



March 8<sup>th</sup>, 2019

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Corte Madera, CA 94976

**RE: Biological Documentation and Wetland Assessment for Parcels (192-061-11, -12, & -13) at Overlook Road, Bolinas, Marin County**

Mr. Kennings,

Enclosed is an updated Biological Site Assessment Report, with additions addressing the California Coastal Commission North Central Coast District Office's December 11, 2018 comments on the proposed development at 500 Overlook Drive in Bolinas, California. In sum, the CCC comments suggested that a reconnaissance biological study should (1) confirm the extent of all wetlands on the property based on a 1-parameter definition; (2) assess sensitive species' potential use of such habitats; and (3) recommend buffers consistent with LCP requirements as well as best management practices to provide for additional protections of any identified sensitive species that would occur within a 100-foot buffer. The Report addresses these comments by documenting WRA's multiple site visits while conducting a reconnaissance study of all wetlands on the subject property.

We focused on two areas in the study area, a National Wetland Inventory (NWI) mapped wetland and a drainage ditch adjacent to the property. Our findings are that each potential wetland meets the 1-parameter definition of wetlands. But the adjacent ditch also falls under the wetland definition exception for drainage ditches in the CCC interpretive guidelines. The project area itself does not support wetlands, waters, or other sensitive landcover types.

We also assessed the NWI mapped wetland and the drainage ditch for sensitive species' potential habitat use. Both could provide aquatic non-breeding habitat for the federal endangered California red-legged frog (CRLF, *Rana draytonii*). However, the depth, duration, and spatial extent of inundation (ponding) is insufficient to support CRLF breeding. It is possible that CRLF may migrate through the subject property during rainfalls or extremely heavy events to seek breeding habitats located elsewhere. In addition to CRLF, the American badger (*Taxidea taxus*) may infrequently visit the subject parcel from adjoining and nearby open pasture lands. Visitation would likely be limited to nocturnal visits for foraging. No mammal burrows were observed during any site visits.

In addition, we noted that the subject property and the proposed buffer area are not contiguous to Bolinas Lagoon. The Unit I Marin County Local Coastal Program (LCP) Policy 18 is under the heading *LCP Policies on Lagoon Protection* and is directed at setbacks related to wetlands adjacent to Bolinas Lagoon itself. The Unit I LCP does not specifically call out setbacks to any other wetlands.

With all of the above in mind and out of an abundance of caution, the project has been intentionally designed to setback from the NWI mapped wetland at least 100 feet or greater and from the drainage ditch at least 75 feet or greater. The siting has been pushed as far west as possible to provide sufficient protective buffers and maintain a setback from Overlook Drive. The entirety of the setback is composed of non-native grassland with intermittent shrubs; there are no sensitive habitats, including wetlands, between the project area and drainage ditch. Further, the project would be conducted during the dry season, virtually eliminating the potential to encounter a CRLF. As an additional mitigation measure to prevent the incursion of CRLF and stem any sediment migration, the project will install a temporary silt curtain and exclusion fence the entire length of the property affronting on BCPUD property. This measure will also prevent the American badger from entering the work area. All material and equipment staging will occur 100 feet or greater from the drainage ditch.

In summary, our reconnaissance survey confirms that the proposed project, as designed, will have no impact on wetlands or any sensitive biological resources or habitats, and the project is consistent with the LCP, CCC interpretive guidelines, and best management practices. The planned setbacks and mitigation measures appropriately ensure that impacts to wetlands or ESHA will be prevented and habitat maintained.

If you have questions or comments, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Aaron Arthur', is positioned above a horizontal line.

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# Biological Site Assessment

Overlook Drive (APN: 192-061-11, -12, -13)  
Bollinas, Marin County, California

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27283



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## **LIST OF PREPARERS**

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## **DEFINITIONS**

Study Area: The subject parcels plus 100 feet eastward onto Bolinas Community Public Utility District lands

Project Area: The subject parcels excluding the Bolinas Community Public Utility District lands

## **1.0 INTRODUCTION**

On October 4, 2017, and April 5 and July 26, 2018, WRA conducted a biological site assessment (BSA) at the site of a proposed residential development located on Overlook Drive, Bolinas plus 100 feet eastward into Bolinas Community Public Utility District (BCPUD) lands, in unincorporated Marin County, California, Assessor's Parcel Numbers 192-061-11, -12, and -13 (Study Area, Figure 1). The purpose of this assessment is: (1) to gather information necessary to complete a review of biological resources adequate for use for the California Environmental Quality Act (CEQA), to determine whether the property supports any sensitive habitats or species, and (2), if applicable, to assess potential impacts to any sensitive natural resources as required by the Marin County Community Development Agency, Planning Division. The Study Area includes the entirety of the three subject parcels.

This report describes the results of the site visit for which the Study Area was assessed concerning: (1) the presence of suitable habitat and the potential on-site occurrence for regionally-known special-status plant and wildlife species, and (2) the approximate location and extent of any environmentally sensitive habitat areas (ESHAs), including wetlands, streams and riparian areas which may be subject to regulation under the California Coastal Act. The property is located within the Coastal Zone and is regulated under the Marin County Local Coastal Program (Marin County 1979; LCP) in the Unit II Area.

For distinction, the Project Area is inclusive of the subject parcels only, while the Study Area includes these parcels plus 100 feet eastward spanning into BCPUD lands. The Project Area does not contain sensitive biological communities; however, a drainage ditch and a National Wetland Inventory (NWI) freshwater emergent wetland are situated on the adjacent BCPUD lands. A botanical survey resulted in negative findings of special-status plants in the Project Area; however, the BCPUD lands were not surveyed. The Study Area has the potential to support American badger (*Taxidea taxus*) and California red-legged frog (*Rana draytonii*); however, these species are unlikely to utilize the Project Area and will be excluded from the area during project based activities. Additionally, there are other existing residences similarly situated to the drainage ditch and NWI mapped wetlands, without detectable perturbation to those aquatic resources.

The project proponent intends to develop a single-family residence, an accessory dwelling unit, and their associated infrastructure. With prescriptive management practices and timing of construction, the Project will not impact sensitive natural resources.

## **2.0 REGULATORY BACKGROUND**

The following sections explain the regulatory context of the BSA, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

### **2.1 Sensitive Biological Communities**

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act, and the Coastal Zone Management Act; state

regulations such as the Porter-Cologne Act, California Coastal Act, the California Department of Fish and Wildlife (CDFW) Streambed Alteration Program, and the California Environmental Quality Act (CEQA); or local ordinances or policies such as city or county tree ordinances, Local Coastal Programs (LCPs), Special Habitat Management Areas, and General Plan Elements.

### *2.1.1 Waters of United States*

The U.S. Army Corps of Engineers (Corps) regulates “Waters of the United States” under Section 404 of the Clean Water Act. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “other waters” and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

### *2.1.2 Waters of the State*

The term “Waters of the State” is defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

### *2.1.3 Streams, Lakes, and Riparian Habitats*

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of California Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream”, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term “stream” can include ephemeral streams, dry



washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). "Riparian" is defined as "on, or pertaining to, the banks of a stream." Riparian vegetation is defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

#### 2.1.4 Environmentally Sensitive Habitat Areas

Environmentally sensitive habitat areas (ESHAs) are defined in California Coastal Act (CCA) Section 30107.5 and protected under section 30240 and include wetlands, rivers, streams and lakes, and riparian areas. For the purposes of this report, WRA has taken into consideration any areas that may meet the definition of any ESHA defined by the CCA, listed in the *Statewide Interpretive Guidelines for Identifying and Mapping Wetlands and Other Wet Environmentally Sensitive Habitat Areas* ("California Coastal Commission guidelines", CCC 1981), or the Marin County Local Coastal Program (LCP) (Marin County 1979).

The CCA defines an ESHA as follows:

*"Environmentally sensitive habitat 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. "*

The CCC Guidelines discuss the various definitions for specific types of ESHAs, including wetlands, streams and riparian areas. Many of these definitions are synonymous with the definitions described above. Additional definitions are provided below.

#### Coastal Act Wetlands

The Coastal Act defines wetlands as:

*"Wetland means land 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".*

(Public Resources Code § 30121)

CCC Administrative Regulations (Section 13577 (b)) provide a more explicit definition:

*"Wetlands are lands 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 or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time*

*during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats."*

The Coastal Act defines the upland limit of wetlands as:

*(1) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover; (2) the boundary between soil that is predominantly hydric and soil that is predominantly non-hydric; or (3) in the case of wetlands without vegetation or soil, the boundary between land that is flooded or saturated at some time each year and land that is not."*

### Coastal Act Streams and Rivers

The Marin County LCP provides special protections for USGS blue-line streams, and establishes buffers to protect streams from the impacts of adjacent uses including development impacts from construction and post-construction activities within the LCP Unit II Area. Stream buffers are defined by the LCP as: "the area covered by riparian vegetation on both sides of the stream and the area 50 feet landward from the edge of the riparian vegetation." The LCP also states that in no case shall the stream buffer be less than 100 feet in width, on either side of the stream, as measured from the top of the stream banks."

### Coastal Act Riparian Habitats

While riparian vegetation is not defined specifically in the California Coastal Act, it is defined by the LCP as the stream itself and the riparian vegetation growing adjacent to it. Common plant genera associated with this vegetation type in Unit II of the Coastal Zone within Marin County include maple (*Acer* spp.), alder (*Alnus* spp.), ash (*Fraxinus* spp.), and willow (*Salix* spp.). For the purposes of determination of status under the Coastal Act, we define riparian habitat as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). This definition is synonymous with the CDFW definition described above.

#### *2.1.5 Other Sensitive Biological Communities*

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB; CDFW 2018a). Sensitive plant communities are also identified by CDFW (CNPS 2018b). CNDDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2015) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

### **2.1.6 Marin County Sensitive Resources**

In Marin County, a sensitive resource includes “jurisdictional wetlands, occurrences of special-status species, occurrences of sensitive natural communities, wildlife nurseries and nesting areas, and wildlife movement corridors. The County development review process typically requires a site assessment by qualified professionals to confirm whether any sensitive resources could be affected . . .”

#### **Marin County Stream Conservation Areas**

In Marin County, a Stream Conservation Area (SCA) is designated along all natural watercourses supporting riparian vegetation for a length of 100 feet or more. The SCA consists of the watercourse itself between the tops of the banks and a strip of land extending laterally outward from the top of both banks. For those ephemeral streams that do not meet these criteria, a minimum 20-foot development setback should be required. Development activities that may occur within a SCA are closely regulated by the County and require consideration of impacts of proposed developments on species and habitats during the environmental review process.

#### **Marin County Wetland Conservation Areas**

In Marin County, a Wetland Conservation Area (WCA) is designated around all Corps jurisdictional wetlands. The WCA consists of the wetland itself and a strip of land extending laterally outward from the wetland for a distance of 100 feet or as deemed appropriate by a qualified biologist to avoid impacts and protect the wetland. Development activities that may occur within a WCA are closely regulated by the County and require consideration of impacts of proposed developments on species and habitats during the environmental review process.

## **2.2 Special-status Species**

### **2.2.1 Plants and Wildlife**

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. In addition, CDFW Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW special-status invertebrates, are all considered special-status species. Although these aforementioned species generally have no special legal status, they are given special consideration under CEQA.

Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2 are also considered special-status plant species and must be considered under CEQA. Rank 3 and Rank 4 species are afforded little or no protection under CEQA, but are included in this analysis for completeness. Plant species with a CNPS Rare Plant Rank of 1 through 2 are also considered as ESHAs.

In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGF). Under these laws, destroying active bird nests, eggs, and/or young is illegal.

Bat species designated as “High Priority” by the Western Bat Working Group (WBWG) are afforded legal protection under Section 15380(d) of the CEQA Guidelines. Species designated “High Priority” are defined as “imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats. California Fish and Game Code continues to protect non-listed bat species and their roosting habitat, including individual roosts and maternity colonies. Relevant regulations include CFGF Section 86; 2000; 2014; 3007; 4150, along with Title 14 of California Code of Regulations.

Special-status species and their habitats are also defined as ESHAs by the California Coastal Act.

### *2.2.2 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors*

Critical habitat is a term defined in the ESA as a specific and formally-designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species’ recovery. Note that designated critical habitat areas that are currently unoccupied by the species but which are deemed necessary for the species’ recovery are also protected by the prohibition against adverse modification.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) provides for conservation and management of fishery resources in the U.S. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g. eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

### **3.0 ENVIRONMENTAL SETTING**

The following subsections summarize the physical and biological characteristics of the entire Study Area.

#### **3.1 Topography and Soils**

The Study Area is composed of three parcels located at 500 Overlook Drive, Bolinas, Marin County. The property is historically coastal terrace approximately 0.5 mile from coastal bluff falling into the Pacific Ocean. The predominant aspect is neutral, slopes range from two to five percent, and elevations range from 190 to 195 feet above sea level. According to the *Soil Survey of Marin County* (USDA 1985), the Study Area is underlain by one mapping unit: Olompali loam, 2 to 9 percent slopes. The parent series is detailed below.

Olompali Series: This series consists of deep loam soils formed in alluvium derived from igneous, metamorphic, and sedimentary rock located on marine terraces at elevations ranging from 50 to 800 feet (USDA 1985, CSRL 2018). These soils are somewhat poorly drained, with medium to rapid runoff, and very slow permeability (USDA 2017, USDA 1985). Native and naturalized vegetation includes annual grasses and forbs with scattered shrubs, and typical land uses are predominantly rangeland, watershed, and wildlife habitat (USDA 1985).

#### **3.2 Climate and Hydrology**

The Study Area is located within the maritime fog zone of Marin County where summer temperatures are buffeted by fog, and fog drip contributes to annual rainfall totals. Winter “tule” fog is common in the Study Area, and summer “coastal” fog emerges with increased interior temperatures. The average annual maximum temperature of Point Reyes Lighthouse (CA047027) is 61.0 degrees Fahrenheit, while the average annual minimum temperature is 54.1 degrees Fahrenheit. Predominantly, precipitation falls as rainfall with an annual average of 17.05 inches. Precipitation bearing weather systems are predominantly from the west and south with the majority of rain falls between November and March, with a combined average of 13.45 inches (WRCC 2018).

The local watershed is Coast Creek-Frontal Pacific Ocean (HUC 12: 1805000050402) and the regional watershed is Frontal Pacific Ocean (HUC 8: 180500005). There are no mapped blue line streams in the Study Area according to the 7.5-minute quadrangle (USGS 1971), nor are there other aquatic features on the California Aquatic Resources Inventory (CARI) (SFEI 2018) and the National Wetlands Inventory (NWI) (USFWS 2018a).

#### **3.3 Biota and Land Use**

The vegetation of the Study Area is typical of rural undeveloped properties of the Marin Coast with a mixed mosaic of native species, escaped ornamentals, and naturalized weeds. The regional vegetation is a mix of undeveloped to residential developed properties of prairies, annual grasslands, coastal scrubs, and coastal woodland groves. At the time of the site visits, vegetation cover was extremely low presumably from recent grubbing. Likewise, trees and shrubs were removed sometime between March 2015 and June 2017 (Google Earth 2018). The regional land uses include residential, rural residential, fishing and aquaculture, hunting, ranching, and recreation. There is no observable evidence that the Study Area was historically

utilized for intensive agriculture (row crops), timbering, or quarrying/mining. Vegetation is detailed in Section 5.0.

#### 4.0 METHODS

Prior to the site visits, WRA biologists reviewed the following literature and performed database searches to assess the potential for sensitive natural communities (e.g., wetlands) and special-status species (e.g., endangered plants):

- *Soil Survey of Marin County, California* (USDA 1985)
- Bolinas 7.5-minute quadrangle (USGS 1971)
- Contemporary aerial photographs (Google Earth 2018)
- Historical aerial photographs (Historical Aerials 2018)
- National Wetlands Inventory (USFWS 2018a)
- California Natural Diversity Database (CNDDDB, CDFW 2018a)
- California Native Plant Society Electronic Inventory (CNPS 2018a)
- Consortium of California Herbaria (CCH 2018)
- California Aquatic Resource Inventory (SFEI 2018)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2018b)
- *eBird* Online Database (Cornell 2018)
- CDFW Publication, *California Bird Species of Special Concern in California* (Shuford and Gardali 2008)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)
- *The Marin County Breeding Birds Atlas* (Shuford 1993)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- *A Manual of California Vegetation, 2<sup>nd</sup> Edition* (Sawyer et al. 2009)
- *A Manual of California Vegetation Online* (CNPS 2018b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- *California Natural Community List* (CDFW 2018b)

Database searches (i.e., CNDDDB, CNPS) focused on the Inverness, San Geronimo, Novato, Double Point, Bolinas, San Rafael, and Point Bonita USGS 7.5-minute quadrangles.

On October 4, 2017 and April 5 and July 26, 2018, biologists with 40-hour Corps wetland delineation training and experience with the flora and fauna of coastal Marin County traversed portions of the Project Area on foot to determine (1) plant communities present within the Project Area, (2) if existing conditions provided suitable habitat for any special status plant or wildlife species, (3) evaluate the neighboring BCPUD lands (Study Area) for the potential to support sensitive biological communities and/or special-status species, and (4) determine the approximate location and extent of ESHAs, including wetlands, streams and riparian areas which may be subject to regulation under the California Coastal Act.

## 4.1 Biological Communities

### 4.1.1 Terrestrial Biological Communities

The Study Area's terrestrial natural communities were evaluated to determine if such areas have the potential to support special-status plants or wildlife. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation), and follow the *California Natural Community List* (CDFW 2018b), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2018b). In some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature; should an undescribed variant be used, it will be noted in the description.

Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3), were evaluated as sensitive as part of this evaluation.<sup>1</sup> Additionally, any sensitive natural communities as described in the Marin Countywide [General] Plan (Marin County 2007) and/or the Marin County LCP (Marin County 2015) were considered.

### 4.1.2 Aquatic Natural Resources

Aquatic natural resources include Waters of the U.S., Waters of the State, and Streams, Lakes, and Riparian Habitat as defined in the CWA, Porter-Cologne Act, and CFGC, respectively. Marin County mandates setbacks from such aquatic resources, and therefore requires mapping of the outward extent of such features.

This site assessment does not constitute a formal wetland delineation; however, the surveys looked for superficial indicators of wetlands such as hydrophytic vegetation (i.e., plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales. None were noted, so there was no need for WRA biologists to perform sample points following the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008).

If streams potentially jurisdictional under the CWA and/or the CFGC are noted on a site, they are delineated using a mix of surveyed topography data, high resolution aerial photographs, and a sub-meter GPS unit. The ordinary high water mark would be used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank would be used to determine the extent of CFGC Section 1602 and 401. Streams with associated woody vegetation were assessed to determine if these areas would be considered riparian habitat by the CDFW following *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994).

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<sup>1</sup> Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2018)

## 4.2 Special-status Species

### 4.2.1 General Assessment

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database review. Database searches for known occurrences of special-status species focused on the 7.5-minute USGS quadrangles mentioned above for special-status plants and the entirety of Marin County for special-status wildlife.

A site visit was made on October 4, 2017 to evaluate the presence of suitable habitat for special-status species. Suitable habitat conditions are based on physical and biological conditions of the site, as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then determined according to the following criteria:

- 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. CNDDDB, other reports) on the site in the recent past.

If a more thorough assessment was deemed necessary, a targeted or protocol-level assessment or survey was conducted or recommended as a future study. Methods for the assessments are described below. If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2.

### 4.2.2 Special-status Plants

To determine the presence or absence of special-status plant species, protocol-level surveys were conducted within the Study Area on April 5 and July 26, 2018. The surveys correspond to the period sufficient to observe and identify those special-status plants determined to have the potential to occur. The field surveys were conducted by botanists familiar with the flora of Marin and surrounding counties. The surveys were performed in accordance with those described by resource experts and agencies (CNPS 2001, CDFW 2018c, USFWS 1996). Plants were identified using *The Jepson Manual, 2<sup>nd</sup> Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2018), to the taxonomic level necessary to determine whether or not they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2018), unless otherwise noted.



#### 4.2.3 Special-status Wildlife

Targeted and/or protocol-level wildlife surveys were not performed during this assessment, because the site does not have the potential to support special-status wildlife.

#### 4.2.4 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2018b) and the NMFS Essential Fish Habitat Mapper (NMFS 2018) were queried to determine if critical habitat for any species or EFH, respectively, occurs within the Study Area. To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010) and habitat connectivity data available through the CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2018a). Additionally, aerial imagery (Google 2018) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions.

## 5.0 RESULTS

### 5.1 Biological Communities

#### 5.1.1 Terrestrial Biological Communities

Non-native Grassland – Common Velvet Grass Meadow (*Holcus lanatus* Semi-Natural Herbaceous Stands). CDFW Rank: None: Common velvet grass meadows are common along the California Coast and Sierra Nevada Foothills. They are typically situated on coastal terraces, coastal bluffs, wet meadows, and the driest margins of wetlands (Sawyer et al. 2009). The Study Area was grubbed, presumably for fire prevention. Street View photographs demonstrate that the removed trees and shrubs include young eucalyptus (*Eucalyptus* sp.), plum (*Prunus* sp.), coyote brush (*Baccharis pilularis*), and Scotch broom (*Cytisus scoparius*) (Google Earth 2018). Likewise, the herbaceous layer in the Street View photographs is evidently dominated by common velvet grass (*Holcus lanatus*). At the time of the site visit, the dominant species was common velvet grass (*Holcus lanatus*). Sapling shrubs and herbs include coyote brush (*Baccharis pilularis*), French broom (*Genista monspeliensis*), California blackberry (*Rubus ursinus*), bird's-foot trefoil (*Lotus corniculatus*), blue flax (*Linum bienne*), sweet vernal grass (*Anthoxanthum odoratum*), and bracken fern (*Pteridium aquilinum*).

#### 5.1.2 Aquatic Natural Resources

As noted in Section 2.1.1 federally regulated wetlands are delineated where all three parameters of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology are present. Likewise, as noted in Section 2.1.4 wetlands as delineated in the California Coastal Zone need only one of the three parameters of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology to be present. There are no wetlands or other aquatic natural resources within the subject parcel; however, there are two aquatic features in the adjacent BCPUD property that are discussed here due to their proximity to the subject parcel: (1) drainage ditch and (2) NWI mapped wetland.

Drainage Ditch: There is a north-south drainage ditch running parallel to the eastern edge of the subject parcel. This ditch was observed from the edge of the subject parcel, but was not formally sampled following the Corps methodology. The ditch contains clear indications of hydrophytic vegetation and wetland hydrology. The ditch has been in place for at least 30 years, which would suggest that the soils would likely contain hydric indicators (Google Earth 2018). Although all three wetland parameters are likely present within the ditch, it would possibly not be considered jurisdictional under the Clean Water Act as it is man-made in what was historically an upland area; however, jurisdictional determinations can only be made by the Corps. A jurisdictional determination would only be pursued with express permission of the property owner, the BCPUD. Likewise, under the California Coastal Act, drainage ditches are generally considered exempt, if they do not provide habitat for sensitive species.

Freshwater Emergent Wetland (NWI Mapped Wetland): Beyond the drainage ditch, there are spray fields in BCPUD lands that have been mapped in the NWI database as freshwater emergent wetland (USFWS 2018a). Similar to the drainage ditch described above, this area was observed from a distance on-the-ground and evaluated remotely, therefore was not sampled following the Corps methodology. This area contains clear indications of hydrophytic vegetation and wetland hydrology, based on direct observation and aerial photograph interpretation, respectively. The spray fields for BCPUD have been in-place for at least 30 years, which would suggest that the soils would likely contain hydric indicators (Google Earth 2018). Similar to the drainage ditch, it is unclear if this area would be considered jurisdictional under the Clean Water Act, as they appear to have been created in uplands and receive irrigated waters. Likewise, a jurisdictional determination would rely on permission from BCPUD.

## **5.2 Special-status Species**

### **5.2.1 Special-status Plant Species**

Based upon a review of the resources and databases given in Section 3.2.1, 101 special-status plant species have been documented in the vicinity of the Study Area. Based on an initial assessment, four special-status species have the potential to occur within the Study Area. The remaining species documented in the greater vicinity of the Study Area are unlikely or have no potential to occur due to one or more of the following factors:

- Hydrologic conditions (e.g. vernaly inundated, riverine) necessary to support the special-status plant species are not present in the Study Area.
- Edaphic (soil) conditions (e.g. volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the Study Area.
- Topographic conditions (e.g. north-facing slope, montane) necessary to support the special-status plant species are not present in the Study Area.
- Unique pH conditions (e.g. alkali scalds, acidic bogs) necessary to support the special-status plant species are not present in the Study Area.
- Associated vegetation communities (e.g. interior chaparral, tidal marsh) necessary to support the special-status plant species are not present in the Study Area.
- The Study Area is geographically isolated (e.g. below elevation, coastal environ) from the documented range of the special-status plant species.

- The historical landscape and habitat(s) of the Study Area was not suitable habitat prior to land/type conversion (e.g., reclaimed shoreline) to support the special-status plant species.
- Land use history and contemporary management (e.g., grading, intensive grazing) has degraded local habitat necessary to support the special-status plant species.

Protocol-level rare plant surveys were conducted within the Study Area on April 5 and July 26, 2018; however, no special-status species were observed. All special-status species initially assessed to have the potential to occur are summarized below.

Coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*). CRPR 1B. Moderate Potential (Not Observed). Coastal bluff morning-glory is a perennial forb in the morning-glory family (Convolvulaceae) that blooms from May to September. It typically occurs on bluffs within coastal dune and coastal scrub habitat at elevations ranging from 30 to 330 feet (CDFW 2018a, CNPS 2018a). Associated species include Bishop pine (*Pinus muricata*), shore pine (*Pinus contorta* ssp. *contorta*), coyote brush (*Baccharis pilularis*), tree lupine (*Lupinus arboreus*), poison oak (*Toxicodendron diversilobum*), Douglas iris (*Iris douglasiana*), California blackberry (*Rubus ursinus*), sea lettuce (*Dudleya farinosa*), bracken fern (*Pteridium aquilinum*), ice plant (*Carpobrotus edulis*), seaside woolly sunflower (*Eriophyllum staechadifolium*), common velvet grass (*Holcus lanatus*), sweet vernal grass (*Anthoxanthum odoratum*), and little rattlesnake grass (*Briza maxima*) (CDFW 2018a, personal observations 2010, 2017). Coastal bluff morning-glory was not observed during the site visits which were conducted in a period sufficient to identify this species.

White hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) CRPR 1B. Moderate Potential (Not Observed). White hayfield tarplant is an annual herb in the sunflower family (Asteraceae) that blooms from April to November. It typically occurs in grassy areas and fallow fields in coastal scrub, and valley and foothill grassland at elevations ranging from 65 to 1,840 feet (CDFW 2018a, CNPS 2018a). Associated species include coast live oak (*Quercus agrifolia*), white hyacinth (*Triteleia hyacinthina*), Italian rye grass (*Festuca perennis*), little rattlesnake grass (*Briza minor*), pennyroyal (*Mentha pulegium*), and spiny-fruited buttercup (*Ranunculus muricatus*) (CDFW 2018a, personal observation 2016). White hayfield tarplant was not observed during the site visits which were conducted in a period sufficient to identify this species.

Short-leaved evax (*Hesperis matronalis* var. *brevifolia*). CRPR 1B. Moderate Potential (Not Observed). Short-leaved evax is an annual forb in the sunflower family (Asteraceae) that germinates and leafs-out in late winter, blooms from March to June, and senesces in late summer. It typically occurs on sandy substrate on bluffs and flats in coastal bluff scrub and coastal dune habitat at elevations ranging from 0 to 700 feet (CNPS 2018a, CDFW 2018a). Associated species include round-head Chinese houses (*Collinsia corymbosa*), beach suncup (*Camissoniopsis cheiranthifolia*), North Coast phacelia (*Phacelia insularis* var. *continentis*), seacoast angelica (*Angelica lucida*), beach sage (*Artemisia pycnocephala*), Howell's spineflower (*Chorizanthe howellii*), Mendocino paintbrush (*Castilleja mendocinensis*), seaside buckwheat (*Eriogonum latifolium*), and seaside daisy (*Erigeron glaucus*) (CDFW 2018a, personal observations 2010, 2014, 2015, 2016, 2017). Short-leaved evax was not observed during the site visits which were conducted in a period sufficient to identify this species.

Showy Rancheria clover (*Trifolium amoenum*). Federal Endangered, CRPR 1B. Moderate Potential (Not Observed). Showy rancheria clover is an annual forb in the pea family (Fabaceae) that blooms from April to June. It typically occurs on open, sunny sites, in swales, on roadsides, and cliffs sometimes underlain by serpentine substrate in valley and foothill grassland and coastal bluff scrub habitat at elevations ranging from 15 to 1,365 feet (CDFW 2018a, CNPS 2018a). Associated species slender oat grass (*Avena barbata*), bromes (*Bromus* spp.), fescues (*Festuca* spp.), Italian rye grass (*Festuca perennis*), California oat grass (*Danthonia californica*), California brome (*Bromus carinatus*), meadow barley (*Hordeum brachyantherum*), Italian thistle (*Carduus pycnocephalus*), and pale flax (*Linum bienne*) (CDFW 2018a). Show Rancheria clover was not observed during the site visits which were conducted in a period sufficient to identify this species.

## 5.2.2 Special-status Wildlife Species

Frequently, wildlife species, including designated special-status species, are documented from sites where physical and/or biological elements necessary to support critical life-cycle functions are lacking (e.g., roosting, nesting, breeding, metamorphosis, foraging, dispersal corridor). In these instances, species would be considered errant, but not occupying (i.e., occurring) within the site. With some exceptions, for purposes of analyzing potential presence, WRA biologists consider wildlife species to be unlikely or have no potential to occur in locales where habitat for critical life-cycle functions are lacking or absent.

Based upon a review of the resources and databases listed in Section 3.2.1, 64 special-status wildlife species have been documented across Marin County (CDFW 2018a, USFWS 2018b). The potential for each of these species to occur in the Study Area is summarized in Appendix B. The Study Area does not have the potential to support 62 of the special-status wildlife due to one or more of the following reasons:

- Aquatic habitats (e.g., rivers, ponds, estuaries) necessary to support the special-status wildlife species are not present in the Study Area.
- Vegetation habitats (e.g., coast redwood forest, coastal prairie) that provide nesting and/or foraging resources necessary support the special-status wildlife species are not present in the Study Area.
- Physical structures and vegetation (e.g., unsealed buildings, old-growth trees) necessary to provide nesting, cover, and/or foraging habitat to support the special-status wildlife species are not present in the Study Area.
- Host plants (e.g., dog violet, harlequin lotus) necessary to provide larval and nectar resources for the special-status wildlife species are not present in the Study Area.
- Historic and/or contemporary disturbance (e.g., human visitation, intensive mechanical noise) deter the presence of the special-status wildlife species from occupying the Study Area.
- The Study Area is outside (e.g., north of, west of) of the special-status wildlife species documented nesting range.

The two species that have the potential to utilize portions of the Study Area include American badger (*Taxidea taxus*) and California red-legged frog (CRLF; *Rana draytonii*). Each are discussed below.

American badger (*Taxidea taxus*). CDFW Species of Special Concern. Moderate Potential (Presence Unknown). American badgers are large, semi-fossorial members of the Mustelidae (weasel family). They are found uncommonly within the region in drier open stages of most scrub, forest, and herbaceous habitats where friable soils and prey populations are present. Badgers are typically solitary and nocturnal, digging burrows to provide refuge during daylight hours. Burrow entrances are usually elliptical or D-shaped (rather than round), and each burrow generally has only one entrance. Young are born in the spring and independent by the end of summer. Badgers are carnivores, preying on a variety of fossorial mammals (especially ground squirrels) and occasionally other vertebrates and their eggs. Home ranges for this species can be large, depending on the habitat available; population density averages one badger per square mile in prime open country (Long 1973).

American badger may hunt or disperse through the Study Area; however, permanent residence is unlikely in the BCPUD lands due to repeated inundation and/or saturation of the soils. Such hydrologic regimes would preclude badgers, and their prey, from building extensive permanent burrow networks. No ground squirrel or other mammal burrows were observed in the Project Area (subject parcel). Therefore, while American badger may be a nocturnal visitor to the entire Study Area, their residence in such is highly unlikely.

California red-legged frog (*Rana draytonii*). Federal Threatened, CDFW Species of Special Concern. Moderate Potential (Presence Unknown). CRLF is the only native “pond frog” found throughout much of California, and was listed as threatened by the USFWS in 1996. Suitable CRLF breeding habitat is characterized by deep and still or slow-moving water associated with emergent marsh and/or riparian vegetation (USFWS 2010). Such habitats must hold water for a minimum of 20 weeks, and include ponds (ephemeral and perennial), streams/creeks (ephemeral and perennial), seasonal wetlands, springs, seeps, man-made features (e.g. stock ponds, roadside ditches), marshes, dune ponds, and lagoons. Dependent upon local conditions, CRLF may complete its entire life cycle in a particular habitat patch (e.g., a perennial pond suitable for all life stages), or utilize multiple habitat types. In aquatic habitats that dry down seasonally, CRLFs often undergo aestivation (a period of inactivity) during the dry months, over-summering in small mammal burrows, moist leaf litter, incised stream channels, or large cracks in the bottom of dried ponds (Jennings and Hayes 1994). Adult and sub-adult (newly metamorphosed) CRLFs may disperse from breeding habitats to nearby riparian and/or aestivation habitats in the summer. Conversely, during the rainy season CRLF may migrate from aestivation sites to suitable breeding habitat. During such dispersals, frogs can travel over one mile over a variety of topographic and habitat types (Bulger et al. 2003). Upland dispersal habitats are variable and typically include riparian corridors, grasslands, and oak savannas.

The drainage ditch definitely and the NWI mapped wetland possibly provide aquatic non-breeding habitat for CRLF. The Project Area (subject parcel) does not provide such habitat, and the lack of burrows precludes the opportunity for the CRLF to aestivate during the dry season. CRLF may disperse through the Study Area during rainfalls or heavy fog while migrating towards suitable aquatic habitat; however, their presence in such during the dry season is highly unlikely.

### **5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors**

The Study Area is not within Critical Habitat or Essential Fish Habitat. Likewise, the Study Area is not an essential wildlife corridor. While common mammals and birds certainly wander in and

out of the Study Area, there is nothing unique about its habitat or location that provides critical linkages for local wildlife.

## **6.0 PROJECT ANALYSIS AND RECOMMENDATIONS**

### **6.1 Project Description**

The proposed Project is the construction of a single-family residence, accessory dwelling unit, associated septic system, fencing, driveway, pathways, and landscaping. The residence will be a 3-bedroom/2-bathroom, totaling 1,555 square feet and be located on the northernmost parcel (APN: 192-061-13). The accessory dwelling unit will be a 2-bedroom/1-bathroom, totaling 1,144 square feet and be located on the center parcel (APN: 192-061-11). The septic system will service both the residence and accessory dwelling unit, and will be located on the existing southernmost parcel (APN: 192-061-12).

As noted, in addition to the residence, accessory dwelling unit, and septic area, the Project entails associated infrastructure. A wooden fence will be installed that is setback from, but fronts on Overlook Drive, as well as for a short run between the residence and the accessory dwelling unit and on the northern and southern faces of them. The fences will not completely surround the buildings. Five adjoining parking units will be installed immediately fronting on Overlook Drive and will be underlain by compacted gravel. The wooden fence will separate the buildings and parking area. Concrete walkways connecting the parking area and the buildings will be installed.

Grading and shaping of the site will occur during the dry season and sloped toward Overlook Drive. The residence and accessory dwelling unit have been intentionally sited 100 feet or greater from the NWI wetland and 75 feet or greater from the drainage ditch. There is a slight rise or berm between the eastern edge of the Study Area and BCPUD property. A silt curtain will be erected on this berm that will span the length of the property. This curtain will preclude CRLF, American badger, and other ground-hugging vertebrates from entering the Project Area. Likewise, the curtain will prevent loosened sediment during grading activities to migrate towards BCPUD lands and the aquatic features residing there. All equipment and materials will be staged at least 100 feet or greater from the NWI wetland on the adjacent property. Spill containment and prevention kits will be deployed and maintained for all liquid materials necessary to maintain the construction equipment (e.g., gasoline, oil, diesel, solvents).

### **6.2 Sensitive Biological Communities**

The Project Area (subject property) does not support sensitive biological communities; therefore, the proposed project plans will not result in impacts to biological communities. There are two off-site potential wetlands (drainage ditch and NWI mapped freshwater emergent wetland) situated east of the Project Area in BCPUD lands (Appendix A). It is not clear if either of these two aquatic features would be considered jurisdictional under the Clean Water Act. If the drainage ditch was deemed to have been constructed entirely in uplands for the purpose of draining uplands, the Corps could rule that it is not considered jurisdictional. Likewise, if the Corps ruled that the NWI mapped wetland formed on historic uplands from irrigated waters and

would not function as wetland if such irrigation was ceased, then it too would not be considered jurisdictional.

The Marin County General Plan implies that wetlands meriting a Wetland Conservation Area (setbacks) are for those features that would be considered jurisdictional under the Clean Water Act. Wetlands in the Coastal Zone, including Marin County, are considered ESHA and typically only require presence of one parameter (vegetation, soils, hydrology) to be considered such, whereas Corps wetlands require presence of all three parameters. Drainage ditches are generally and regularly considered exempt in the Coastal Zone where they provide no habitat value. The Coastal Commission defines ditches as such:

“For the purposes of identifying wetlands using the technical criteria contained in this guideline, one limited exception will be made. That is, drainage ditches as defined herein will not be considered wetlands under the Coastal Act. A drainage ditch shall be defined as a narrow (usually less than 5-feet wide), man-made non-tidal ditch excavated from dry land”. –Statewide Interpretive Guidelines, Page 79

The General Plan of Marin County and Marin County Local Coastal Program discuss wetland setbacks thus:

“Wetlands are avoided and a site assessment demonstrates that minimal incursion within the minimum WCA [Wetland Conservation Area] setback distance would not result in any significant adverse direct or indirect impacts on wetlands”. –General Plan, Page 2-24

“18. To the maximum extent feasible, a buffer strip, a minimum of 100 feet in width, shall be maintained in natural condition along the periphery of all wetlands as delineated by the Department of Fish and Game and in accordance with Section 30121 of the Coastal Act and with the criteria developed by the U.S. Fish and Wildlife Service”. –Local Coastal Program Unit I, Page 28

“The wetland was constructed out of dry land for the treatment, conveyance or storage of water, its construction was authorized by a coastal permit (or pre-dated coastal permit requirement), it has no habitat value, and it does not affect natural wetlands”. –Proposed Local Coastal Program Amendment, Page 31.

Although the existing Policies in the LCP Unit I are specific to Bolinas Lagoon Protection, the proposed project has been sited based on the buffer strip requirement outlined in Policy 18 on Page 28 specific to delineated wetlands in accordance with Section 30121 (i.e., the NWI mapped wetland in the Study Area). There are no specific LCP Unit I policies that address setbacks for the drainage ditch; however, the drainage ditch does provide potential minimal (non-breeding) habitat value for CRLF, and therefore may be considered an ESHA under the LCP.

The residence and accessory dwelling unit have been intentionally sited 100 feet or greater from the edge of the NWI mapped wetland, and 75 feet or greater from the drainage ditch. The structure of the existing vegetation and soil of the 100-foot and 75-foot buffers will remain undisturbed during and following the Project activities. Left unmanaged, the vegetation beyond the proposed back fence will become woodier with the natural recruitment and growth of native

coastal shrubs such as coyote brush (*Baccharis pilularis*), California coffeeberry (*Frangula californica*), poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*). This increase in shrub cover is almost certainly inevitable without encouragement or human assistance, and serve to increase the buffering capacity between the proposed residences and the aquatic features on the BCPUD lands.

This buffer accompanied by the presence of the eastern-boundary berm, the temporary erection of the sediment curtain, reversing the finished grade, construction during the dry season, and the deployment of spill prevention kits will prevent any impacts to the off-site aquatic resources. Additionally, the presence of several existing residences similarly situated to the aquatic resources on BCPUD without detectable perturbation to such, suggests that the proposed Project would not negatively affect the aquatic resources in question. More importantly, the Project does not include any modifications, disturbance, dredging, diking, or filling of to any potential wetland on or near the Project Area; therefore, any policy or code related to dredging, diking, and filling to such, does not apply to this Project.

### **6.3 Special-status Species**

#### **6.3.1 Special-status Plant Species**

Protocol-level rare plant surveys resulted in negative findings for special-status plants within the Study Area. Therefore, the proposed project plans within the Study Area will not result in impacts to special-status plants. No further actions are recommended for special-status plants.

#### **6.3.2 Special-status Wildlife Species**

The Study Area has the potential to support the passing-through of American badger and CRLF, but does contain features sufficient to provide for their long-term residence or breeding/rearing of young habitat (see Section 5.2 above). The Project includes the installation of a sediment curtain on the Project Area's eastern berm to prevent the incursion of ground-hugging animals, including badger and frog. Vegetation removal will be minimal and limited to sparse herbs that do not have the potential to provide nesting habitat for birds protected under the MBTA.

#### **6.3.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridor**

The Study Area is not within Critical Habitat or Essential Fish Habitat, nor is it a unique or critical pathway for local wildlife; therefore, there will be no impact to such.

### **6.4 Summary**

The Project would not reduce the number or restrict the range of a rare, endangered or threatened plant or animal. The proposed Project will not result in impacts to roosting bats or breeding birds.

The Project would not cause a fish or wildlife population to drop below self-sustaining levels.

The Project would not adversely affect significant riparian lands, wetlands, marshes, and other significant wildlife habitats because the Project avoids all such habitats. There will be no



modifications, disturbance, dredging, diking, or filling to any potential wetlands associated with this Project.

In conclusion, the Project, with the deployment of the BMPs and avoidance measures noted above, will minimize any potential affects to sensitive natural resources from construction of the Project.

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## Appendix A

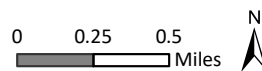
### Figures



Sources: National Geographic, WRA | Prepared By: czumwalt, 10/26/2018

**Figure A-1. Study Area Location**

Bolinas Community Land Trust  
Marin County, California



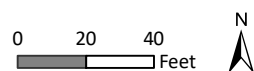




Sources: 2016 DigitalGlobe Aerial, WRA | Prepared By: aarthur, 10/29/2018

**Figure A-2. Site Map**

Bolinas Community Land Trust  
Marin County, California



## Appendix B

Potential for Special-status to Occur in the Study & Project Areas



Table B. Potential for Special-status Species to Occur in the Project Area. List compiled from the CDFW BIOS database (CDFW 2018a), USFWS IPaC Report (USFWS 2018b), and CNPS Electronic Inventory (CNPS 2018a) searches. For plants, the Inverness, San Geronimo, Novato, Double Point, Bolinas, San Rafael, and Point Bonita USGS 7.5-minute quadrangles were included in the search. For wildlife, the entirety of Marin County was considered.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<b>PLANTS</b>				
<i>Abronia umbellata</i> var. <i>breviflora</i> pink sand-verbena	Rank 1B	Coastal dunes, coastal strand; located on foredunes and interdunes with sparse cover. Elevation range: 0 – 35 feet. Blooms: June – October.	<b>No Potential.</b> The Project Area does not contain dune or beach habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Agrostis blasdalei</i> Blasdale's bentgrass	Rank 1B	Coastal dunes, coastal bluff scrub, coastal prairie; on sandy or gravelly soil near exposed rock; often in nutrient-poor soil. Elevation range: 15 – 490 feet. Blooms: May – July.	<b>No Potential.</b> The Project Area does not contain dune or bluff habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	FE, Rank 1B	Freshwater marshes and swamps, riparian scrub; closely associated with other wetland species. Elevation range: 15 – 1200 feet. Blooms: May – July.	<b>No Potential.</b> The Project Area does not contain wetland or riparian habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	Rank 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain chaparral, woodland, or forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	Rank 1B	Cismontane woodland, valley and foothill grassland, coastal bluff scrub; typically situated on rocky substrates frequently derived from serpentine. Elevation range: 10 – 1625 feet. Blooms: March – June.	<b>No Potential.</b> The Project Area does not contain rocky grassland, bluff scrub, or woodland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Arabis blepharophylla</i> coast rock cress	Rank 4	Broadleaf upland forest, coastal bluff scrub, coastal prairie, coastal scrub; located on rocky sites, often on coastal bluffs. Elevation range: 10 – 3575 feet. Blooms: February – May.	<b>No Potential.</b> The Project Area does not contain forest or scrub habitat, and does not contain rocky substrates or outcrops.	<b>Not Present.</b> No further recommendations for this species.
<i>Arctostaphylos montana</i> ssp. <i>montana</i> Mt. Tamalpais manzanita	Rank 1B	Chaparral, valley and foothill grassland; on rocky serpentine slopes in scrub and grassland. Elevation range: 520 – 2470 feet. Blooms: February – April.	<b>No Potential.</b> The Project Area does not contain serpentine substrate, slopes, or chaparral to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Arctostaphylos virgata</i> Marin manzanita	Rank 1B	Broadleaf upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest; on sandstone and granitic substrates. Elevation range: 195 – 2275 feet. Blooms: January – March.	<b>No Potential.</b> The Project Area does not contain forest or chaparral to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Aspidotis Carlotta-halliae</i> Carlotta Hall's lace fern	Rank 4	Chaparral, cismontane woodland; typically located in rock crevices and outcrops of serpentine. Elevation range: 325 – 4550 feet.	<b>No Potential.</b> The Project Area does not contain chaparral or woodland to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Astragalus breweri</i> Brewer's milk-vetch	Rank 4	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland; located on open, gravelly serpentine or volcanic substrate. Elevation range: 290 – 2375 feet. Blooms: April – June.	<b>No Potential.</b> The Project Area does not contain serpentine or volcanic substrates to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Astragalus nuttallii</i> var. <i>nuttallii</i> Nuttall's milk-vetch	Rank 4	Coastal bluff scrub, coastal dunes. Elevation range: 10 – 390 feet. Blooms: January – November.	<b>No Potential.</b> The Project Area does not contain bluff scrub and dune habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	Rank 1B	Coastal dunes, coastal scrub, coastal salt marshes; mesic sites in dunes, along streams, and marshes. Elevation range: 0 – 100 feet. Blooms: April – October.	<b>No Potential.</b> The Project Area does not contain wetland or streams to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	Rank 2B	Mesic areas within coastal scrub, freshwater marshes and swamps; typically in marshy swales surrounded by scrub or grassland. Elevation range: 10 – 45 feet. Blooms: May – July.	<b>No Potential.</b> The Project Area does not contain wetland or swales to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Calamagrostis ophitidis</i> serpentine reed grass	Rank 4	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland; located in openings, often north-facing, underlain by rocky serpentine substrate. Elevation range: 290 – 3465 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain chaparral or forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Calandrinia breweri</i> Brewer's Calandrinia	Rank 4	Chaparral, coastal scrub; located on sandy or loamy substrate in areas often recently disturbed or burned. Elevation range: 30 – 3965 feet. Blooms: March – June.	<b>Unlikely.</b> The Project Area does contain chaparral habitat and the site management (mowing, disking) likely precludes this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Calochortus umbellatus</i> Oakland star tulip	Rank 4	Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland; often located on serpentine substrate. Elevation range: 325 – 2275 feet. Blooms: March – May.	<b>No Potential.</b> The Project Area does not contain serpentine substrate or woodland, forest, or chaparral habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Calystegia purpurata</i> ssp. <i>saxicola</i> coastal bluff morning-glory	Rank 1B	Coastal dunes, coastal scrub. Elevation range: 10 – 105 feet. Blooms: May – September.	<b>Moderate Potential.</b> Although the vegetation of the Project Area has been management, this species can tolerate repeated mowing and disking.	<b>Not Observed.</b> This species was not observed during protocol-level surveys. No further recommendations for this species.
<i>Campanula californica</i> swamp harebell	Rank 1B	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marshes and swamps, North Coast coniferous forest; in mesic sites in forested and grassland habitat. Elevation range: 1 – 405 feet. Blooms: June – October.	<b>No Potential.</b> The Project Area does not contain wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Cardamine angulata</i> seaside bittercress	Rank 2B	North Coast coniferous forest, lower montane coniferous forest; located in wet areas and along streambanks. Elevation range: 210 – 2975 feet. Blooms: March – July.	<b>No Potential.</b> The Project Area does not contain forest or stream habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Carex comosa</i> bristly sedge	Rank 2B	Typically on lake and pond margins in coastal prairie, marshes and swamps, valley and foothill grassland. Elevation range: 0 – 425 feet. Blooms: May – September.	<b>No Potential.</b> The Project Area does not contain wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Carex lyngbyei</i> Lyngbye's sedge	Rank 2B	Freshwater and brackish marshes and swamps. Elevation range: 0 – 35 feet. Blooms: May – August.	<b>No Potential.</b> The Project Area does not contain wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Castilleja affinis</i> ssp. <i>neglecta</i> Tiburon paintbrush	FE, ST, Rank 1B	Valley and foothill grassland; located in grassy, open areas and rock outcrops underlain by serpentine substrate. Elevation range: 195 – 1300 feet. Blooms: April – June.	<b>No Potential.</b> The Project Area does not contain serpentine grassland to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Castilleja ambigua</i> ssp. <i>ambigua</i> johnny-nip	Rank 4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation range: 0 – 1415 feet. Blooms: March – August.	<b>Unlikely.</b> The Project Area's management (mowing, disking) likely precludes the presence of this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Castilleja ambigua</i> ssp. <i>humboldtiensis</i> Humboldt Bay owl's-clover	Rank 1B	Coastal salt marsh; in coastal areas associated with marsh vegetation. Elevation range: 0 – 10 feet. Blooms: April – August.	<b>No Potential.</b> The Project Area does not contain coastal marsh habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ceanothus decornutus</i> Nicasio ceanothus	Rank 1B	Chaparral; associated with maritime chaparral species, located on rocky clay derived from serpentine. Elevation range: 760 – 945 feet. Blooms: March – May.	<b>No Potential.</b> The Project Area does not contain chaparral to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ceanothus gloriosus</i> var. <i>exaltatus</i> glory bush	Rank 4	Chaparral; typically located within maritime influence. Elevation range: 95 – 1985 feet. Blooms: March – June, sometimes August.	<b>No Potential.</b> The Project Area does not contain chaparral to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ceanothus gloriosus</i> var. <i>gloriosus</i> Point Reyes ceanothus	Rank 4	Coastal bluff scrub, closed-cone coniferous forest, coastal dunes, coastal scrub; located on sandy substrate. Elevation range: 15 – 1690 feet. Blooms: March – May.	<b>No Potential.</b> The Project Area does not contain scrub or forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ceanothus gloriosus</i> var. <i>porrectus</i> Mt. Vision ceanothus	Rank 1B	Closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland; low shrub in a variety of habitats in Point Reyes; located on sandy soils. Elevation range: 80 – 1000 feet. Blooms: February – May.	<b>No Potential.</b> The Project Area does not contain forest, scrub, or intact prairie habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ceanothus masonii</i> Mason's ceanothus	SR, Rank 1B	Chaparral; located on serpentine ridges and slopes in chaparral or transitional zones. Elevation range: 745 – 1625 feet. Blooms: March – April.	<b>No Potential.</b> The Project Area does not contain chaparral to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Ceanothus pinetorum</i> Kern ceanothus	Rank 4	Lower montane coniferous forest, subalpine forest, upper montane coniferous forest; located on rocky areas of granitic rock. Elevation range: 5200 – 8925 feet. Blooms: May – July.	<b>No Potential.</b> The Project Area does not contain forest habitat to support this species. Likewise, documented occurrences from Marin County are widely considered erroneous (CCH 2018).	<b>Not Present.</b> No further recommendations for this species.
<i>Ceanothus rigidus</i> Monterey ceanothus	Rank 4	Closed-cone coniferous forest, chaparral, coastal scrub; situated on sandy substrates. Elevation range: 10 – 1790 feet. Blooms: February – April, sometimes June.	<b>No Potential.</b> The Project Area does not contain scrub, chaparral, or forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes bird's-beak	Rank 1B	Coastal salt marshes; located in low-growing saltgrass and pickleweed mats. Elevation range: 0 – 35 feet. Blooms: June – October.	<b>No Potential.</b> The Project Area does not contain coastal marsh habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	Rank 1B	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub; located on loose, coarse sandy substrates of terraces and slopes. Elevation range: 10 – 700 feet. Blooms: April – August.	<b>No Potential.</b> The Project Area does not contain coarse sandy soils to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Chorizanthe valida</i> Sonoma spineflower	FE, SE, Rank 1B	Coastal prairie; in coarse, loose sandy soils. Elevation range: 35 – 1000 feet. Blooms: June – August.	<b>No Potential.</b> The Project Area does not contain coarse sandy soils to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water hemlock	Rank 2B	Coastal freshwater and brackish marshes. Elevation range: 0 – 650 feet. Blooms: July – September.	<b>No Potential.</b> The Project Area does not contain coastal marsh habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Cirsium andrewsii</i> Franciscan thistle	Rank 1B	Coastal bluff scrub, broadleaf upland forest, coastal scrub; sometimes located along serpentine seeps. Elevation range: 0 – 490 feet. Blooms: March – July.	<b>No Potential.</b> The Project Area does not contain serpentine seeps to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Cirsium hydrophilum</i> var. <i>vaseyi</i> Mt. Tamalpais thistle	Rank 1B	Broadleaf upland forest, chaparral; located on streams and serpentine seeps in woodland and scrub habitat. Elevation range: 780 – 2015 feet. Blooms: May – August.	<b>No Potential.</b> The Project Area does not contain serpentine seeps to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Cistanthe maritima</i> seaside cistanthe	Rank 4	Coastal bluff scrub, coastal scrub, valley and foothill grassland; situated on sandy substrates. Elevation range: 15 – 975 feet. Blooms: sometimes February, March – June, sometimes August.	<b>No Potential.</b> The Project Area does not contain dunes or coarse sandy substrates to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Collinsia corymbosa</i> round-headed Chinese houses	Rank 1B	Coastal dunes, coastal prairie underlain by loose, coarse substrate. Elevation range: 0 – 65 feet. Blooms: April – June.	<b>No Potential.</b> The Project Area does not contain dunes or coarse sandy substrates to support this species.	<b>Not Present.</b> No further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Cypripedium californicum</i> California lady's-slipper	Rank 4	Bogs and fens, lower montane coniferous forest; located along seeps and streambanks, typically underlain by serpentine. Elevation range: 95 – 8940 feet. Blooms: April – August.	<b>No Potential.</b> The Project Area does not contain streams and forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Dirca occidentalis</i> western leatherwood	Rank 1B	Broadleaf upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland; located on brushy, mesic slopes in woodland and forest. Elevation range: 165 – 1285 feet. Blooms: January – April.	<b>No Potential.</b> The Project Area does not contain forest or scrub habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Elymus californicus</i> California bottle-brush grass	Rank 4	Broadleaf upland forest, cismontane woodland, North Coast coniferous forest, riparian woodland; located in mesic areas. Elevation range: 50 – 1530 feet. Blooms: May – August, sometimes November.	<b>No Potential.</b> The Project Area does not contain forest or woodland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Entosthodon kochii</i> Koch's cord moss	Rank 1B	Cismontane woodland, valley and foothill grassland; located on river banks, may be on serpentine. Elevation range: 585 – 3250 feet.	<b>No Potential.</b> The Project Area does not contain riverine habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	Rank 1B	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie; located on sandy or gravelly substrate derived from serpentine. Elevation range: 0 – 2275 feet. Blooms: May – September.	<b>No Potential.</b> The Project Area does not contain chaparral, woodland, or serpentine grassland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Erysimum concinnum</i> bluff wallflower	Rank 1B	Coastal bluff scrub, coastal scrub, coastal dunes; situated on sandy substrate. Elevation range: 0 – 605 feet. Blooms: February – July.	<b>No Potential.</b> The Project Area does not contain scrub or dune habitat, and is not underlain by loose, coarse substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Erysimum franciscanum</i> San Francisco wallflower	Rank 4	Maritime chaparral, coastal dunes, coastal scrub, valley and foothill grassland; typically located on serpentine or volcanic substrate, often on roadsides. Elevation range: 0 – 1790 feet. Blooms: March – June.	<b>No Potential.</b> The Project Area does not contain chaparral, scrub, or serpentine or volcanic grassland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Fissidens pauperculus</i> minute pocket moss	Rank 1B	North Coast coniferous forest; located on damp soil along the coast, and in dry streambanks and streambeds. Elevation range: 30 – 3330 feet.	<b>No Potential.</b> The Project Area does not contain forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Fritillaria lanceolata</i> var. <i>tristulis</i> Marin checker lily	Rank 1B	Coastal bluff scrub, coastal scrub, coastal prairie; observed in canyons, riparian areas, and rock outcrops; often located on serpentine substrate. Elevation range: 45 – 490 feet. Blooms: February – May.	<b>Unlikely.</b> The Project Area does not contain scrub or riparian habitat, and the grassland is substantially disturbed.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Fritillaria liliacea</i> fragrant fritillary	Rank 1B	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland; located in grassy sites underlain by clay, typically derived from volcanics or serpentine. Elevation range: 10 – 1335 feet. Blooms: February – April.	<b>No Potential.</b> The Project Area does not contain clay substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Gilia capitata</i> ssp. <i>chamissonis</i> blue coast gilia	Rank 1B	Coastal dunes, coastal scrub. Elevation range: 5 – 600 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain coastal dune or scrub habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Gilia capitata</i> ssp. <i>tomentosa</i> woolly-headed gilia	Rank 1B	Coastal bluff scrub; rocky outcrops on the coast. Elevation range: 15 – 155 feet. Blooms: May – July.	<b>No Potential.</b> The Project Area does not contain rock outcrops or scrub habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Gilia millefoliata</i> dark-eyed gilia	Rank 1B	Coastal dune. Elevation range: 5 – 100 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain coastal dune habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	Rank 1B	Coastal scrub, coastal bluff scrub, valley and foothill grassland; situated on sea bluffs underlain by sand substrate, often derived from serpentine. Elevation range: 45 – 1300 feet. Blooms: June – September.	<b>No Potential.</b> The Project Area does not contain scrub or sandy serpentine grassland to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Helianthella castanea</i> Diablo helianthella	Rank 1B	Broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; typically located in oak woodland/chaparral ecotone underlain by rocky, azonal substrates, often in partial shade. Elevation range: 195 – 4225 feet. Blooms: March – June.	<b>No Potential.</b> The Project Area does not contain forest, woodland, chaparral, or interior grassland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Hemizonia congesta</i> ssp. <i>congesta</i> White hayfield tarplant	Rank 1B	Coastal scrub, valley and foothill grassland. Elevation range: 65 – 1840 feet. Blooms: April – October.	<b>Moderate Potential.</b> Although the vegetation of the Project Area has been management, this species can tolerate repeated mowing and disking.	<b>Not Observed.</b> This species was not observed during protocol-level surveys. No further recommendations for this species.
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	Rank 1B	Coastal bluff scrub, coastal dunes; on sandy bluffs and flats in direct maritime influence. Elevation range: 0 – 215 feet. Blooms: March – June.	<b>Moderate Potential.</b> Although the vegetation of the Project Area has been management, this species can tolerate repeated mowing and disking.	<b>Not Observed.</b> This species was not observed during protocol-level surveys. No further recommendations for this species.
<i>Hesperolinon congestum</i> Marin western flax	FT, ST, Rank 1B	Chaparral, valley and foothill grassland; located on serpentine substrate. Elevation range: 15 – 1205 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain chaparral or serpentine grassland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Heteranthera dubia</i> water star-grass	Rank 2B	Marshes and swamps; still or slow-moving water, alkaline. Elevation range: 95 – 4905 feet. Blooms: July – October.	<b>No Potential.</b> The Project Area does not contain open water habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT, SE, Rank 1B	Coastal prairie, coastal scrub, valley and foothill grassland; located on light, sandy clay substrate; tolerant of non-native herbaceous vegetation. Elevation range: 30 – 715 feet. Blooms: June – October.	<b>Unlikely.</b> Although this species can tolerate disturbance, the Project Area does not contain clay substrate. Likewise, there are no documented occurrences from the Marin Coast.	<b>Not Present.</b> No further recommendations for this species.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	Rank 1B	Closed cone coniferous forest, coastal scrub, chaparral; located in openings on relict dunes and coastal sandhills. Elevation range: 30 – 650 feet. Blooms: April – September.	<b>No Potential.</b> The Project Area does not contain forest or scrub habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Horkelia marinensis</i> Point Reyes horkelia	Rank 1B	Coastal dunes, coastal prairie, coastal scrub; located on sandy flats and dunes near the coast; in open grassy sites within scrub. Elevation range: 15 – 1140 feet. Blooms: May – September.	<b>No Potential.</b> The Project Area does not contain coarse sandy soils to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Horkelia tenuiloba</i> thin-lobed horkelia	Rank 1B	Broadleaf upland forest, coastal scrub, valley and foothill grassland, chaparral; in mesic openings, on sandy substrate. Elevation range: 165 – 1640 feet. Blooms: May – July.	<b>No Potential.</b> The Project Area does not contain forest, scrub, chaparral, or interior grassland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Hosackia gracilis</i> harlequin lotus	Rank 4	Broadleaf upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, valley and foothill grassland; located in wetlands and roadside ditches. Elevation range: 0 – 2275 feet. Blooms: March – July.	<b>Unlikely.</b> The Project Area does not contain seasonal wetlands to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Kopsiopsis hookeri</i> small groundcone	Rank 2B	North Coast coniferous forest; located in open woods, shrublands, generally hosts on salal ( <i>Gaultheria shallon</i> ). Elevation range: 290 – 2880 feet. Blooms: April – August.	<b>No Potential.</b> The Project Area does not contain forest or shrub habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Lasthenia californica</i> ssp. <i>macrantha</i> perennial goldfields	Rank 1B	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation range: 5 – 520 feet. Blooms: January – November.	<b>No Potential.</b> The Project Area does not contain scrub or dune habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Layia carnosa</i> beach layia	FE, SE, Rank 1B	Coastal dunes; located in sparsely vegetated semi-stabilized dunes behind foredunes. Elevation range: 0 – 195 feet. Blooms: March – July.	<b>No Potential.</b> The Project Area does not contain coastal dune or loose, coarse sands to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Leptosiphon acicularis</i> bristly leptosiphon	Rank 4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; often located on shallow, rocky substrate in foothill positions; typically, low-growing and sparse vegetation; often on edge of chaparral and shrub thickets. Elevation range: 175 – 4875 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain chaparral, woodland, grassland on scrub margins to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Leptosiphon croceus</i> coast yellow leptosiphon	Rank 1B	Coastal bluff scrub, coastal prairie. Elevation range: 30 – 490 feet. Blooms: April – May.	<b>Unlikely.</b> There are no reliable documented occurrences from Marin County; widely considered to be restricted to San Mateo County (Baldwin et al. 2012).	<b>Not Present.</b> No further recommendations for this species.
<i>Leptosiphon grandiflorus</i> large-flowered leptosiphon	Rank 4	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland; typically on sandy substrate. Elevation range: 15 – 3965 feet. Blooms: April – August.	<b>Unlikely.</b> This species is typically situated on loose, coarse sands which are not present in the Project Area.	<b>Not Present.</b> No further recommendations for this species.
<i>Leptosiphon rosaceus</i> rose leptosiphon	Rank 1B	Coastal bluff scrub. Elevation range: 0 – 325 feet. Blooms: April – July.	<b>Unlikely.</b> The Project Area does not contain scrub habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Lessingia hololeuca</i> woolly-headed lessingia	Rank 3	Broadleaf upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland; typically on clay, serpentine substrate. Elevation range: 3 – 2885 feet. Blooms: April – June.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Lessingia micradenia</i> var. <i>micradenia</i> Tamalpais lessingia	Rank 1B	Chaparral, valley and foothill grassland; typically located in serpentine grassland or serpentine scrub, often on roadsides. Elevation range: 325 – 1625 feet. Blooms: June – October.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Lilaeopsis masonii</i> Mason's Lilaeopsis	SR, Rank 1B	Freshwater and brackish coastal marshes, riparian scrub; located on channel banks in the splash zone on bare mud substrate. Elevation range: 0 – 35 feet. Blooms: April – November.	<b>No Potential.</b> The Project Area does not contain coastal marsh to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Lilium maritimum</i> coast lily	Rank 1B	Closed-cone coniferous forest, coastal prairie, coastal scrub, broadleaf upland forest, North Coast coniferous forest; typically located on sandy soils, often in raised hummocks or bogs, and roadside ditches. Elevation range: 15 – 1545 feet. Blooms: May – August.	<b>No Potential.</b> The Project Area does not contain forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Micropus amphibolus</i> Mt. Diablo cottonweed	Rank 3	Broadleaf upland forest, chaparral, cismontane woodland, valley and foothill grassland; situated on very thin, rocky soils. Elevation range: 145 – 2710 feet. Blooms: March – May.	<b>No Potential.</b> The Project Area does not contain thin, rocky soils to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Microseris paludosa</i> marsh microseris	Rank 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation range: 5 – 300 feet. Blooms: April – June.	<b>Unlikely.</b> The Project Area's management likely precludes the presence of this perennial species.	<b>Not Observed.</b> This species was not observed during protocol-level surveys. No further recommendations for this species.
<i>Mielichhoferia elongata</i> elongate copper moss	Rank 2B	Cismontane woodland; located on acidic, metamorphic rock and substrate, often located in higher portions in fens. Elevation range: 1625 – 4225 feet.	<b>No Potential.</b> The Project Area does not contain woodland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Monardella sinuata</i> ssp. <i>nigrescens</i> northern curly-leaved Monardella	Rank 1B	Chaparral, coastal dunes, coastal scrub, lower montane coniferous forest (ponderosa pine forest). Elevation range: 0 – 985 feet. Blooms: sometimes April, May – July, sometimes August – September.	<b>No Potential.</b> The Project Area does not contain chaparral, scrub, forest, or dune habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	Rank 1B	Wet, mesic sites underlain by adobe and/or alkaline substrate in cismontane woodland, meadows, seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Elevation range: 15 – 5710 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain seasonal wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Navarretia rosulata</i> Marin County navarretia	Rank 1B	Closed-cone coniferous forest, chaparral; located on dry, rocky sites often formed from serpentine. Elevation range: 650 – 2065 feet. Blooms: May – July.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE, SE, Rank 1B	Valley and foothill grassland; located on open, dry rocky slopes and grassy areas, often on substrate derived from serpentine. Elevation range: 110 – 2015 feet. Blooms: March – May.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> Gairdner's yampah	Rank 4	Broadleaf upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools; located in vernal mesic sites. Elevation range: 0 – 1985 feet. Blooms: June – October.	<b>No Potential.</b> The Project Area does not contain seasonal wetlands to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Phacelia insularis</i> var. <i>continentis</i> North Coast phacelia	Rank 1B	Coastal bluffs scrub, coastal dunes; located on open maritime bluffs underlain by sandy substrate. Elevation range: 30 – 555 feet. Blooms: March – May.	<b>Unlikely.</b> The Project Area does not contain scrub or dune underlain by loose, coarse sandy substrate.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Plagiobothrys glaber</i> hairless popcornflower	Rank 1A	Meadows and seeps, marshes and swamps; located in coastal salt marshes and alkaline meadows. Elevation range: 45 – 585 feet. Blooms: March – May.	<b>No Potential.</b> The Project Area does not contain perennial wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Pleuropogon hooverianus</i> North coast semaphore grass	ST, Rank 1B	Broadleaf upland forests, meadows and seeps, freshwater marshes and swamps, North Coast coniferous forest, shaded, wet, and grassy areas in forested habitat. Elevation range: 10 – 635 feet. Blooms May – August.	<b>No Potential.</b> The Project Area does not contain mesic grassy openings in forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Pleuropogon refractus</i> nodding semaphore grass	Rank 4	Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, riparian forest; located in mesic settings. Elevation range: 0 – 5200 feet. Blooms: March – August.	<b>No Potential.</b> The Project Area does not contain mesic grassy openings in forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Polemonium carneum</i> Oregon polemonium	Rank 2B	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation range: 0 – 5950 feet. Blooms: April – September.	<b>Unlikely.</b> The Project Area does not contain scrub or forest habitat, and the grassland has been substantially altered.	<b>Not Present.</b> No further recommendations for this species.
<i>Polygonum marinense</i> Marin knotweed	Rank 3	Salt and brackish coastal marshes. Elevation range: 0 – 35 feet. Blooms: sometimes April, May – August, sometimes October.	<b>No Potential.</b> The Project Area does not contain coastal marsh to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Quercus parvula</i> var. <i>tamalpaisensis</i> Tamalpais oak	Rank 1B	Lower montane coniferous forest; highly restricted to the slopes of Mt. Tamalpais. Elevation range: 325 – 2275 feet. Blooms: March – April.	<b>No Potential.</b> The Project Area is not situated in a montane setting or contain forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ranunculus lobbii</i> Lobb's buttercup	Rank 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools; located in mesic, vernal wet areas. Elevation range: 45 – 1530 feet. Blooms: February – May.	<b>No Potential.</b> The Project Area does not contain seasonal wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ribes victoris</i> Victor's gooseberry	Rank 4	Broadleaf upland forest, chaparral; located in shady, mesic sites. Elevation range: 325 – 2440 feet. Blooms: March – April.	<b>No Potential.</b> The Project Area does not contain chaparral or forest habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	Rank 1B	Marshes and swamps; located in assorted shallow freshwater habitats including canals and perennial drainage ditches. Elevation range: 0 – 2115 feet. Blooms: May – October, sometimes November.	<b>No Potential.</b> The Project Area does not contain perennial wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i> Point Reyes checkerbloom	Rank 1B	Marshes and swamps; located in freshwater marsh habitat near the coast. Elevation range: 10 – 245 feet. Blooms: April – September.	<b>No Potential.</b> The Project Area does not contain perennial wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Sidalcea hickmanii</i> ssp. <i>viridis</i> Marin checkerbloom	Rank 1B	Chaparral; located on serpentine or volcanic substrate, often located in burns. Elevation range: 160 – 1400 feet. Blooms: May – June.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Silene scouleri</i> ssp. <i>scouleri</i> Scouler's catchfly	Rank 2B	Coastal bluff scrub, coastal prairie, valley and foothill grassland; situated on rocky slopes and bluffs. Elevation range: 0 – 1950 feet. Blooms: sometimes March – May, typically June – August, sometimes September.	<b>No Potential.</b> The Project Area does not contain rocky slopes or bluffs to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Stebbinsoseris decipiens</i> Santa Cruz Stebbinsoseris	Rank 1B	Broadleaf upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub; located on open, loose or disturbed substrate derived from sandstone, shale, or serpentine. Elevation range: 30 – 1625 feet. Blooms: April – May.	<b>No Potential.</b> The Project Area does not contain forest, chaparral, scrub, or intact prairie habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Streptanthus batrachopus</i> Tamalpais jewel-flower	Rank 1B	Closed-cone coniferous forest, chaparral; located on serpentine talus slopes. Elevation range: 990 – 2115 feet. Blooms: April – July.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Streptanthus glandulosus</i> var. <i>niger</i> Tiburon jewel-flower	FE, SE, Rank 1B	Valley and foothill grassland; located on shallow rocky substrates derived from serpentine. Elevation range: 100 – 490 feet. Blooms: May – June.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Streptanthus glandulosus</i> ssp. <i>pulchellus</i> Mt. Tamalpais jewelflower	Rank 1B	Chaparral, valley and foothill grassland; located on serpentine slopes. Elevation range: 490 – 2600 feet. Blooms: May – August.	<b>No Potential.</b> The Project Area does not contain serpentine substrate to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Symphyotrichum lentum</i> Suisun Marsh aster	Rank 1B	Freshwater and brackish marshes and swamps; typically located on slough margins and edges, closely associated with cattail, tules, bulrushes, California rose, and Delta Tule pea. Elevation range: 0 – 10 feet. Blooms: May – November.	<b>No Potential.</b> The Project Area does not contain perennial wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Trifolium amoenum</i> showy rancheria clover	FE, Rank 1B	Valley and foothill grassland, coastal bluff scrub, swales, open sunny sites, sometimes on serpentine. Elevation range: 15 – 1365 feet. Blooms: April – June.	<b>Moderate Potential.</b> Although the vegetation of the Project Area has been management, this species may be tolerant of mowing/disking.	<b>Not Observed.</b> This species was not observed during protocol-level surveys. No further recommendations for this species.
<i>Trifolium hydrophilum</i> saline clover	Rank 1B	Marshes and swamps, mesic portions of alkali vernal pools, mesic, alkali valley and foothill grassland. Elevation range: 0 – 985 feet. Blooms: April – June.	<b>No Potential.</b> The Project Area does not contain seasonal wetland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Triphysaria floribunda</i> San Francisco owl's-clover	Rank 1B	Coastal prairie, valley and foothill grassland; located on serpentine and non-serpentine substrate. Elevation range: 30 – 520 feet. Blooms: April – June.	<b>Unlikely.</b> The Project Area does not contain intact grassland habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Triquetrella californica</i> coastal triquetrella	Rank 1B	Coastal bluff scrub, coastal scrub, valley and foothill grassland; grows within 100 feet of the coastline in scrub and grasslands on open gravel substrates of roads, hillsides, bluffs, and slopes. Elevation range: 30 – 325 feet.	<b>No Potential.</b> The Project Area is not directly on the coastline.	<b>Not Present.</b> No further recommendations for this species.
<b>WILDLIFE</b>				
<b>Mammals</b>				
<i>Antrozous pallidus</i> pallid bat	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	<b>No Potential.</b> The Project Area does not contain daily or maternity structures to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Aplodontia rufa phaea</i> Point Reyes mountain beaver	SSC	Known from the coastal areas of Point Reyes. Located in north-facing slopes of hills and gullies with seeps and springs nearby. Areas typically overgrown with vegetation such as sword fern ( <i>Polystichum munitum</i> ) and thimbleberry ( <i>Rubus parviflorus</i> ).	<b>No Potential.</b> The Project Area does not contain slopes and gullies with dense scrub overgrowth.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Corynorhinus townsendii townsendii</i> Townsend's western big-eared bat	SSC, WBWG High	Humid coastal regions of northern and central California. Roost in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to disturbance	<b>No Potential.</b> The Project Area does not contain daily or maternity structures to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Enhydra lutris nereis</i> southern sea otter	FT, SFP	Located in near-shore marine environments from Ano Nuevo to Point Sal (possibly Marin County). Requires canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates for foraging.	<b>No Potential.</b> The Project Area is not on the direct coastline or encompass the Pacific Ocean.	<b>Not Present.</b> No further recommendations for this species.
<i>Lasiurus blossevillii</i> western red bat	SSC, WBWG High	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. It is associated with broad-leaved tree species including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	<b>No Potential.</b> The Project Area does not contain daily or maternity structures to support this species.	<b>Not Present.</b> No further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Lasiurus cinereus</i> western red bat	WBWG Medium	Migratory and typically solitary, roosting primarily in the foliage of trees and shrubs. Roosts are usually in broadleaf trees including cottonwoods ( <i>Populus</i> spp.), sycamores ( <i>Platanus</i> spp.), alders ( <i>Alnus</i> spp.), and maples ( <i>Acer</i> spp.). Day roosts are commonly in edge habitats adjacent to streams, open fields, orchards, and occasionally urban areas.	<b>No Potential.</b> The Project Area does not contain daily or maternity structures to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Reithrodontomys raviventris</i> salt marsh harvest mouse	FE, SE, SFP	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for dryland refugia during high tides.	<b>No Potential.</b> The Project Area does not contain coastal marsh habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Taxidea taxus</i> American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	<b>Moderate Potential.</b> The Project Area is connected to broad expanses of open grassland and scrubs.	<b>Not Observed.</b> No mammal burrows were observed on any of the site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Zapus trinotatus orarius</i> Point Reyes jumping mouse	SSC	Known from upland areas in Point Reyes. Typically located in upper margins of bunch grass wetlands, as well as coastal scrub, grassland, and meadows. Primarily forages for grass seeds, with some insects and fruits. Builds grass nests above ground, but burrows in winter.	<b>No Potential.</b> The Project Area does not contain bunch grass wetland and coastal scrub margins.	<b>Not Present.</b> No further recommendations for this species.
<b>Birds</b>				
<i>Agelaius tricolor</i> tricolored blackbird	SC (E), SSC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	<b>No Potential.</b> The Project Area does not contain freshwater marsh or riparian habitat for this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Ammodramus savannarum</i> grasshopper sparrow	SSC	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	<b>Unlikely.</b> The annual management (mowing, disking) of the site likely precludes nesting of this species. May forage over the site.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Aquila chrysaetos</i> golden eagle	BGEPA, SFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	<b>No Potential.</b> The Project Area does not contain cliffs or large trees to provide nesting habitat. May soar over the site.	<b>Not Present.</b> No further recommendations for this species.
<i>Ardea alba</i> great egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially, usually in trees, occasionally on the ground or elevated platforms. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	<b>No Potential.</b> The Project Area does not contain trees to provide roosting habitat.	<b>Not Present.</b> No further recommendations for this species.
<i>Ardea herodias</i> great blue heron	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and cliffs, also sequestered terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	<b>No Potential.</b> The Project Area does not contain trees to provide roosting habitat.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Asio flammeus</i> short-eared owl	SSC	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	<b>No Potential.</b> The Project Area does not contain dense vegetation for nesting.	<b>Not Present.</b> No further recommendations for this species.
<i>Asio otus</i> long-eared owl	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	<b>No Potential.</b> The Project Area does not contain oak woodland to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Athene cunicularia</i> burrowing owl	SSC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	<b>No Potential.</b> The Project Area's management obliterates burrows to support nesting.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Brachyramphus marmoratus</i> marbled murrelet	FT, SE	Predominantly coastal marine. Nests in old-growth coniferous forests up to 30 miles inland along the Pacific coast, from Eureka to Oregon border, and in Santa Cruz/San Mateo Counties. Nests are highly cryptic, and typically located on platform-like branches of mature redwoods and Douglas firs. Forages on marine invertebrates and small fishes.	<b>No Potential.</b> This species is not known from Marin County. Likewise, the Project Area is not old-growth forest habitat.	<b>Not Present.</b> No further recommendations for this species.
<i>Buteo swainsoni</i> Swainson's hawk	ST	Summer resident in Central Valley and limited portions of the southern California interior. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	<b>No Potential.</b> This species is not known to nest in Marin County.	<b>Not Present.</b> No further recommendations for this species.
<i>Charadrius nivosus nivosus</i> western snowy plover	FT, SSC	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	<b>No Potential.</b> The Project Area does not contain beaches and coastal strands to support nesting of this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Circus cyaneus</i> northern harrier	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	<b>No Potential.</b> The Project Area does not contain dense vegetation to provide nesting habitat.	<b>Not Present.</b> No further recommendations for this species.
<i>Coccyzus americanus</i> yellow-billed cuckoo	FT, SE	Summer resident, breeding in dense riparian forests, typically with early successional vegetation. Utilizes densely foliated deciduous trees and shrubs. Current breeding distribution in California extremely limited. Forages primarily on insect larvae.	<b>No Potential.</b> The Project Area does not contain riparian habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Contopus cooperi</i> olive-sided flycatcher	SSC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	<b>No Potential.</b> The Project Area does not contain forest or woodland habitat for this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Coturnicops noveboracensis</i> yellow rail	SSC	Summer resident in eastern Sierra Nevada, breeding in shallow freshwater marshes and wet meadows with dense vegetation. A rare winter visitor along the coast and other cismontane areas. Extremely cryptic.	<b>No Potential.</b> The Project Area does not contain marsh or wet meadow habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Cypseloides niger</i> black swift	SSC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas.	<b>No Potential.</b> The Project Area does not contain cliffs for nesting.	<b>Not Present.</b> No further recommendations for this species.
<i>Egretta thula</i> snowy egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees, at times in sequestered beds of dense emergent vegetation (e.g., tules). Rookery sites usually situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	<b>No Potential.</b> The Project Area does not contain trees to provide roosting habitat.	<b>Not Present.</b> No further recommendations for this species.
<i>Elanus leucurus</i> white-tailed kite	SFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	<b>No Potential.</b> The Project Area does not contain trees or suitable shrubs to provide nesting. May forage over the site.	<b>Not Present.</b> No further recommendations for this species.
<i>Falco peregrinus anatum</i> American peregrine falcon	SE, SFP	Year-round resident and winter visitor. Occurs near water, including coastal areas, wetlands, lakes and rivers. Usually nests on sheltered cliffs or tall man-made structures. Preys primarily on waterbirds.	<b>No Potential.</b> The Project Area does not contain cliffs for nesting.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Fratercula cirrhata</i> tufted puffin	SSC	Pelagic and coastal marine. Nests near or along the coast on islands, islets, and (rarely) isolated mainland cliffs. Requires sod or earth into which the birds can burrow, or rocky crevices where friable soil is absent. Forages at sea, primarily for fish.	<b>No Potential.</b> The Project Area is not a marine island.	<b>Not Present.</b> No further recommendations for this species.
<i>Geothlypis trichas sinuosa</i> San Francisco (saltmarsh) common yellowthroat	SSC	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.	<b>No Potential.</b> The Project Area does not contain marsh habitat for this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Haliaeetus leucocephalus</i> bald eagle	BGEPA, SE, SFP	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs, and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	<b>No Potential.</b> The Project Area does not contain trees for nesting.	<b>Not Present.</b> No further recommendations for this species.
<i>Icteria virens</i> yellow-breasted chat	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow ( <i>Salix</i> spp.), blackberry ( <i>Rubus</i> spp.), and wild grape ( <i>Vitis californicus</i> ).	<b>No Potential.</b> The Project Area does not contain riparian habitat for this species.	<b>Not Present.</b> No further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Lanius ludovicianus</i> loggerhead shrike	SSC	Year-round resident in open woodland, grasslands, savannah, and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	<b>No Potential.</b> The Project Area does not contain trees or suitable (thick) shrubs for nesting. May forage over the site.	<b>Not Present.</b> No further recommendations for this species.
<i>Laterallus jamaicensis coturniculus</i> California black rail	ST, SFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	<b>No Potential.</b> The Project Area does not contain marsh habitat for this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	SSC	Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes.	<b>No Potential.</b> The Project Area does not contain marsh habitat for this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Nycticorax nycticorax</i> black-crowned night heron	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees but also in patches of emergent vegetation. Rookery sites are often on islands and usually located adjacent to foraging areas: margins of lakes and bays.	<b>No Potential.</b> The Project Area is not a marine island.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Oceanodroma homochroa</i> ashy storm-petrel	SSC	Marine species; nests in rocky crevices on offshore islands and rocks from southern Mendocino County to norther Baja California. Forages over open ocean for invertebrates and larval fishes.	<b>No Potential.</b> The Project Area is not a marine island.	<b>Not Present.</b> No further recommendations for this species.
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow	SSC	Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats and adjacent areas, including grasslands. Also uses drier, more upland coastal grasslands. Nests near the ground in taller vegetation, including along levees and canals.	<b>Unlikely.</b> The annual management (mowing, disking) of the site likely precludes nesting of this species. May forage over the site.	<b>Not Present.</b> No further recommendations for this species.
<i>Pelecanus occidentalis californicus</i> California brown pelican	SFP	Colony nester on coastal islands and seastacks. Nest islands tend to be small to medium sized to prevent terrestrial predators.	<b>No Potential.</b> The Project Area is not a marine island.	<b>Not Present.</b> No further recommendations for this species.
<i>Phoebastria (=Diomedea) albatrus</i> short-tailed albatross	FE, SSC	Pelagic; only visiting land when breeding. Nests on isolated Pacific islands. A rare non-breeding visitor to the eastern Pacific.	<b>No Potential.</b> The Project Area is not directly on the coastline.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Progne subis</i> purple martin	SSC	Summer resident. Inhabits woodlands and low-elevation coniferous forests. Nests in old woodpecker cavities and man-made structures (bridges, utility towers). Nest is often located in tall, isolated tree or snag.	<b>No Potential.</b> The Project Area does not contain woodland or forest habitat.	<b>Not Present.</b> No further recommendations for this species.
<i>Rallus obsoletus obsoletus</i> California Ridgway's (clapper) rail	FE, SE, SFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on mollusks and crustaceans.	<b>No Potential.</b> The Project Area does not contain marsh habitat for this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Riparia riparia</i> bank swallow	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	<b>No Potential.</b> The Project Area does not cliff or bank cut habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Setophaga petechia</i> yellow warbler	SSC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting is variable, but dense willow growth is typical. Occurs widely on migration.	<b>No Potential.</b> The Project Area does not contain riparian habitat to support this species.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Sterna antillarum browni</i> California least tern	FE, SE, SFP	Summer resident along the coast from San Francisco Bay south to northern Baja California; inland breeding also very rarely occurs. Nests colonially on barren or sparsely vegetated areas with sandy or gravelly substrates near water, including beaches, islands, and gravel bars. In San Francisco Bay, has also nested on salt pond margins.	<b>No Potential.</b> The Project Area does not contain expanses of bare sandy to gravelly soils.	<b>Not Present.</b> No further recommendations for this species.
<i>Strix occidentalis caurina</i> northern spotted owl	FT,ST, SSC	Year-round resident in dense, structurally complex forests, primarily those with stands of mature conifers. In Marin County, uses both coniferous and mixed (coniferous-hardwood) forests. Nests on platform-like substrates in the forest canopy, including in tree cavities. Documented nest trees in Marin County both conifer and broadleaf. Preys on small forest/woodland mammals.	<b>No Potential.</b> The Project Area does not contain forest habitat for this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	SSC	Summer resident. Breeds colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. Requires abundant large insects such as dragonflies; nesting is timed for maximum emergence of insect prey.	<b>No Potential.</b> The Project Area lacks marsh vegetation suitable for nesting.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<b>Reptiles and Amphibians</b>				
<i>Ambystoma californiense</i> California tiger salamander	FT, ST	Occurs in grasslands, oak savannah, and open woodlands with a mosaic of vernal pools or similar seasonal wetlands. Requires vernal pools or similarly inundated waters for breeding and larvae. Adults are fossorial utilizing small mammal burrows for estivation.	<b>No Potential.</b> The Project Area does not contain breeding habitat and the repeated disking damages burrowing habitat. Furthermore, there are no documented occurrences from Marin County, with the possible exception of a record from the 19 <sup>th</sup> Century in the Petaluma Area (CDFW 2018a).	<b>Not Present.</b> No further recommendations for this species.
<i>Chelonia mydas</i> green sea turtle	FT	Found in fairly shallow waters inside reefs, bays and inlets with marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. This species exhibits high site fidelity.	<b>No Potential.</b> The Project Area is not marine nor is it directly on the coastline.	<b>Not Present.</b> No further recommendations for this species.
<i>Dicamptodon ensatus</i> California giant salamander	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	<b>No Potential.</b> The Project Area and directly adjacent areas do not contain any streams.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Emys marmorata</i> Pacific (western) pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	<b>No Potential.</b> The Project Area does not contain breeding habitat.	<b>Not Present.</b> No further recommendations for this species.
<i>Rana boylei</i> foothill yellow-legged frog	SC (T), SSC	Found in or near rocky streams in a variety of habitats; highly aquatic. Prefers partially-sunlit, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on invertebrates (aquatic and terrestrial).	<b>No Potential.</b> The Project Area does not contain riverine waters.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Rana draytonii</i> California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense emergent and/or overhanging riparian vegetation. Favors perennial to intermittent ponds, marshes, and stream pools. Requires 11 to 20 weeks of continuous inundation for larval development. Disperses through upland habitats during and after rains.	<b>Moderate Potential.</b> The Project Area itself does not provide habitat; however the drainage ditch and NWI mapped wetland may provide non-breeding aquatic habitat.	<b>Presence Unknown.</b> The Proposed Project will erect a sediment screen and exclusion on the eastern edge of the Project Area to prevent incursion of CRLF into the Project Area. Likewise, construction will be conducted during the dry season when CRLF would be confined to perennial aquatic habitat.
<b>Fishes</b>				
<i>Eucyclogobius newberryi</i> tidewater goby	FE, SSC	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. Requires fairly still but not stagnant water and high oxygen levels.	<b>No Potential.</b> The Project Area does not contain anadromous or estuarine waters.	<b>Not Present.</b> No further recommendations for this species.
<i>Hypomesus transpacificus</i> Delta smelt	FT, SE	Resident to the Sacramento-San Joaquin estuary in areas where salt and freshwater systems coalesce. Occurs seasonally in Suisun and San Pablo bays. Seldom found in salinities >10ppt, typically in waters of <2ppt.	<b>No Potential.</b> The Project Area does not encompass the Delta, Suisun Bay, or San Pablo Bay.	<b>Not Present.</b> No further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Lavinia symmetricus</i> ssp. 2 Tomales roach	SSC	Habitat generalist. Found in well aerated perennial and tributaries to Tomales Bay. Feed primarily on algae supplemented with crustaceans and insects.	<b>No Potential.</b> The Project Area does not contain estuarine waters.	<b>Not Present.</b> No further recommendations for this species.
<i>Oncorhynchus kisutch</i> coho salmon – central CA coast ESU	FE, SE	Occurs in inland and coastal rivers, and marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also requires riparian cover to contribute to cool, well-aerated water. Federal listing applies to populations between Punta Gorda and San Lorenzo River. State listing applies populations south of San Francisco Bay only.	<b>No Potential.</b> The Project Area does not contain anadromous or estuarine waters.	<b>Not Present.</b> No further recommendations for this species.
<i>Oncorhynchus mykiss irideus</i> steelhead - central CA coast DPS	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating downstream to the ocean.	<b>No Potential.</b> The Project Area does not contain anadromous or estuarine waters.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Spirinchus thaleichthys</i> longfin smelt	FC, ST, SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	<b>No Potential.</b> The Project Area does not contain riverine or estuarine waters.	<b>Not Present.</b> No further recommendations for this species.
<b>Invertebrates</b>				
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	FE	Known from San Bruno Mountain, Milagra Ridge, and Montara Mountain. Host plant is Pacific stonecrop ( <i>Sedum spathulifolium</i> ). Adult nectar resources include manzanita ( <i>Arctostaphylos</i> spp.) and evergreen huckleberry ( <i>Vaccinium ovatum</i> ).	<b>No Potential.</b> The Project Area does not contain larval host or adult nectar resources to support this species. Furthermore, the Project Area is out of the known range of this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Danaus plexippus</i> monarch butterfly	roosting sites protected by CDFW	Winter roost sites along the coast from Baja California north to Mendocino County. Roosts are wind-protected tree groves, typically of eucalyptus ( <i>Eucalyptus</i> spp.), Monterey pine ( <i>Pinus radiata</i> ), and Monterey cypress ( <i>Hesperocyparis macrocarpa</i> ).	<b>No Potential.</b> The Project Area not contain trees to provide roosting sites.	<b>Not Present.</b> No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS AND RECOMMENDATIONS
<i>Plebejus icarioides missionensis</i> Mission blue butterfly	FE	Known from Twin Peaks and Marin Headlands. Hosts on three perennial lupines ( <i>Lupinus variicolor</i> , <i>L. albifrons</i> , <i>L. formosus</i> ). Nectars on a variety of flowers.	<b>No Potential.</b> The Project Area does not contain larval host or adult nectar resources to support this species. Furthermore, the Project Area is out of the known range of this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	FE	Historic populations from Russian River to San Mateo County; currently known only from western Marin and southwestern Sonoma counties. Host plant is dog violet ( <i>Viola adunca</i> ); nectar plants are varied.	<b>No Potential.</b> The Project Area does not contain larval host or adult nectar resources to support this species.	<b>Not Present.</b> No further recommendations for this species.
<i>Syncaris pacifica</i> California freshwater shrimp	FE, SE	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 stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	<b>No Potential.</b> The Project Area does not contain riverine waters.	<b>Not Present.</b> No further recommendations for this species.

**\*Key to status codes:**

FC	Federal Candidate for Listing
FE	Federal Endangered
BGEPA	Bald and Golden Eagle Protection Act Species
FT	Federal Threatened
SC (E/T)	State Candidate for Listing (Endangered/Threatened)
SE	State Endangered
SFP	State Fully Protected Animal
SR	State Rare
SSC	State Species of Special Concern
ST	State Threatened
Rank 1A	CNPS Rank 1A: Plants presumed extinct in California
Rank 1B	CNPS Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2A	CNPS Rank 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B	CNPS Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CNPS Rank 3: Plants about which CNPS needs more information (a review list)
Rank 4	CNPS Rank 4: Plants of limited distribution (a watch list)
WBWG	Western Bat Working Group High or Medium-high Priority Species

**Potential to Occur:**

No Potential: Habitat on and adjacent to the site is clearly unsuitable for the species requirements (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.

**Results and Recommendations:**

Present: Species was observed on the site or has been recorded (i.e. CNDDDB, other reports) on the site recently.

Assumed Present: Species is assumed to be present on-site based on the presence of key habitat components.

Assumed Present without Impact: Species assumed present; however, project activities will not have an impact on the species.

Presumed Absent: Species is presumed to not be present due to a lack of key habitat components.

Not Present: Species is considered not present due to a clear lack of any suitable habitat and/or local range limitations.

Not Observed: Species was not observed during dedicated/formal surveys.

Presence Unknown: Species has the potential to be present, but no dedicated surveys to determine absence/presence were performed.

## Appendix C

### Species Observed within the Study Area

Table C-1. Plants observed in the Study Area, October 4, 2017. April 5 and July 26, 2018

Family	Scientific name	Common name	Life form	Origin	Rare Status <sup>1</sup>	Invasive Status <sup>2</sup>	Wetland indicator <sup>3</sup>
Anacardiaceae	<i>Toxicodendron diversilobum</i>	poison oak	deciduous shrub	native	-	-	NL
Asteraceae	<i>Achillea millefolium</i>	common yarrow	perennial forb	native	-	-	FACU
Asteraceae	<i>Baccharis pilularis</i>	coyote brush	evergreen shrub	native	-	-	NL
Asteraceae	<i>Carduus pycnocephalus</i>	Italian thistle	annual forb	non-native	-	moderate	NL
Asteraceae	<i>Hypochaeris radicata</i>	rough cat's-ear	perennial forb	non-native	-	moderate	FACU
Asteraceae	<i>Sonchus oleraceus</i>	common sow thistle	annual forb	non-native	-	-	NL
Brassicaceae	<i>Raphanus sativus</i>	wild radish	perennial forb	non-native	-	limited	NL
Fabaceae	<i>Genista monspessulana</i>	French broom	evergreen shrub	non-native	-	high	NL
Fabaceae	<i>Medicago polymorpha</i>	bur medic	annual forb	non-native	-	limited	FACU
Fabaceae	<i>Cytisus scoparius</i>	Scotch broom	evergreen shrub	non-native	-	high	NL
Juncaceae	<i>Juncus patens</i>	common rush	perennial graminoid	native	-	-	FACW
Myrsinaceae	<i>Lysimachia arvensis</i>	scarlet pimpernel	annual forb	non-native	-	-	NL
Oxalidaceae	<i>Oxalis pes-caprae</i>	Bermuda buttercup	perennial forb	non-native	-	moderate	NL
Poaceae	<i>Bromus diandrus</i>	ripgut brome	annual graminoid	non-native	-	moderate	NL
Poaceae	<i>Festuca perennis</i>	Italian rye grass	annual graminoid	non-native	-	moderate	FAC
Poaceae	<i>Holcus lanatus</i>	common velvet grass	perennial graminoid	non-native	-	moderate	FAC
Poaceae	<i>Poa annua</i>	annual bluegrass	annual graminoid	non-native	-	-	FACU
Polygonaceae	<i>Rumex acetosella</i>	sheep sorrel	perennial forb	non-native	-	moderate	FACU
Rosaceae	<i>Rubus ursinus</i>	California blackberry	evergreen shrub	native	-	-	FACU

All species identified using the *Jepson Manual, 2<sup>nd</sup> Edition* (Baldwin et al. 2012) and *Marin Flora* (Howell et al. 2007); nomenclature follows *The Jepson Flora Project* (eFlora 2018) unless otherwise noted

<sup>1</sup>Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2018)

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2A:	Plants presumed extirpated in California, but more common elsewhere
Rank 2B:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

<sup>2</sup>Invasive Status: California Invasive Plant Inventory (Cal-IPC 2006)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

<sup>3</sup>Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Lichvar et al. 2016)

OBL:	Almost always a hydrophyte, rarely in uplands
FACW:	Usually a hydrophyte, but occasionally found in uplands
FAC:	Commonly either a hydrophyte or non-hydrophyte
FACU:	Occasionally a hydrophyte, but usually found in uplands
UPL:	Rarely a hydrophyte, almost always in uplands
NL:	Rarely a hydrophyte, almost always in uplands
NI:	No information; not factored during wetland delineation

---

**From:** Pfeifer, Sara@Coastal <[Sara.Pfeifer@coastal.ca.gov](mailto:Sara.Pfeifer@coastal.ca.gov)>  
**Sent:** Monday, April 15, 2019 3:25 PM  
**To:** Bereket, Immanuel <[IBereket@marincounty.org](mailto:IBereket@marincounty.org)>  
**Subject:** Re: P2228 Bolinas Community Land Trust Overlook Drive project

Hi Manny,

Thank you for your response. I'm so sorry to hear about your colleague's passing.

Based on the revised materials the applicant provided in March, I believe we were satisfied that the best management practices described would help to protect any sensitive species that may be present at the site. I will plan to wait until we receive a hearing notice to review the project plans anew, to ensure that all our concerns about LCP consistency have been addressed.

Best,  
Sara

---

**From:** Bereket, Immanuel <[IBereket@marincounty.org](mailto:IBereket@marincounty.org)>  
**Sent:** Monday, April 15, 2019 11:48 AM  
**To:** Pfeifer, Sara@Coastal  
**Subject:** RE: P2228 Bolinas Community Land Trust Overlook Drive project

Hi Sarah,

I can confirm the County is in receipt of these documents.

The reason we have not posted these online is because Vivian Low, who our media tech, passed away. It has been few weeks since her passing and we are doing all we can to be up to date. As you can imagine, it is not any way task.

Manny

---

**From:** Pfeifer, Sara@Coastal <[Sara.Pfeifer@coastal.ca.gov](mailto:Sara.Pfeifer@coastal.ca.gov)>  
**Sent:** Monday, April 15, 2019 11:45 AM  
**To:** Bereket, Immanuel <[IBereket@marincounty.org](mailto:IBereket@marincounty.org)>  
**Subject:** P2228 Bolinas Community Land Trust Overlook Drive project

Good afternoon Manny,

Attached are the most recent materials provided to us by the applicant. As the planning website seems only to show materials from November 2018, I would like to confirm with you that Planning has received these updated materials and have used them in your review of the project.

Thanks,  
Sara

---

**From:** Sean Kennings <[sean@lakassociates.com](mailto:sean@lakassociates.com)>  
**Sent:** Friday, March 8, 2019 5:07 PM  
**To:** Pfeifer, Sara@Coastal



## Bereket, Immanuel

---

**From:** Pfeifer, Sara@Coastal <Sara.Pfeifer@coastal.ca.gov>  
**Sent:** Wednesday, May 29, 2019 4:48 PM  
**To:** Bereket, Immanuel  
**Subject:** RE: P2228 Bolinas Community Land Trust Overlook Drive project

Hi Manny,

Thank you for requesting comment on Marin CDP P2228. Coastal Commission staff has provided comments to date that capture our concerns with the project, and thus far support the changes made to the project in response to our feedback. I am unsure that further comments would provide any additional insight at this point.

Please let me know if you want to discuss.

Best,  
Sara

---

**From:** Bereket, Immanuel [mailto:IBereket@marincounty.org]  
**Sent:** Thursday, May 23, 2019 1:19 PM  
**To:** Pfeifer, Sara@Coastal  
**Subject:** RE: P2228 Bolinas Community Land Trust Overlook Drive project

Thanks Sarah.

You should have received the attached transmittal for the project you mentioned below. The due date is May 30<sup>th</sup>.

Thanks  
Manny

---

**From:** Pfeifer, Sara@Coastal <[Sara.Pfeifer@coastal.ca.gov](mailto:Sara.Pfeifer@coastal.ca.gov)>  
**Sent:** Thursday, May 23, 2019 1:17 PM  
**To:** Bereket, Immanuel <[IBereket@marincounty.org](mailto:IBereket@marincounty.org)>  
**Subject:** RE: P2228 Bolinas Community Land Trust Overlook Drive project

Hi Manny,

I'll get something to you by the end of next week.

On a separate note, we received a package of materials for 190 Ocean Parkway in Bolinas that did not include a Planning Transmittal. Can you please let me know when you need comments on this project by?

Many thanks,  
Sara

**CALIFORNIA COASTAL COMMISSION**

NORTH CENTRAL COAST DISTRICT OFFICE  
45 FREMONT STREET, SUITE 2000  
SAN FRANCISCO, CA 94105  
PHONE: (415) 904-5260  
FAX: (415) 904-5400  
WEB: WWW.COASTAL.CA.GOV

**RECEIVED****DEC 17 2018**

COUNTY OF MARIN  
COMMUNITY DEVELOPMENT AGENCY  
PLANNING DIVISION

December 11, 2018



Immanuel Bereket  
County Development Agency Planning Division  
3501 Civic Center Drive, Suite 308  
San Rafael, CA 94903

**Subject: Marin County Coastal Development Permit P2228 at 500 Overlook Drive (APNs 192-061-11, -12, & -13), Bolinas, Marin County**

Dear Mr. Bereket,

Thank you for allowing Coastal Commission staff the opportunity to comment on the proposed development at 500 Overlook Drive in Bolinas, Marin County. The requested coastal development permit includes the proposal to consolidate three undeveloped lots, and construct a single family residence with attached junior accessory dwelling unit and a detached accessory dwelling unit. Based upon the project referral, the proposed development appears to be inconsistent with policies in Marin County's certified Local Coastal Program (LCP) for the reasons listed below. In short, approving a coastal development permit raises consistency issues pertaining to wetland and ESHA identification and associated habitat buffers.

**Wetland Identification and Buffers**

The October 2018 WRA biological site assessment report makes reference to both Army Corp of Engineers (ACE), Clean Water Act (CWA), and Coastal Act definitions and regulatory requirements for wetlands. It appears from the language within the report that there may be some confusion regarding appropriate criteria for identifying wetlands.

The report indicates the presence of an agricultural ditch and an emergent wetland, located adjacent to the subject property. According to the report, aerial photographs indicate that the dominance of hydrophytes and extended periods of inundation or saturation may qualify both the ditch and emergent wetlands as seasonal wetlands. The report later notes that a development setback or buffer is not required because the ditch is unlikely to be considered a jurisdictional wetland under the CWA, and also states that only the ACE can determine a wetland using a three parameter survey. The report goes on to describe CCC wetlands criteria, but omits the distinction that only one criterion must be present to meet this definition. The Coastal Act's single parameter definition applies when identifying any wetland located in the Coastal Zone. Thus, it is likely that based on the aerial observations described, the adjacent ditch would be considered a wetland by Coastal Act definition, and further, it is possible that the vicinity between the ditch and emergent wetland may also qualify as wetland.


Finally, the project description includes the statement that the adjacent ditch holds no habitat value. However, the Study Area informing the biological survey did not adequately evaluate the adjacent ditch or emergent wetland (see above), so it remains unclear if the ditch meets the definition of a wetland or if sensitive species are supported by the adjacent ditch or wetland. Likewise, the biological report incorrectly asserts that the Commission broadly exempts drainage ditches from wetland or ESHA status. This exemption does not apply, because over time, man-made features can become habitat for special species.

Site plans provided, dated November 1, 2018, reveal that the greater setbacks have been included for the proposed development since our staff's review of the initial site plans on February 9, 2014. The current project description recommends a 100-foot setback for the emergent wetland adjacent to the property, and a reduced 75-foot setback for the adjacent ditch. LCP policy requires that the wetland buffer include all identified or apparent wetland related resources but in no case shall be less than 100 feet from the subject wetland. The LCP also requires that to the maximum extent feasible, the buffer area shall be retained in a natural condition and development located outside the buffer area. As such, the proposed habitat buffers may not adequately protect coastal resources consistent with LCP requirements. A reconnaissance biological study should 1) confirm the extent of all wetlands on the property based on a 1-parameter definition, 2) assess the potential use of such habitats by sensitive species, and 3) recommend buffers consistent with LCP requirements and best management practices to provide for additional protections of any identified sensitive species that would occur within a 100-foot buffer. Additionally, if the reconnaissance survey reveals that the area in question is in fact wetland, and the applicant proposes to develop within the 100-foot wetland buffer, the project would need to incorporate siting, design, and other mitigation measures to ensure that impacts to wetlands or ESHA are prevented and that habitat values would be maintained.

In short, Coastal Commission staff would recommend that the County require the applicant to provide a reconnaissance survey that includes the areas located within 100 feet of any proposed development, using the Coastal Commission single parameter wetland delineation definition.

If you have any questions regarding these comments, please contact me at [sara.pfeifer@coastal.ca.gov](mailto:sara.pfeifer@coastal.ca.gov) or (415) 904-5255.

Sincerely,



Sara Pfeifer  
North Central Coastal Planner

Cc  
Arianne Darr, applicant representative  
Sean Kennings, applicant representative





# **PLANNING APPLICATION REVIEW**

## **DEPARTMENT OF PUBLIC WORKS**

Inter-office Memorandum - Second Transmittal (revised)

DATE: April 11, 2019

DUE: \_\_\_\_\_

TO: Immanuel Bereket

FROM: Ali Iqbal

APPROVED: *John Wong*

RE: Bolinas Community Land Trust CP

And UP

APN: 192-061-11,12, & 13

ADDRESS: Vacant Lot

### **TYPE OF DOCUMENT**

\_\_\_ DESIGN REVIEW

☒ COASTAL PERMIT

\_\_\_ LAND DIVISION

\_\_\_ VARIANCE

☒ USE PERMIT

\_\_\_ ADU PERMIT

\_\_\_ ENVIRONMENTAL REV.

\_\_\_ OTHER: \_\_\_\_\_

**Department of Public Works Land Use Division  
has reviewed this application for content and:**

☒ Find it **COMPLETE**

\_\_\_ Find it **INCOMPLETE**, please submit items listed below

\_\_\_ Find it **NEEDS SUBSTANTIAL MODIFICATIONS TO CONFORM**

**Comments Included (Inc.) or  
Attached (Att.) from other DPW  
Divisions:**

\_\_\_ Traffic

\_\_\_ Flood Control

\_\_\_ Other: \_\_\_\_\_

**Note to Applicant:** All three lots must be merged to a single lot prior to approval of the building permit.

### **Prior to Issuance of a Building Permit:**

1. **Grading & Drainage Plans:** Provide the following information on the drainage and grading plan:

Add a note on the plans indicating that the plan preparer shall certify to the County in writing upon the completion of work that all grading and drainage improvements were installed in accordance with the approved plans and field direction. Be aware that a DPW Engineer will need to inspect and accept work after receipt of certification letter. Certification letters shall reference building permit number or numbers for specific work being certified, the address of the property and the Assessor's Parcel Number (APN), and shall be signed and stamped by the certifying professional.

**Best Management Practices:**

2. Per Marin County Code § 24.04.625(a)(c)(g)(k), provide a plan indicating construction-phase best management practices (BMPs) include erosion and sediment controls and pollution prevention practices. Erosion control BMPs may include, but are not limited to, scheduling and timing of grading activities, timely re-vegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses, and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Pollution prevention practices may include: designated washout areas or facilities, control of trash and recycled materials, covering of materials stored on-site, and proper location of and maintenance of temporary sanitary facilities. The combination of BMPs used, and their execution in the field, must be customized to the site using up-to-date standards and practices. You may refer to the Marin County Stormwater Pollution Prevention Program's website, <https://www.marincounty.org/~media/files/departments/pw/mcstoppp/development/erosionsediment-control-measures-for-small-construction-projects-2015.pdf?la=en>
3. **Encroachment Permit:** Overlook Drive is a County maintained road. An Encroachment Permit from DPW is required for any work within the County's road right-of-way, including, but not limited to, utility trenching, installation of new utility connections, and modifications to the driveway apron, curb and gutter. The plans shall clearly identify all proposed work in the right of way. If any work is proposed in the right of way, complete and submit an Encroachment Permit Application with your re-submittal during the building permit phase.

-END-

**INTERDEPARTMENTAL TRANSMITTAL**  
**MARIN COUNTY ENVIRONMENTAL HEALTH SERVICES**  
ROOM 236, 473-6907

<b>DATE:</b>	<b>January 30, 2019</b>	<table border="1" style="float:right"><tr><td><b>TYPE OF DOCUMENT</b></td></tr></table>	<b>TYPE OF DOCUMENT</b>
<b>TYPE OF DOCUMENT</b>			
<b>TO:</b>	<b>Immanuel Bereket, Senior Planner</b>	DESIGN REVIEW	
<b>FROM:</b>	<b>Gwendolyn R. Baert, Senior REHS</b>	LAND DIVISION	
<b>RE:</b>	<b>Bolinas Community Land Trust</b>	<b>X USE PERMIT</b>	
	<b>Coastal Permit and Use Permit</b>	VARIANCE	
	<b>Overlook Dr., Bolinas</b>		
<b>AP#:</b>	<b>192-061-11, 12 &amp; 13</b>	MASTER PLAN	
<b>ADDRESS:</b>	<b>Overlook and Poplar</b>	<b>X COASTAL PERMIT</b>	
		LOT LINE ADJ.	
		OTHER	

THIS APPLICATION HAS BEEN REVIEWED FOR THE FOLLOWING ITEMS:
---

WATER	<b>X SEWAGE</b>	SOLID WASTE
POOLS	HOUSING	FOOD ESTABLISHMENT

THIS APPLICATION IS FOUND TO BE:
----------------------------------

FIND IT COMPLETE.

FIND IT INCOMPLETE UNTIL THE ITEMS LISTED BELOW HAVE BEEN SUBMITTED.

**X FIND IT ACCEPTABLE AS PRESENTED, WITH THE FOLLOWING CONDITIONS.**

RECOMMEND DENIAL FOR THE REASONS LISTED BELOW.

**Preliminary septic plans (B16917) for a 7-bedroom design have been submitted by Eckman Environmental Design, Inc., on January 22, 2019 appear to be in substantial compliance with Marin County Environmental Health regulations.**

**The 3 individual lots will be required to be merged prior to septic permit issuance.**

# BOLINAS COMMUNITY PUBLIC UTILITY DISTRICT

BCPUD

BOX 390 270 ELM ROAD BOLINAS CALIFORNIA 94924

415 868 1224



January 25, 2019

Via email: [ibereket@marincounty.org](mailto:ibereket@marincounty.org)

Immanuel Bereket, Senior Planner  
Marin County Community Development Agency  
Planning Division  
Marin County Civic Center, Room 308  
San Rafael, California 94913

Re: Bolinas Community Land Trust Coastal Permit and Use Permit Applications - 430 Aspen Road (P2228) and Vacant Lots on Overlook Road (P2230).

Dear Mr. Bereket:

I am writing on behalf of the Board of Directors of the Bolinas Community Public Utility District ("BCPUD") concerning the above-referenced projects of the Bolinas Community Land Trust ("BCLT") currently pending before the Community Development Agency. As you and I discussed during a brief telephone conversation last week, the BCPUD Board of Directors has a long-standing practice of providing a local forum for Bolinas residents to comment on coastal permit and other development permit applications submitted to the County of Marin. When the BCPUD receives notice of a pending project in its jurisdiction from the County – as it did with regard to the BCLT projects -- the Board typically includes an item on its regular monthly meeting agenda (and notifies nearby residents) to receive public input, which it then passes on to the County.

On January 16, 2019, at its regular monthly meeting the BCPUD Board received public input on the BCLT's projects proposed for 430 Aspen Road and for three vacant lots on Overlook Road. Eight residents were present to speak to this topic, with four expressing concerns and four expressing support for the projects. The Board also received the enclosed letters, all of which express concerns about the projects. One BCPUD director reported that she received a lot of phone calls in support of the BCLT projects and requested that be reflected in the record, as well.

Finally, the BCPUD would like to correct the misperceptions expressed in some of the enclosed letters about the district's so-called "expanded water use permit" process. Despite the best efforts of the BCPUD to explain that this permit process actually *restricts* the amount of water that can be used at a property and is an important tool use by the district to enforce its water moratorium and protect its scarce water supply, the misperceptions persist. As such, the BCPUD Board will consider action to formally change the name of this permit to a "limited water use permit" at its next regularly scheduled meeting in February 2019. Please be assured that all decisions made by the BCPUD Board with regard to water use for the above-referenced BCLT projects (which is strictly limited) were made in accordance with existing policies exactly as they would be for any building project in Bolinas and in full compliance with established rules regarding the water moratorium.

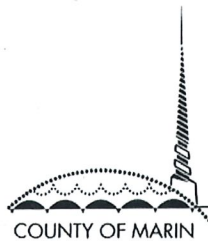
Please contact me if you have any questions or would like to discuss any aspect of this letter.

Very truly yours,

Jennifer Blackman  
General Manager

enclosures





RECEIVED

JUN 24 2019

COUNTY OF MARIN  
COMMUNITY DEVELOPMENT AGENCY  
PLANNING DIVISION

72526  
COMMUNITY DEVELOPMENT AGENCY  
PLANNING DIVISION

PETITION FOR APPEAL

TO: THE MARIN COUNTY Planning Commission  
3501 Civic Center Drive (Planning Commission or Board of Supervisors)  
San Rafael, CA 94903-4157

1. The undersigned, Attorney for Appellants (see attached list-p. 4), hereby files an appeal  
(Appellant/Petitioner)

of the decision issued by the Deputy Zoning Administrator  
(Director, or Deputy Zoning Administrator, or Planning Commission)

regarding the Bolinas Community Land Trust Coastal Permit (Project ID P2228)  
relating to property described and located as follows:

a) Assessor's Parcel Number 192-061-11, 12 and 13

b) Street Address Overlook Drive, Bolinas, CA

2. The basis of this appeal is:

1. Appellants appeal the grant of categorical exemption: Notice is dated June 13, 2019. Grant of categorical exemption is misapplied insofar as California Code of Regulations 15300.2 precludes the determination of categorical exemption, notwithstanding the affordable housing nature of the project. As more particularly described during the hearing of June 13, 2019, and below, cumulative impacts associated with traffic and circulation, headlands, sensitive species, heritage trees, coastal scrub habitat, and disturbance of intact coastal scrub habitat have been ignored. (See Bolinas Community Plan.) In addition, Applicant proposes multiple high-density projects of the same type in the same immediate neighborhood.  
(Continued on attached pages.)

*(The pertinent facts and the basis for the appeal shall be provided to the Agency at the time the appeal is filed, but no later than the last date established for the appeal period – usually 10 days following the date of the decision. If more space is needed, please attach additional pages setting forth the bases for appeal.)*

FROM John E. Sharp, Esq., Attorney for Appellants  
(Print Name)

24 Professional Center Pkay, #110  
(Address)

San Rafael, CA 94903  
(City/State/Zip Code)

  
(Signature)

(415) 479-1645  
(Telephone)

john@johnsharpplaw.com  
(Email)



## PETITION FOR APPEAL

(Continued from paragraph 2, page 1.)

The Project further creates exceptions from CEQA Sec. 15303(a) insofar as it abuts a wetland, thereby violating the current Certified Local Coastal Program as well as the California Coastal Act.

2. Appeal of Project on the Merits: Substantial evidence does not exist to support the findings upon which the approval was based. Neither the approved Resolution nor the record as a whole, states evidence and findings necessary to approve the Project.

In particular, paragraph 4 of the Resolution contains only the type of conclusory language prohibited by *Topanga*. Similarly, paragraph 5 of the Resolution repeatedly states: "This criterion is met", without specific analysis of the so-called evidence to support the statements and findings. Nor does the record, in its entirety, support such statements. According to the principles of *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, they are the exact type of "findings" that are disapproved as lacking substantial evidence, in turn, required pursuant to the provisions of California Code of Civil Procedure 1094.5(b) et seq.

Moreover, the Resolution and action of the Deputy Zoning Administrator fail to recognize the proximity of the Project to a wetland, and the capacity for the density of the Project to generate health and safety impacts in the vicinity of the property. The above prevents approval of the Project on the merits as well as mandates an Initial Study of Environmental Review.

Appellants note that the Applicant and County rely upon recent affordable housing mandates. As an additional basis, Appellants note that nothing in recently amended state law requires or allows a local jurisdiction to abnegate its police powers under the California Constitution. These police powers are afforded to local government to prevent exactly the unaddressed and unmitigated health and safety impacts which will stem from the approval.

3. The Resolution of Approval fails to address principles set forth in the Coastal Permit Sec.(s) of the Countywide Plan and Code of the California Coastal Act as follows:

(a) There is no substantial evidence that sufficient water supply is available for a project of this density. Furthermore, there is no evidence that the proposed septic system complies with Marin County Environmental Health Regulations, notwithstanding the unsupported statement in the Resolution to the contrary.

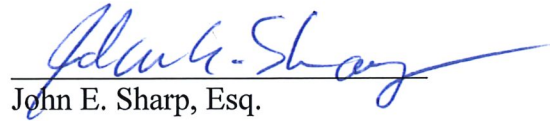
(b) Stream and Wetland Resource Protection are not achieved under the current application. The Project's proximity to a recognized wetland constrains use at the density proposed. The illustration set forth in the design referenced in the Resolution does not recognize that the wetland lies within the so-called 100 foot setback.

(c) Appellants have submitted a record that there are, indeed, native plant communities. Appellants note that the Project site is, prior to the filing of the Petition, disturbed by heavy construction equipment at the hands of Applicant, such that any determination regarding native plants and habitat is skewed. Again, the so-called finding is empty under the criteria set forth in, without limitation, *Topanga*, above.

(d) No attention whatsoever has been given to the impact of traffic and circulation associated with a project of the proposed density. As such, required findings that the Project would not materially affect adversely those residing or working in the area cannot be made.

Appellants incorporate by reference all correspondence submitted in conjunction with the hearing held on June 13, 2019 regarding this appeal.

Appellants reserve the right to supplement this appeal, as appropriate, up to and including time of hearing. Please provide the undersigned with any notices, agendas, staff reports, or other communications to the appeal and Project.

  
John E. Sharp, Esq.

## **PETITION FOR APPEAL**

**(Attachment, page 4)**

### **Names of Appellants:**

Mesa United in Support of Solutions for Equitable Land-Use (M.U.S.S.E.L.), an association of Bolinas community members, including the following individuals:

Gerard Aglioni  
James Barnhardt  
Mary Bates Abbott  
Jim Guthrie  
Terry Guthrie  
Colleen Hicks  
Hilary Hedden  
Greg King  
Polly Levin  
Eugenia McNaughton  
Gary Page  
Malcolm Ponder  
Cindi Rich  
Rob Rich  
Nancy Sweet

CALIFORNIA  
COASTAL COMMISSION

STATEWIDE  
INTERPRETIVE GUIDELINES

These Statewide Interpretive Guidelines were adopted by the California Coastal Commission pursuant to Public Resources Code Section 30620 (b) and are "designed to assist local governments, the commission, and persons subject to the provisions of this chapter in determining how the policies of this division shall be applied in the coastal zone prior to certification of local coastal programs."

The guidelines should assist in applying various Coastal Act policies to permit decisions; they in no case supersede the provisions of the Coastal Act nor enlarge or diminish the powers or authority of the Commission or other public agencies.

Interpretive guidelines for the six districts are published separately.

AS OF DECEMBER 16, 1981

(SUPERSEDES MAY 5, 1981 EDITION)

(SECTIONS RESCINDED June 13, 2000 as NOTED)

STATEWIDE INTERPRETIVE GUIDELINE FOR WETLANDS  
AND OTHER WET ENVIRONMENTALLY SENSITIVE HABITAT AREAS

(Adopted 2/4/81) (Sections  
Rescinded 6/13/00)

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STATEWIDE INTERPRETIVE GUIDELINE FOR WETLANDS AND OTHER WET ENVIRONMENTALLY SENSITIVE HABITAT AREAS (Adopted 2/4/81)

I. INTRODUCTION

The Commission adopted this guideline as a decision of the Commission after receiving extensive public testimony and comments and holding ten public hearings at numerous locations in the coastal zone. In addition, the Regional Commissions provided valuable comments and information as a result of an approximately equal number of hearings which they held. Guidelines should be viewed as a tool in reviewing coastal permit applications and LCPs for wetlands and adjacent areas. The Commission intends local governments to use the guideline when developing LCPs but believes that more flexibility may be appropriate in an LCP than in an individual permit decision. Guidelines of necessity must focus on issues primarily of statewide concern. The LCPs will focus in depth on regional wetlands issues. For example, the Humboldt County Northcoast Area Land Use Plan addressed farmed wetlands in detail, a subject only footnoted in this guideline. It adopted explicit criteria for identifying farmed wetlands and designated the areas exclusive agriculture. The Commission certified the LUP as consistent with the policies of Chapter 3, even though such specific criteria are not contained or endorsed in this guideline. This example illustrates that the guideline is a valuable tool, but only a tool, to be used in conjunction with permit and planning decisions.

A. What Are "Wetlands"?

The Coastal Act defines wetlands as land "which may be covered periodically or permanently with shallow water." Wetland areas, such as marshes, mudflats and lagoons, serve many functions: to absorb pollutants and storm energy; to serve as nutrient sources and genetic reservoirs; and to provide some of the world's richest wildlife habitats.

Wetlands are highly diverse and productive. The combination of shallow and deep water, and the variety of vegetation and substrates produce far greater possibilities for wildlife feeding, nesting and resting than is found in less diverse areas. Individual wetlands may be inhabited by hundreds of species of birds, mammals, fish and smaller organisms. Abundant microorganisms serve as food for crabs, clams, oysters, and mussels which live in the tidal flats.

Wetlands' natural abundance draws people for recreation such as clamming, bird watching and fishing. Fish such as the king and silver salmon and steelhead trout live much of their lives in the ocean but return to freshwater to spawn. Commercially important fish such as herring, anchovy and California halibut are also found in California's estuaries.

Food for ocean fauna is supplied from California's coastal estuaries. Estuarine productivity therefore contributes to a complex ocean food web. For example, a significant amount of the net areal primary productivity of the Tijuana Estuary is exported in the form of dissolved carbon which can be taken up and used by oysters, bacteria and phytoplankton, which may in turn be eaten by other creatures. Perhaps more importantly, estuaries provide habitat for organisms to use that food, therefore making these habitats important for man, for example, as aquaculture sites.



Migratory animals feed and rest in California's coastal wetlands in large enough numbers to make the wetlands invaluable habitat areas. Most waterfowl and shorebirds found in North America, such as ducks, geese, sandpipers, and dunlins, are migratory. They nest in Alaska or Canada in the summer, and winter in the U.S. or points south. During the fall and spring migrations, millions of these birds move along well-defined routes called flyways. The California coast, part of the Pacific Flyways, was assigned third highest priority (out of a total of 33 areas nationally) for wintering habitat preservation by the U.S. Fish and Wildlife Service.

Wetlands also serve as rich laboratories for ecological studies.

#### B. How the Coastal Act Protects Wetlands

Since wetlands are so valuable from both an economic and biologic standpoint, the California Coastal Act, and many other Federal and state statutes and regulations, mandates governmental regulation of these areas. Section 30001 of the Coastal Act states (in part) that the Legislature finds and declares as follows: that the California coastal zone is a distinct and valuable resource and exists as a delicately balanced ecosystem; that the permanent protection of the state's natural resources is of paramount concern to present and future residents of the state and the nation; and that it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction. Therefore, the Act requires that the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes be maintained and, where feasible, restored. Sections of the Act provide general policies for development in and adjacent to wetlands, and specific policies for protecting these areas.

In order to apply Coastal Act policies on wetlands to specific areas and developments, the Commission has adopted this interpretive guideline. The guideline integrates ecological concepts and policies found in many sections of the Act into a consistent whole, explains policies for protecting natural resources, defines technical terms, and facilitates application of the policies by the State and regional commissions. Since many of the natural resource policies in the Coastal Act overlap, this guideline distinguishes the relative importance of the policies and their interrelationships. Statutory provisions which govern all environmentally sensitive habitat areas are laid out and specific development standards and criteria are explained for particular habitat areas (e.g., wetlands, estuaries, open coastal waters, lakes and streams).

Wetlands are not isolated, independently functioning systems, and they depend upon and are highly influenced by their surroundings. Therefore, the guideline includes standards for the review and evaluation of proposed projects adjacent to environmentally sensitive habitat areas.

The State Department of Fish and Game is the authorized custodian of California's fish and wildlife resources and serves as the Commission's principal consultant on all matters related to these resources. This responsibility includes but is not limited to: determination of project impacts; adequacy of technical data; and identification of appropriate mitigation or restoration measures for affected habitat.



C. Use of the Guideline and Its Relationship to LCPs

This guideline is meant to assist the public and the Commissions in applying Coastal Act policies for wet environmentally sensitive habitat areas and is in no way meant to supersede those policies. The guideline should be viewed as a tool in reviewing coastal permit applications and LCPs for wetlands and adjacent areas as explained above.

The question of the relationship between interpretive guidelines and Local Coastal Programs (LCPs) has been hotly debated and underscores the importance of developing a comprehensive, consistent approach to these valuable coastal areas, but the LCPs (such as Humboldt County example discussed above) become the standard of review after certification. This guideline is a decision of the Commission, and therefore, it does serve as a tool or guide to local governments in preparing their LCPs as specified in Section 30625 (c) of the Act and in Section 00113 of the LCP Regulations.

II. WHAT ARE "ENVIRONMENTALLY SENSITIVE HABITAT AREAS"?

The Coastal Act defines "environmentally sensitive area" in Section 30107.5 as follows:

"'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."

The term "environmentally sensitive habitat area" is also used in Section 30240 of the Coastal Act. The two terms are synonymous.

The Commission generally considers wetlands, estuaries, streams, riparian habitats, lakes and portions of open coastal waters to be environmentally sensitive habitat areas because of the especially valuable role of these habitat areas in maintaining the natural ecological functioning of many coastal habitat areas and because these areas are easily degraded by human developments. In acting on an application for development one of these areas, the Commission considers all relevant information. The following specific policies apply to these habitat areas: Sections 30230; 30231; 30233; and 30236. Section 30240, a more general policy, also applies, but the more specific language in the former sections is controlling where conflicts exist with general provisions of Section 30240 (e.g., port facilities may be permitted in wetlands under Section 30233 even though they may not be resource dependent). This guideline addresses wet environmentally sensitive habitat areas only. The discussion in this section and in section VII is not intended to describe or include all environmentally sensitive habitat areas which may fall under Section 30240 of the Coastal Act.

As stated in the "INTRODUCTION," wetlands are not isolated, independently functioning systems. Rather, they depend upon and are highly influenced by their associated watersheds and upland transition areas. Therefore, when the Commission determines that any adjacent area is necessary to maintain the functional capacity of the wetland, the Commission will require that this area be protected against any significant disruption of habitat values consistent with Section 30240(a). These areas may be protected either by inclusion in a buffer area subject to land use restrictions or through provision of a buffer area around the ecological related adjacent area itself, or through other means. Section VII of this guideline discusses the use of buffers.

A. "Wetlands"

The Coastal Act defines "wetland" in Section 30121 as follows:

"'Wetland' means 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."

This is the definition upon which the Commission relies to identify "wetlands." The definition refers to lands "...which may be periodically or permanently covered with shallow water ..." However, due to highly variable environmental conditions along the length of the California coast, wetlands may include a variety of different types of habitat areas. For this reason, some wetlands may not be readily identifiable by simple means. In such cases, the Commission also will rely on the presence of hydrophytes and/or the presence of hydric soils as evidence that an area may be periodically or permanently covered with shallow water. These are useful indicators of wetland conditions, but the presence or absence of hydric soils and/or hydrophytes alone are not necessarily determinative when the Commission identifies wetlands under the Coastal Act. In the past, the Commission has considered all relevant information in making such determinations and relied upon the advice and judgement of experts before reaching its own independent conclusion as to whether a particular area will be considered wetland under the Coastal Act. The Commission intends to continue to follow this policy. The discussion in "APPENDIX D" provides more detail and further guidance on wetland identification.

B. "Estuaries"

An "estuary" is a coastal water body usually semi-enclosed by land, but which has open, partially obstructed, or intermittent exchange with the ocean and in which ocean water is at least occasionally diluted by fresh water runoff from the land. The salinity may be periodically increased above the open ocean by evaporation. In general, the boundary between "wetland" and "estuary" is the line of extreme low water (see Appendix D for a more complete discussion of wetland/estuary boundaries).

C. "Streams" and "Rivers"

A "stream or a "river" is a natural watercourse as designated by a solid line or dash and three dots symbol shown on the United States Geological Survey map most recently published, or any well-defined channel with distinguishable bed and bank that shows evidence of having contained flowing water as indicated by scour or deposit of rock, sand, gravel, soil, or debris.

D. "Lakes"

A "lake" is a confined, perennial water body mapped by the United States Geologic Survey on the most current 7.5 minute quadrangle series.

E. "Open Coastal Waters" and "Coastal Waters"

The terms "open coastal waters" or "coastal waters" refer to the open ocean overlying the continental shelf and its associated coastline. Salinities exceed 30 parts per thousand with little or no dilution except opposite mouths of estuaries (see Appendix D).

Some portions of open coastal waters, generally areas without especially significant plant or animal life, may not be considered environmentally sensitive habitat areas. Environmentally sensitive habitat areas within open coastal waters may include "Areas of Special Biological Significance" as identified by the State Water Resources Control Board, habitats of rare or endangered plant and animal species, nearshore reefs, rocky intertidal areas (such as tidepools), and kelp beds.

F. "Riparian Habitats"

A "riparian habitat" is an area of riparian vegetation. This vegetation is an association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other bodies of fresh water (see Appendix D).

III. WHEN IS DEVELOPMENT PERMITTED IN AN ENVIRONMENTALLY SENSITIVE HABITAT AREA?

"Development" is defined in Section 30106 of the Coastal Act, and includes the placement of fill; construction or alteration of any structure or facility; discharge of any waste material; dredging or extraction of any materials; change in the density or intensity of use of land; removal or harvest of major vegetation except for agricultural purposes; and other alterations to the land and water in the coastal zone (see Appendix A).

APPENDIX D. TECHNICAL CRITERIA FOR IDENTIFYING AND MAPPING WETLANDS AND OTHER WET ENVIRONMENTALLY SENSITIVE HABITAT AREAS

The purpose of this discussion is to provide guidance in the practical application of the definition of "wetland" contained in the Coastal Act. The Coastal Act definition of "wetland" is set forth in Section 30121 of the Act which states:

SEC. 30121

"Wetland" means 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.

This is the definition upon which the Commission relies to identify "wetlands." The definition refers to lands ". . . which may be periodically or permanently covered with shallow water . . . ." However, due to highly variable environmental conditions along the length of the California coast, wetlands may include a variety of different types of habitat areas. For this reason, some wetlands may not be readily identifiable by simple means. In such cases, the Commission will also rely on the presence of hydrophytes and/or the presence of hydric soils. The rationale for this in general is that wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. For this reason, the single feature that most wetlands share is soil or substrate that is at least periodically saturated with or covered by water, and this is the feature used to describe wetlands in the Coastal Act. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil, and therefore only plants adapted to these wet conditions (hydrophytes) could thrive in these wet (hydric) soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal Act, but they are not the sole criteria. In some cases, proper identification of wetlands will require the skills of a qualified professional.

The United States Fish and Wildlife Service has officially adopted a wetland classification system\* which defines and classifies wetland habitats in these terms. Contained in the classification system are specific biological criteria for identifying wetlands and establishing their upland limits. Since the wetland definition used in the classification system is based upon a feature identical to that contained in the Coastal Act definitions, i.e., soil or substrate that is at least periodically saturated or covered by water, the Commission will use the

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\* "Classification of Wetlands and Deep-Water Habitats of the United States." By Lewis M. Cowardin, et al, United States Department of the Interior, Fish and Wildlife Service, December 1979.

classification system as a guide in wetland identification. Applying the same set of biological criteria consistently should help avoid confusion and assure certainty in the regulatory process. This appendix discusses the adaptation of this classification system to the Coastal Act definition of "wetland" and other terms used in the Act, and will form the basis of the Commission's review of proposals to dike, fill or dredge wetlands, estuaries or other wet habitat areas.

I. U.S. Fish and Wildlife Classification System: Upland/Wetland/Deep-water Habitat Distinction

The United States Fish and Wildlife Service classification is hierarchical, progressing from systems and subsystems, at the most general levels, to classes, subclasses, and dominance types. The term "system" refers here to a complex of wetland and deep-water habitats that share the influence of one or more dominant hydrologic, geomorphologic, chemical, or biological factors.

The Service provides general definitions of wetland and deep-water habitat and designates the boundary between wetland and deep-water habitat and the upland limit of a wetland. The following are the Services' definitions of wetland and deep-water habitats:

A. Wetlands

"Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Wetlands as defined here include lands that are identified under other categories in some land-use classifications. For example, wetlands and farmlands are not necessarily exclusive. Many areas that we define as wetlands are farmed during dry periods, but if they are not tilled or planted to crops, a practice that destroys the natural vegetation, they will support hydrophytes.\*

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\* For the purposes of identifying wetlands using the technical criteria contained in this guideline, one limited exception will be made. That is, drainage ditches as defined herein will not be considered wetlands under the Coastal Act. A drainage ditch shall be defined as a narrow (usually less than 5-feet wide), unmade nontidal ditch excavated from dry land.

Drained hydric soils that are now incapable of supporting hydrophytes because of a change in water regime are not considered wetlands by our definition. These drained hydric soils furnish a valuable record of historic wetlands, as well as an indication of areas that may be suitable for restoration.

The upland limit of wetland is designated as (1) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover; (2) the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or (3) in the case of wetlands without vegetation or soil, the boundary between land that is flooded or saturated at some time each year and land that is not."

Wetlands should be identified and mapped only after a site survey by a qualified botanist, ecologist, or a soil scientist (See section III. B. of the guideline for a list of required information)\*.

#### B. Deepwater Habitats

"Deepwater habitats are permanently flooded lands lying below the deepwater boundary of wetlands. Deepwater habitats include environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live, whether or not they are attached to the substrate. As in wetlands, the dominant plants are hydrophytes; however, the substrates are considered nonsoil because the water is too deep to support emergent vegetation (U. S. Soil Conservation Service, Soil Survey Staff 1975)."

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\* Further details regarding the standards and criteria for mapping wetlands using the Service's classification system may be found in the following, "Mapping Conventions of the National Wetland Inventory," (undated), published by the U.S.F.W.S. The document may be obtained from the U.S.F.W.S., Regional Wetland Coordinator, Region 1, Portland, Oregon.

"The boundary between wetland and deep-water habitat in the Marine and Estuarine Systems (i.e., areas subject to tidal influence) coincides with the elevation of the extreme low-water of spring tide (ELWS); permanently flooded areas are considered deep-water habitats in these systems. The boundary between wetland and deep-water habitat in the Riverine, Lacustrine and Palustrine Systems lies at a depth of 2m (6.6 ft.) below low-water; however, if emergents, shrubs or trees grow beyond this depth at any time, their deep-water edge is the boundary."

## II. Wetland/Estuary/Open Coastal Water Distinction

For the purposes of mapping "wetlands" under the Coastal Act's definition of wetlands, and of mapping the other wet environmentally sensitive habitat areas referred to in the Act, including "estuaries," "streams," "riparian habitats," "lakes" and "open coastal water," certain adaptations of this classification system will be made. The following is a discussion of these adaptations.

"Wetland," as defined in Section 30121 of the Coastal Act, refers to land covered by "shallow water," and the examples given in this section include fresh, salt and brackish water marshes, mudflats and fens. A distinction between "wetland" and the other habitat areas in the Act, for example, "estuary," must be made because the Act's policies apply differently to these areas, and because the Act does not define some of these terms (such as "estuary"). A reasonable distinction can be made between "wetland" and "estuary" on the basis of an interpretation of the phrase "shallow water." Using the service's classification system, "shallow water" would be water that is above the boundary of deep-water habitat, which would be the line of extreme low-water of spring tide\* for areas subject to tidal influence and 2 meters for non-tidal areas. Therefore, wetland begins at extreme low-water of spring tide and "estuary" or "open coastal water" is anything deeper. The Coastal Act definition of "wetlands" would include the wetland areas of Estuarine, Palustrine, and Lacustrine ecological systems defined by the Fish and Wildlife classification system.

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\* While the Service's classification system uses "extreme low-water of spring tide" as the datum to distinguish between "shallow-water" and "deep-water habitat," such datum is not readily available for the California coast. Therefore, the lowest historic tide recorded on the nearest available tidal bench mark established by the U. S. National Ocean Survey should be used as the datum.

Data for such bench marks are published separately for each station in loose-leaf form by the National Ocean Survey, Tideland Water Levels, Datum and Information Branch, (C23), Riverdale, MD 20840. These compilations include the description of all bench marks at each tide station (for ready identification on a ground), and their elevations above the basic hydrographic or chart datum for the area, which is mean lower low-water on the Pacific coast. The date and length of the tidal series on which the bench-mark elevations are based are also given.

For the purposes of the Coastal Act, an "estuary" is a coastal water body usually semi-enclosed by land, but which has open, partially obstructed, or intermittent exchange with the open ocean and in which ocean water is at least occasionally diluted by fresh water runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation.

"Open coastal water" or "coastal water" as used in the Act refers to the open ocean overlying the continental shelf and its associated coastline with extensive wave action. Salinities exceed 30 parts per thousand with little or no dilution except opposite mouths of estuaries.

### III. Wetland/Riparian Area Distinction

For the purpose of interpreting Coastal Act policies, another important distinction is between "wetland" and "riparian habitat." While the Service's classification system includes riparian areas as a kind of wetland, the intent of the Coastal Act was to distinguish these two areas. "Riparian habitat" in the Coastal Act refers to riparian vegetation and the animal species that require or utilize these plants. The geographic extent of a riparian habitat would be the extent of the riparian vegetation. As used in the Coastal Act, "riparian habitat" would include the "wetland" areas associated with Palustrine ecological systems as defined by the Fish and Wildlife Service classification system.

Unfortunately, a complete and universally acceptable definition of riparian vegetation has not yet been developed, so determining the geographic extent of such vegetation is rather difficult. The special case of determining consistent boundaries of riparian vegetation along watercourses throughout California is particularly difficult. In Southern California these boundaries are usually obvious; the riparian vegetation grows immediately adjacent to watercourses and only extends a short distance away from the watercourse. In Northern California, however, the boundaries are much less distinct; vegetation that occurs alongside a stream may also be found on hillsides and far away from a watercourse.

For the purposes of this guideline, riparian vegetation is defined as that association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other freshwater bodies. Riparian plant species and wetland plant species either require or tolerate a higher level of soil moisture than dryer upland vegetation, and are therefore generally considered hydrophytic. However, riparian vegetation may be distinguished from wetland vegetation by the different kinds of plant species. At the end of this appendix, lists are provided of some wetland hydrophytes and riparian hydrophytes. These lists are partial, but give a general indication of the representative plant species in these habitat areas and should be sufficient to generally distinguish between the two types of plant communities.

The upland limit of a riparian habitat, as with the upland limit of vegetated wetlands, is determined by the extent of vegetative cover. The upland limit of riparian habitat is where riparian hydrophytes are no longer predominant.



As with wetlands, riparian habitats should be identified and mapped only after a site survey by a qualified botanist, freshwater ecologist, or soil scientist.\* (See pp. 6-9 of the guideline for a list of information which may be required of the applicant).

#### IV. Vernal Pools

Senate Bill No. 1699 (Wilson) was approved by the Governor on September 13, 1980 and the Bill added Section 30607.5 to the Public Resources Code to read:

30607.5. Within the City of San Diego, the commission shall not impose or adopt any requirements in conflict with the provisions of the plan for the protection of vernal pools approved and adopted by the City of San Diego on June 17, 1980, following consultation with state and federal agencies, and approved and adopted by the United States Army Corps of Engineers in coordination with the United States Fish and Wildlife Service.

The Commission shall adhere to Section 30607.5 of the Public Resources Code in all permit and planning matters involving vernal pools within the City of San Diego.

All vernal pools located within the city of San Diego in the coastal zone are depicted on a map attached as Exhibit 1 to a letter from Commission staff to Mr. James Gleason, City of San Diego (4/29/80). While "vernal pool" is a poorly defined regional term, all information available to the Commission suggests that all vernal pools in the coastal zone are located in the City of San Diego. It is important to point out, however, that vernal pools are distinct from vernal ponds and vernal lakes, which exist in other parts of the coastal zone (e.g. Oso Flaco Lakes in San Luis Obispo County). The Commission generally considers these habitat areas to be wetlands for the purposes of the Coastal Act, and therefore all applicable sections of the Coastal Act will be applied to these areas.

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\* Identification of riparian habitat areas in Northern California presents peculiar difficulties. While in Southern California riparian vegetation generally occurs in a narrow band along streams and rivers, along the major rivers in Northern California it may be found in broad floodplains, abandoned river channels and the bottoms adjacent to the channels. In forested areas, the overstory of riparian vegetation may remain similar to the adjacent forest but the understory may contain a variety of plant species adapted to moist or wet substrates. For example, salmonberry, bayberry, willow, twinberry and lady fern, may all be more common in the understory of riparian habitat areas than in other types of forest habitat areas.

V. Representative Plant Species in Wetlands and Riparian Habitat Areas

This is a list of "representative" species that can be expected to be found in the various habitat areas indicated. Not all of them will be found in all areas of the State, and there are numerous others that could be included. However, this list should suffice to generally distinguish between these types of plant communities.

A. Salt Marsh

Pickleweed (Salicornia virginica)  
Glasswort (S. subterminalis)  
Saltgrass (Distichlis spicata)  
Cordgrass (Spartina foliosa)  
Jaumea (Jaumea carnosa)  
Saltwort (Batis maritima)  
Alkali heath (Frankenia grandifolia)  
Salt cedar (Monanthochloe littoralis)  
Arrow grass (Triglochin maritimum)  
Sea-blite (Suaeda californica var pubescens)  
Marsh rosemary (Limonium californicum var mexicanum)  
Gum plant (Grindelia stricta)  
Salt Marsh fleabane (Pluchea purpurescens)

B. Freshwater Marsh

Cattails (Typha spp.)  
Bulrushes (Scirpus spp.)  
Sedges (Carex spp.)  
Rushes (Juncus spp.)  
Spikerush (Heleocharis palustris)  
Pondweeds (Potamogeton spp.)  
Smartweeds (Polygonum " . )  
Water lilies (Nuphar spp.)  
Buttercup (Ranunculus aquatilis)  
Water-cress (Nasturtium officinale)  
Bur-reed (Sparganium eurycarpum)  
Water parsley (Vernanthe sarmentosa)  
Naiads (Na .)

C. Brackish Marsh

Alkali bulrush (Scirpus robustus)  
Rush (Juncus balticus)  
Brass buttons (Cotula coronopifolia)  
Fat-hen (Atriplex patula var hastata)  
Olney's bulrush (Scirpus olneyi)  
Common tule (Scirpus acutus)  
Common reed (Phragmites communis)

D. Riparian

Willows (Salix spp.)  
Cottonwoods (Populus spp.)  
Red alder (Alnus rubra)  
Box elder (Acer negundo)  
Sycamore (Platanus racemosa)  
Blackberry (Rubus vitifolia)  
So. Black walnut (Juglans californica) (So. Calif.)  
California Bay (Umbellularia californicum) (So. Calif.)  
Bracken fern (Pteris aquilinum) (Cen. Calif.)  
Current (Ribes spp.)  
Twinberry (Lonicera involucrata) (No. Calif.)  
Lady fern (Athyrium felix-femina)  
Salmonberry (No. Calif.)  
Bayberry (No. Calif.)

E. Vernal Pools

Downingia (Downingia sp.)  
Meadow-foxtail (Alopecurus howellii)  
Hair Grass (Deschampsia danthonioides)  
Quillwort (Isoetes sp.)  
Meadow-foam (Limnanthes sp.)  
Pogogyne (Pogogyne sp.)  
Flowering Quillwort (Lilaea scilloides)  
Cryptantha (Cryptantha sp.)  
Loosestrife (Lythrum hyssopifolium)  
Skunkweed (Navarretia sp.)  
Button-celery (Eryngium sp.)  
Orcutt-grass (Orcuttia sp.)  
Water-starwort (Callitriche sp.)  
Waterwort (Elatine sp.)  
Woolly-heads (Psilocarpus sp.)  
Brodiaea (Brodiaea sp.)  
Tillaea (Crassula aquatica)