaks have long been considered important to some birds and

mammals as a food resource (i.e., acorns). Riparian habitats provide food and water sources, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife. They also provide breeding sites for amphibians and feeding areas for larger mammals such as deer. Canopy riparian trees and other vegetation provide nesting substrates for many bird species and foraging areas for both migratory and resident species. Well-developed riparian canopies also provide significant habitat in support of neotropical migrant land birds during spring and fall migration. The canopy vegetation provides shading and inputs of leaves and woody material to stream channels that provide suitable conditions for many aquatic organisms, including fish, that in coastal Marin County can include species of anadromous salmonids.

Grasslands are suitable to support amphibians, reptiles, and mammals adapted to this habitat. Grasslands provide nesting habitat for many passerine species (songbirds); foraging habitat for passerines, owls, and other raptors (birds of prey); habitat for ground-nesting birds; and habitat for small mammals with burrows that provide essential refugia for reptiles and amphibians that may disperse to uplands during terrestrial portions of their life cycle. Many species of reptiles, birds, and mammals are restricted to grasslands for specific life stages, including breeding. Special features within grasslands and woodlands such as shrubs and downed wood are also of value to wildlife. Many wildlife species use Annual Grasslands for foraging, but some require special habitat features such as cliffs, caves, ponds, or habitats with woody plants for breeding, resting, and escape cover. Many species of reptiles, birds and mammals are restricted to grasslands for their breeding habitat.

Fresh emergent wetlands are among the most productive wildlife habitats in California. Two perennial palustrine aquatic bed wetlands in-line with the main stream just east of State Route 1 support fresh emergent marsh habitat. The habitat in much of the stream is riparian in nature, but the marsh habitats have formed within perennial wetlands behind the earthen levees. In general, these wetland habitats provide food, cover, and a source of water for many species of mammals, birds, reptiles, and amphibians. Wetlands provide foraging and nesting areas for birds such as various species of waterfowl (e.g., ducks), waterbirds (e.g., herons and egrets), and shorebirds (e.g., sandpipers, snipe, etc.). Many passerine species (songbirds) nest solely in areas of freshwater marsh. Freshwater marsh habitats provide breeding sites for amphibians and feeding areas for larger mammals such as deer.

Animal Populations at the Project Site. The North Coast riparian scrub habitat located within several canyons and streams throughout the Project Site and freshwater marshes in the western portion of the property provide wildlife habitat that includes a water source and that serves as a movement/migration corridor and foraging and breeding habitat for a variety of aquatic and terrestrial wildlife species. The oak woodlands also provide food and cover for many species of wildlife. In addition, many of the trees in the riparian habitat and oak woodlands at the site are old enough to have significant cavities that could support cavity nesting birds or could serve as either winter or maternity roosts for various species of bat.

The freshwater aquatic environments on the Project Site are particularly suitable as breeding habitat for various species of amphibian that would be expected to include species such as Pacific chorus frog *(Pseudacris regilla)*, bullfrog (*Lithobates catesbeianus*), California slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), and western toad (*Anaxyrus boreas*), among

others. Reptiles observed at the site included western fence lizard (*Scoloperus occidentalis*), but other reptiles that would be expected include southern alligator lizard (*Elgaria multicarinatus*), Pacific gopher snake (*Pituophis catenifer),* and common garter snake (*Thamnophis sirtalis elegans*).

Mammals observed during a spring (May 30, 2024) field visit to the site included mule deer (*Odocoileus hemonius*) and black-tailed jackrabbit (*Lepus californicus*), and many dens of California vole (*Microtus californicus*) and Botta's pocket gopher (*Thomomys bottae*) were observed scattered throughout the onsite uplands. Other mammals expected at the site would include Virginia opossum (*Didelphis virginiana*), house mouse (*Mus musculus*), deer mouse (*Peromyscus maniculatus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and perhaps long-tailed weasel (*Neogale frenata*). Larger mammals such as gray fox (*Urocyon cinereoargenteus*) or coyote (*Canis latrans*) may also be present.

HBG's wildlife biologist observed 34 avian species at the site during the spring 2024 field visit to the site. Given the time of year, any of the species observed could be nesting on the site or in the immediate vicinity. Many bird species were observed in the onsite grasslands including California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos),* common raven (*Corvus corax*), savannah sparrow (*Passerculus sandwichensis*), song sparrows *(Melospiza melodia*), and western meadowlark (*Sturnella neglecta*). Barn swallows (*Hirundo rustica*), tree swallows (*Tachycineta bicolor*), violet-green swallows (*Tachycineta thalassina)*, and cliff swallows (*Petrochelidon pyrrhonota*) were foraging for insects over the grasslands. Raptor species foraging in the grasslands included turkey vulture (*Cathartes aura*) and red-shouldered hawk (*Buteo lineatus).*

The oak woodland and riparian habitats supported California quail, wild turkey (*Meleagris gallopavo*), Anna's hummingbird (*Calypte anna*), western flycatcher (E*mpidonax difficilis*), Black phoebe (*Sayornis nigricans),* ash-throated flycatcher (*Myiarchus cinerascens*), Steller's jay (*Cyanocitta stelleri*), California scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), American robin (*Turdus migratorius*), house finch (*Haemorhous mexicanus*), purple finch (*Haemorhous purpureus*), pine siskin (*Spinus pinus*), and spotted towhee (*Pipilo maculatus*). The wetland ponds supported a flock of red-winged blackbirds (*Agelaius phoeniceus*) that were likely nesting in the cattails and other vegetation. Urban areas around the human habitation supported Eurasian collared-dove (*Streptopelia decaocto*), Anna's hummingbird, song sparrow, California towhee (*Melazone crissalis*), and Brewer's blackbird (*Euphagus cyanocephalus*).

4.9 Aquatic Resources

On April 27, 2023, and May 21, 2024, Robert Perrera of HBG conducted an investigation of the Project Site for the presence of wetlands and other "waters of the U.S." potentially subject to federal jurisdiction under the Clean Water Act or state or local jurisdiction under the Porter-Cologne Act, the Section 1602 Fish and Game Code jurisdiction of CDFW, and areas that may be considered wetlands under the California Coastal Act definition. The review included an investigation of existing landforms, vegetation, hydrology, and soil conditions.

The GPS data collected during field sampling were incorporated into an HBG Project database using Geographic Information System (GIS) software and geo-referenced in overlay fashion onto an

orthorectified digital aerial photograph following national mapping standards. Data overlays of indicator observations were mapped to assist in the analysis to determine if areas meet the USACE's WOTUS definition. The geographic extent of areas identified as being potential wetlands or other waters were mapped and classified to the class level using the US Fish and Wildlife Service's Classification System for Wetland and Deepwater Habitats (Cowardin et al. 1979).

Based on the CCA there are approximately 5.96 acres of wetlands riparian habitat considered ESHA's. Based on a collective presence of hydric soil, wetland hydrology, and hydrophytic vegetation field indicators as required by the 1987 Corps Delineation Manual criteria, approximately 1.58 acres of wetlands were identified and delineated within the Project Site that meet the definition of a wetland and the CWA Section 404 definition of wetlands.

Additionally, approximately 5,625 linear feet of intermittent streams exhibiting an OHWM and top-of-bank considered ESHA's, and other Waters of the U.S. and State were identified and delineated within the Project Site. The streams were mapped using GPS data collected during field sampling and topographic survey data provided by the Applicant. These intermittent stream channels direct surface water flows either under Point Reyes Petaluma Road to Lagunitas Creek or under State Route 1, both eventually flowing into Tomales Bay. The wetted portion of these intermittent streams (area below Ordinary High Water) would be regulated by the Corps of Engineers as a water of the U.S. under Section 404 of the Clean Water Act. The streams, including the top-of-bank of the streams, and riparian zone would be regulated by the North Coast RWQCB as a water of the state of California under the Porter-Cologne Act and CDFW pursuant to Section 1602 of the California Fish and Game Code. In addition, the streams along with a 100-foot buffer from the top-of-bank of the streams would also be considered a "Stream Conservation Area" and may be protected under provisions of the Marin County LCP and CCA.

Figure 10 provides the extent and location of ESHA's and 100-foot buffer from each ESHA subject to regulation under the CCA. Figure 11 shows the aquatic resources identified and delineated which are subject to USACE Section 404 CWA jurisdiction and RWQCB Porter Cologne Water Quality Control Act jurisdiction. Table 1 provides the CCA wetlands and Table 2 provides the CWA aquatic resources.

Table 1. California Coastal Act ESHA's

Cowardin Classification	**Acreage (ac)/Linear Feet (LF)**	**Notes**
Palustrine Aquatic Bed, Rooted Vascular (PAB3)	1.26 ac	Water appears to be perennial.
Palustrine Emergent (PEM)	0.32 ac	None
Palustrine Forested (PFO)	0.52 ac	Meets CCA wetland definition but not the CWA wetland definition.
Riparian Zone/Vegetation	3.86 ac	None
Intermittent Stream	5,625 LF	None
Total	**5.96 ac**	**Total does not include Intermittent Stream acreage**

Table 2. Federal Clean Water Act Aquatic Resources		
Cowardin Classification	**Acreage (ac)/Linear Feet (LF)**	**Notes**
Palustrine Emergent (PEM)	0.32 ac	None
Palustrine Aquatic Bed, Rooted Vascular (PAB3)	1.26 ac	None
Intermittent Stream	5,625 LF	None
Total	**1.58 ac**	**Total does not include Intermittent Stream acreage**

The USACE verified the extent and location of waters of the U.S. on November 13, 2024. Refer to Appendix E USACE PJD for a copy of the USACE verification letter and map. It should be noted that recently the site's topography was surveyed generating a more accurate alignment of the streams. The Figures provided in Appendix A reflect the updated stream alignments based on the updated topographic data. HBG will re-submit the Aquatic Resource Delineation to the USACE and request the verification be updated to reflect this more accurate data.

4.10 Special Status Species

Based on species occurrence information from the literature review and field observations, and USFWS IPaC database review (see result in Appendix C), a list of special-status and CNDDB-tracked plant and animal species considered to have the potential of occurring within the Project Site was generated and is summarized in Tables 2 and 3 of Appendix B. Each species considered potentially occurring in the Project Site or in the vicinity was then evaluated based on the occurrence criteria provided in Section 3.4, above.

Based on a CNDDB search, there are no special status species documented within the Project Site boundaries, however 72 special status species of plants, 50 special status animals, and 5 sensitive natural communities are known to occur within the vicinity of the Project Site. Appendix B, Tables 2 and 3 provide lists of the special status plant and animal species identified. Tables 2 and 3 also provide listing status, general and micro habitat descriptions, an evaluation of the species potential for occurring within the Project Site based on the criteria listed in Section 3.4, above, and recommended further actions, if necessary. An evaluation of the eight sensitive natural communities noted to have occurred near the Project Site is included in Section 4.10.3.

4.10.1 Special Status Plants

Based on the database search, literature review and habitat types found on the Project Site, a total of 72 special status species are documented in the CNDDB as occurring within 10 miles of the Project Site. These species are listed in Appendix B, Table 2. Of these, 27 special-status plant species were identified as having a Moderate Potential to occur on the Project Site as these species have been known to occur in the general vicinity and suitable habitat and soil types for these species occur on the property. Many of the species listed in Table 2 are dependent on serpentine or sandy soils or occur in coastal dunes, chaparral, coniferous forest, or other habitat types that do not occur on the Project Site. The 27 species with a Moderate Potential of Occurrence include 14 special status plant species that occur in

freshwater marshes and swamps and an additional 13 species that occur in valley and foothill grasslands, Coastal oak woodlands or other upland habitat types that occur on the Project Site.

Special status species with a Moderate Potential for presence in the onsite areas of freshwater marsh include the following:

- Sonoma alopecurus (*Alopercurus aequalis* var. *sonomensis*), federally endangered and CRPR 1B.1
- Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), CRPR 1B.2
- Thurber's reed grass (*Calamagrostis crassiglumis*), CRPR 2B.1
- Bristle stalked sedge (*Carex leptalea)*), CRPR 2B.2
- Lyngbye's sedge (*Carex lyngbyei))*), CRPR 2B.2
- Point Reyes paintbrush (*Castilleja leschkeana*), CRPR 1A
- Bolander's water hemlock (*Cicuta macualata* var. *bolanderi*), CRPR 2B.1
- Swamp harebell (*Eastwoodia californica*), CRPR 1B.2
- Baker's goldfields (*Lasthenia californica* ssp. *bakeri*), CRPR 1B.2
- Coast lily (*Lilium maritimum*), CRPR 1B.1
- North Coast semaphore grass (*Pleuropogon hooverianus*), state threatened, CRPR 1B.1
- California beaked rush (*Rhynchospora californica*), CRPR 1B.1
- Sanford's arrowhead (*Sagittaria sanfordii*), CRPR 1B.2
- Point Reyes checkerbloom (*Sidalcea calycosa* ssp.*rhizomata*), CRPR 1B.2

Special status species with a Moderate Potential for presence in the onsite areas of grassland, woodland, and other upland habitats include the following:

- Napa false indigo (*Amorpha californica* var. *napensis*), CRPR 1B.2
- Bent-flowered fiddleneck (*Amsinckia lunaris*), CRPR 1B.2
- Franciscan thistle (*Cirsium andrewsii*), CRPR 1B.2
- Baker's larkspur (*Delphinium bakeri*), State and federally endangered, CRPR 1B.1
- Western leatherwood (*Dirca occidentalis*), CRPR 1B.2
- Fragrant fritillary (*Fritillaria liliacea*), CRPR 1B.2
- Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*), CRPR 1B.2
- Point Reyes horkelia (*Horkelia marinensis*), CRPR 1B.2
- Marsh microseris (*Microseris paludosa*), CRPR 1B.2
- Purple-stemmed checkerbloom (*Sidalcea malviflora* ssp. *purpurea*), CRPR 1B.2
- Scouler's catchfly (*Silene scouleri* spp. *scouleri*), CRPR 2B.2
- Pacific Grove clover (*Trifolium polyodon*), state Rare, CRPR 1B.1
- San Francisco owl's clover (*Triphysaria floribunda*), CRPR 1B.2

All other plant species identified in the database search were determined to be absent due to the lack of potentially suitable habitat as documented by the CNDDB database. Previous field studies conducted by HBG included extensive vegetation mapping and identification of plant species but did not follow protocols for a focused rare plant survey.

4.10.2 Special Status Animals

Animal species noted in the CNDDB as occurring within a 10-mile radius of the Project Site are discussed in Table 2. A total of 50 special status animal species were determined to be present within 10 miles of the Project Site as documented by the CNDDB. Special status animal species with at least a Moderate Potential for occurrence on the Project Site are discussed below: western bumble bee (*Bombus occidentalis*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylii*), northwestern pond turtle (*Emys marmorata*), northern spotted owl (*Strix nebulosa caurina*), burrowing owl (*Athene cunicularia*), tricolored blackbird *(Agelaius tricolor)*, and American badger (*Taxidea taxus*)**.** Also discussed are steelhead (*Oncorhynchus mykiss*) and coho salmon (*Oncorhynchus kisutch)* as it is known that they occur in nearby Lagunitas Creek. None of the other animal species discussed in the table have the potential to occur on the site. This finding is based on the habitat requirements of species listed in the table and is based on field review of habitats present at the site and the immediate vicinity, and an evaluation of the suitability of on-site habitats to support these species.

It should be noted that the USFWS IPaC data also included Green Sea Turtle (*Chelonia mydas*), and, as a pelagic species, it was easily determined that this species would not occur on or near the Project Site.

INVERTEBRATES

Two special status invertebrates were identified as potentially occurring in the Project vicinity.

Western bumble bee (*Bombus occidentalis*):

Range. This species has undergone severe declines in area of occupancy, number of occurrences, and relative abundance since the mid-20th century. Previously, it was one of the most abundant bumble bees in the western United States and Canada.

Listing Status. CESA Candidate Endangered.

Habitat. Found in a range of habitats, including mixed woodlands, farmlands, urban areas, montane meadows and into the western edge of the prairie grasslands (COSEWIC 2014). Food plants include: *Ceanothus, Centaurea, Chrysothamnus, Cirsium, Geranium, Grindellia, Lupinus, Melilotus, Monardella, Rubus, Solidago, and Trifolium* (Williams et al. 2014).

Threats. Ongoing threats to the species, particularly within the southern portions of its range, include pathogen spillover from commercially managed bumble bee colonies, increasingly intensive agricultural and livestock grazing and other land use practices, pesticide use, including neonicotinoid compounds, and habitat change.

Project Site Occurrence. Moderate Potential. Not observed to be present. The CNDDB reports this species occurring within about 1.3 miles southeast of the Project Site within the vicinity of Olema in 1968. The Project Site has Moderate Potential to be used for episodic foraging as several nectar producing plant species are present which are known to be used by the western bumble bee. These include Geranium (*Geranium spp.*), thistles (*Cirsium* spp.), and blackberries (*Rubus* spp.).

California freshwater shrimp (*Syncaris pacifica*):
Range. California freshwater shrimp occur only in a limited range within the northern San Francisco Bay Area. Specifically, this species occurs only in 17 stream segments within Sonoma, Napa, and Marin Counties.

Special-Status Listing. Federally listed Endangered, California state listed Endangered.

Habitat. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. The species prefers shallow pools removed from the main flow. Occurrence is restricted to perennial streams below 100 meters mean sea level (msl) and with a gradient of less than one percent.

Threats. Habitat loss, especially as a result of overgrazing by cattle, along with chemical water pollution.

Project Site Occurrence. The CNDDB reports that the nearest population of California Freshwater Shrimp is within 0.58 miles of the Project Site within Lagunitas Creek. The Project Site lacks the elements that constitute suitable habitat for the species (e.g., shallow pools removed from the main flow of perennial streams). There is No Potential for the species to occur within the Project Site.

FISH
Two special-status fish species were identified as potentially occurring in the Project Area (specifically within nearby Lagunitas Creek).

Steelhead Trout (*Oncorhynchus mykiss*)- Central California Coast Distinct Population Segment
Range. The Central California Coast DPS of Steelhead includes all naturally spawned population of steelhead and their progeny in streams from the Russian River south to Aptos Creek in Santa Cruz County. The DPS does not include the Pajaro River but does include the drainages of the San Francisco and San Pablo Bays.

Special Status Listing. Steelhead populations in the Central California Coast DPS are listed as threatened under the federal ESA.

Critical habitat for Central California Coast steelhead includes all river reaches and estuarine areas accessible to steelhead in coastal river basins from the Russian River to Aptos Creek (inclusive), and the drainages of San Francisco and San Pablo Bays. Also included are adjacent riparian zones, all waters of San Pablo Bay west of the Carquinez Bridge, and all waters of San Francisco Bay to the Golden Gate. Critical habitat for this DPS includes the waters of Lagunitas Creek running just south of the Project Site.

Habitat. Steelhead require well-oxygenated streams with riffles and loose, silt-free gravel substrate for spawning. Steelhead possess the ability to spawn repeatedly, maintaining the mechanisms to return to the Pacific Ocean after spawning in freshwater. Juvenile steelhead may spend up to four years residing in fresh water prior to migrating to the ocean as smolts. Steelhead spawning migrations occur during the period from late November through April in years of normal runoff. Most upstream migration occurs during and immediately following periods of heavy storm runoff. Most salmon die after

spawning, but steelhead begin a return migration to the ocean soon after completion of spawning. Juvenile steelhead require a period of residency in the stream before migrating downstream to the ocean with the length of freshwater residency varying from one to three years or more depending on the living conditions in the stream. The major downstream migration of juvenile steelhead occurs during the period from February through June, depending on the water year and pattern of winter-spring runoff. Fish habitat is physically reduced to a minimum during the low-flow period of July through October when the actual physical habitat supporting fish life is at its minimum and the amount of available habitat becomes a limiting factor in the health and survival of fish populations.

Threats. Steelhead populations in the watershed have fluctuated widely since about 1970 and are significantly reduced from anecdotal reports of large historic populations. Throughout California, populations of native fish species, including steelhead, have been steadily declining. Human-caused factors for this decline include habitat alterations such as water diversions, road building, timber harvest, urbanization, flood control structures and practices, and climate change (NMFS 2012).

Recent wet winters resulting in high flows within streams of the Lagunitas watersheds coupled with habitat improvements (e.g., removal of culverts and other blockages to fish passage) that have been completed by the National Park Service, the Marin Municipal Water District, the Salmon Protection And Watershed Network (SPAWN), and others have resulted in greater numbers of steelhead in streams within this watershed in the last several years.

Potential Site Occurrence. No Potential. Steelhead would not be expected to occur within the streams that traverse the Project Site, however, the species presence in Lagunitas Creek is well documented. Lagunitas Creek is located just south of the Project Site on the south side of Point Reyes Petaluma Road.

Coho Salmon (*Oncorhynchus kisutch)*- Central California Coast Environmentally Sensitive Unit (ESU)

Range. Central California Coast Coho Salmon ESU includes all naturally spawned coho salmon originating from rivers south of Punta Gorda, California to and including Aptos Creek, as well as such coho salmon originating from tributaries to San Francisco Bay.

Special Status Listing. Populations of coho salmon within the Central California ESU are federally listed as endangered between Punta Gorda and the San Lorenzo River and are state listed south of San Francisco Bay.

Critical habitat for the Coho Salmon Central California Coast ESU encompasses accessible reaches of all rivers (including estuarine areas and tributaries) between Punta Gorda and the San Lorenzo River (inclusive) in California, including two streams entering San Francisco Bay: Arroyo Corte Madera Del Presidio and Corte Madera Creek. Critical habitat for this ESU includes the waters of the Russian River adjacent to the Project Site.

Habitat. This salmonid requires a creek bed with loose, silt-free, coarse gravel for spawning, cool water, and sufficient dissolved oxygen. Coho salmon spawning migrations occur during the period from late November through April in years of normal runoff. Most upstream migration occurs during and

immediately following periods of heavy storm runoff. All coho salmon die after spawning. Juvenile coho salmon require a period of residency in the stream before migrating downstream to the ocean. The length of freshwater residency may vary from one to three years or more depending on the living conditions in the stream. The major downstream migration of coho salmon occurs during the period from February through June, depending on the water year and pattern of winter-spring runoff as fish habitat is physically reduced to a minimum during the low-flow period of July through October. During this low-flow period, the actual physical habitat supporting fish life is at its minimum and the amount of available habitat becomes a limiting factor in the health and survival of fish populations.

Threats. Coho Salmon populations in the watershed have fluctuated widely since about 1970 and are significantly reduced from anecdotal reports of large historic populations. Throughout California, populations of native fish species, including coho salmon, have been steadily declining. Human-caused factors for this decline include habitat alterations such as water diversions, road building, timber harvest, urbanization, flood control structures and practices, and climate change (NMFS 2012).

Nevertheless, the Lagunitas Creek watershed supports the largest remaining wild run of federally listed endangered coho salmon in central California. Recent wet winters resulting in high flows within streams of the Lagunitas watershed coupled with habitat improvements (e.g., removal of culverts and other blockages to fish passage) that have been completed by the National Park Service, the Marin Municipal Water District, the Salmon Protection And Watershed Network (SPAWN), and others have resulted in greater numbers of coho salmon in streams within this watershed in the last several years.

Potential Site Occurrence. No Potential. Coho salmon would not be expected to occur within the intermittent streams that traverse the Project Site, however, the presence of the species in Lagunitas Creek is well documented. Lagunitas Creek is located just south of the Project Site on the south side of Point Reyes Petaluma Road. The intermittent streams on the southern half of the Project Site do discharge through culverts under Point Reyes Petaluma Road and eventually into Lagunitas Creek, however barriers and the nature of the intermittent creeks (steep gradients, intermittent in nature, physical and natural barriers) prevent fish from entering the Project Site. According to the CNDDB, the species occurs in Olema, San Geronimo and Lagunitas Creeks and Devils Gulch. It is believed that these streams provide spawning habitat for approximately 10% of California's coho salmon.

AMPHIBIANS
Two special-status amphibian species were identified as potentially occurring in the Project Area.

California red-legged frog (*Rana draytonii*):
Range. Native historical range extended from southern Mendocino County in northwestern California south (primarily west of the Cascade-Sierra crest) to northwestern Baja California (Shaffer et al. 2004).

Special-Status Listing. Federally listed as threatened, CDFW Species of Special Concern (CDFW 2024).

Habitat. California red-legged frogs (CRLF) have been observed in aquatic and terrestrial habitats, including marshes, streams, lakes, reservoirs, ponds and other permanent, or near permanent, sources of water. Although they occur in ephemeral streams or ponds, CRLF are expected to thrive in permanent deep-water pools with dense stands of overhanging willows and emergent vegetation, and

suitable sites for basking. However, they have been observed in various aquatic environments, including stock ponds and artificial pools with little to no vegetation. California red-legged frogs are usually observed near water but can move long distances over land between water sources during the rainy season.

The life cycle and patterns of movement of the CRLF have evolved along with the local California climate of wet, cool winters and dry, warm summers. With the onset of the winter rains, CRLF move from dry season refuges to ponds and streams that can support breeding and successful tadpole development. Tadpoles generally take until late summer or early fall to complete metamorphosis, and then the maturing young frogs (metamorphs) move to aquatic areas to take cover from predators. Adult frogs often remain year-round at perennial ponds with deep water, but some depart for dry season refuges once breeding is over. Juveniles (frogs that are older than metamorphs but not yet sexually mature) disperse widely over the landscape during the first winter and will take residence in almost any water source. During the dry months of summer and fall, CRLF seek suitable dry season refuge sites that may include deep water holes in drying streams, springs and spring boxes, seeps, and small mammal burrows (especially in or near vegetation). However, CRLF must hydrate at least every couple of days to survive. Thus, such small mammal refuge sites must be close to a permanent water source for frogs to rehydrate. To find these refuges, frogs will travel several hundred yards where suitable refuges are abundant and up to three miles in moist coastal areas. Often, long distance movements are in a relatively straight line over hills and drainages between the beginning and end points.

Threats. Factors contributing to local declines include wetland destruction and degradation or fragmentation, urbanization, residential development, reservoir construction, stream channelization, livestock grazing of riparian vegetation, off-road vehicle activity, drought, overharvesting, and exotic fishes (bass, mosquitofish) and possibly bullfrogs. Conversion of habitat to more permanent ponds is an important threat (as this allows breeding waters to be invaded by non-native predators). Habitat characteristics and good leaping ability may render these frogs less vulnerable to bullfrog predation, although in many areas California red-legged frogs coexist with bullfrogs.

Project Site Occurrence. Present. The Project Site lies within the historic range of CRLF, and multiple records for CRLF are known from the CNDDB within 1.25 miles southwest, west, and northwest of the Project Site. In addition, the habitats within the Project Site, which include five streams and both intermittent and perennial ponds with surrounding uplands containing numerous small mammal burrows, appear to be suitable for CRLF. Therefore, the applicant contracted with Dr. Mark Jennings of Rana Resources to conduct a protocol habitat assessment on the Project Site for this species. Dr. Jennings observed an adult CRLF on May 21, 2024, within the upper perennial palustrine aquatic bed wetland pond labeled as W-9 on Figure 11, confirming that CRLF are present on the Project Site. In his report, Dr. Jennings indicated that the habitat within the Project Site is suitable for reproduction of CRLF, despite the presence of both introduced bullfrogs (*Lithobates catesbeianus*) and mosquitofish (*Gambusia affinis*). The Habitat Assessment report prepared by Dr. Jennings of Rana Resources is included in Appendix F.

Foothill yellow-legged frog (*Rana boylii*)- North Coast Distinct Population Segment (DPS).
Range. The North Coast Distinct Population Segment of this species range extends north of San Francisco Bay through the Coast Range and Klamath Mountains to the northern limit of the foothill yellow-legged frog's range and east through the Cascade Range. It includes all of Colusa, Del Norte, Glenn, Humboldt, Lake, Marin, Mendocino, Napa, Shasta, Solano, Sonoma, Tehama, Trinity, and Yolo Counties and portions of Butte, Lassen, Modoc, and Siskiyou Counties, California.

Special-Status Listing. Species of Special Concern (CDFW 2024).

Habitat. Foothill yellow-legged frog requires partly-shaded, shallow streams and riffles with rocky substrate in a variety of habitats. The frogs need at least some cobble-sized substrate for egg-laying. Larvae require at least 15 weeks to attain metamorphosis. Yellow-legged frogs are usually found on stream banks, especially near riffles.

Threats. Populations of this species in this DPS likely occupied many more streams historically. Although populations in this DPS occupy much of the former range, overall abundance has likely decreased compared to historical levels. Drought and climate change remain a threat. The short-term trend of populations in this DPS are stable to declining as the effects of climate change and legacy logging impacts continue to impact habitat suitability. Several protection and conservation measures are in place that promote population stability throughout the DPS. The habitat elements necessary for stable populations were degraded throughout the DPS and are now beginning to recover.

Project Site Occurrence. No Potential. The nearest record of foothill yellow-legged frog in the CNDDB is 2.25 miles east of the Project Site in the Nicasio Creek drainage. The applicant contracted with Dr. Mark Jennings of Rana Resources to assess the suitability of the habitats within the Project Site for foothill yellow-legged frog. Dr. Jennings concluded that the stream habitats located within the Project Site are not suitable for presence of foothill yellow-legged frog. The Habitat Assessment report prepared by Dr. Jennings or Rana Resources is included in Appendix F.

REPTILES
One special-status reptile species was identified as potentially occurring in the Project Area.

Northwestern pond turtle *(Emys marmorata)*:
Range. Range extends from Washington or British Columbia to central California.
https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.103571/Actinemys_marmorata

Special-Status Listing. CDFW Species of Special Concern (CDFW 2024). Note that CNDDB uses the species scientific name *Emys marmorata* which is synonymous with *Actinemys marmorata*.

Habitat. Northwestern pond turtles occupy ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. The turtles prefer aquatic habitats with calm waters, vegetated banks and emergent logs or rocks to use as basking sites. The turtles also rely on suitable upland areas of scrub and woodlands for aestival refugia and may use upland habitats up to 0.5 km from water for activities such as egg-laying. Turtles living in streams may vacate flood-prone areas during the rainy season. Northwestern pond turtles occur broadly in suitable habitats throughout the state of California.

Threats. Distribution and abundance have declined as a result commercial exploitation for the pet trade, habitat loss and degradation, introduced species, and (locally) disease.

Project Site Occurrence. Present. Multiple records of northwestern pond turtle are known from the CNDDB within 1.25 miles southwest, west, and northwest of the Project Site. In addition, the habitats within the Project Site, which include five streams and both intermittent and perennial ponds with surrounding scrub and woodlands containing numerous small mammal burrows, appear to be suitable for northwestern pond turtle. Therefore, the applicant contracted with Dr. Mark Jennings of Rana Resources to conduct a habitat assessment on the Project Site for this species. Dr. Jennings found that habitat conditions on the Project Site, including the presence of inundated perennial ponds, were suitable to support a breeding population of northwestern pond turtle, despite the presence of both introduced bullfrogs and mosquitofish. The Habitat Assessment report prepared by Dr. Jennings of Rana Resources is included in Appendix F. In addition, Robert Perrera of HBG observed and photographed two northwestern pond turtle within the upper perennial pond on June 27, 2024, a sighting verified by Dr. Jennings, confirming that northwestern pond turtle is present on the Project Site.

BIRDS

Three special-status avian species were identified as potentially occurring in the Project Area.

Northern Spotted Owl (*Strix nebulosa caurina*):
Range. Northern spotted owls reach the southern limit of their range in Marin County.

Special-Status Listing. Federally listed threatened, California state listed threatened.

Habitat. In the northern portion of their range, northern spotted owls are typically found in mature coniferous forests usually from 150 to 200 years old. In Marin County they reside in second growth Douglas-fir, Coast redwood, Bishop pine, mixed conifer-hardwood, and evergreen hardwood forests with a nearly closed canopy and moderate to heavy undergrowth and much woody debris. Nesting northern spotted owls have been found throughout forested habitats in Marin County and use a variety of tree species for nesting. The Bishop pine and Douglas fir forests in this part of Marin County support a healthy population of northern spotted owls (Shuford 1993). Most of these owl territories are in canyon bottoms or mid slope locations on the more mesic north-facing slopes or the leeward slope of the ridge where there is higher precipitation, protection from onshore wind and weather, and fairly dense vegetative cover (Evens 2008). The nesting season for northern spotted owl is considered to include the period between February 1 and July 15. Dusky-footed woodrat is the preferred prey for northern spotted owl in Marin and Sonoma Counties (Shuford 1993, Evens 2008).

Threats. The primary threat to the survival of the northern spotted owl is competition from the aggressive and invasive barred owl, while ongoing habitat loss, primarily from wildfire, constitutes an additional threat.

Project Site Occurrence. Unlikely. HBG conducted a review of National Park Service data regarding known spotted owl nesting territories in the vicinity of the Project Site and data available from the

CNDDB. The data indicates the location of known activity centers for nesting pairs of the species and locations in the vicinity of the nest sites where occurrences of northern spotted individuals have been documented. This information revealed that no known territories of northern spotted owl occur in close proximity (within 0.25 miles) of the project site. The nearest known nesting activity center is approximately 2,447 feet (0.46 miles) to the southeast of the Project Site.

Burrowing Owl (*Athene cunicularia*)**:**
Range. Widespread distribution in North America.

Special-Status Listing. CDFW Species of Special Concern (CDFW 2024). CDFW adopted survey protocol and mitigation guidelines for burrowing owls as described in a March 7, 2012, Staff Report (CDFW 2012).

Habitat. Burrowing owls are small terrestrial owls commonly found in open grassland ranging from western Canada to portions of South America. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Burrowing owls are a subterranean nester, and in California, burrowing owls most commonly use burrows of California ground squirrel, but they also may use manufactured structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers during migration. While foraging, owls will perch on raised burrow mounds or other topographic relief such as rocks, tall plants, fence posts, and debris piles to attain better visibility. Occupancy of suitable burrowing owl habitat can be verified at a site by an observation of at least one burrowing owl, or, alternatively, presence of "decoration" at or near a burrow entrance which can include molted feathers, cast pellets, prey remains, eggshell fragments, or excrement.

Threats. Habitat alteration is causing population declines. The loss of grassland habitat and suitable burrows has been compounded by a reduction in prey populations, and concurrent increases in predation, vehicle collisions, expansion of renewable energy, and severe weather events.

Project Site Occurrence. Moderate Potential. No burrowing owls were observed during field reviews of the Project Site conducted by HBG biologists Robert Perrera, Gary Deghi, or Emilie Strauss, or Dr. Mark Jennings of Rana Resources over multiple dates during multiple seasons during 2023 and 2024. The nearest records of burrowing owl in the CNDDB are from the Pt. Reyes National Seashore where several of the owls were observed “between the Abandoned Ranch and Creamery Bay” in 1983, a location that is nearly 8 miles from the Project Site. Although the grasslands of the Project Site are highly disturbed, there is some evidence of ground squirrel burrows within portions of the site. With the apparent presence of ground squirrels on the property, the presence of burrowing owls in the future cannot be ruled out. There is a Moderate Potential for the site to be used for episodic foraging or even nesting by burrowing owls in the future.

Tricolored Blackbird *(Agelaius tricolor)*:
Range. Largely endemic to California. Most numerous in Central Valley and vicinity (CNDDB, 2023).

Special-Status Listing. CESA Threatened; CDFW Species of Special Concern (CDFW 2024).

Habitat. The tricolored blackbird is a highly colonial nesting species that breeds near freshwater, preferably in emergent wetlands with tall, dense growth of cattails or tules. Nesting sites require open water, protected nesting substrate, and foraging areas with insect prey within a few miles of the colony. Even when the preferred nesting substrates are available, other vegetation may be used for nesting including sedges, nettles, willows, thistles, mustard, blackberry, wild rose, foxtail grass or barley. Since the 1970s with declines in populations, nesting in cereal crops and dairy silage has been documented. Tricolored blackbird foraging areas include rangeland, fields of alfalfa or cut hay, or irrigated pastures with an abundance of insects.

Threats. The species has undergone a long-term population decline, primarily due to losses and fragmentation of breeding and foraging habitats caused by urban and agricultural land conversions, and water diversions (Tricolored Blackbird Working Group 2007).

Project Site Occurrence. Moderate Potential. The nearest location of nesting tricolored blackbird in the CNDDB is of a colony located more than 10 miles from the Project Site at Livermore Marsh along the east side of Tomales Bay about one mile northwest of Marshall. This colony has supported up to 500 pairs and was last reported in the CNDDB in 2011. Tricolored blackbird was not observed on the site during the field reviews conducted by multiple HBG wildlife biologists. However, the perennial palustrine aquatic bed wetland on the Project Site labeled as W-6 and -9 on Figure 11 provides suitable habitat for a tricolored blackbird nesting colony.

MAMMALS
One special-status mammal species was identified as potentially occurring in the Project Area.

American Badger (*Taxidea taxus*):
Range. Large range in the western and central U.S., southern Canada, and northern and central Mexico; relatively common over much of range.

Special-Status Listing. CDFW Species of Special Concern (CDFW 2024).

Habitat. The CNDDB indicates that suitable habitat for American badger includes the drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. American badgers need sufficient food, friable soils, and open uncultivated ground. American badgers dig their own burrows and prey on burrowing rodents. American badger can create a burrow over the course of a day and can, therefore, inhabit a site quickly.

Threats. American badger has declined substantially in areas converted from grassland to intensive agriculture and where colonial rodents such as ground squirrels have been reduced or eliminated. The species is also threatened by collisions with vehicles and by direct persecution.

Project Site Occurrence. Moderate Potential. The nearest records of American badger in the CNDDB are from 1.35 miles to the southwest at Bear Valley Ranch in Olema recorded in 1951. Dr. Jennings reviewed the Project Site for purposes of determining whether American badger may be present and if

the habitat was suitable, and his finding was that the Project Site did not support suitable habitat for American badger (see Dr. Jennings report in Appendix F). American badger was not observed to be present on the Project Site during multiple visits to the site by HBG wildlife biologists either, however, badgers dig their own burrows and can move into suitable grasslands areas at any time. Based on the presence of ground squirrel dens in portion of the site and the presence of other ground dwelling mammals (gophers, voles, moles etc.), HBG determined the onsite soils are suitable for denning and there may be a sufficient food source to support American badger. The potential future presence of American badger on the site cannot be ruled out.

4.10.3 Sensitive Natural Communities

Five sensitive natural communities occur within the 10-mile CNDDB database search radius (Coastal Dune Scrub, Northern Vernal Pool, Coastal and Valley Freshwater Marsh, Northern California Salt Marsh, and Northern Maritime Chaparral). With the exception of some small areas of freshwater marsh described in Section 4.6 as "Cattail Marshes", these communities do not occur within the Project Site.

4.11 Wildlife Movement/Corridors

The five intermittent stream corridors that traverse the Project Site serve as movement corridors for local wildlife (insect, amphibian, reptile, bird, and mammal species).

4.12 Critical Habitat

No Critical Habitat for species listed as threatened or endangered under the federal Endangered Species Act has been designated within the Project Site.

5.0 PROJECT IMPACTS AND MITIGATION MEASURES

5.1 Threshold of Significance

Appendix G to the CEQA Guidelines is a sample Initial Study Checklist that includes questions for determining whether impacts to biological resources are significant. These questions reflect the input of planning and environmental professionals at the Governor's Office of Planning and Research and the California Natural Resources Agency, based on input from stakeholder groups and experts in various other governmental agencies, nonprofits, and leading environmental consulting firms. They also reflect the requirements of laws other than CEQA that protect biological resources (e.g., the federal Clean Water Act, the Porter-Cologne Water Quality Control Act, the federal and state endangered species acts, and the Natural Community Conservation Planning Act). As a result, many lead agencies derive their CEQA significance criteria from the questions posed in Appendix G to the CEQA Guidelines.

Considering the foregoing, the proposed project would have a significant effect related to biological resources if the project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service;
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Additional guidance on the significance of biological resource impacts is found in CEQA Guidelines section 15065, subdivision (a)(1), which provides that a lead agency shall find that a project may have a significant effect on the environment if "[t]he project has the potential to: … substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; [or]substantially reduce the number or restrict the range of an endangered, rare or threatened species[.]" The "mandatory findings of significance" are also found in the Appendix G sample Initial Study checklist.

Therefore, the proposed project would have a significant effect related to biological resources if the project would:

- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community; or
- Substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

5.2 Impacts and Mitigation Measures

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

5.2.1 Special Status Plant Species

The Project was found to have potential habitat for 27 species of special status plants: 14 that could potentially occur in the onsite wetland habitats and 13 that could occur with the valley and foothill grasslands, Coastal oak woodlands or other habitats with appropriate soils that occur within the Project Site. The only way to know if these special status flora species are present on the site is to conduct rare plant surveys using protocol guidelines provided by CDFW. Once the presence or absence of these species has been determined, plans can be developed to avoid development in these areas. The project will not include any development within wetlands or riparian corridors as these areas are to be preserved pursuant to requirements of the Marin County LCP. Therefore, plants within these habitats would not be affected. This is also likely true with respect to indirect impacts to any rare plant populations within these habitats as they will be protected with a buffer zone of at least 50 feet. As these wetland and riparian areas will be preserved as part of any development plan, rare plant surveys are not warranted within wetlands or riparian corridors.

If populations of rare plants are found within grassland areas of the Project Site, either these populations would need to be avoided or alternative measures such as the transplanting of individual plants may be necessary.

Impact 1. Rare Plants. Construction could result in impacts on populations of rare plants.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 1-1. Conduct Rare Plant Surveys. A qualified biologist should conduct rare plant surveys within all areas that may be permanently or temporary impacted within areas proposed for construction of residences or associated infrastructure. These surveys will determine if special status plant species occur on the property and whether construction could impact populations of these rare species. To span the varying flowering periods of multiple rare plant species that could potentially be found in onsite habitats, surveys shall include a series of three survey dates between April and July of the survey year. Survey dates depend on dates at which target species are shown to be flowering, but most likely will include surveys in mid-April, mid-to late-May, and late June/early July of the survey year.

Rare plant surveys within grasslands and other upland habitats that could be proposed for future residential use should consider the following special status plant species:

- Napa false indigo (*Amorpha californica* var. *napensis*), CRPR 1B.2
- Bent-flowered fiddleneck (*Amsinckia lunaris*), CRPR 1B.2
- Franciscan thistle (*Cirsium andrewsii*), CRPR 1B.2
- Baker's larkspur (*Delphinium bakeri*), State and federally endangered, CRPR 1B.1
- Western leatherwood (*Dirca occidentalis*), CRPR 1B.2
- Fragrant fritillary (*Fritillaria liliacea*), CRPR 1B.2
- Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*), CRPR 1B.2
- Point Reyes horkelia (*Horkelia marinensis*), CRPR 1B.2
- Marsh microseris (*Microseris paludosa*), CRPR 1B.2
- Purple-stemmed checkerbloom (*Sidalcea malviflora* ssp. *purpurea*), CRPR 1B.2
- Scouler's catchfly (*Silene scouleri* spp. *scouleri*), CRPR 2B.2
- Pacific Grove clover (*Trifolium polyodon*), state Rare, CRPR 1B.1
- San Francisco owl's clover (*Triphysaria floribunda*), CRPR 1B.2

Mitigation Measure 1-2. Avoidance of Rare Plant Populations. If rare plants are found during surveys, adjustment(s) to areas of proposed development may be warranted to avoid populations of rare plants. If populations cannot be avoided, then transplantation is recommended as a mitigation strategy to minimize impacts to any of these plant species. If any special-status plant species are observed, the applicant will coordinate with the County, CDFW and USFWS, as appropriate, to prepare a plant salvage and mitigation plan on-site. No work will be conducted until the appropriate agency provides written approval of the plan.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to rare plants are avoided or minimized, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

5.2.2 Special Status Animal Species

California Freshwater Shrimp. The nearest population of California Freshwater shrimp to the Project Site is 0.58 mile in Lagunitas Creek, a perennial stream. The streams that traverse the Project Site are steep and intermittent and lack elements that constitute suitable habitat for the species (e.g., low gradient perennial streams with shallow pools removed from the main flow of the streams). California freshwater shrimp do not occur within the Project Site, therefore, no impacts to this species would occur with implementation of the Project.

Coho Salmon and Steelhead. Populations of coho salmon and steelhead are well documented downstream off the Project Site in Lagunitas Creek. In the absence of erosion control measures and other measures to protect water quality, elevated turbidity levels from increased sedimentation or increases in other contaminants in stormwater runoff could result in potential impacts to downstream coho salmon and steelhead.

Impact 2. Coho Salmon and Steelhead. Grading, excavation, placement of fill material, and other ground-disturbing activities associated with construction activities within the Project Site have the potential to cause erosion that would allow elevated levels of sediment to wash into onsite streams that ultimately flow into Lagunitas Creek, where populations of coho salmon and steelhead are well documented. In the absence of erosion control measures and other measures to protect water quality, elevated turbidity levels from increased sedimentation or increases in other contaminants in stormwater runoff could result in potential impacts to downstream coho salmon and steelhead.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 2-1. Erosion Control: Implement Best Management Practices (BMPs) consistent with construction and BMP requirements in the most recent version of the California Stormwater Quality Association's *Construction Best Management Practices* handbook. In addition, vegetation will only be cleared from the permitted construction footprint. Areas cleared of vegetation, pavement, or other substrates shall be stabilized as quickly as possible to prevent erosion and runoff.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to coho salmon and steelhead are avoided or minimized, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

Western Bumble Bee. Several nectar-producing plant species known to be used for foraging by western bumble bee occur on the property, such as Geranium (*Geranium spp.*), thistles (*Cirsium* spp.), and blackberries (*Rubus* spp.). Therefore, presence of this species cannot be ruled out, and impacts to the species are possible if the species is present during construction.

Impact 3. Western Bumble Bee. Removal of flowering plant species used by western bumble bee during initial grubbing and grading could impact the species, if found to be present, by eliminating nectar sites, harming bees, or altering their nest sites. The following avoidance measures listed below will avoid and minimize the potential Take of a western bumble bee.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 3-1, Western Bumble Bee. Implement the *Western Bumble Bee Avoidance Plan* dated July 2025, provided in Appendix G.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to western bumble bee are avoided or minimized, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

California Red-legged Frog. The perennial wetland ponds (W-6 & W-9) are suitable habitat and currently support CRLF. Potentially suitable aquatic habitat for CRLF can be found within the intermittent streams that traverse the property and potentially suitable upland habitat for the species that occur within the onsite grasslands. Dr. Jennings indicated that the habitat within the Project Site is suitable for reproduction of CRLF. Residential development could impact CRLF if they were present

near the construction area. Therefore, prior to construction, a survey of upland portions of the Project Site for CRLF and additional measures to protect the species are warranted.

Impact 4. Initial grading/ground disturbance could harm an individual CRLF if present during the construction period.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 4-1: Implement a construction plan to protect federally listed CRLF during construction that includes the following elements:

- **Construction Timing.** All construction work involving vegetation removal or initial ground disturbance should be conducted no earlier than one hour after sunrise and one hour before sunset and during the dry season between April 15 and October 15 when CRLF are least likely to be dispersing across the landscape.

- **Preconstruction Surveys.** Prior to initiation of any construction requiring vegetation clearing or initial ground disturbance of any kind, a qualified biologist should conduct preconstruction surveys for CRLF. One night-time survey and one day-time survey should be conducted. The night-time survey should be conducted the night before work begins, followed by the day-time survey the morning before work begins. If a CRLF is found, the qualified biologist shall mark the location and return to assist the biological construction monitor during the initial ground disturbance to help ensure that no CRLF are harmed.

- **Exclusion Fencing.** Once preconstruction surveys are completed and it is known with certainty that CRLF are not present within construction work areas, the work area from the entrance at W-6 to the furthest extent of W-9 should be protected with exclusion fencing to ensure that individuals of CRLF do not wander into the work area during the construction period. Exclusion fencing should consist of a properly installed silt fence with stakes facing toward the work area so reptiles and amphibians cannot use the stakes to make their way over the fence, and at each of the two ends the silt fence shall curve away from the work area for a minimum of 10-linear feet to redirect any amphibians or reptiles away from the work area. Silt fence shall not encroach into the 100-foot buffer.

- **Worker Training.** All workers involved in the clearing of vegetation or other terrestrial construction should participate in a training session led by a qualified biologist prior to initiation of work. This training session should include information on the ecology and identification of CRLF, information related to the Endangered Species Act and penalties associated with harm done to an individual of a listed species, and the need to stop work and inform the on-site biologist in the event of a potential sighting.

- **Biological Construction Monitoring.** Even if preconstruction surveys are negative, a qualified biological monitor should remain on-site during all work involving vegetation

clearing and initial ground disturbance to help ensure that no CRLF are harmed. The biological monitor will search for CRLF that may have wandered into the work area and monitor construction to ensure impacts to the species do not occur. If a CRLF is found on the site within the work area, a biologist with a proper take permit from the USFWS and approval from the USFWS may move the individual out of harm's way, otherwise construction should be halted until the individual has left the project area of its own volition.

Impact 5. Pedestrian encroachment into the perennial wetland ponds (W-6 & W-9) would disturb and could harm an individual CRLF.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 5-1. The perennial wetland ponds (W-6 & W-9) will not be incorporated into a residential parcel. These two areas will be separate parcels designated as a "Wetland Preservation Area."

Mitigation Measure 5-2. Signs will be posted around the two Wetland Preservation Areas with language indicating these are a protected Wetland Preservation Area, trespassing is not allowed by pedestrians or pets, and the County Code for trespassing will be posted on the signs.

Mitigation Measures 5-3. A fence delineating the two Wetland Preservation Areas will be installed along the upland edge of the Wetland Preservation Areas. The fence design used will allow for wildlife to move under the fence (bottom gap of 8-12 inches) and over (height of no more than four feet).

Mitigation Measure 5-4. Pumping water out of or discharging water into the Wetland Preservation Area by Homeowners or the HOA will be prohibited.

Mitigation Measure 5-4. The HOA will have a separate endowment specifically for the maintenance of the fencing, signage around the Wetland Preservation Area, and to provide homeowners information on the sensitive species that occupy the Wetland Preservation Area. The information will include a description of the CRLF and northwestern pond turtle, the federal and state laws that prohibit harassing, harming, possessing, or injuring these animals. The HOA will notify all residence that pedestrians and their pets area restricted from the Wetland Preservation Area and the HOA will have the ability to impose penalties for homeowners who or a homeowners pet that encroaches into the Wetland Preservation Areas.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to California red-legged frog within the Wetland Preservation Areas are avoided, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

Northwestern Pond Turtle. Northwestern pond turtle (a special status species of reptile) are known to occur on the Project Site within the upper perennial wetland (W-9 shown in Appendix A, Figure 11) and

likely occur within the lower perennial wetland (W-6 shown in Appendix A, Figure 11). The intermittent streams may be used to migrate to and from adjacent suitable habitats offsite.

Impact 6. Initial grading/ground disturbance at the site could disrupt nesting sites and could harm an individual pond turtle if present during the construction period.

Level of Significance Before Mitigation - Potentially significant impact.

> **Mitigation Measure 6-1, Preconstruction Northwestern Pond Turtle Survey**: A Qualified Biologist[1] shall conduct a preconstruction survey for the northwestern pond turtle and their nests within 48 hours of the commencement of Project construction activities. If northwestern pond turtle is detected within or near the construction zone, the qualified biologist shall mark the location and return to assist the biological construction monitor during the initial ground disturbance to help ensure that no northwestern pond turtle is harmed. If a nest is detected within the construction zone, it shall be flagged with a buffer determined by the qualified biologist and avoided until the nest is no longer active. If the nest cannot be avoided, CDFW shall be notified immediately, and the qualified biologist shall relocate the eggs to appropriate habitat under the guidance and approval of CDFW.
>
> **Mitigation Measure 6-2, Biological Construction Monitoring:** Even if preconstruction surveys are negative, a qualified biological monitor should remain on-site during all work involving vegetation clearing and initial ground disturbance to help ensure that no northwestern pond turtles are harmed. The biological monitor will search for a northwestern pond turtle that may have wandered into the work area and monitor construction to ensure impacts on the species do not occur. If a northwestern pond turtle is found on the site within the work area, the biological monitor shall flag the location and halt construction in the vicinity until the individual has left the project area of its own volition.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to northwestern pond turtle are avoided, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

Impact 7. Pedestrian encroachment into the perennial wetland ponds (W-6 & W-9) would disturb and could harm an individual northwestern pond turtle.

Level of Significance Before Mitigation - Potentially significant impact.

> **Mitigation Measure 7-1.** Implement Mitigation Measures 5-1, 5-2, 5-3, and 5-4.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to northwestern pond turtle within the Wetland Preservation Areas are avoided, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

[1] A qualified biologist is a person who has experience identifying the northwestern pond turtle.

Northern Spotted Owl. According to CDFW, disturbances in the vicinity of nest sites may reach the level of "take" when at least one of the following conditions occur: (i) project-generated sound exceeds ambient nesting conditions by 20 to 25 decibels (dB), (ii) project-generated sound, when added to ambient sounds, exceeds 90 dB, or (iii) human activities occur within a visual line-of-sight distance of 40 meters (approximately 130 feet) from a nest. If nesting northern spotted owl is known to occur within 0.25 miles of construction, a project applicant can either conduct construction operations during the non-nesting season or conduct nesting-season protocol surveys that definitively demonstrate that owls are not nesting in the vicinity of the construction operations. If construction work must be completed during the nesting season and northern spotted owls are nesting within 0.25 miles of the site, CDFW may require that the applicant obtain an Incidental Take Permit (ITP) pursuant to CESA. In addition, Marin County Code Section 22.20.040(G) requires the implementation of special conditions to protect northern spotted owl if a Biological Site Assessment identifies a northern spotted owl nest within 500 feet of proposed outdoor construction activity involving tree removal, tree limbing, grading, or other site disturbances.

HBG conducted a review of known spotted owl nesting territories in the vicinity of the project using data from the National Park Service and the CNDDB. The data indicates the location of known activity centers for nesting pairs of the species and locations in the vicinity of the nest sites where occurrences of northern spotted individuals have been documented. This information revealed that no known territories of northern spotted owl occur in close proximity (within 0.25 miles) of the Project Site. The nearest known nesting activity center is approximately 2,447 feet (0.46 miles) to the southeast of the property. No impact to northern spotted owl would result from development of the proposed project.

Burrowing Owl. Grassland habitat is present at the site that could support burrowing owl, but burrowing owl is currently not present on the Project Site. Future occupation by the species on the property cannot be ruled out, especially if the property were to be occupied by a greater number of California ground squirrels in the future. If the species was present at the time of construction, disturbances to either nesting or wintering burrowing owl are possible during grading or vegetation removal during construction. Preconstruction surveys for this species are warranted.

Impact 8. Burrowing Owl. Project construction could impact burrowing owl if California ground squirrels were to occupy the site, providing occupiable sites for wintering or nesting by burrowing owl.

Level of Significance Before Mitigation - Potentially significant impact.

> **Mitigation Measure 8-1, Preconstruction Burrowing Owl Survey.** Within 48 hours of any ground disturbance, a pre-construction survey for burrowing owl shall be conducted within the project and a minimum of 150 meters from the project site to the extent properties are accessible. Surveys shall be conducted by a qualified biologist following the CDFW staff report (CDFW 2012), including survey methods and biologist qualifications, to establish the status of burrowing owl on the project site. If no burrowing owls are detected during the pre-construction survey, no further action is necessary. If construction is delayed or suspended for more than 30 days after the survey, the area shall be resurveyed in accordance with previously described methods.

- If burrowing owl is found to occupy the project site during the nonbreeding season (September 1 to January 31), occupied burrows shall be avoided by establishing a no-disturbance buffer zone marked by orange construction fencing a minimum of 100 feet around the burrow. Buffers may be increased to address site-specific conditions using the impact assessment approach described in the CDFW 2012 staff report. If a qualified biologist determines that the location of an occupied burrow(s) may be impacted even with a 100-foot buffer, or the burrow(s) are in a location(s) on the project site where a buffer cannot be established without preventing the proposed project from moving forward, then a passive relocation effort may be instituted to relocate the individual(s) out of harm's way pursuant to a Burrowing Owl Exclusion Plan prepared in accordance with the CDFW 2012 staff report. The applicant will coordinate the Burrowing Owl Exclusion Plan with CDFW and provide habitat mitigation consistent with the 2012 CDFW Staff Report.

- If burrowing owl is found to be present during the breeding season (February 1 to August 31), the initial ground disturbing activities shall follow the CDFW 2012 staff report recommended avoidance protocol whereby occupied burrows shall be avoided with a no-disturbance buffer of between 50 meters and 500 meters depending on time of year and disturbance level, as described in the 2012 CDFW staff report. This breeding season buffer zone shall remain until the young have fledged or an unsuccessful nesting attempt is documented.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to burrowing owl are avoided, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

Tricolored Blackbird. Suitable habitat for a tricolored blackbird nesting colony occurs within freshwater marsh portions of the Project Site, especially in the vicinity of the lower and upper perennial wetlands (W-6 & W-9 shown in Appendix A, Figure 11). Tricolored blackbirds were not observed in this habitat by HBG biologists during field visits to the site, and development plans would avoid these areas. Indirect impacts could occur to a nesting colony if present during construction and construction activities were in close proximity to the colony. Prior to initiation of construction, a survey for a tricolored blackbird nesting colony is warranted within appropriate habitat.

Impact 9. Tricolored Blackbird. Project construction could impact tricolored blackbird if a nesting colony of this species were to occupy the site and construction activities occurred nearby.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 9-1, Preconstruction Tricolored Blackbird Survey. A qualified biologist should conduct a survey within areas of suitable nesting habitat (within the onsite wetlands W-6 and W-9) within 48 hours of initial ground-disturbing activities to determine if nesting by tricolored blackbird occurs in close proximity to project development sites. CDFW typically requires a buffer zone of no disturbance within 300 feet of an active tricolored blackbird nesting colony. If a tricolored blackbird nesting colony is found in the vicinity

during initiation construction, a setback distance from the nesting colony of no less than 300 feet will be established and the limit of the buffer marked with orange construction fencing that would allow successful nesting (fledging of young birds). No earthmoving or ground-disturbing activity shall occur within the established buffer zone until it is determined by the qualified biologist that the young have fledged or that the nesting cycle is otherwise determined to be complete based on monitoring of the active nesting colony.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to tricolored blackbird are avoided, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

American Badger. Although American badger has not been observed on the property during field reviews conducted by HBG, the grassland habitat found on the property may be suitable to support American badger, a California Species of Special Concern. If American badger were to occupy the area proposed for construction, potential impacts to this species could occur. Preconstruction surveys for American badger are warranted to ensure that construction activities do not result in impacts to individuals of this species.

Impact 10. American Badger. If American badger were to occupy the area proposed for construction, potential impacts to this species could occur.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 10-1, Preconstruction American Badger Survey. Within 48 hours prior to initial ground disturbing activities, a qualified biologist shall conduct a survey to determine the locations of any active winter or natal American badger dens within the Project Site. Potential badger dens located during the survey shall be evaluated (typically with remote cameras) to determine activity status. Any natal dens determined to be used by American badger shall be avoided and a 100-foot buffer marked with a minimum 5-foot high stakes with orange flagging established around the dens until it is determined by the qualified biologist that the den is no longer active, and the young are no longer dependent upon the den for survival. If an individual badger is determined to be using a non-natal den (from June through February), the den shall be marked and protected with a minimum 5-foot high stakes with orange flagging until the badger has left the den on its own accord, as determined by the biologist through monitoring of the den and/or the use of motion-detection cameras. Once it is determined that the den is vacant, the den can be excavated and upon confirmation that the den is not occupied, the den can be collapsed, and construction can commence.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to American badger are avoided, thus reducing potential impacts to a level considered less than significant pursuant to CEQA.

2) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

3) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

5.2.3 Sensitive Natural Communities and ESHA's

Impacts to Sensitive Natural Communities & ESHA's:

The Project will have no substantial effect on Sensitive natural Communities or ESHA's. The riparian habitat, wetlands, and streams, sensitive natural communities or ESHA's. It is assumed that the stream channels that traverse the Project Site and the various wetland types found inline and off line of the stream channels and associated riparian zone would be preserved under any development plan for the site and protected by setbacks required by the Marin County LCP. There are no vegetation communities with a rarity ranking of three or less that will be impacted by the Project. Impacts to Sensitive natural Communities or ESHA's is less than significant, therefore no mitigation measures are proposed.

There are Vegetation Communities that are not considered Sensitive Natural Communities and are likely not considered ESHA's. The location of the anticipated permanent and temporary impacts to these vegetation communities are shown in Figures 12 and 13, respectively and listed in the tables below.

Table 3. Permanent Vegetation Community Impacts	
Habitat Impacted	**Impact Acreage**
Coastal Live Oak Woodland and Forest	1.12
Coyote Brush Scrub	0.66
Eucalyptus	0.13
Wild Oats and Annual Brome Grasslands	14.01

Table 4. Temporary Vegetation Community Impacts	
Habitat Impacted	**Impact Acreage**
Coastal Live Oak Woodland and Forest	0.29
Eucalyptus	0.07
Wild Oats and Annual Brome Grasslands	5.30

Tree Impacts and Mitigation Measures.

Impact 11. Trees. Grading, excavation, placement of fill material, and other ground-disturbing activities associated with construction activities within the Project Site will result in the removal of at least thirty (30) trees of which fifteen (15) are considered Protected or Heritage trees, also referred to as Major Vegetation, under the Marin County LCP criteria will be removed.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 11-1. To protect trees remaining on the site during construction operations a Tree Protection Plan prepared by an arborist shall be implemented.

Mitigation Measure 11-2. Trees that are to be removed and for which a Tree Removal Permit is required shall be replaced at a minimum ratio of two new, appropriately sized and installed trees for each tree removed, onsite. It is anticipated that many of the tree replacement areas will be located within the ESHA buffer which will offset impacts to 1.12 acres of Coastal Live Oak Woodland and Forest, increase native vegetation cover, improve stream conditions, and provide future habitat for avian and bat species. As part of the conditions of approval, a Tree Replacement Plan prepared by the biologist, in consultation with the arborist, will provide the onsite location where trees will be replaced, species, sizing, and spacing of trees to be replaced, monitoring requirements, and performance standards (tree survival rate), will be presented to Marin County for review and approval prior to the start of grading activities.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to trees remaining are protected during construction operations and trees removed are mitigated pursuant to Marin County Code Section 22.26.040 and Marin County LCP to offset impacts to a level considered less than significant pursuant to CEQA.

ESHA 100-Foot Buffer Impacts & Mitigation Measures:

Impact 12. The Project does include minor encroachments along the edge of the ESHA 100-foot buffer but will not impact the stream or riparian vegetation.

Level of Significance Before Mitigation - Potentially significant impact.

Mitigation Measure 12-1. With the implementation of the following mitigation measure the encroachment will prevent impacts that significantly degrade the stream or riparian vegetation and will be compatible with the continuance of the stream/riparian ESHA and will result in a new net environmental improvement over existing conditions.

- Orange construction fencing will be installed to demarcate the limit of work to prevent accidental encroachment further into the 100-foot buffer. A biological monitor will be onsite when the orange construction fencing is installed to ensure no riparian vegetation is degraded.

- All graded areas temporarily impacted will be hydroseeded with a native grass seed mix, and bio-degradable erosion control netting (e.g., jute netting) will be placed on the disturbed areas along with hay wattles to prevent sediment from entering the adjacent streams.
- Several areas along R1 and R2 shown on Figure 10 and 11 are void of riparian vegetation likely due to past grazing and ranching activities. A *Riparian Zone Enhancement Plan* will be prepared and submitted to the County for review and approval. The *Riparian Zone Enhancement Plan* will include at a minimum, enhancement to 50 linear feet of riparian vegetation on each side of R1 and R2 for a total of 200 linear feet. Enhancement activities will include planting native riparian trees and removal of debris that may have been left in the stream from past ranching activities. Implementation of a *Riparian Zone Enhancement Plan* will result in a new net environmental improvement over existing conditions.

Levels of Significance After Mitigation - Implementation of these mitigation measures would ensure impacts to ESHA 100-Foot Buffer are avoided during construction operations, and any encroachment is mitigated to a level that will result in a new net environmental improvement over existing conditions and to a level considered less than significant pursuant to CEQA.

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

5.2.4 Animal Populations

With implementation of bird nesting surveys if construction is to be undertaken during the nesting season, implementation of procedures to ensure that either winter or maternity bat roosts are not harmed, and the planned implementation of Best Management Practices to control erosion during initial grading, the proposed project will not substantially reduce the habitat of a fish or wildlife species, will not cause a fish or wildlife population to drop below self-sustaining levels, and will not threaten to eliminate any animal community. The project also will not 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.

Potential impacts to avian species and protected species of bats will be mitigated as the applicant is required herein to conduct a preconstruction survey for nesting bird species and preconstruction bat habitat assessment coupled with sensitive tree removal procedures to protect any bat roosts that may be present. Potential impacts to special status species include detailed protections for federally listed threatened California red-legged frog, mitigation for western bumble bee, and preconstruction surveys for special status species including northwestern pond turtle, burrowing owl, tricolored blackbird, and American badger. Any species of fauna that may be displaced during preparation of the site for development should find nearby available habitats.

Wildlife Movement Corridors. The streams and riparian habitat traversing the Project Site serve as wildlife corridors. These wildlife corridors will be preserved under the proposed project and protected by setbacks as required by the Marin County LCP. Therefore, no impact on wildlife corridors will result from the proposed development. The proposed project will not affect regional habitat connectivity.

Birds Protected by the MBTA and California Fish and Game Code. Habitats within the project area were shown to support several bird species during field surveys conducted by HBG. Many of the species noted may use the vegetation within the Project Site as a substrate for nesting during the breeding season. If active nests were present in vegetation or other areas within the development portion of the site during construction operations, direct or indirect impacts could occur to nesting bird species protected by the Migratory Bird Treaty Act or the California Fish and Game Code.

CDFW generally considers the nesting season to be from February 1 to August 31 for most bird species. Work related to construction, especially involving the removal of vegetation during the February 1 to August 31 breeding season of birds, could result in the mortality of nesting avian species if they are present. Many species of raptors (birds of prey) are sensitive to human incursion and construction activities, and it is necessary to ensure that nesting raptor species are not present near construction sites. To ensure compliance with the MBTA and the California Fish and Game Code, bird nesting surveys are generally required if construction work requires vegetation removal during the bird nesting season. Required setbacks to protect active nests from construction activity are usually about 500 feet for large raptors such as buteos, 250 feet for small raptors such as accipiters, and 100 feet for passerines (songbirds) and other bird species.

Impact 13: Nesting Birds. If active nests were present in vegetation or other areas within the development portion of the site during construction operations, direct or indirect impacts could occur to nesting bird species protected by the Migratory Bird Treaty Act or the California Fish and Game Code.

> **Mitigation Measure 13-1: Preconstruction Nesting Bird Survey.** A preconstruction nesting bird survey shall be conducted by a qualified biologist if grading or vegetation removal occurs during the bird nesting season (February 1-August 31). The survey should be conducted within 48 hours prior to the start of work. The survey should include the entire project footprint and areas immediately adjacent to the project work area. If the survey indicates the presence of nesting birds, a buffer should be placed around the nest and marked with orange construction fencing within which no work will be allowed until the young have successfully fledged or the nest has otherwise become inactive. The size of the nest buffer will be determined by the qualified biologist and will be based on the nesting species, its sensitivity to disturbance, and the context of the nest location. In general, typical nest buffer widths range from 500 feet for large raptors such as buteos, 250 feet for small raptors such as accipiters, and 100 feet for passerines (songbirds) and other bird species. Nest buffers may be increased or decreased, as appropriate by a qualified biologist. No construction or earth-moving activity shall occur within the established nest buffer zone until it is determined by the biologist that the young have fledged or that the nesting cycle is otherwise determined to be complete based on monitoring of the active nest.

Potential Bat Roosts. Bats in this region use a wide variety of roosts, including manufactured roosts such as buildings, bridges, and culverts; they also use trees that contain suitable roost habitat. Bats are nocturnal, and select day roosts for rest, protection, pup-rearing and overwintering, and night roosts during seasonal periods of activity during foraging flights. Bats are particularly vulnerable to loss or

disturbance of their day roosts, even more so during pup-rearing when bats are not volant (flying) and during winter months when bats are in torpor or hibernation. During the maternity season, non-volant young (those unable to fly) of colonial bats remain in the roost until late summer (end of August). During winter months, bats typically enter torpor, the onset of which is dependent upon environmental conditions, primarily temperature and rainfall. To prevent direct mortality of either non-volant young or torpid bats during winter months, roosts must not be disturbed or destroyed until bats are seasonally active, and only after they have been provided a means of escape from the roost. Therefore, bats may be safely evicted in this region between March 1 (or when evening temperatures are above 45°F and rainfall is less than ½" in 24 hours) and April 15 (prior to parturition of pups). The next acceptable period for eviction is September 1 through October 15 (after pups become self-sufficiently volant or prior to evening temperatures dropping below 45°F and onset of rainfall greater than ½" in 24 hours).

Many mature trees throughout the site provide cavities that could support roosting bats. If bats are present within cavities of trees to be removed to accommodate the project, impacts to bats within a winter or maternity roost could be harmed during tree removal activities, in violation of California Fish and Game Code Section 4150.

Impact 14: Roosting Bats. If either winter or maternity bat roosts are present within any of the 30 trees that must be removed to accommodate the project, impact to roosting bats could result in violation of Fish and Game Code Section 4250.

Mitigation Measure 14-1. Bat Habitat Assessment. Prior to removal of trees, a bat habitat assessment will be conducted to identify trees with habitat that could support roosting bats. Trees with no bat habitat can be removed, but trees with sufficient cavities to support bats will be subject to a detailed investigation of every cavity in an effort to demonstrate that no bats are present, including those in a state of torpor (winter) or raising non-volant young (summer). Not all trees can be surveyed in detail prior to removal as some have very deep or inaccessible cavities or crevices. If a bat roost is present or the tree cannot be fully investigated and uncertainty remains regarding the potential presence of roosting bats, the tree will be removed during periods of bat activity (March 1 to April 15 and September 1 to October 15) using a two-step removal process.

If necessary, the two-step process will be conducted over two consecutive days during the prescribed periods in spring and fall. With this method, small branches and small limbs not containing cavities, crevices or exfoliating bark on habitat trees as identified by a qualified biologist (who must be present on the site during the first day of tree trimming or cutting) are removed on the first day using only chainsaws. The following day, the remainder of the tree is removed. The disturbance caused by chainsaw noise and vibration, coupled with the physical alteration, has the effect of causing bats to abandon the roost tree after nightly emergence for foraging. Removing the tree the next day prevents re-habituation and re-occupation of the altered tree. No impacts to roosting bats would occur using this method.

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

5.2.5 Compliance with Local Policies

Marin County Code. The Project would not conflict with any local policies related to the protection of natural resources. The Project would be in compliance with the stream setback requirements of the Marin Countywide General Plan and Marin County LCP.

The project would be in compliance with Marin County Code Section 22.20.040(E) as project mitigation measures include a preconstruction bat habitat assessment coupled with sensitive removal of trees possibly containing roosting bats (See Section 5.4). The project would be in compliance with Marin County Code Section 22.20.040(F) as project mitigation measures include a preconstruction bird nesting survey if work is conducted during the February 1 to August 31 bird nesting season coupled with establishment of buffer zones from any nesting birds (also Section 5.4). The project would be in compliance with Marin County Code Section 22.20.040(G) as no impacts to northern spotted owl would result from implementation of the project.

According to the arborist report approximately 30 trees will need to be removed to accommodate construction of the residences and/or leach fields, with 15 of these trees designated as Protected or Heritage trees by LCP. The arborist report presents a Tree Protection Plan to protect trees remaining on the site during construction operations. A Tree Replacement Plan, describing the means by which the 15 Protected or Heritage trees that must be removed will be replaced, will be presented to Marin County by the applicant under separate cover. The implementation of arborist recommendations related to the Tree Protection Plan, coupled with a plan for replacement of Protected and Heritage trees as required, will ensure compliance with Marin County Code Section 22.26.040.

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

5.2.6 Compliance with Conservation Plans

The Project Site is not within an area where the provisions of a Habitat Conservation Plan or Natural Community Conservation Plan would apply.

6.0 REFERENCES

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APPENDIX A.

FIGURES

Figure 1. Project Site Location

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:100,000
Date Map Created: 8/7/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

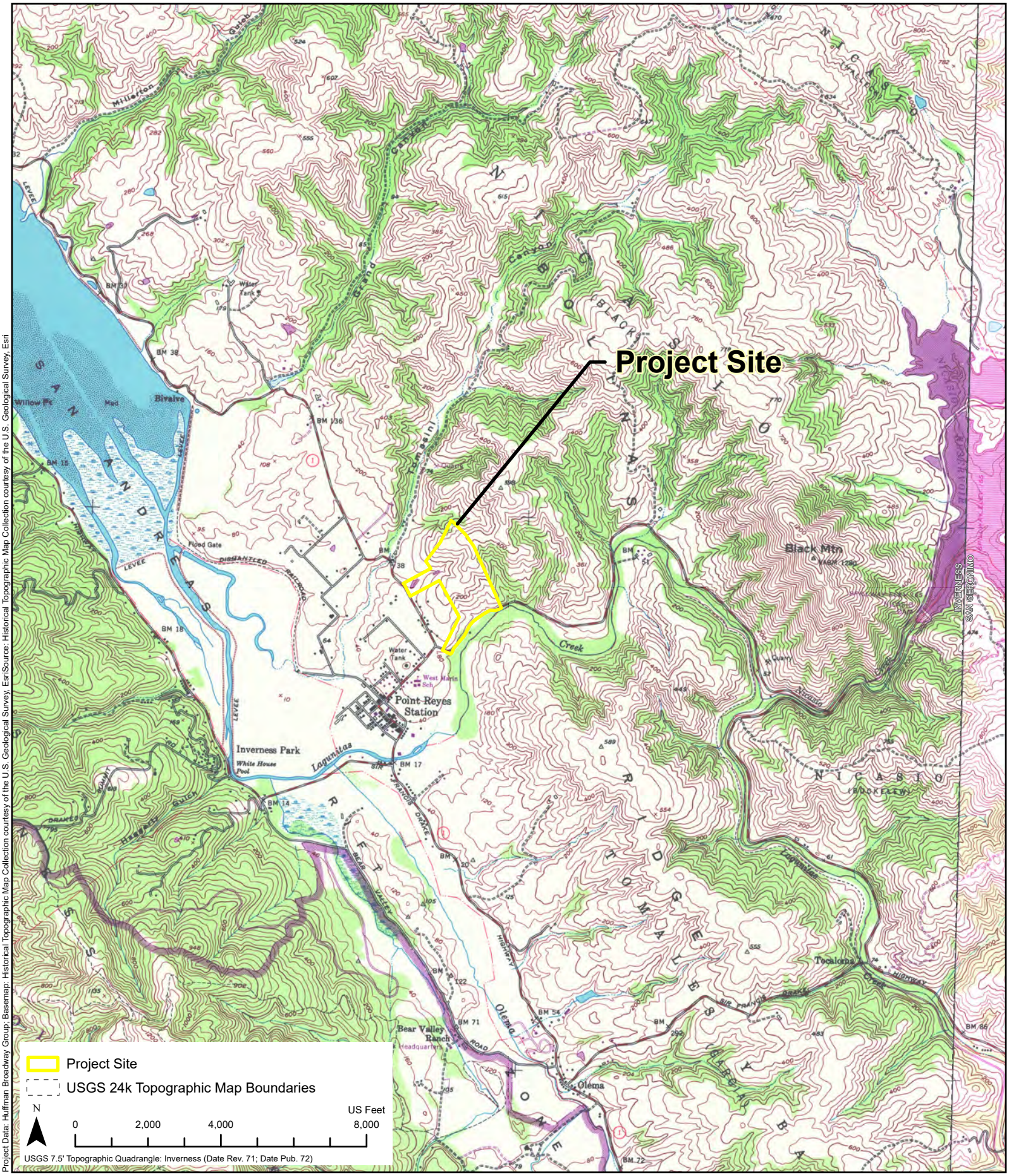

Figure 2. USGS Topographic Map of the Project Site

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:40,000
Date Map Created: 8/7/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

Project Data: Huffman Broadway Group; Basemap:© OpenStreetMap (and) contributors, CC-BY-SA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community; Google Maps Imagery Date: 02/25/2021.

Figure 3. Aerial Image of the Project Site

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
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Date Map Created: 8/7/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

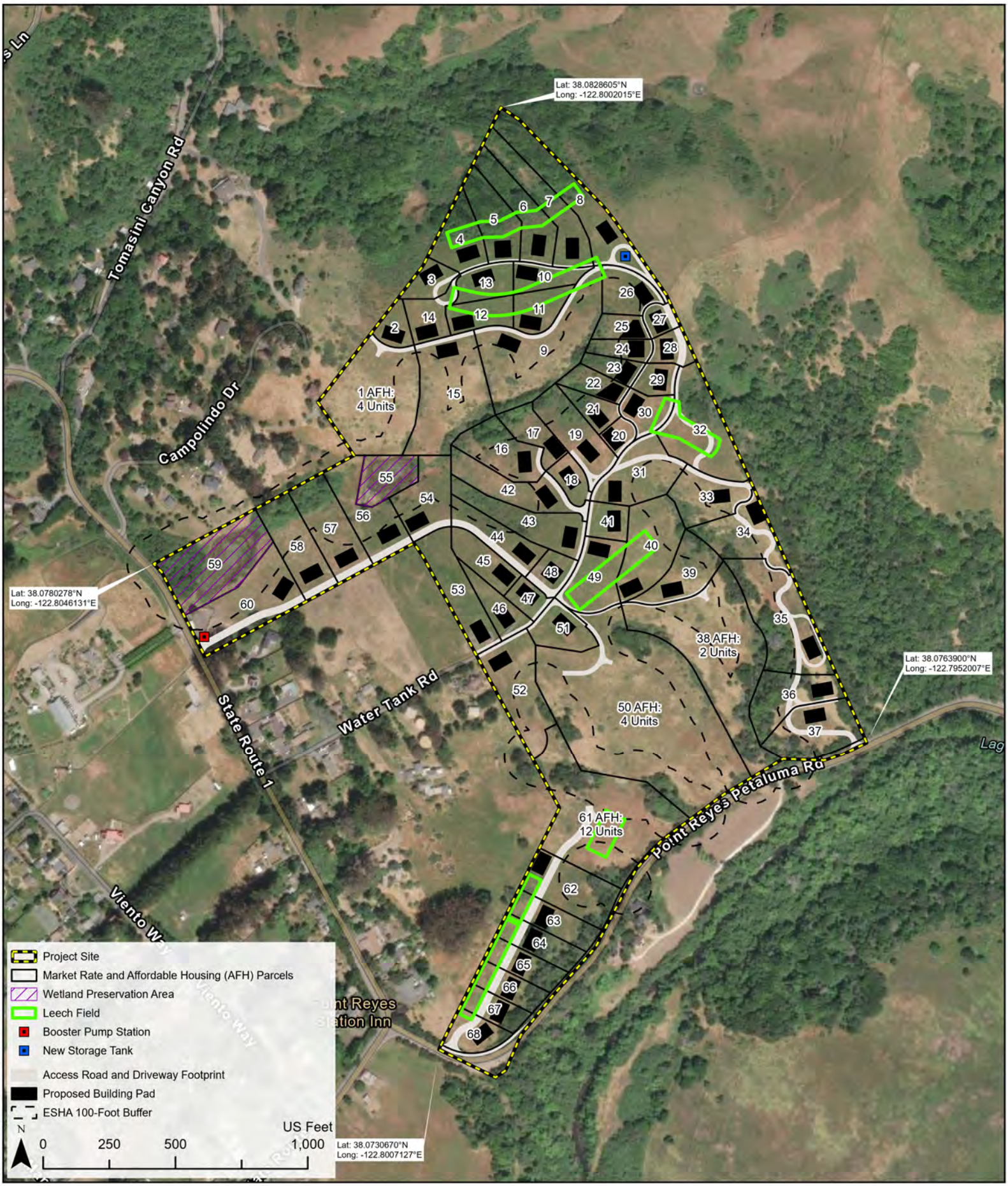

Figure 4. Project Site Plan

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
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Date Map Created: 8/15/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert F. Perrera

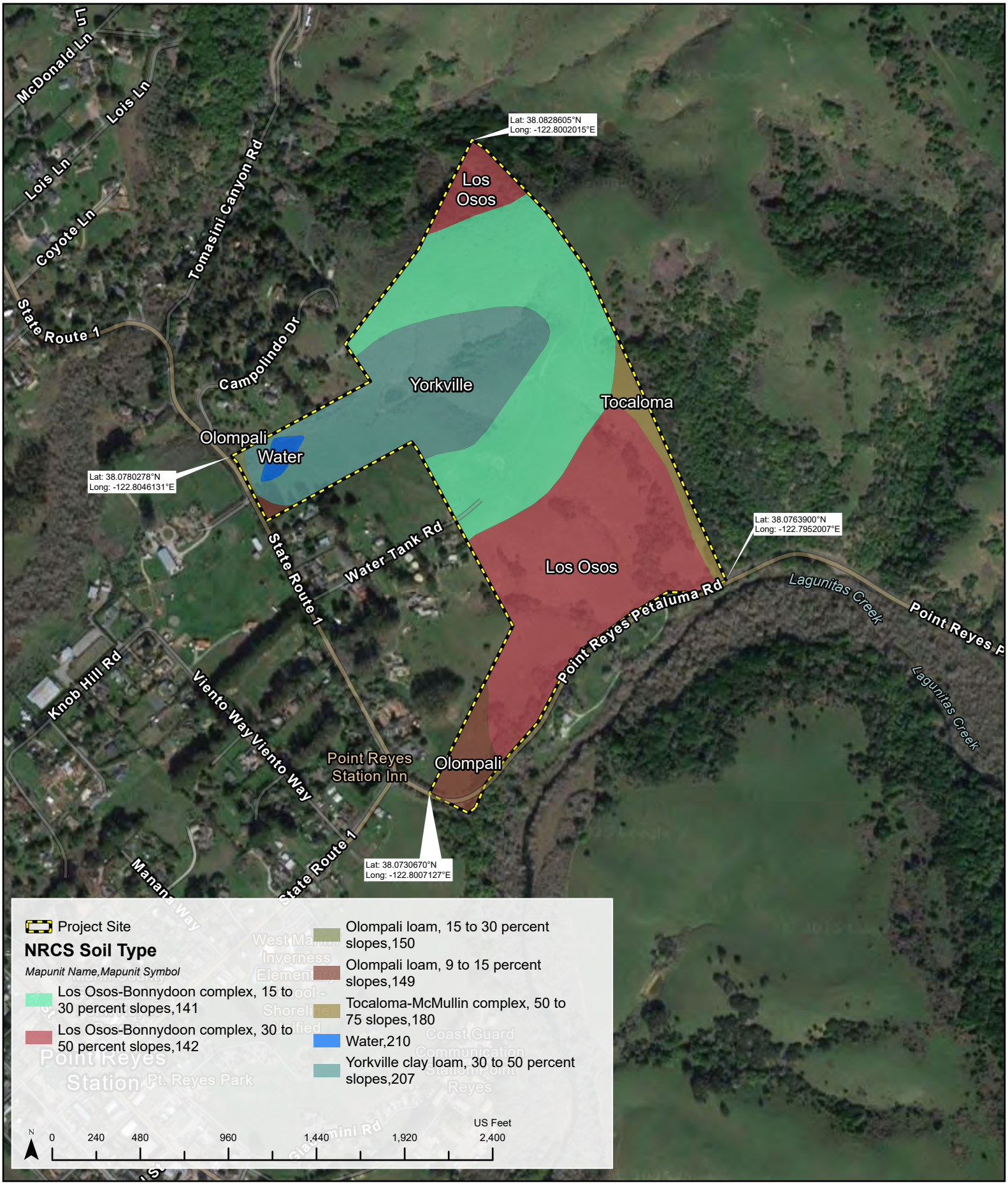

Figure 5. NRCS Soils Map

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:8,000
Date Map Created: 8/7/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

Figure 6. USGS NHD HUC 10 Watershed Boundaries

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:305,001
Date Map Created: 8/7/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

Figure 7. USGS NHD HUC 12 Watershed Boundaries

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
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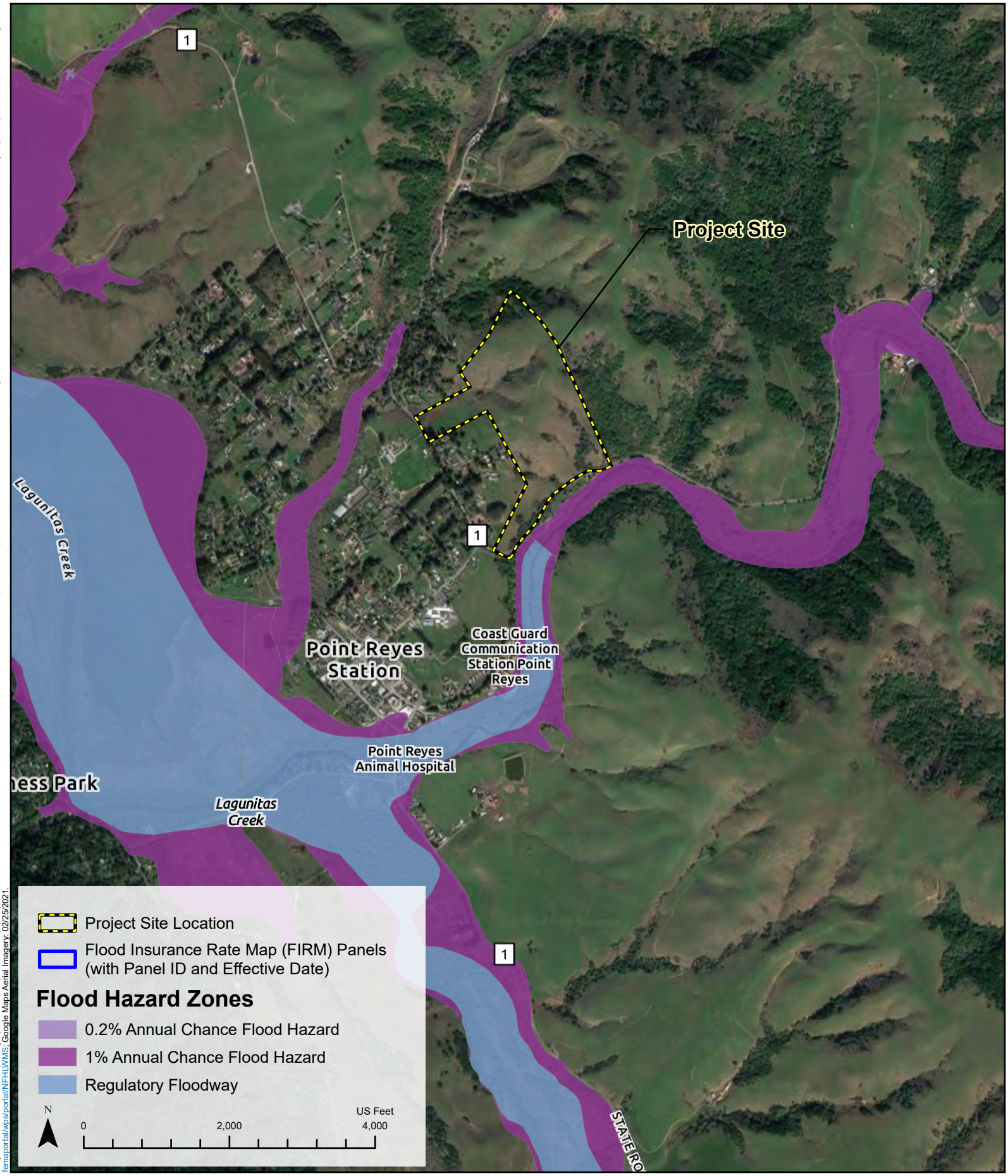
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera



Project Data: HBG; Basemap Imagery Credits: © OpenStreetMap (and) contributors, CC-BY-SA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar; Flood Zone Data: FEMA National Flood Hazard Layer (NFHL) - https://hazards.fema.gov/femaportal/wps/portal/NFHLWMS; Google Maps Aerial Imagery: 02/25/2021.

Figure 8. FEMA Flood Zone Mapping

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
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HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

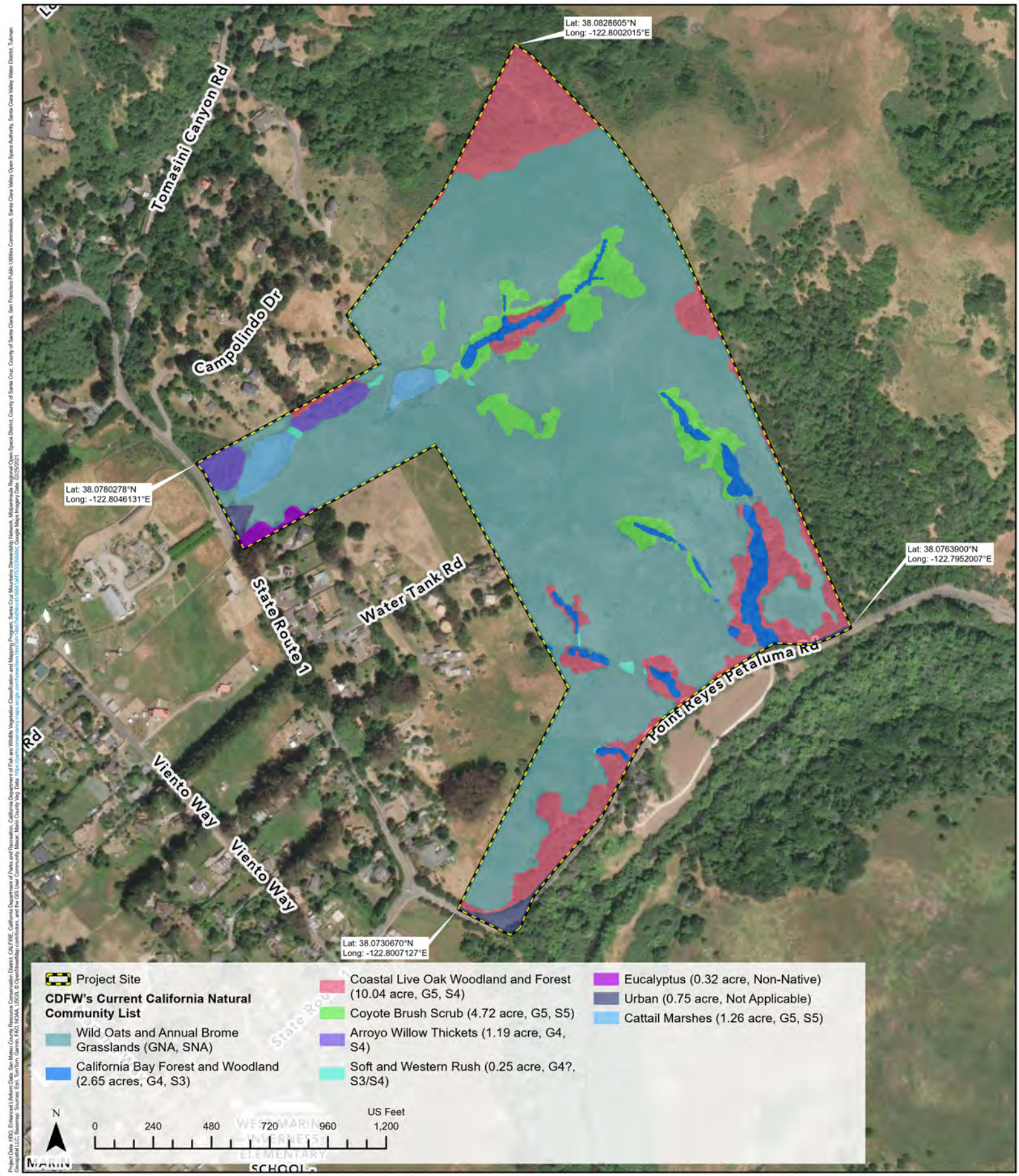

Figure 9. CDFW Vegetation Communities and Rarity Ranking Map

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:6,000
Date Map Created: 8/14/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

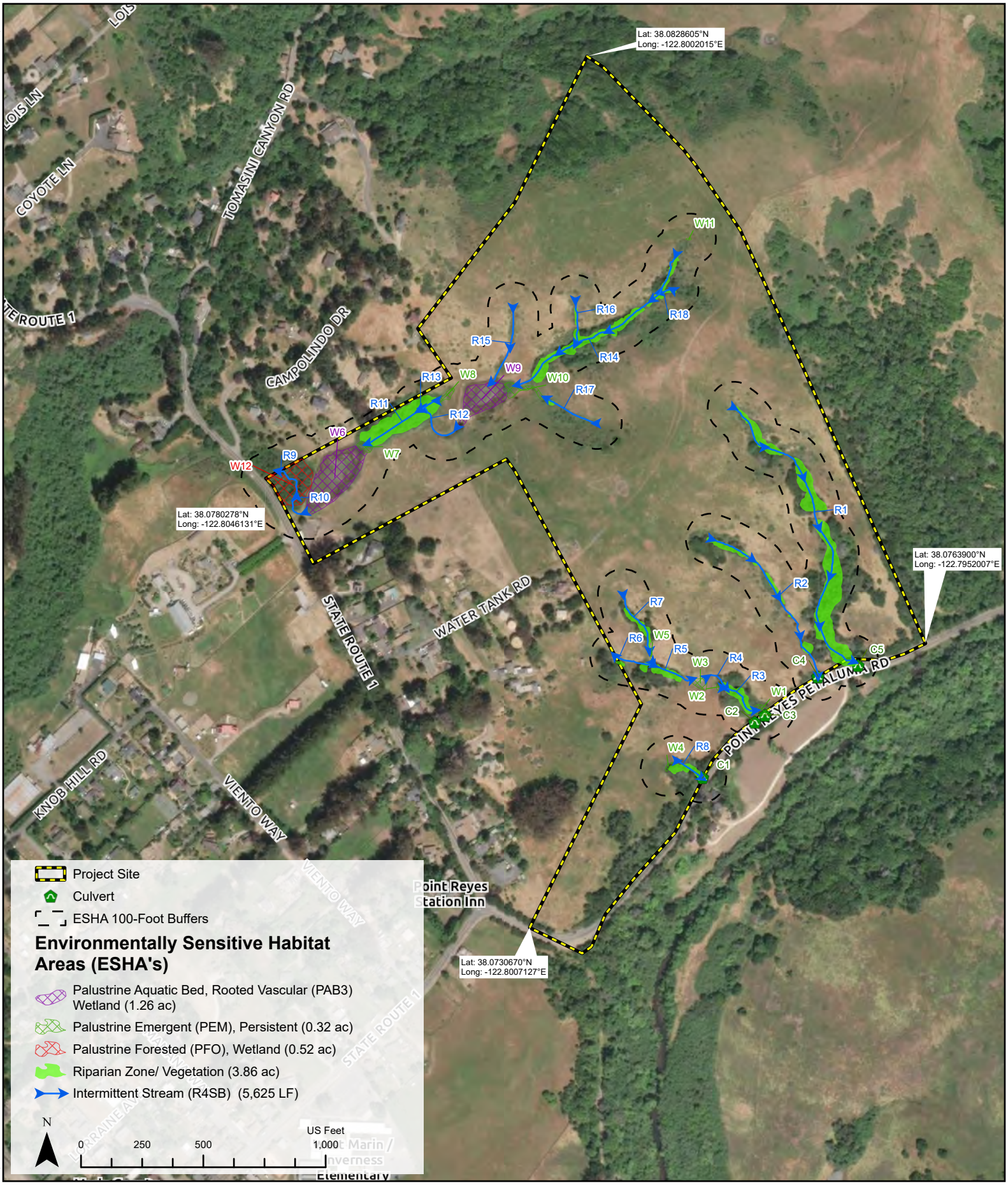

Figure 10. ESHA's and 100-Foot Buffers Map

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:6,000
Date Map Created: 8/19/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

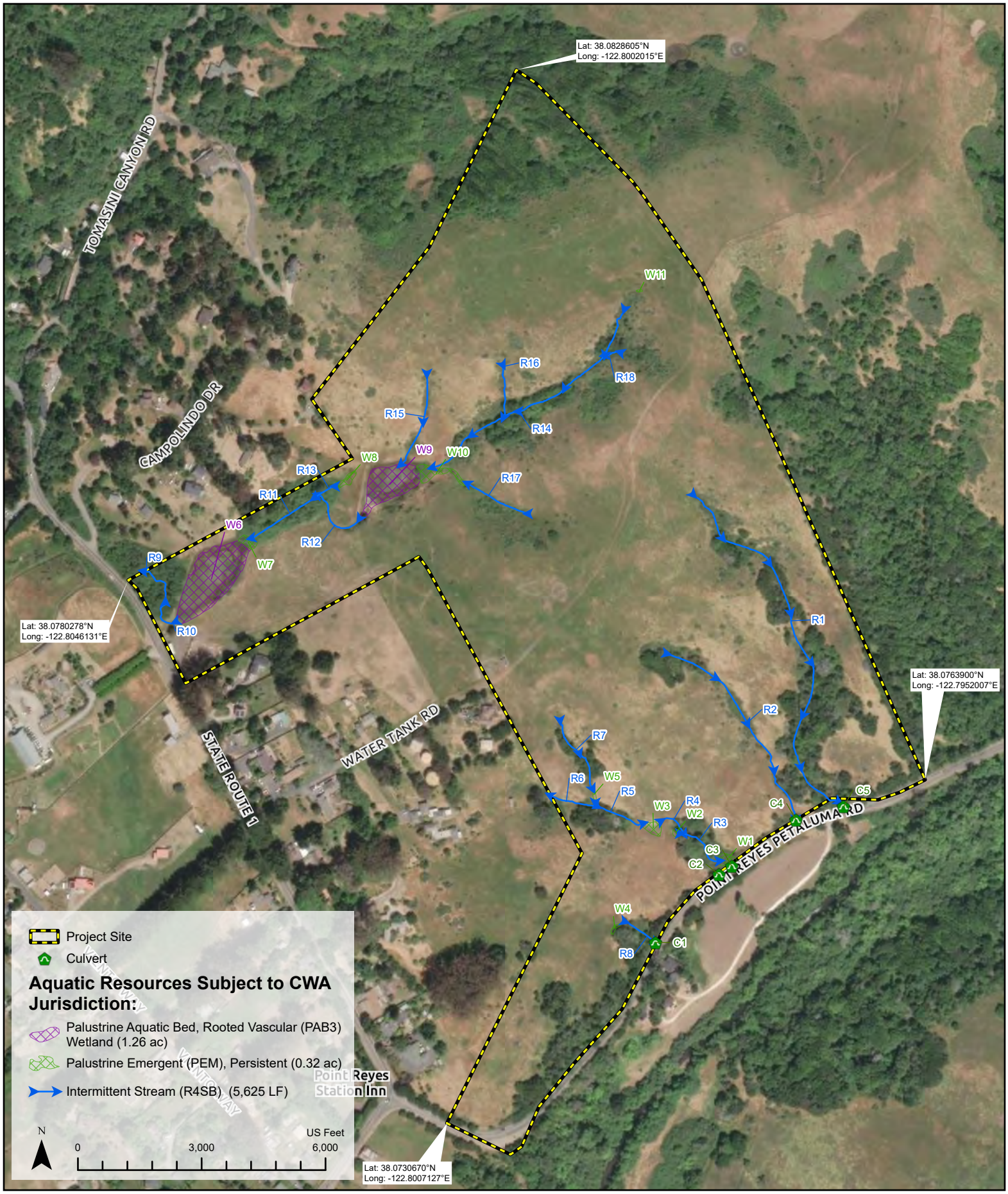

Figure 11. CWA Aquatic Resource Delineation

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:5,000
Date Map Created: 8/19/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

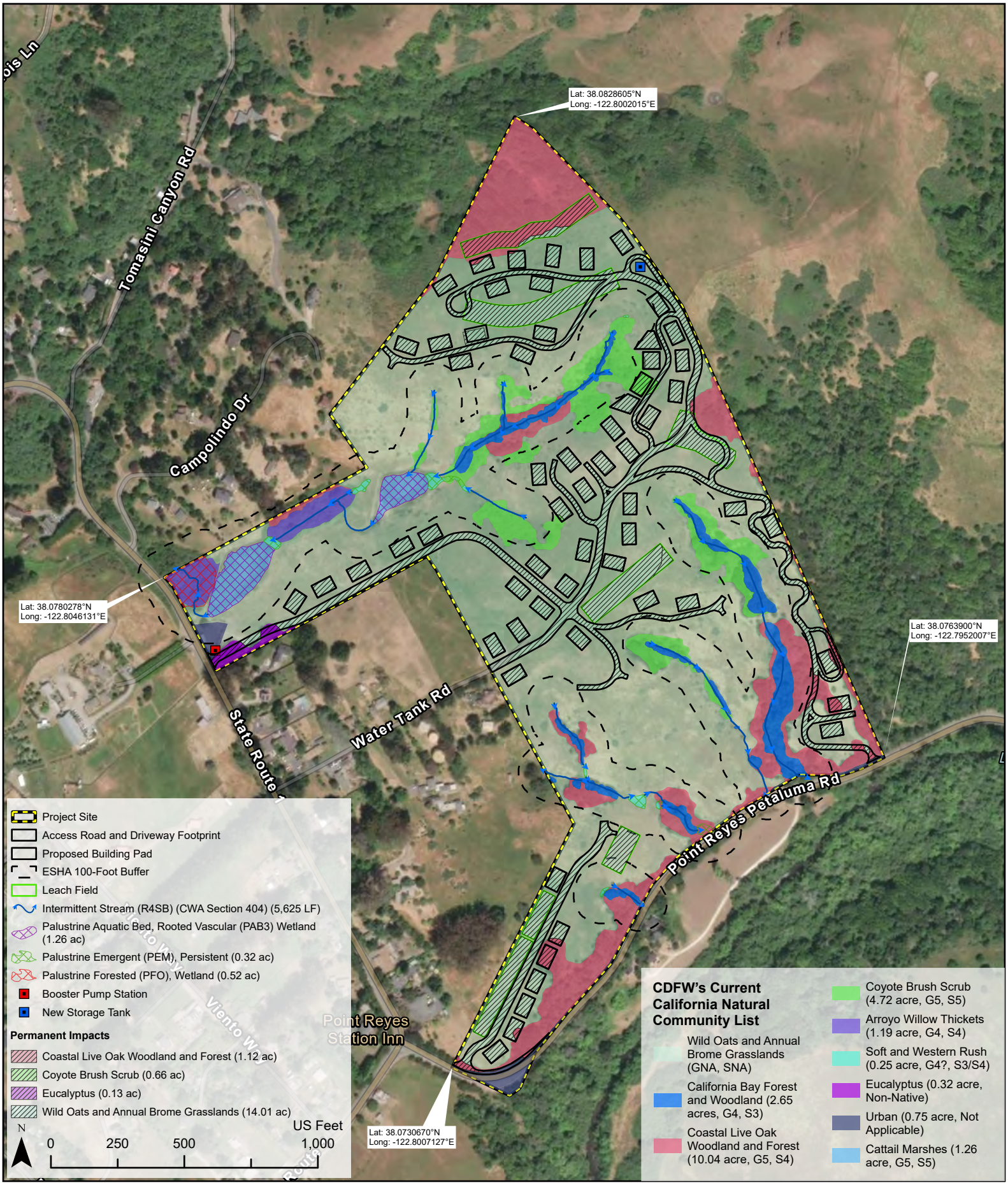

Figure 12. Permanent Biological Impacts

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:5,500
Date Map Created: 8/19/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert F. Perrera

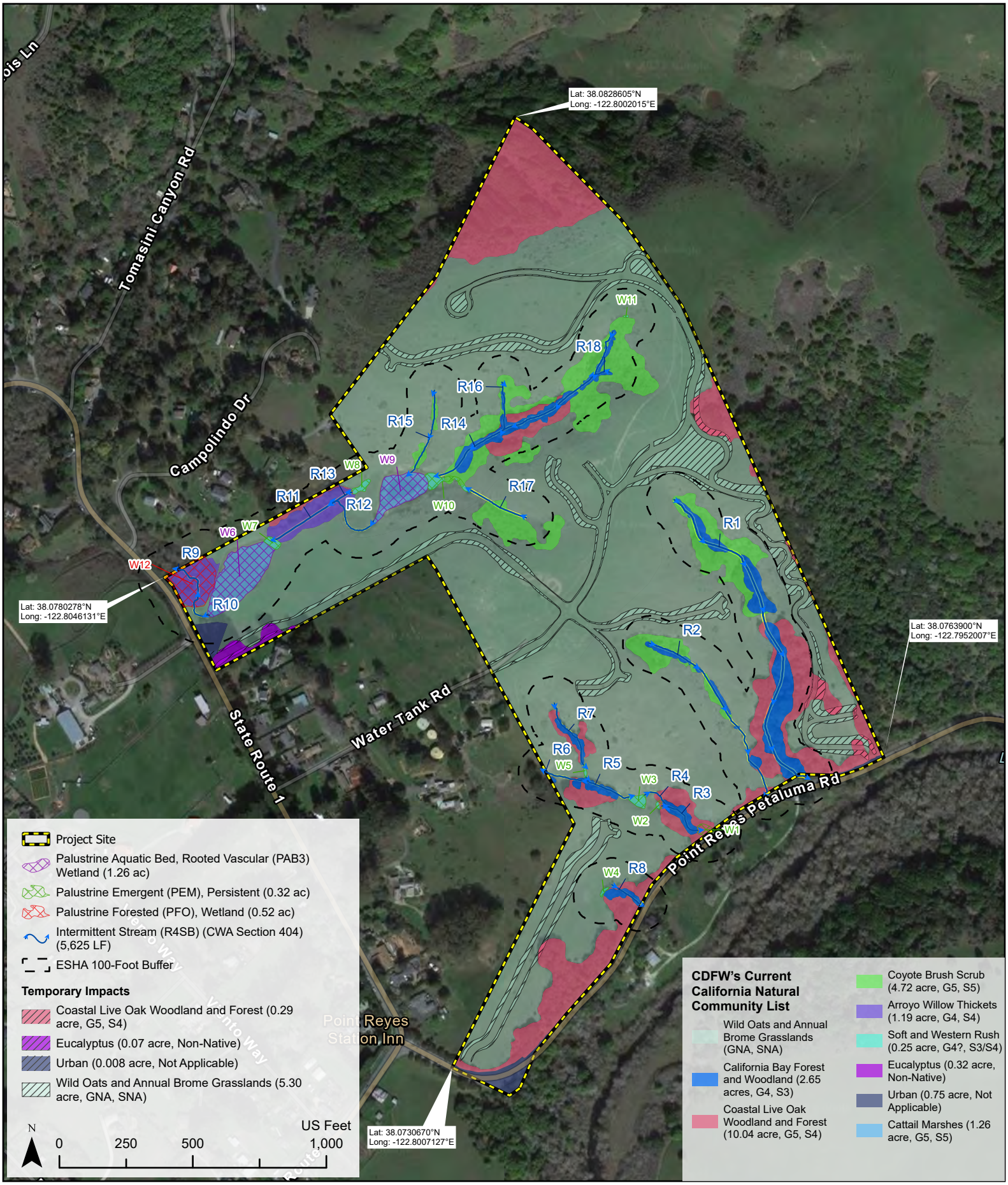

Figure 13. Temporary Impacts, Access Road Grading

Rancho Los Reyes Project
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:5,500
Date Map Created: 8/19/2025
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert F. Perrera

APPENDIX B.

BIOLOGICAL SPECIES TABLES

Table 1. Vascular Plant Species Observed on the Project Site During 2023 and 2024 Plant Surveys

Table 2. Special Status Plants with Potential to Occur in the Vicinity of the Project Site, Marin County, California

Table 3. Special Status Animal Species that Have Been Reported in the Vicinity of the Project Site, Marin County, California

Table 1

Vascular Plant Species Observed on the Project Site During 2023 and 2024 Plant Surveys

TABLE 1. VASCULAR PLANT SPECIES OBSERVED AT THE PROJECT SITE DURING 2023-2024 PLANT SURVEYS			
Scientific Name Organized by Families [1]	**Common Name**	**Native/Not Native**	**California Invasive Plant Council Invasive Plant Rating [2]**
Alliaceae			
Allium triquetrum	Three-cornered leek	Not Native	Not Classified
Anacardiaceae			
Toxicodendron diversilobum	Poison oak	Native	
Apiaceae			
Conium maculatum	Poison hemlock	Not Native	Moderate
Heracleum maximum	Common cow parsnip	Native	
Sanicula arctopoides	Footsteps of spring	Native	
Sanicula bipinnatifida	Purple sanicle	Native	
Araceae			
Zantedeschia aethiopica	Calla lily	Not Native	Limited
Araliaceae			
Hydrocotyle ranunculoides	Floating marsh pennywort	Native	
Asphodelaceae			
Kniphofia uvaria	Redhot poker	Not Native	Watch
Asteraceae			
Achillea millefolium	Common yarrow	Native	
Anthemis cotula	Stinking chamomile	Not Native	Not Classified
Artemisia douglasiana	California mugwort	Native	
Carduus pycnocephalus	Italian thistle	Not Native	Moderate
Centaurea calcitrapa	Purple star thistle	Not Native	Moderate
Cirsium discolor	Field thistle	Not Native	Not Classified
Cirsium vulgare	Bull thistle	Not Native	Moderate
Helminthotheca echioides	Bristly ox-tongue	Not Native	Limited
Hemizonia congesta	Hayfield tarweed	Native	
Hypochaeris radicata	Rough cat's ear	Not Native	Moderate
Lactuca serriola	Prickly lettuce	Not Native	Not Classified
Madia elegans	Common madia	Native	
Pseudognaphalium californicum	Ladies' tobacco	Native	
Silybum marianum	Milk thistle	Not Native	Limited
Sonchus asper	Spiny sowthistle	Not Native	Not Classified
Sonchus oleraceus	Common sowthistle	Not Native	Not Classified
Taraxacum officinale	Dandelion	Not Native	Not Classified
Wyethia angustifolia	Narrowleaf mule ears	Native	
Boraginaceae			
Myosotis latifolia	Broadleaf forget-me-not	Not Native	Limited
Brassicaceae			
Brassica nigra	Black mustard	Not Native	Moderate
Raphanus sativus	Wild radish	Not Native	Limited
Sisymbrium officinale	Hedge mustard	Not Native	Not Classified
Caprifoliaceae			
Lonicera hispidula	Pink honeysuckle	Native	
Convolvulaceae			
Calystegia purpurata	Pacific false bindweed	Native	
Convolvulus arvensis	Field bindweed	Not Native	Not Classified
Cupressaceae			
Hesperocyparis macrocarpa	Monterey cypress	Not Native	Not Classified
Cyperaceae			
Carex sp.	Sedge	Unknown	
Cyperus eragrostis	Tall flatsedge	Native	
Eleocharis macrostachya	Common spikerush	Native	

TABLE 1. VASCULAR PLANT SPECIES OBSERVED AT THE PROJECT SITE DURING 2023-2024 PLANT SURVEYS			
Scientific Name Organized by Families [1]	**Common Name**	**Native/Not Native**	**California Invasive Plant Council Invasive Plant Rating [2]**
Schoenoplectus acutus	Hardstem bulrush	Native	
Dipsacaceae			
Dipsacus sativus	Fuller's teasel	Not Native	Moderate
Fabaceae			
Acmispon wrangelianus	Wrangel lotus	Native	
Genista monspessulana	French broom	Not Native	High
Lotus corniculatus	Bird's foot trefoil	Not Native	Not Classified
Lupinus albifrons	Silver bush lupine	Native	
Lupinus nanus	Sky lupine	Native	
Medicago polymorpha	Bur clover	Not Native	Limited
Trifolium dubium	Shamrock clover	Native	
Trifolium hirtum	Rose clover	Not Native	Limited
Vicia sativa	Spring vetch	Not Native	Not Classified
Fagaceae			
Quercus agrifolia	Coast live oak	Native	
Geraniaceae			
Erodium botrys	Broad leaf filaree	Not Native	Not Classified
Erodium cicutarium	Red stemmed filaree	Not Native	Limited
Erodium maschatum	Musky stork's bill	Not Native	Not Classified
Geranium dissectum	Cutleaf geranium	Not Native	Limited
Hippocastanaceae			
Aesculus californica	California buckeye	Native	
Iridaceae			
Romulea rosea australis	Rosy sandcrocus	Not Native	Watch
Sisyrinchium bellum	Western blue eyed grass	Native	
Juncaceae			
Juncus articulatus	Jointed rush	Native	
Juncus bufonius	Common toad rush	Native	
Juncus effusus ssp. pacificus	Pacific rush	Native	
Juncus patens	Spreading rush	Native	
Juncus torreyi	Torrey's rush	Native	
Juncus xiphioides	Irisleaf rush	Native	
Lamiaceae			
Clinopodium douglasii	Yerba buena	Native	
Ocimum basillicum	Sweet basil	Not Native	Not Classified
Origanum vulgare	Oregano	Not Native	Not Classified
Lauraceae			
Umbellularia californica	California bay	Native	
Lemnaceae			
Lemna sp.	Duckweed	Native	
Linaceae			
Linum bienne	Pale flax	Not Native	Not Classified
Malvaceae			
Malva nicaeensis	Bull mallow	Not Native	Not Classified
Sidalcea malviflora ssp. maviflora	Checker mallow	Native	
Myrsinaceae			
Lysimachia arvensis	Scarlet pimpernel	Not Native	Not Classified
Myrtaceae			
Eucalyptus globulus	Blue gum	Not Native	Limited
Onagraceae			
Taraxia ovata	Sun cup	Native	

TABLE 1. VASCULAR PLANT SPECIES OBSERVED AT THE PROJECT SITE DURING 2023-2024 PLANT SURVEYS			
Scientific Name Organized by Families [1]	**Common Name**	**Native/Not Native**	**California Invasive Plant Council Invasive Plant Rating [2]**
Orobanchaceae			
Bellardia trixago	Mediterranean lineseed	Not Native	Limited
Bellardia viscosa	Yellow glandweed	Not Native	Limited
Oxalidaceae			
Oxalis pes-capri	Sourgrass	Not Native	Moderate
Papavaraceae			
Eschscholzia californica	California poppy	Native	
Pinaceae			
Pinus radiata	Monterey pine	Not Native	Not Classified
Phrymaceae			
Diplacus aurantiacus	Orange bush monkeyflower	Native	
Plantaginaceae			
Plantago lanceolata	English plantain	Not Native	Limited
Poaceae			
Avena fatua	Wild oat	Not Native	Moderate
Briza minor	Little quaking grass	Not Native	Not Classified
Briza maxima	Rattlesnake grass	Not Native	Limited
Bromus diandrus	Ripgut brome	Not Native	Moderate
Bromus hordeaceus	Soft brome	Not Native	Limited
Bromus stichensis var. carinatus	California brome	Native	
Cynosurus echinatus	Hedgehog dogtail grass	Not Native	Moderate
Festuca bromoides	Brome fescue	Not Native	Not Classified
Festuca perennis	Italian rye grass	Not Native	Moderate
Holcus lanatus	Velvet grass	Not Native	Moderate
Hordeum brachyantherum	Meadow barley	Native	
Hordeum marinum ssp. gussoneanum	Mediterranean barley	Not Native	Moderate
Hordeum murinum	Wall barley	Not Native	Moderate
Leersia oryzoides	Rice cutgrass	Native	
Phalaris aquatica	Harding grass	Not Native	Moderate
Poa annua	Annual bluegrass	Not Native	Not Classified
Poa pratensis	Kentucky blue grass	Not Native	Limited
Stipa pulchra	Purple needlegrass	Native	
Vulpia bromoides	Six weeks fescue	Not Native	Not Classified
Polygonaceae			
Polygonum aviculare	Prostrate knotweed	Not Native	Not Classified
Rumex acetosella	Common sheep sorrel	Not Native	Moderate
Rumex crispus	Curly dock	Not Native	Limited
Rumex pulcher	Fiddledock	Not Native	Not Classified
Ranunculaceae			
Ranunculus californicus	California buttercup	Native	
Rhamnaceae			
Frangula californica ssp. californica	California coffeeberry	Native	
Rosaceae			
Cotoneaster franchetii	Cotoneaster	Not Native	Moderate
Cotoneaster pannosus	Silverleaf cotoneaster	Not Native	Moderate
Heteromeles arbutifolia	Toyon	Native	
Rosa chinensis	China rose	Not Native	Not Classified
Rosa californica	California wild rose	Native	
Rubus ursinus	California blackberry	Native	
Rubus armeniacus	Himalayan berry	Not Native	High
Rubiaceae			

TABLE 1. VASCULAR PLANT SPECIES OBSERVED AT THE PROJECT SITE DURING 2023-2024 PLANT SURVEYS			
Scientific Name Organized by Families [1]	**Common Name**	**Native/Not Native**	**California Invasive Plant Council Invasive Plant Rating [2]**
Galium aparine	Common bedstraw	Native	
Salicaceae			
Salix lasiolepis	Arroyo willow	Native	
Salvinaceae			
Azolla sp.	Water fern	Unknown	
Themidaceae			
Tritileia laxa	Ithuriel's spear	Native	
Typhaceae			
Typha latifolia	Broadleaf cattail	Native	

[1] Taxonomic Source: https://www.calflora.org/ ; [2] Cal-IPC Profile ratings: Invasive Plants – California Invasive Plant Council (https://www.cal-ipc.org/);

Based on field studies conducted by Robert Perrera on April 27, 2023, and May 21, 2024, Emilie Strauss on May 1, 2023, and Gary Deghi on May 29, 2024.

Cal-IPC rating categories:

- **High** – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
- **Moderate** – These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
- **Limited** – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Table 2

Special Status Plants with Potential to Occur in the Vicinity of the Project Site, Marin County, California

TABLE 2. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
pink sand-verbena *(Abronia umbellata var. breviflora)*	-- / -- / 1B.1 1B.1 G4G5T2 / S2 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes and coastal strand. Foredunes and interdunes with sparse cover. A. umbellata var. breviflora is usually the plant closest to the ocean. 0-75 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Blasdale's bent grass *(Agrostis blasdalei)*	-- / -- / 1B.2 1B.2 G2G3 / S2 BLM_S-Sensitive | SB_UCSC-UC Santa Cruz	Coastal dunes, coastal bluff scrub, coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation. 5-365 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Sonoma alopecurus *(Alopecurus aequalis var. sonomensis)*	Endangered / -- / 1B.1 1B.1 G5T1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Freshwater marshes and swamps, riparian scrub. Wet areas, marshes, and riparian banks, with other wetland species. 3-360 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Napa false indigo *(Amorpha californica var. napensis)*	-- / -- / 1B.2 1B.2 G4T2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 30-735 m	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
bent-flowered fiddleneck *(Amsinckia lunaris)*	-- / -- / 1B.2 1B.2 G3 / S3 BLM_S-Sensitive | SB_UCBG-UC Botanical Garden at Berkeley | SB_UCSC-UC Santa Cruz	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 3-795 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
Mt. Tamalpais manzanita *(Arctostaphylos montana ssp. montana)*	-- / -- / 1B.3 1B.3 G3T3 / S3 SB_UCBG-UC Botanical Garden at Berkeley	Chaparral, valley and foothill grassland. Serpentine slopes in chaparral and grassland. 150-680 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Marin manzanita *(Arctostaphylos virgata)*	-- / -- / 1B.2 1B.2 G2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture	Broadleafed upland forest, closed-cone coniferous forest, chaparral, north coast coniferous forest. On sandstone or granitic 1-800 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 2. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
coastal marsh milk-vetch *(Astragalus pycnostachyus var. pycnostachyus)*	-- / -- / 1B.2 1B.2 G2T2 / S2 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden |	Coastal dunes,marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Point Reyes blennosperma *(Blennosperma nanum var. robustum)*	-- / Rare / 1B.2 1B.2 G4T2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal prairie, coastal scrub. On open coastal hills in sandy soil. 5-125 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Thurber's reed grass *(Calamagrostis crassiglumis)*	-- / -- / 2B.1 2B.1 G5Q / S2	Coastal scrub, marshes and swamps. Usually in marshy swales surrounded by grassland or coastal scrub. 5-50 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
coastal bluff morning-glory *(Calystegia purpurata ssp. saxicola)*	-- / -- / 1B.2 1B.2 G4T2T3 / S2S3 BLM_S-Sensitive | SB_UCSC-UC Santa Cruz	Coastal dunes, coastal scrub, coastal bluff scrub, north coast coniferous forest. 4-165m.	No Potential. Suitable habitat is not present on the Project Site.	None.
seaside bittercress *(Cardamine angulata)*	-- / -- / 2B.1 2B.1 G4G5 / S3	North coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 5-515 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
bristle-stalked sedge *(Carex leptalea)*	-- / -- / 2B.2 2B.2 G5 / S1 IUCN_LC-Least Concern	Bogs and fens, meadows and seeps, marshes and swamps. Mostly known from bogs and wet meadows. 3-1395 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Lyngbye's sedge *(Carex lyngbyei)*	-- / -- / 2B.2 2B.2 G5 / S3 IUCN_LC-Least Concern	Marshes and swamps (brackish or freshwater). 0-200 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 2. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
Tiburon paintbrush *(Castilleja affinis var. neglecta)*	Endangered / Threatened / 1B.2 1B.2 G4G5T1T2 / S1S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_UCBG-UC Botanical Garden at Berkeley	Valley and foothill grassland. Rocky serpentine sites. 120-400 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Humboldt Bay owl's-clover *(Castilleja ambigua var. humboldtiensis)*	-- / -- / 1B.2 1B.2 G5T2 / S2 BLM_S-Sensitive | SB_UCBG-UC Botanical Garden at Berkeley	Marshes and swamps. In coastal saltmarsh with Spartina, Distichlis, Salicornia, Jaumea. 0-20 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Point Reyes paintbrush *(Castilleja leschkeana)*	-- / -- / 1A 1A GX / SX	Marshes and swamps (coastal). 0-25 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Nicasio ceanothus *(Ceanothus decornutus)*	-- / -- / 1B.2 1B.2 G1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral. Maritime chaparral; serpentinite, rocky, sometimes clay. 235-290 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mt. Vision ceanothus *(Ceanothus gloriosus var. porrectus)*	-- / -- / 1B.3 1B.3 G4T2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Low shrub in a variety of habitats on Pt. Reyes; sandy soils. 10-335 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mason's ceanothus *(Ceanothus masonii)*	-- / Rare / 1B.2 1B.2 G1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture	Chaparral. Serpentine ridges or slopes in chaparral or transition zone. 180-460 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Point Reyes salty bird's-beak *(Chloropyron maritimum ssp. palustre)*	-- / -- / 1B.2 1B.2 G4?T2 / S2 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal salt marsh. Usually in coastal salt marsh with Salicornia, Distichlis, Jaumea, Spartina, etc. 0-115 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 2. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
woolly-headed spineflower *(Chorizanthe cuspidata var. villosa)*	-- / -- / 1B.2 1B.2 G2T2 / S2	Coastal scrub, coastal dunes, coastal prairie. Sandy places near the beach. 5-60 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Sonoma spineflower *(Chorizanthe valida)*	Endangered / Endangered / 1B.1 1B.1 G1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal prairie. Sandy soil. 5-50 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Bolander's water-hemlock *(Cicuta maculata var. bolanderi)*	-- / -- / 2B.1 2B.1 G5T4T5 / S2? SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Marshes and swamps. In fresh or brackish water. 0-20 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Franciscan thistle *(Cirsium andrewsii)*	-- / -- / 1B.2 1B.2 G3 / S3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal bluff scrub, broadleafed upland forest, coastal scrub, coastal prairie. Sometimes serpentine seeps. 0-295 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
Mt. Tamalpais thistle *(Cirsium hydrophilum var. vaseyi)*	-- / -- / 1B.2 1B.2 G2T1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Broadleafed upland forest, chaparral, meadows and seeps. Serpentine seeps and streams in chaparral and woodland. 180-610 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Baker's larkspur *(Delphinium bakeri)*	Endangered / Endangered / 1B.1 1B.1 G1 / S1 SB_UCBG-UC Botanical Garden at Berkeley	Broadleafed upland forest, coastal scrub, valley and foothill grassland. Only site occurs on NW-facing slope, on decomposed shale. Historically known from grassy areas along fencelines too. 105-205 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
western leatherwood *(Dirca occidentalis)*	-- / -- / 1B.2 1B.2 G2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 20-640 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.

TABLE 2. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
swamp harebell *(Eastwoodiella californica)*	-- / -- / 1B.2 1B.2 G3 / S3 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marsh, north coast coniferous forest. Bogs and marshes in a variety of habitats; uncommon where it occurs. 1-520 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Koch's cord moss *(Entosthodon kochii)*	-- / -- / 1B.3 1B.3 G1 / S1 BLM_S-Sensitive	Cismontane woodland. Moss growing on soil on river banks. 185-365 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Tiburon buckwheat *(Eriogonum luteolum var. caninum)*	-- / -- / 1B.2 1B.2 G5T2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie. Serpentine soils; sandy to gravaelly sites. 60-640 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
bluff wallflower *(Erysimum concinnum)*	-- / -- / 1B.2 1B.2 G3 / S2 BLM_S-Sensitive	Coastal dunes, coastal bluff scrub, coastal prairie. More or less a coastal generalist within coastal habitat types. 3-60 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Marin checker lily *(Fritillaria lanceolata var. tristulis)*	-- / -- / 1B.1 1B.1 G5T2 / S2 SB_UCSC-UC Santa Cruz	Coastal bluff scrub, coastal scrub, coastal prairie. Occurrences reported from canyons and riparian areas as well as rock outcrops; often on serpentine. 5-305 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
fragrant fritillary *(Fritillaria liliacea)*	-- / -- / 1B.2 1B.2 G2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3-385 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
blue coast gilia *(Gilia capitata ssp. chamissonis)*	-- / -- / 1B.1 1B.1 G5T2 / S2 SB_UCBG-UC Botanical Garden at Berkeley	Coastal dunes, coastal scrub. 3-200 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 2. SPECIAL STATUS PLANTS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
woolly-headed gilia *(Gilia capitata ssp. tomentosa)*	-- / -- / 1B.1 1B.1 G5T2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal bluff scrub, valley and foothill grassland, riparian woodland. Rocky outcrops, sometimes serpentine. 6-290 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
dark-eyed gilia *(Gilia millefoliata)*	-- / -- / 1B.2 1B.2 G2 / S2 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes. 1-60 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
congested-headed hayfield tarplant *(Hemizonia congesta ssp. congesta)*	-- / -- / 1B.2 1B.2 G5T2 / S2 SB_UCBG-UC Botanical Garden at Berkeley	Valley and foothill grassland. Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 5-520 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
short-leaved evax *(Hesperevax sparsiflora var. brevifolia)*	-- / -- / 1B.2 1B.2 G4T3 / S3 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0-640 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Marin western flax *(Hesperolinon congestum)*	Threatened / Threatened / 1B.1 1B.1 G1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_UCBG-UC Botanical Garden at Berkeley	Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. 60-400 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
water star-grass *(Heteranthera dubia)*	-- / -- / 2B.2 2B.2 G5 / S2 IUCN_LC-Least Concern	Marshes and swamps. Alkaline, still or slow-moving water. Requires a pH of 7 or higher, usually in slightly eutrophic waters. 15-1510 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Kellogg's horkelia *(Horkelia cuneata var. sericea)*	-- / -- / 1B.1 1B.1 G4T1? / S1? SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_UCSC-UC Santa Cruz | USFS_S-Sensitive	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. 5-430 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

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Point Reyes horkelia *(Horkelia marinensis)*	-- / -- / 1B.2 1B.2 G2 / S2 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_UCSC-UC Santa Cruz	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities. 2-775 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
island tube lichen *(Hypogymnia schizidiata)*	-- / -- / 1B.3 1B.3 G2G3 / S2	Chaparral, closed-cone coniferous forest. On bark and wood of hardwoods and conifers. 255-545 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
perennial goldfields *(Lasthenia californica ssp. macrantha)*	-- / -- / 1B.2 1B.2 G3T2 / S2 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal bluff scrub, coastal dunes, coastal scrub. 5-185 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
beach layia *(Layia carnosa)*	Threatened / Endangered / 1B.1 1B.1 G2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, coastal scrub. On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 3-30 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
rose leptosiphon *(Leptosiphon rosaceus)*	-- / -- / 1B.1 1B.1 G1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal bluff scrub. 10-140 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Tamalpais lessingia *(Lessingia micradenia var. micradenia)*	-- / -- / 1B.2 1B.2 G2T2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture	Chaparral, valley and foothill grassland. Usually on serpentine, in serpentine grassland or serpentine chaparral. Often on roadsides. 60-305 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mason's lilaeopsis *(Lilaeopsis masonii)*	-- / Rare / 1B.1 1B.1 G2 / S2	Marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. In brackish or freshwater. 0-10 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

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coast lily *(Lilium maritimum)*	-- / -- / 1B.1 1B.1 G2 / S2 BLM_S-Sensitive | SB_BerrySB-Berry Seed Bank | SB_UCBG-UC Botanical Garden at Berkeley	Closed-cone coniferous forest, coastal prairie, coastal scrub, broadleafed upland forest, north coast coniferous forest, marshes and swamps. Historically in sandy soil, often on raised hummocks or bogs; today mostly in roadside ditches. 4-490 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Pitkin Marsh lily *(Lilium pardalinum ssp. pitkinense)*	Endangered / Endangered / 1B.1 1B.1 G5T1 / S1 SB_BerrySB-Berry Seed Bank | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of	Cismontane woodland, meadows and seeps, marshes and swamps. Saturated, sandy soils with grasses and shrubs. 45-65 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Point Reyes meadowfoam *(Limnanthes douglasii ssp. sulphurea)*	-- / Endangered / 1B.2 1B.2 G4T1 / S1 SB_UCBG-UC Botanical Garden at Berkeley	Marshes and swamps (freshwater), vernal pools, coastal prairie, meadows and seeps. Vernally wet depressions in open rolling, coastal prairies and meadows; typically in dark clay soil. 10-125 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Tidestrom's lupine *(Lupinus tidestromii)*	Endangered / Endangered / 1B.1 1B.1 G1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes. Partially stabilized dunes, immediately near the ocean. 4-25 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
marsh microseris *(Microseris paludosa)*	-- / -- / 1B.2 1B.2 G2 / S2 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden | SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 3-610 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
northern curly-leaved monardella *(Monardella sinuata ssp. nigrescens)*	-- / -- / 1B.2 1B.2 G3T2 / S2 BLM_S-Sensitive | SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, coastal scrub, chaparral, lower montane coniferous forest. Sandy soils. 10-245 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Marin County navarretia *(Navarretia rosulata)*	-- / -- / 1B.2 1B.2 G2 / S2 BLM_S-Sensitive | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest, chaparral. Dry, open rocky places; can occur on serpentine. 185-640 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

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SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
North Coast phacelia *(Phacelia insularis var. continentis)*	-- / -- / 1B.2 1B.2 G2T2 / S2 BLM_S-Sensitive | SB_UCBG-UC Botanical Garden at Berkeley	Coastal bluff scrub, coastal dunes. Open maritime bluffs, sandy soil, sometimes rocky habitats. 0-155 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
North Coast semaphore grass *(Pleuropogon hooverianus)*	-- / Threatened / 1B.1 1B.1 G2 / S2 BLM_S-Sensitive | SB_BerrySB-Berry Seed Bank | SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Broadleafed upland forest, meadows and seeps, north coast coniferous forest. Wet grassy, usually shady areas, sometimes freshwater marsh; associated with forest environments. 45-1160 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Marin knotweed *(Polygonum marinense)*	-- / -- / 3.1 3.1 G2Q / S2	Marshes and swamps. Coastal salt marshes and brackish marshes. 0-10 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Tamalpais oak *(Quercus parvula var. tamalpaisensis)*	-- / -- / 1B.3 1B.3 G4T2 / S2	Lower montane coniferous forest, cismontane woodland. 200-640 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
California beaked-rush *(Rhynchospora californica)*	-- / -- / 1B.1 1B.1 G1 / S1 BLM_S-Sensitive | SB_UCSC-UC Santa Cruz	Bogs and fens, marshes and swamps, lower montane coniferous forest, meadows and seeps. Freshwater seeps and open marshy areas. 45-270 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Sanford's arrowhead *(Sagittaria sanfordii)*	-- / -- / 1B.2 1B.2 G3 / S3 BLM_S-Sensitive	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Point Reyes checkerbloom *(Sidalcea calycosa ssp. rhizomata)*	-- / -- / 1B.2 1B.2 G5T2 / S2	Marshes and swamps. Freshwater marshes near the coast.5-95 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

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Marin checkerbloom *(Sidalcea hickmanii ssp. viridis)*	-- / -- / 1B.1 1B.1 G2TH / SH	Chaparral. Serpentine or volcanic soils; sometimes appears after burns. 1-425 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
purple-stemmed checkerbloom *(Sidalcea malviflora ssp. purpurea)*	-- / -- / 1B.2 1B.2 G4G5T1 / S1 BLM_S-Sensitive	Broadleafed upland forest, coastal prairie. 15-85 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
Scouler's catchfly *(Silene scouleri ssp. scouleri)*	-- / -- / 2B.2 2B.2 G5T4T5 / S2S3	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 5-315 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
Tamalpais jewelflower *(Streptanthus batrachopus)*	-- / -- / 1B.3 1B.3 G2 / S2 SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, chaparral. Talus serpentine outcrops. 335-670 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mt. Tamalpais bristly jewelflower *(Streptanthus glandulosus ssp. pulchellus)*	-- / -- / 1B.2 1B.2 G4T2 / S2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, valley and foothill grassland. Serpentine slopes. 125-670 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
two-fork clover *(Trifolium amoenum)*	Endangered / -- / 1B.1 1B.1 G1 / S1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden | SB_UCBG-UC Botanical Garden at Berkeley | SB_USDA-US	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face. 5-310 m.	No Potential. Suitable habitat is not present on the Project Site.	None.
Pacific Grove clover *(Trifolium polyodon)*	-- / Rare / 1B.1 1B.1 G1 / S1 BLM_S-Sensitive | SB_USDA-US Dept of Agriculture	Closed-cone coniferous forest, meadows and seeps, coastal prairie, valley and foothill grassland. Along small springs and seeps in grassy openings. 5-260 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.

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SPECIES **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Rare Plant Rank**[2] **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
San Francisco owl's-clover *(Triphysaria floribunda)*	-- / -- / 1B.2 1B.2 G2? / S2?	Coastal prairie, coastal scrub, valley and foothill grassland. On serpentine and non-serpentine substrate (such as at Pt. Reyes). 1-150 m.	Moderate Potential. Suitable habitat may be present on the Project Site.	Conduct rare plant survey.
coastal triquetrella *(Triquetrella californica)*	-- / -- / 1B.2 1B.2 G2 / S2 USFS_S-Sensitive	Coastal bluff scrub, coastal scrub. Grows within 30m from the coast in coastal scrub, grasslands and in open gravels on roadsides, hillsides, rocky slopes, and fields. On gravel or thin soil over outcrops. 20-1175 m.	No Potential. Suitable habitat is not present on the Project Site.	None.

Determination of Occurrence Potential. Following the desktop review and field surveys, HBG assessed the potential for the occurrence of special status species on the Project site. Biological conditions (vegetation communities, wildlife habitats, disturbances, etc.) and the habitat and life cycle requirements of special status species identified for analysis in the desktop review were considered. "Recent" occurrences are defined as observed within the past 30 years. Based on these considerations, species were assigned to the following categories:

No Potential: Habitat on and adjacent to the site is clearly nonpotential for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
Unlikely: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is nonpotential or of very poor quality. The species is not likely to be found on the site.
Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is nonpotential. The species has a moderate probability of being found on the site.
High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly potential. The species has a high probability of being found on the site.
Present: Species is observed on the site or has been recorded (i.e., CNDDB, other reports) on the site recently.
NOTE: The potential for bird species were further distinguished into those that may: 1) nest within or near the Project site; 2) forage within or near the Project site; and/or 3) occur on or near the Project site only as transients during migratory flights or other dispersal events.
1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the Inverness 7.5 Minute Quadrangle Map and surrounding areas, information dated January 2025.
2. California Rare Plant Ranks
1A - Presumed extirpated in California and either rare or extinct elsewhere
1B - Rare or Endangered in California and elsewhere
2A - Presumed extirpated in California, but more common elsewhere
2B - Rare or Endangered in California, but more common elsewhere
3 - Plants for which we need more information – Review list
4 - Plants of limited distribution – Watch list
3. Threat Code Extensions:
.1 – Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
.3 – Not very threatened in California (under 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Table 3

Special Status Animal Species that Have Been Reported in the Vicinity of the Project Site, Marin County, California

TABLE 3. SPECIAL STATUS ANIMALS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Taxonomic Class** **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
Insects Opler's longhorn moth *(Adela oplerella)*	-- / -- G2 / S2	From Marin County and the Oakland area on the inner coast ranges south to Santa Clara County. One record from Santa Cruz County. All but Santa Cruz site is on serpentine grassland. Larvae feed on Platystemon californicus.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects obscure bumble bee *(Bombus caliginosus)*	-- / -- G2G3 / S1S2 IUCN_VU-Vulnerable	Coastal areas from Santa Barbara County north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects western bumble bee *(Bombus occidentalis)*	-- / Candidate Endangered G3 / S1 IUCN_VU-Vulnerable | USFS_S-Sensitive	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Moderate Potential. Suitable habitat is present on the Project Site.	Mitigation to include restrictions on speed of construction equipment during initial site grading.
Insects American bumble bee *(Bombus pensylvanicus)*	-- / -- G3G4 / S2 IUCN_VU-Vulnerable	Long-tongued; forages on a wide variety of flowers including vetches (Vicia), clovers (Trifolium), thistles (Cirsium), sunflowers (Helianthus), etc. Nests above ground under long grass or underground. Queens overwinter in rotten wood or underground.	No Potential. Suitable habitat is not present on the Project Site.	None.
Crustaceans Tomales isopod *(Caecidotea tomalensis)*	-- / -- G2 / S2S3	Inhabits localized freshwater ponds or streams with still or near-still water from San Mateo to Del Norte County.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects Marin elfin butterfly *(Callophrys mossii marinensis)*	-- / -- G4T1 / S2	Found only in the redwood forest areas of Marin County. Larvae collected and reared on Sedum spathulifolium.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects sandy beach tiger beetle *(Cicindela hirticollis gravida)*	-- / -- G5T2 / S2	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	No Potential. Suitable habitat is not present on the Project Site.	None.

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Insects globose dune beetle *(Coelus globosus)*	-- / -- G1G2 / S1S2 IUCN_VU-Vulnerable	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects monarch - California overwintering population *(Danaus plexippus plexippus pop. 1)*	Proposed Threatened / -- G4T1T2Q / S2 IUCN_EN-Endangered | USFS_S-Sensitive	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects Point Reyes blue butterfly *(Icaricia icarioides parapheres)*	-- / -- G5T1T2 / S1	Confined to the Pt. Reyes peninsula, from Pt. Reyes proper north to Tomales Pt. Stabilized sand dunes with the common bush Lupinus arboreus and L. variicolor. L. variicolor is the likely foodplant.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects San Francisco forktail damselfly *(Ischnura gemina)*	-- / -- G2 / S2 IUCN_EN-Endangered	Endemic to the San Francisco Bay area. Small, marshy ponds and ditches with emergent and floating aquatic vegetation.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects bumblebee scarab beetle *(Lichnanthe ursina)*	-- / -- G2 / S2	Inhabits coastal sand dunes from Sonoma County south to San Mateo County. Usually flies close to sand surface near the crest of the dunes.	No Potential. Suitable habitat is not present on the Project Site.	None.
Crustaceans California linderiella *(Linderiella occidentalis)*	-- / -- G2G3 / S2S3 IUCN_NT-Near Threatened	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	No Potential. Suitable habitat is not present on the Project Site.	None.
Insects Myrtle's silverspot butterfly *(Speyeria zerene myrtleae)*	Endangered / -- G5T1 / S1	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be Viola adunca.	No Potential. Suitable habitat is not present on the Project Site.	None.

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Crustaceans hyporheic amphipod *(Stygobromus hyporheicus)*	-- / -- G1 / SX	Known only from Marin County.	No Potential. Suitable habitat is not present on the Project Site.	None.
Crustaceans California freshwater shrimp *(Syncaris pacifica)*	Endangered / Endangered G2 / S2 IUCN_EN-Endangered	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mollusks Marin hesperian *(Vespericola marinensis)*	-- / -- G2 / S2	Found in moist spots in coastal brushfield and chaparral vegetation in Marin County. Under leaves of cow-parsnip, around spring seeps, in leafmold along streams, in alder woods and mixed evergreen forest.	No Potential. Suitable habitat is not present on the Project Site.	None.
Fish tidewater goby *(Eucyclogobius newberryi)*	Endangered / -- G3 / S3 AFS_EN-Endangered | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No Potential. Suitable habitat is not present on the Project Site.	None.
Fish southern coastal roach *(Hesperoleucus venustus subditus)*	-- / -- GNRT2 / S2 CDFW_SSC-Species of Special Concern	Found in the drainages of Tomales Bay and northern San Francisco Bay in the north, and drainages of Monterey Bay in the south.	No Potential. Suitable habitat is not present on the Project Site.	None.
Fish coho salmon - central California coast ESU *(Oncorhynchus kisutch pop. 4)*	Endangered / Endangered G5T2Q / S2 AFS_EN-Endangered	Federal listing = pops between Punta Gorda and San Lorenzo River. State listing = pops south of Punta Gorda. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	No Potential. Suitable habitat is not present on the Project Site.	None.
Fish steelhead - central California coast DPS *(Oncorhynchus mykiss irideus pop. 8)*	Threatened / -- G5T3Q / S3 AFS_TH-Threatened | CDFW_SSC-Species of Special Concern	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 3. SPECIAL STATUS ANIMALS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE

SPECIES **Taxonomic Class** **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
Fish longfin smelt - San Francisco Bay-Delta DPS *(Spirinchus thaleichthys pop. 2)*	Endangered / Threatened G5TNRQ / S1 IUCN_LC-Least Concern	Pelagic and anadromous within the Sacramento-San Joaquin River Delta, San Francisco Bay, and Gulf of the Farallones. Spawns in lower freshwater reaches of Sacramento and San Joaquin Rivers. First year in Suisun Bay; later SF Bay or Gulf of the Farallones. Occurs in salinities ranging from pure freshwater to pure saltwater; typically salinities ranging from 14-28 parts per thousand (ppt). Generally occupies water temperatures from 61-68F, with spawning occurring in water temperatures from 41-58F.	No Potential. Suitable habitat is not present on the Project Site.	None.
Amphibians California tiger salamander - Sonoma County DPS *(Ambystoma californiense pop. 3)*	Endangered / Threatened G2G3T2 / S2 CDFW_WL-Watch List | IUCN_VU-Vulnerable	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	No Potential. Suitable habitat is not present on the Project Site.	None.
Amphibians California giant salamander *(Dicamptodon ensatus)*	-- / -- G2G3 / S2S3 CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	No Potential. Suitable habitat is not present on the Project Site.	None.
Amphibians foothill yellow-legged frog - north coast DPS *(Rana boylii pop. 1)*	-- / -- G3T4 / S4 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Northern Coast Ranges north of San Francisco Bay Estuary, Klamath Mountains, and Cascade Range including watershed subbasins (HU 8) Lower Pit, Battle Creek, Thomes Creek, and Big Chico Creek in Lassen, Shasta, Tehama, and Butte Counties. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	No Potential. Suitable habitat is not present on the Project Site.	None.
Amphibians California red-legged frog *(Rana draytonii)*	Threatened / -- G2G3 / S2S3 CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Present. Observed within ponds on the Project Site during field surveys. Suitable breeding and upland habitat is found on the Project Site.	Implement construction program to include construction timing, preconstruction survey, installation of exclusion fencing, worker training, and use of biological monitor during initial site grading.
Reptiles northwestern pond turtle *(Actinemys marmorata)*	Proposed Threatened / -- G2 / SNR BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive		Present. Observed within ponds on the Project Site during field surveys. Suitable habitat is found on the Project Site.	Conduct preconstruction survey and use biological monitor during initial site grading.
Birds tricolored blackbird *(Agelaius tricolor)*	-- / Threatened G1G2 / S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFWS_BCC-Birds of Conservation Concern	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 3. SPECIAL STATUS ANIMALS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Taxonomic Class** **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
Birds great egret *(Ardea alba)*	-- / -- G5 / S4 CDF_S-Sensitive | IUCN_LC-Least Concern	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds great blue heron *(Ardea herodias)*	-- / -- G5 / S4 CDF_S-Sensitive | IUCN_LC-Least Concern	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds burrowing owl *(Athene cunicularia)*	-- / Candidate Endangered G4 / S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Moderate Potential. Suitable habitat is present on the Project Site.	Conduct preconstruction survey for this species.
Birds Swainson's hawk *(Buteo swainsoni)*	-- / Threatened G5 / S4 BLM_S-Sensitive | IUCN_LC-Least Concern	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds western snowy plover *(Charadrius nivosus nivosus)*	Threatened / -- G3T3 / S3 CDFW_SSC-Species of Special Concern	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds northern harrier *(Circus hudsonius)*	-- / -- G5 / S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds yellow rail *(Coturnicops noveboracensis)*	-- / -- G4 / S2 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 3. SPECIAL STATUS ANIMALS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Taxonomic Class** **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
Birds American peregrine falcon *(Falco peregrinus anatum)*	Delisted / Delisted G4T4 / S3S4 CDF_S-Sensitive	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds saltmarsh common yellowthroat *(Geothlypis trichas sinuosa)*	-- / -- G5T3 / S3 CDFW_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds California black rail *(Laterallus jamaicensis coturniculus)*	-- / Threatened G3T1 / S2 BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_EN-Endangered	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds San Pablo song sparrow *(Melospiza melodia samuelis)*	-- / -- G5T2 / S2 CDFW_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Resident of salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds osprey *(Pandion haliaetus)*	-- / -- G5 / S4 CDF_S-Sensitive | CDFW_WL-Watch List | IUCN_LC-Least Concern	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	No Potential. Suitable habitat is not present on the Project Site.	None.
Birds yellow warbler *(Setophaga petechia)*	-- / -- G5 / S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mammals pallid bat *(Antrozous pallidus)*	-- / -- G4 / S3 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 3. SPECIAL STATUS ANIMALS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Taxonomic Class** **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
Mammals Point Reyes mountain beaver *(Aplodontia rufa phaea)*	-- / -- G5T2 / S2 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Coastal area of Point Reyes in areas of springs or seepages. North-facing slopes of hills and gullies in areas overgrown with sword ferns and thimbleberries.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mammals Townsend's big-eared bat *(Corynorhinus townsendii)*	-- / -- G4 / S2 BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mammals North American porcupine *(Erethizon dorsatum)*	-- / -- G5 / S3 IUCN_LC-Least Concern	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges. Wide variety of coniferous and mixed woodland habitat.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mammals silver-haired bat *(Lasionycteris noctivagans)*	-- / -- G3G4 / S3S4 IUCN_LC-Least Concern	Primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mammals hoary bat *(Lasiurus cinereus)*	-- / -- G3G4 / S4 IUCN_LC-Least Concern	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mammals western red bat *(Lasiurus frantzii)*	-- / -- G4 / S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	No Potential. Suitable habitat is not present on the Project Site.	None.
Mammals American badger *(Taxidea taxus)*	-- / -- G5 / S3 CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No Potential. Suitable habitat is not present on the Project Site.	None.

TABLE 3. SPECIAL STATUS ANIMALS KNOWN TO OCCUR IN THE VICINITY OF THE PROJECT SITE				
SPECIES **Taxonomic Class** **Common Name** ***Scientific Name***	**STATUS** **Federal / State** **Global / State Rank** **Other State / Federal Status**	**Habitat/Range**	**Potential Site Occurrence**	**Recommended Action**
Mammals Point Reyes jumping mouse *(Zapus trinotatus orarius)*	-- / -- G5T2 / S2 CDFW_SSC-Species of Special Concern	Primarily in bunch grass marshes on the uplands of Point Reyes. Also present in coastal scrub, grassland, and meadows. Eats mainly grass seeds w/ some insects and fruit taken. Builds grassy nests on ground under vegetation, burrows in winter.	No Potential. Suitable habitat is not present on the Project Site.	None.

Determination of Occurrence Potential. Following the desktop review and field surveys, HBG assessed the potential for the occurrence of special status species on the Project site. Biological conditions (vegetation communities, wildlife habitats, disturbances, etc.) and the habitat and life cycle requirements of special status species identified for analysis in the desktop review were considered. "Recent" occurrences are defined as observed within the past 30 years. Based on these considerations, species were assigned to the following categories:

No Potential: Habitat on and adjacent to the site is clearly nonpotential for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
Unlikely: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is nonpotential or of very poor quality. The species is not likely to be found on the site.
Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is nonpotential. The species has a moderate probability of being found on the site.
High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly potential. The species has a high probability of being found on the site.
Present: Species is observed on the site or has been recorded (i.e., CNDDB, other reports) on the site recently.
NOTE: The potential for bird species were further distinguished into those that may: 1) nest within or near the Project site; 2) forage within or near the Project site; and/or 3) occur on or near the Project site only as transients during migratory flights or other dispersal events.
1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the Inverness 7.5 Minute Quadrangle Map and surrounding areas, information dated January 2025.
2. Status Codes:

Federal
FE = Federally listed Endangered
FT = Federally listed Threatened
FPE = Federally Proposed Endangered
FPT = Federally Proposed Threatened
FC = Federal Candidate Species
BCC = USFWS Bird Species of Conservation Concern

State
SE = California State-listed Endangered
ST = California State-listed Threatened
SR = California State Rare
SCE = California State Candidate Endangered
SCT = California State Candidate Threatened
CFP = California Fully Protected
SSC = CDFW Species of Special Concern
WL = CDFW Watch List Species

APPENDIX C.

IPaC INFORMATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 01/21/2025 21:34:24 UTC
Project Code: 2025-0045164
Project Name: PRS Vacant Lots Subdivision by Cui

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

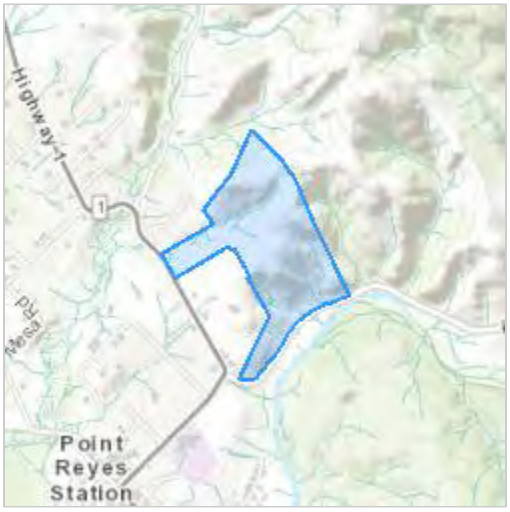
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2025-0045164
Project Name: PRS Vacant Lots Subdivision by Cui
Project Type: Residential Construction
Project Description: The Project proposes to subdivide the four parcels into 37 parcels for future single-family residential development. The preliminary plans indicates that individual lots will range between about 1.02- and 8.2-acres.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.07797535,-122.7984549473305,14z



Counties: Marin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

REPTILES

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

FISHES

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Myrtle's Silverspot Butterfly *Speyeria zerene myrtleae* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6929	Endangered

FLOWERING PLANTS

NAME	STATUS
Showy Indian Clover *Trifolium amoenum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Sonoma Alopecurus *Alopecurus aequalis var. sonomensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/557	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Deland Wing
Address:	1101 5th Ave.
Address Line 2:	Suite 205
City:	San Rafael
State:	CA
Zip:	94901
Email	dwing@h-bgroup.com
Phone:	9168856846

APPENDIX D.

SOILS REPORT

United States Department of Agriculture

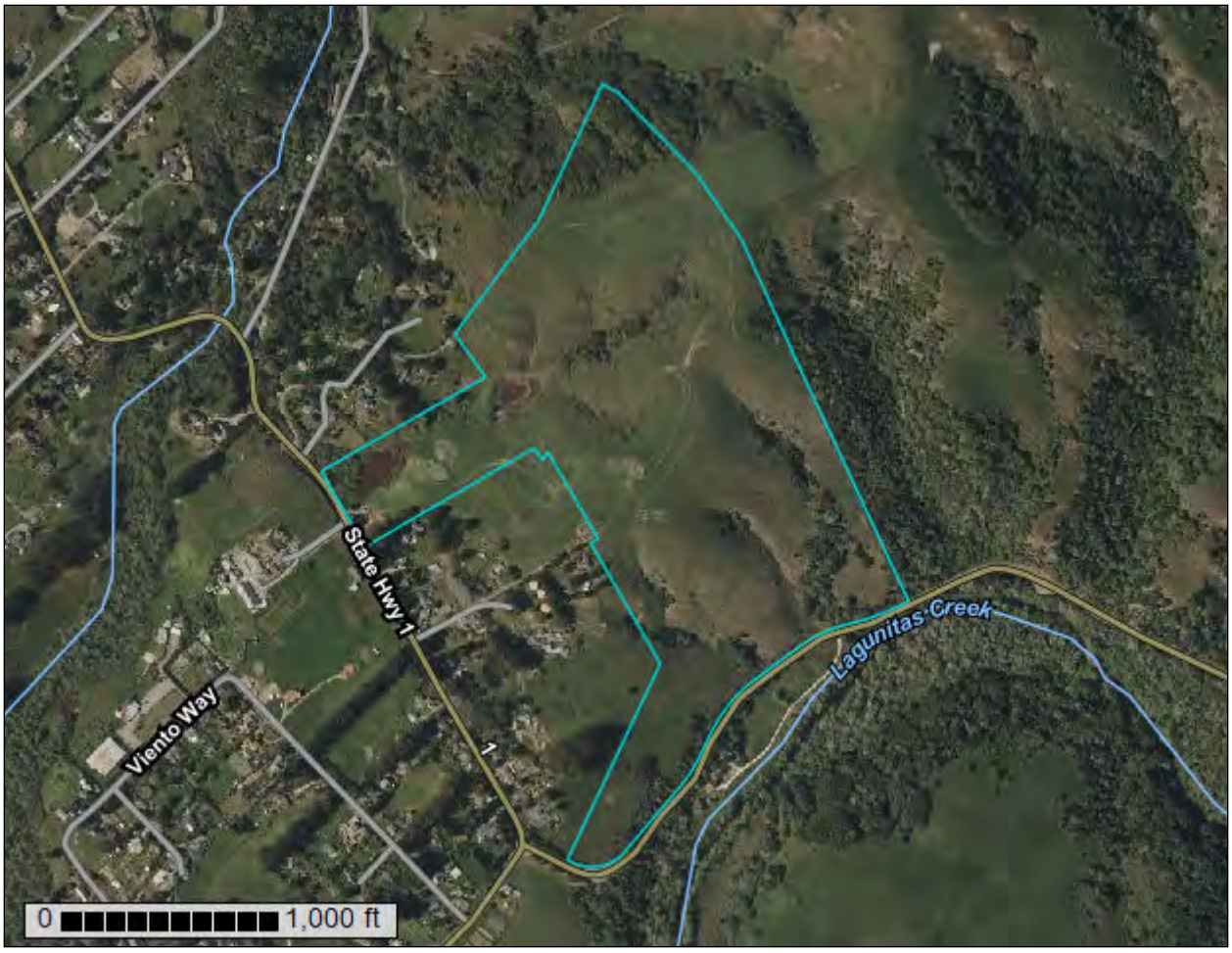
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Marin County, California

Yan Cui Project



May 14, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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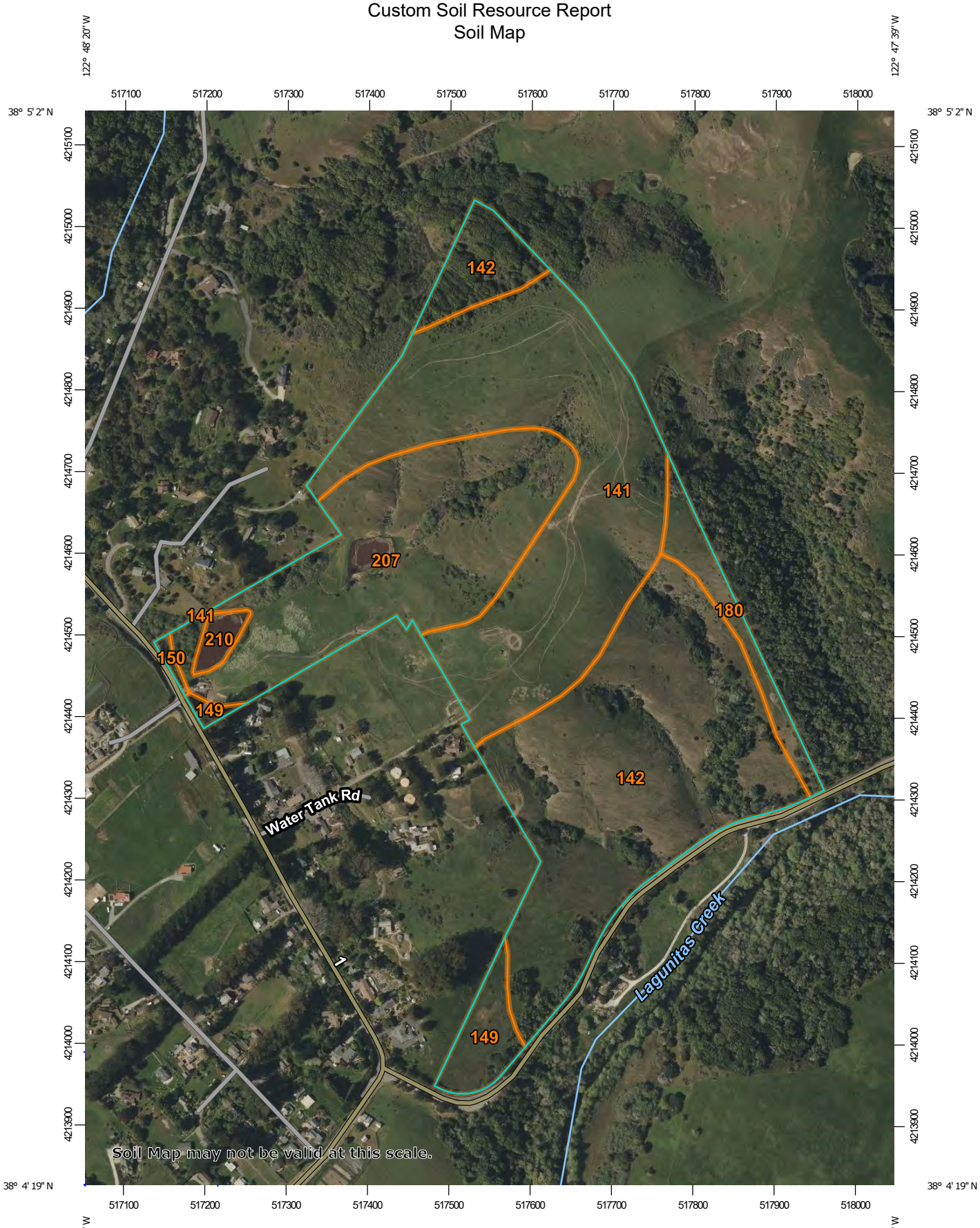
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:6,410 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Marin County, California
Survey Area Data: Version 17, Sep 11, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2022—Apr 25, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
141	Los Osos-Bonnydoon complex, 15 to 30 percent slopes	26.5	32.4%
142	Los Osos-Bonnydoon complex, 30 to 50 percent slopes	29.7	36.3%
149	Olompali loam, 9 to 15 percent slopes	2.6	3.2%
150	Olompali loam, 15 to 30 percent slopes	0.2	0.3%
180	Tocaloma-McMullin complex, 50 to 75 slopes	2.8	3.4%
207	Yorkville clay loam, 30 to 50 percent slopes	19.2	23.4%
210	Water	0.8	0.9%
Totals for Area of Interest		**81.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor

components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Marin County, California

141—Los Osos-Bonnydoon complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hf2f
Elevation: 50 to 1,500 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 270 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Los osos and similar soils: 60 percent
Bonnydoon and similar soils: 20 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 38 inches: clay
H3 - 38 to 42 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XC032CA - FINE LOAMY CLAYPAN
Hydric soil rating: No

Description of Bonnydoon

Setting

Landform: Hills

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from shale, or sandstone

Typical profile

H1 - 0 to 15 inches: gravelly loam
H2 - 15 to 19 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC037CA - SHALLOW GRAVELLY LOAM
Hydric soil rating: No

Minor Components

Yorkville

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes less than 15 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Slumps

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, deep

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallow

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, gravelly

Percent of map unit: 2 percent
Hydric soil rating: No

Tocaloma

Percent of map unit: 2 percent
Hydric soil rating: No

Saurin

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

142—Los Osos-Bonnydoon complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hf2g
Elevation: 200 to 1,200 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 270 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Los osos and similar soils: 60 percent
Bonnydoon and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 15 inches: loam
H2 - 15 to 30 inches: clay
H3 - 30 to 34 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC032CA - FINE LOAMY CLAYPAN
Hydric soil rating: No

Description of Bonnydoon

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale, or sandstone

Typical profile

H1 - 0 to 11 inches: gravelly loam
H2 - 11 to 15 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC037CA - SHALLOW GRAVELLY LOAM
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Slumps

Percent of map unit: 3 percent
Hydric soil rating: No

Yorkville

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, deep

Percent of map unit: 3 percent

Hydric soil rating: No

Slopes more than 50 percent
Percent of map unit: 3 percent
Hydric soil rating: No

Tocaloma
Percent of map unit: 3 percent
Hydric soil rating: No

149—Olompali loam, 9 to 15 percent slopes

Map Unit Setting
National map unit symbol: hf2p
Elevation: 50 to 800 feet
Mean annual precipitation: 35 to 45 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition
Olompali and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Olompali

Setting
Landform: Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile
H1 - 0 to 13 inches: loam
H2 - 13 to 28 inches: clay
H3 - 28 to 42 inches: gravelly clay
H4 - 42 to 60 inches: clay
H5 - 60 to 64 inches: bedrock

Properties and qualities
Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R015XC028CA - COASTAL LOAMY CLAYPAN
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Backslope
Hydric soil rating: Yes

Felton variant

Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallower

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes less than 9 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Soulajule

Percent of map unit: 2 percent
Hydric soil rating: No

150—Olompali loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hf2q
Elevation: 50 to 800 feet
Mean annual precipitation: 35 to 45 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Olompali and similar soils: 85 percent

Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Olompali

Setting

Landform: Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

H1 - 0 to 13 inches: loam
H2 - 13 to 28 inches: clay
H3 - 28 to 42 inches: gravelly clay
H4 - 42 to 60 inches: clay
H5 - 60 to 64 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XC028CA - COASTAL LOAMY CLAYPAN
Hydric soil rating: No

Minor Components

Tocaloma

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallower

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes more than 50 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Yorkville

Percent of map unit: 2 percent
Hydric soil rating: No

Felton variant
Percent of map unit: 2 percent
Hydric soil rating: No

Soulajule
Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop
Percent of map unit: 2 percent
Hydric soil rating: No

180—Tocaloma-McMullin complex, 50 to 75 slopes

Map Unit Setting
National map unit symbol: hf3p
Elevation: 50 to 1,500 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 55 to 61 degrees F
Frost-free period: 290 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition
Tocaloma and similar soils: 40 percent
Mcmullin and similar soils: 35 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tocaloma

Setting
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from sandstone and shale

Typical profile
H1 - 0 to 19 inches: loam
H2 - 19 to 39 inches: very gravelly loam
H3 - 39 to 43 inches: bedrock

Properties and qualities
Slope: 50 to 75 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Description of Mcmullin

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from conglomerate

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 18 inches: gravelly loam
H3 - 18 to 22 inches: bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Minor Components

Saurin

Percent of map unit: 5 percent
Hydric soil rating: No

Bonnydoon

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed, deep

Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop
Percent of map unit: 2 percent
Hydric soil rating: No

Maymen
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallow
Percent of map unit: 2 percent
Hydric soil rating: No

207—Yorkville clay loam, 30 to 50 percent slopes

Map Unit Setting
National map unit symbol: hf4k
Elevation: 50 to 1,500 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 55 to 59 degrees F
Frost-free period: 240 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition
Yorkville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yorkville

Setting
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale

Typical profile
H1 - 0 to 10 inches: clay loam
H2 - 10 to 45 inches: clay
H3 - 45 to 49 inches: bedrock

Properties and qualities
Slope: 30 to 50 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC032CA - FINE LOAMY CLAYPAN
Hydric soil rating: No

Minor Components

Unnamed, shallow

Percent of map unit: 2 percent
Hydric soil rating: No

Saurin

Percent of map unit: 2 percent
Hydric soil rating: No

Slumps

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallower

Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes more than 50 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Bonnydoon

Percent of map unit: 2 percent
Hydric soil rating: No

Los osos

Percent of map unit: 1 percent
Hydric soil rating: No

210—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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APPENDIX E.

USACE PJD VERIFICATION LETTER & MAP

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

November 13, 2024

Regulatory Division

Subject: File No. SPN-2024-00222

Mr. Robert Perrera
Huffman-Broadway Group, Inc
1101 5th Avenue, Suite 205
San Rafael, California 94901
rperrera@h-bgroup.com

Dear Mr. Perrera:

This correspondence is in reference to your submittal of June 18, 2024, on behalf of Yan Cui, requesting a preliminary jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring on an 82-acre site located at 11925 Highway 1, in Point Reyes Station, Marin County, California; Latitude 38.078140° and Longitude -122.799437°.

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended, 33 U.S.C. § 1344 *et seq*.

The enclosed delineation map titled “Preliminary Jurisdictional Determination pursuant to Section 404 of the Clean Water Act, PRS Vacant Lots Subdivision by Cui, Point Reyes Station, Marin County,” in one sheet and certified on November 12, 2024, (enclosure 1) depicts the extent and location of wetlands, and other waters of the United States within the boundary area of the site that **may be** subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This preliminary jurisdictional determination is based on the current conditions of the site, as verified during a review of available digital photographic imagery, and a review of other data included in your submittal. While this preliminary jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 16-01, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form* (enclosure 2), which has been signed and dated by this office. You are requested to sign and date this form and return it to this office within two weeks of receipt.

You are advised that the preliminary jurisdictional determination may **not** be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. pt. 331 (65 Fed. Reg. 16,486; Mar. 28, 2000). Under the provisions of 33 C.F.R Section 331.5(b)(9), non-appealable actions include preliminary jurisdictional determinations since they are considered to be only advisory in nature and make no definitive conclusions on the jurisdictional status of the water bodies in question. However, you may request this office to provide an approved jurisdictional determination that precisely identifies the scope of jurisdictional waters on the site; an approved jurisdictional determination may be appealed through the *Administrative Appeal Process* (enclosure 3). If you anticipate requesting an approved jurisdictional determination at some future date, you are advised not to engage in any on-site grading or other construction activity in the interim to avoid potential violations and penalties under Section 404 of the Clean Water Act. Finally, you may provide this office new information for further consideration and request a reevaluation of this preliminary jurisdictional determination.

You may refer any questions on this matter to me by telephone at (415) 503-2951 or by e-mail at zachary.m.simmons@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter. The San Francisco District is committed to improving service to our customers. The Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: https://www.spn.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Zachary Simmons
Senior Project Manager
Regulatory Division

Enclosures

cc (w/ encls):

Yan Cui, yancuiw@gmail.com
San Francisco Bay RWQCB, rb2-401Application@waterboards.ca.gov

Stream #	OHWM	Length (ft)	Wetland #	Acreage
R1	6	1332	W1	0.046
R2	4	767	W2	0.013
R3	2	185	W3	0.054
R4	2	109	W4	0.01
R5	2	186	W5	0.01
R6	2	160	W6	0.824
R7	2	274	W7	0.041
R8	2	144	W8	0.039
R9	4	171	W9	0.441
R10	2	121	W10	0.102
R11	4	306	W11	0.003
R12	2	213		
R13	4	92		
R14	4	894		
R15	2	333		
R16	2	184		
R17	3	233		
R18	2	54		

U.S. Army Corps of Engineers
San Francisco District
Regulatory Division

Preliminary Jurisdictional Determination Pursuant to Section 404 of the Clean Water Act

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County

(38.0781400°, -122.799437°)

Accurate as depicted in legend

File ID. **SPN-2024-00222** Date: **November 12, 2024** Sheet 1 of 1

Lat: 38.0780278°N
Long: -122.8046131°E

Lat: 38.0763900°N
Long: -122.7952007°E

Lat: 38.0730670°N
Long: -122.8007127°E

ARD Review Area
Sample Point
Culvert

Aquatic Resources Subject to CWA Jurisdiction:

Palustrine Aquatic Bed (PAB), Perennial (CWA Section 404) (1.26 ac)
Palustrine Emergent (PEM), Persistent (CWA Section 404) (0.32 ac)
Intermittent Stream (R4SB) (CWA Section 404) (0.49 ac)

N
0 2,500 5,000 US Feet

Figure 6. Aquatic Resource Delineation

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:23,182
Date Map Created: 7/31/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

APPENDIX F.

RANA RESOURCES HABITAT ASSESSMENT REPORT FOR THE FOOTHILL YELLOW-LEGGED FROG, CALIFORNIA RED-LEGGED FROG, NORTHWESTERN POND TURTLE, AND AMERICAN BADGER

HABITAT ASSESSMENTS FOR THE FOOTHILL YELLOW-LEGGED FROG, CALIFORNIA RED-LEGGED FROG, WESTERN POND TURTLE, AND AMERICAN BADGER AT THE PROPOSED YAN CUI PROJECT SITE, POINT REYES STATION, MARIN COUNTY, CALIFORNIA

July 31, 2024

Prepared for:

Robert F. Perrera
The Huffman-Broadway Group, Inc.
1101 5th Avenue, Suite 205
San Rafael, CA 94901-2903

Prepared by:

Mark Jennings
Rana Resources
P.O. Box 2185
Davis, CA 95617-2185

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3.0 METHODS **3**

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SUMMARY

This report describes habitat assessments for the federally threatened California red-legged frog (*Rana draytonii,* hereafter CRLF), proposed federally-threatened western pond turtle (*Actinemys marmorata*, WPT), and California species of special concern foothill yellow-legged frog (*R. boylii*, FYLF) and American badger (*Taxidea taxus*, hereafter AB) at the location of the approximately 82-acre Yan Cui Project site just to the east Point Reyes Station, Marin County California.

The Project site consists largely of rolling hills and grasslands with a mosaic of non-native grasses. There are 5 small drainages on site with patches of associated woodlands and shrubs. The largest one is to the north, drains to Tomasini Canyon, and contains 2 perennial ponds. The other 4 smaller ones are on the south side of the site, one of which contains an intermittent pond, and are connected hydrologically to Lagunitas Creek, which lies about 0.25 miles to south of the property on Point Reyes Petaluma Road. Introduced and native trees have been recently planted in some of the open fields. The area has an elevational range of approximately 80-320 feet.

In the upper pond on the tributary to the north, an adult CRLF was observed on May 21, 2024 and an adult and subadult WPT were additionally observed there on June 27, 2024. These records confirm that CRLF and WPT are present on site, something that is to be expected since there are multiple additional records for these species in the California Natural Diversity Data Base from within 1.25 miles to the southwest, west, and northwest of the Project site. The habitat is suitable for the reproduction of both species, despite the presence of introduced bullfrogs (*Lithobates catesbeianus*) and western mosquitofish (*Gambusia affinis*).

The closest records for FYLF lies 2.25 miles to the east in the Nicasio Creek drainage. The closest records for AB lie 2.75 miles to the north and 2 miles to the southwest. The lack of any suitable stream habitats (for FYLF) and the paucity of burrowing small mammals (for AB) precludes the presence of these species on site.

1.0 INTRODUCTION

A proposed lot division for the 82-acre Yan Cui Project site adjacent to Point Reyes Station in Marin County, California has been filed (Figure 1). Since the site lies within the historic range for the federally threatened California red-legged frog (*Rana draytonii,* hereafter CRLF), proposed federally-threatened western pond turtle (*Actinemys marmorata*, WPT), and California species of special concern foothill yellow-legged frog (*R. boylii*, FYLF) and American badger (*Taxidea taxus*, hereafter AB) [Stebbins 2003, Jameson and Peeters 1988], and is near occupied Critical Habitat for CRLF (USFWS 2010), habitat assessments were conducted for these species.

2.0 PROJECT DESCRIPTION AND SETTING

The 82-acre project site is located just east of Hwy 1 and north of the Point Reyes Petaluma Road, immediately adjacent to Point Reyes Station, Marin County, California (Figure 1). The only structures on site are the corrals for Point Reyes Arabian Adventures, a horse riding enterprise that grazes horses (*Equus ferus caballus*) on the property.

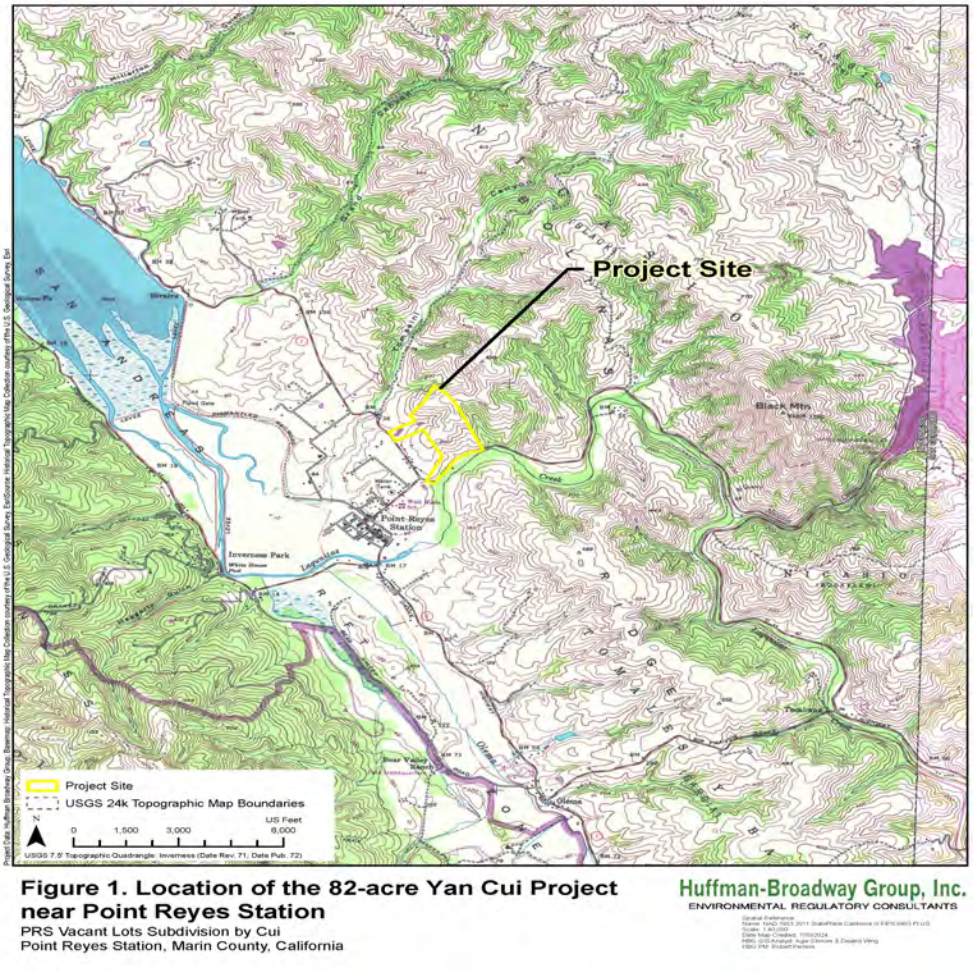

Figure 1. Location of the 82-acre Yan Cui Project near Point Reyes Station
PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Figure 1. Location of the 82-acre Yan Cui Project near Point Reyes Station.

The Project site consists largely of rolling hills and grasslands with a mosaic of non-native grasses that has historically been used for cattle (*Bos taurus*) grazing. There are 5 small drainages on site with patches of associated woodlands (especially willows (*Salix* sp.)) and shrubs. The largest one is to the north, drains to Tomasini Canyon, and contains 2 perennial ponds. The ponds apparently date from about 1971 based on published topographic maps of the area for 1972 (Inverness, CA 1972).

The other 4 smaller drainages are on the south side of the site, one of which contains an intermittent pond, and are connected hydrologically to Lagunitas Creek, which lies about 0.25

miles to south of the property on Point Reyes Petaluma Road. Introduced and native trees have been recently planted in some of the open fields. The area has an elevational range of approximately 80-320 feet.

The Project site has apparently not been previously surveyed for sensitive species. Botta pocket gopher (*Thomomys bottae*) and California vole (*Microtus californicus*) burrows are scattered throughout the more upland areas.

3.0 METHODS

The methods employed to produce this report include evaluating the suitability of habitat for CRLF, WPT, FYLF, and AB on site by conducting a reconnaissance-level site visit during the day by me on May 21, 2024. I followed the U.S. Fish and Wildlife Service protocol for the CRLF habitat assessment (USFWS 2005) and made observations regarding any amphibians, reptiles, and mammals observed, or potentially inhabiting the vicinity. Additionally, CRLF, WPT, FYLF, and AB occurrence records within 5.0 miles of the Project site (CNDDB 2024) were mapped. Finally, I examined 7.5' USGS quadrangles and aerial photographs for potentially suitable aquatic and terrestrial habitats within a 5.0-mile radius of the site and connectivity of these habitats with the Project site.

4.0 RESULTS AND DISCUSSION

An adult CRLF was observed during my day visit of the Project site on May 21, 2024 (Figure 2; see Appendix). I did not observe any other amphibian species other than some Pacific treefrog (*Hyla regilla*) egg masses, larvae, juveniles, and adults.

Suitable breeding and rearing habitat for CRLF is generally characterized by dense, shrubby riparian vegetation associated with deep (>2.3 feet), still or slow-moving water (see Jennings and Hayes 1994, Jennings 1988, Hayes and Jennings 1988). Both of the inundated perennial ponds that I observed on site were sufficient to support a breeding population of CRLF.

Additionally, a juvenile and adult WPT where observed on site on June 27, 2024 by Robert F. Perrera of The Huffman-Broadway Group, Inc., (Figure 2). The turtles were photographed and verified by me.

As with CRLF, suitable breeding and rearing habitat for WPT is generally characterized by freshwater aquatic environments with some slack- or slow water (Jennings and Hayes 1994). Deep water pools are essential to allow WPT to escape from potential predators such as raccoons (*Procyon lotor*). Both of the inundated perennial ponds that I observed on site were sufficient to support a breeding population of WPT.

I observed western mosquitofish (*Gambusia affinis*) during my visit, and Robert F. Perrera photographed a bullfrog (*Lithobates catesbeianus*) in the upper pond on June 27, 2024.

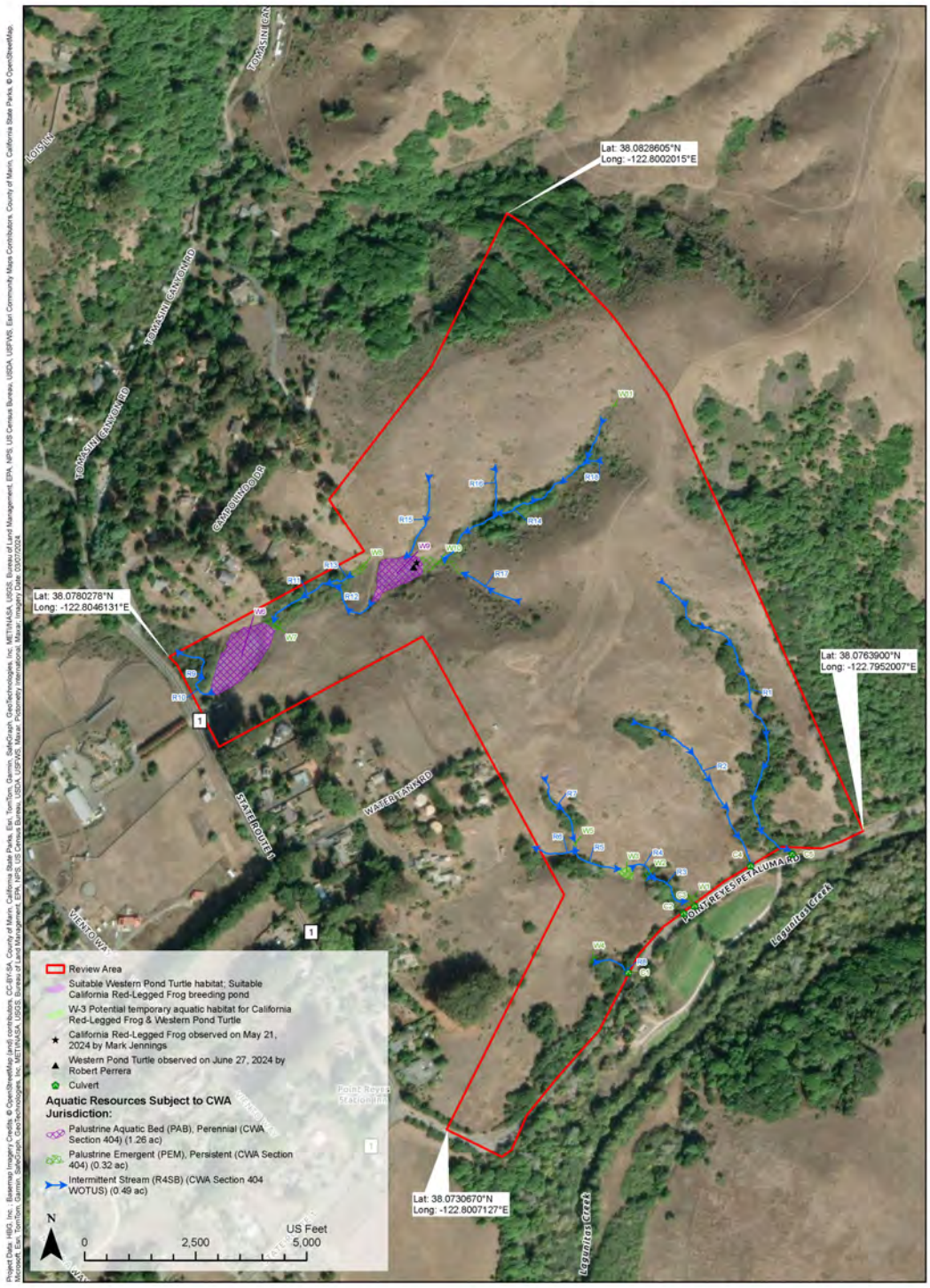

Figure 2. Locations of CRLF and WPT Observed on the Yan Cui Project Site

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:23,182
Date Map Created: 7/31/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

Figure 2. Locations of CRLF and WPT observed on the Yan Cui Project site.

Although both of these introduced species are known to have a negative effect on CRLF and WPT, I have observed them coexisting together at many pond locations on Point Reyes National Seashore over the past 25 years (Jennings, unpubl. data). Populations of CRLF and WPT likely are able to survive because the coastal locations of Marin County are covered in fog for much of the year. This lowers environmental temperatures that favor CRLF reproduction and limit bullfrog reproduction. Thus, bullfrogs cannot rapidly build up a large enough population to eliminate the local CRLF and WPT populations (as they do in more inland areas that are much warmer throughout the spring, summer, and fall months).

Introduced western mosquitofish have a negative effect on WPT by directly competing for some of the same food resources (aquatic invertebrates) [Jennings and Hayes 1994]. This is especially true for hatchling and small turtles.

The other intermittent streams and intermittent pond, labeled as W3 on Figure 2, on site were unsuitable habitat for FYLFs because of their small size, lack of gravel or rock substrate, and extensive cover of streamside vegetation. The small intermittent pond was completely dry by the time of my visit in early May 2024. It therefore probably only contains water during the wet winter months and dries by the early spring.

A review of the most recent California Natural Diversity Database files (CNDDB 2024) revealed that there are multiple additional records for CRLF and WPT in the California Natural Diversity Data Base from within 1.25 miles to the southwest, west, and northwest of the Project site. Thus, it seems logical that the CRLF and WPT on the Project site are part of a larger population of these animals in the local area.

The closest records for FYLF lies 2.25 miles to the east in the Nicasio Creek drainage. The closest records for AB lie 2.75 miles to the north and 2 miles to the southwest. The lack of any suitable stream habitats (for FYLF) and the paucity of burrowing small mammals (for AB) precludes the presence of these species on site. Additionally, I did not see any AB burrows or evidence of AB foraging for small mammals on site. No California ground squirrels (*Otospermophilus beecheyi*) or their burrows were observed during my visit.

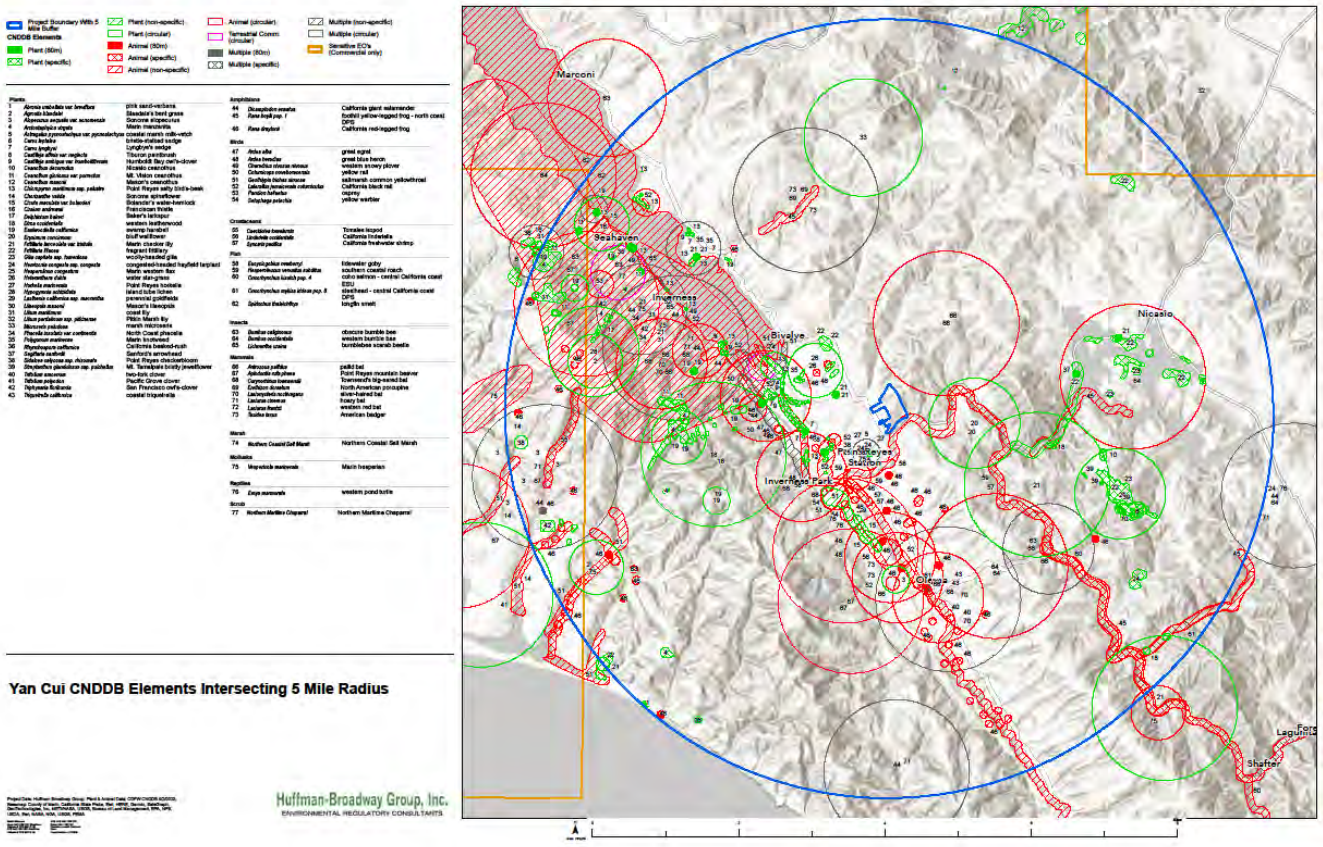

Figure 3. Locations of FYLF, CRLF, WPT, and AB within 5.0 miles of the Project site.

5.0 CONCLUSIONS

CRLF and WPT were observed on site along with introduced bullfrogs and western mosquitofish. The native species are presumed to part of a larger breeding population in the area. No suitable habitats were found for FYLF and AB and they are not expected to be on the Project site or on adjacent properties within 2.0 miles. Therefore, it is my professional opinion that issues regarding the presence of breeding populations of CRLF and WPT on site need to be addressed as part of any proposed development plans.

6.0 REFERENCES

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Stebbins, R. C. 2003. A field guide to western reptiles and amphibians. Third edition. Houghton Mifflin Company, Boston, Massachusetts. xiii+533 p.

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7.0 APPENDIX

Data Sheet from Appendix D of the *Revised guidance on site assessment and field surveys for the California red-legged frog* (USFWS 2005) completed on May 21, 2024.

California Red-Legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 05/21/2024
(mm/dd/yyyy)

Site Assessment Biologists: Jennings, Mark _____
(Last name) (first name) (Last name) (first name)

_____ _____
(Last name) (first name) (Last name) (first name)

Site Location: Marin, Point Reyes Station @ 11925 Hwy 1
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S)

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Van Cui Project site
Brief description of proposed action: To split up the 32 acre site into a number of smaller parcels for development.

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? (YES) NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

2 **PONDS:**
Size: 1.26 acres total Maximum depth: ~5 feet

Vegetation: emergent, overhanging, dominant species: Ponds covered with duckweed. Emergents include tules, cattails, and sedges. Upper banks with willows, Himalayan blackberries, and coyote bush.

Substrate: mud, sand, and small rocks.

(**Perennial**) **or Ephemeral** (*circle one*). If ephemeral, date it goes dry: _____

California Red-Legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 3 ft.
Depth at bank full: 1 ft.
Stream gradient: 4%

Are there pools (circle one)? (YES) NO

If yes,

Size of stream pools: One small stock pond 0.32 acres in size
Maximum Depth of stream Pools: 2 feet.

Characterize non-pool habitat: run, riffle, glide, other: Streams on site dry during visit.

Vegetation: emergent, overhanging, dominant species: Grasses. Overstory of willows coyote bush, Himalayan blackberries, and western poison oak

Substrate: Rock and cobble.

Bank description: Ruderal grassland

Perennial or (Ephemeral) *(circle one)*. If ephemeral, date it goes dry: Probably in April of each year.

Other aquatic habitat characteristics, species observations, drawings, or comments:

Western mosquitofish observed in perennial ponds. Later, on June 27, 2024, Robert E. Ferrara of The Huffman-Broadway Group, Inc., photographed a subadult and adult western pond turtles in the same upper pond. He also photographed a bullfrog at the same location.

Site used for grazing horses and other livestock. Owner has been planting native and introduced trees in some of the open fields.

One adult California red-legged frog observed in the upper pond by me. CNDDB form filled out and submitted to the California Department of Fish and Wildlife.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs.
3. Maps with important habitat features and species locations

APPENDIX G.

WESTERN BUMBLE BEE AVOIDANCE PLAN

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

WESTERN BUMBLE BEE AVOIDANCE PLAN
Rancho Los Reyes Project

Prepared for:

CUI Family Trust ETAL
Contact: Yan Cui
PO Box 7273
Rancho Santa Fe, CA 92067
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Prepared by:

Huffman-Broadway Group, Inc.
1101 5th Street, Suite 205
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Telephone: (415) 385-4106

July 2025

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List of Preparers
Robert Perrera, Wetland Regulatory Scientist, Huffman-Broadway Group Inc., and Julie Wittmann, Biologist, Huffman-Broadway Group, Inc.

Cover photo credits: Xerces Society website.

This report should be cited as: Huffman-Broadway Group, Inc., 2025. *Western Bumble Bee Avoidance Plan Rancho Los Reyes Project, Point Reyes Station, Marin* County, California. July.

1.0 Introduction

This document serves as the Western Bumble Bee Avoidance Plan (Plan) for the Rancho Los Reyes Project. It has been prepared based on information in California Department of Fish and Wildlife Survey Considerations for California Endangered Species Act Candidate Bumble Bees (CDFW 2023), U.S. Fish and Wildlife Service Survey Protocols for the Rusty Patched Bumble Bee (USFWS 2019), and H. T. Harvey & Associates' Crotch's Bumble Bee Avoidance Plan for the Federal Energy Regulatory Commission Order Compliance Project (Rottenborn 2024).

2.0 Western Bumble Bee Biology

This section provides a brief overview of Western Bumble Bee (WBB) biology and distribution in the South San Francisco Bay area to inform implementation of take avoidance measures.

Western bumble bee (*Bombus occidentalis*):

Range. This species has undergone severe declines in area of occupancy, number of occurrences, and relative abundance since the mid-20th century. Previously, it was one of the most abundant bumble bees in the western United States and Canada.

Listing Status. CESA Candidate Endangered.

Habitat Associations and Requirements. The WBB requires foraging, nesting, and overwintering habitat types. The WBB occupies a wide range of habitats, including mixed woodlands, farmlands, urban parks and gardens, montane meadows and into the western edge of the prairie grasslands (COSEWIC 2014). Food plants include *Asclepias, Chaenactis, Lotus, Lupinus, Medicago, Penstemon, Phacelia, Mentzelia, Clarkia, Salvia, Dendromecon, Eschscholzia, and Eriogonum,* and many others (Thorp et al. 1983, Williams et al. 2014). Generally, bumble bees have been recorded foraging 0-2,000 meters from the nest (Kwak 1979, Osborne et al 1999, Walther-Hellwig and Frankl 2000, Knight et al. 2005, Carvell et al. 2012), and foraging distance may be inversely proportional to habitat quality near the nest (Carvell et al. 2012, Osborne et al. 2008). Riparian areas, perennial and seasonal wetlands, and agricultural areas can provide foraging habitat but are likely not suitable for nesting and overwintering habitat. Nests are usually underground and difficult to detect.

Threats. Ongoing threats to the species, particularly within the southern portions of its range, include pathogen spillover from commercially managed bumble bee colonies, increasingly intensive agricultural and livestock grazing and other land use practices, pesticide use, including neonicotinoid compounds, and habitat change.

Project Site Occurrence. Moderate Potential. No western bumble bee or their nest have been observed on the site by HBG wildlife biologist, and the nearest CNDDB known location of a western bumble bee is approximately 2 miles west of the Project site. The Project Site has the potential to be used for episodic foraging as several nectar producing plant species are present

which are known to be used or could be used by the western bumble bee. Therefore, the presence of this species cannot be ruled out, and impacts to the species are possible if the species is present during initial grading activities.

3.0 Potential Impacts and Avoidance Measures

Removal of flowering plant species used by WBB during initial grubbing and grading could impact the species, if found to be present, by eliminating nectar sites, harming bees, or altering their nest sites. The following avoidance measures listed below will avoid and minimize the potential Take of a WBB.

3.1 Site Assessment

The Site Assessment shall be conducted during the WBB colony active period of April – September ideally one year prior to the start of construction.

3.1.1 Step 1 Literature Review

Consult recent and historical occurrences of the species in the area using databases (e.g., California Natural Diversity Database, Bumble Bee Watch, the California Bumble Bee Atlas and iNaturalist) to determine whether the species has been detected in the area and to determine the habitat types and host plants used by the species that might have occurred nearby.

3.1.2 Step 2 Draft Potential WBB Habitat Map

Using existing vegetation mapping, data provided from Step 1, and a site visit conducted during the spring/summer, prepare a *Draft Potential WBB Habitat Map* indicating *Potential WBB Habitat* (e.g., grasslands, freshwater wetlands, and other habitat types with flowering plants, etc.) and *Non-WBB Habitat* (e.g., open water, dirt roads, existing graded areas void of flowering plants etc.). The draft map will assist the surveyors to focus on areas with the highest probability of supporting WBB. Ideally the site visit and preparation of the map would occur during the same year in which the Section 3.2 WBB Survey is planned, but no more than 1 year prior to the WBB Construction Survey outlined in Section 3.3.

Bumble bees in general are very difficult to identify to a genus or species level without handling the species and recording specific measurements of its anatomy, and locating a nest is extremely difficult. Therefore, although the site assessment and preconstruction survey will include recording the observation of bumble bees and nest, the habitat mapping will be weighted on the presence of flowering plants that could be used by the WBB. As such, the habitat assessment will be performed not to determine whether avoidance measures are necessary, but rather to inform further avoidance measures and primary focus areas where the WBB have the highest probability of occurring. The WBB Habitat map will be used by the biologist conducting the survey during avoidance measure 3.2, and to inform the biological monitor during avoidance measures 3.3 and 3.4.

3.2 WBB Survey

Survey timing should be based on seasonality and when activity or foraging will most likely

occur each year. To increase probability of WBB detection[1], survey efforts should be conducted during the WBB colony active period of April - September, which is the highest detection period, when no rain is forecast, at least an hour after sunrise and at least two hours before sunset, though ideally between 9am-1pm, on sunny days (65-90 degrees F), with low wind (less than 8 mph).

Based on the large Project area, at least 3 on-site surveys will be required to adequately survey the Railyard area and a separate set of 3 surveys to cover the Landfill area. Surveys should be conducted no more than one year prior to project implementation. Surveyors should use large meandering transects that incorporate patches of floral resources across the landscape mapped during the initial site assessment (Section 3.1). Each survey should ideally be spaced at least 2 to 4 weeks apart during the Colony Active Period to ensure that the surveys cover a range of dates and account for variability in resource use by the *Bombus* species and floral resource phenology within the site.

Surveys shall be visual encounters only, with identification aided by photographs. Surveyors will not capture or handle live bumble bees. Survey methods will include: 1) Searching areas with flowering plants for foraging *Bombus* species; 2) survey burrows and other possible nesting habitat; and 3) look and listen for concentrated bumble bee activities. If a *Bombus* species is found, the biologist shall survey in the location of the nest and photograph the *Bombus* species from multiple angles to capture unique identifying features of the *Bombus* species. Record the date, time, location, weather, suitable floral resources nearby, bumble bee activity, genus or species if known, and whether a nest (and substrate) may be present and if project activities could harm the species. Data collected from this survey shall be used to update the Site Assessment maps prepared in Section 3.1. To determine if the *Bombus* nest is a WBB, a qualified biologist[2] will be required to make that identification. If the *Bombus* must be handled to make the identification, an Incidental Take Permit (ITP) from CDFW may be required.

If project activities span multiple seasons, a new assessment with surveys will be conducted at the beginning of the WBB colony active period for each subsequent year on areas of the Project site that still support *Potential WBB Habitat*.

3.3 Preconstruction Survey

No earlier than 14 days prior to the start of project implementation, a biologist should conduct a preconstruction survey to determine whether the foraging *Bombus* species or nests are present. The preconstruction survey may overlap with the WBB Survey (Section 3.2 above) and will focus on areas of high probability detected during the WBB Survey conducted in Section 3.2 and updated Site Assessment maps. The preconstruction survey should occur at least an hour after sunrise and at least two hours before sunset, though ideally between 9am-1pm, on sunny days (65-90 degrees F), with low wind (less than 8 mph). Surveyors should use large

[1]Based on CDFW's Surveys Considerations for CESA Candidate Bumble Bees

[2] The "qualified biologist" will need to be a biologist who has experience identifying *Bombus* species and specifically WBB and has been approved by CDFW to identify or monitor WBB on at least one past project.

meandering transects focusing on known locations of *Bombus* and patches of floral resources across the landscape mapped during the initial site assessment (Section 3.1) and refined during the WBB Survey (Section 3.2).

Similar to the WBB Survey described in Section 3.2, surveys shall be visual encounters only. Preconstruction survey methods will include: 1) Searching areas with flowering plants for foraging *Bombus* species; 2) survey burrows and other possible nesting habitat; and 3) look and listen for concentrated bumble bee activities. If a *Bombus* species is found, the biologist shall survey in the location of the nest, photograph the *Bombus* species from multiple angles to capture unique identifying features of the *Bombus* species. Record the date, time, location, weather, suitable floral resources nearby, bumble bee activity, species, and whether a nest (and substrate) may be present and if project activities could harm the species.

If an active *Bombus* nest is found, and the *Bombus* is either a WBB or cannot be identified to species level, a minimum buffer of 50-foot radius would be implemented around the nest. The no-disturbance buffer will not be removed until a qualified biologist[3] determines that the nest is no longer active. If work must occur that may impact the nest, an ITP must be obtained from CDFW prior to impacting the nest.

3.4 Biological Monitoring

Bumble bees in general are very difficult to identify to a genus or species level without handling the species and recording specific measurements of its anatomy, and locating a nest is extremely difficult. The biological monitor/s shall have a working knowledge of *Bombus* species and be able to distinguish between a *Bombus* species and other insects. The biological monitor shall maintain a log specific to monitoring for WBB.

3.4.1 Worker Training

A biological monitor will conduct worker training on how to identify bumble bees (i.e., bumble bees vs other insects), possible nesting behavior, how to avoid impacts to individuals, why there is a need to avoid impacts to the *Bombus* species, where individuals and their nests could be encountered within the work area, what staff should do if they potentially encounter the *Bombus* species, and when to contact the biological monitor for additional investigation of bumble bee occurrences or potential nests. The biological monitor shall prepare and distribute a factsheet handout containing this information with a colored photo of the *Bombus* species for workers to carry on-site.

3.4.2 Grubbing and Grading Speed Restrictions

The biological monitor shall coordinate with the construction crew performing the grubbing and grading work on the locations of the *Potential WBB Habitat*, speed restriction in those areas, and to be aware that the biological monitor will be walking those areas ahead of the equipment. Equipment used to conduct the initial grubbing will be restricted to moving no

[3] The "qualified biologist" will need to be approved by CDFW, and a resume submitted for approval during the ITP application process.

more than 10 miles per hour within the mapped *Potential WBB Habitat* areas throughout the Project site to allow bumble bees to safely disperse out of the construction area to adjacent foraging habitat.

3.4.3 Floral Resources Removal Restriction

During the WBB colony active period of April - September, if a *Bombus* species is present and floral resources that are in bloom must be removed, and no floral resources of similar quality are present within 1,000 meters[4], the removal of those flowers will occur in a patchy manner (as directed the biological monitor) so that foraging habitat for *Bombus* species remain present. The biological monitor shall coordinate with the construction crew performing the grubbing and grading work regarding floral resources that should be avoided until the end of the WBB colony active period. Once the WBB colony active period ends, the avoided floral patches may be grubbed and graded under the supervision of the biological monitor.

4.0 Reporting

The results and data obtained from the Avoidance Measures shall be recorded by February 1st of each year until all vegetation has been removed. The report shall include:

1. Introduction
2. Survey Methods
3. Site Assessment Results
4. Preconstruction Survey Results
5. Summary of Biological Monitoring
6. Attachments
    - Worker Training Sign in Sheet
    - Biological Monitoring Log
    - Photographs
    - Site Assessment Map/s

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[4] Based on the ability of the WBB to forage up to 2,000 meters from a nest site (Kwak 1979, Osborne et al 1999, Walther-Hellwig and Frankl 2000, Knight et al. 2005, Carvell et al. 2012).

5.0 References

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