

APPENDIX B

SITE INVENTORY & CONSTRAINTS ASSESSMENT



October 10, 2014

Christine Reed
Office of Cheryl Barton
146 Eleventh Street
San Francisco, CA 94103

Re: Site Inventory and Constraints Assessment, McNears Beach Park, Marin County, California

Dear Ms. Reed:

The purpose of this Site Inventory and Constraints Assessment is to provide an overview of the site ecology, vegetation, species diversity, soils, drainage patterns, and sensitive cultural resources that are present at McNears Beach Park. This information is intended to help guide the planning process for the McNears Beach Park Master Plan that is currently being prepared for Marin County Parks and will also be used in the environmental analysis for the Master Plan pursuant to the California Environmental Quality Act (CEQA). Based on our review of existing information available for the park, as well as preliminary Master Plan design input, this assessment identifies the potential need for additional technical studies and surveys that may be required in order to implement the Master Plan, as well as the adequacy of existing information to support the project's environmental review. Potentially applicable federal, state, and County of Marin regulations and policies that may affect the Master Plan process are also provided in this assessment as well as an Environmental Constraints Map.

Existing Conditions of Project Area

The site is located at 201 Cantera Way, Marin County, California. The project site is bounded to the north by China Camp State Park; to the west by private residential property and the San Rafael Rock Quarry property; to the south by the San Rafael Rock Quarry property; and to the east by San Pablo Bay (Figure 1). Figure 2 shows an aerial of the project site. Site facilities include a swimming pool, snack bar, sand volleyball courts, several group picnic areas of varying size, expansive turf areas, and tennis courts. The pool and the snack bar operate during the summer season only.

The narrow, bayside beach offers general beach recreation and carry-in boat access for kayaks and canoes. McNears Beach Park is a designated "trailhead" on the San Francisco Bay Area Water Trail. The project site has ADA compliant parking, restroom and pier access. McNears Beach Park is staffed by rangers and seasonal park staff every day. There is also a Resident Park Ranger who lives on-site.

Marin County Environmental Health Services (EHS) monitors ocean, bay, and freshwater sites in Marin County. McNears Beach Park is one of 28 sites that are sampled once a week from April 1 through October 31 to determine if a beach meets California water quality standards for recreational water contact. The EHS works cooperatively with Marin County Parks to collect water samples and post advisory signage as needed at the sampling sites.

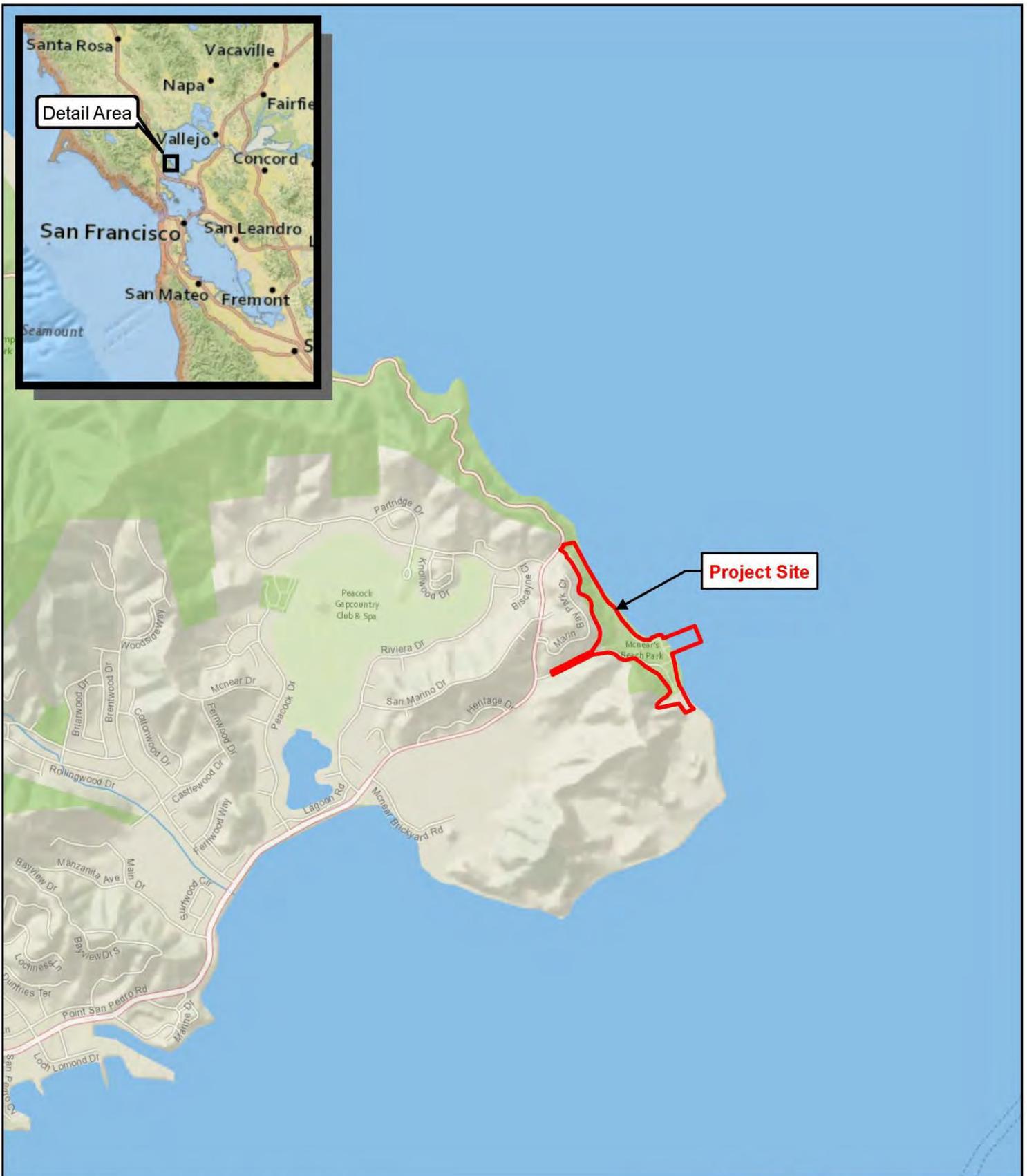
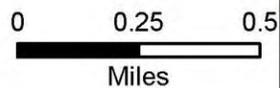


Figure 1. Project Site Location Map

McNear's Beach County Park Master Plan
 San Rafael, California



Map Date: September 2014
 Map By: JH
 Base Source: ESRI/National Geographic

McNears Beach
County Park
Master Plan

San Rafael, California

Figure 2.

Aerial of the Project
Site



0 100 200 400
Feet

Legend

 Project Site Boundary

Map Date: September 2014
Map By: JH
Base Source: ESRI

Regulatory Background

Local Plans, Policies, and Regulations

The Master Plan is subject to the environmental protection policies of the Marin Countywide Plan. The Countywide Plan serves as the general plan for the unincorporated areas of the County and contains goals, policies, and programs that govern existing and future development. Land use designations and development of the project site is further governed by the Marin County Code, including Title 22 (Zoning), Title 23 (Natural Resources) and Title 24 (Development Standards).

MARIN COUNTY CODE

TITLE 22- DEVELOPMENT CODE; Chapter 22.27- Native Tree Protection and Preservation
Section 22.27.040 (k) - Exemption to the Prohibition of Removal of a Protected Tree states that the project proponent must demonstrate that the tree removal is by a public agency to provide for the routine management and maintenance of public land.

TITLE 23- NATURAL RESOURCES

The provisions of Title 23 are enacted to protect and promote the public health, safety and general welfare, to preserve environmental qualities, and to protect the value, worth and enjoyment of the use of real property to the fullest extent possible, through the regulation of the uses or activities of the property in a manner which will prevent serious public injury.

MARIN COUNTY GENERAL PLAN

Water Resources Policies

WR-2.2: Reduce Pathogen, Sediment, and Nutrient Levels. Support programs to maintain pathogen and nutrient levels at or below target levels set by the Regional Water Quality Control Board, including the efforts of ranchers, dairies, agencies, and community groups to address pathogen, sediment, and nutrient management in urban and rural watersheds.

WR-2.3: Avoid Erosion and Sedimentation. Minimize soil erosion and discharge of sediments into surface runoff, drainage systems, and water bodies. Continue to require grading plans that address avoidance of soil erosion and on-site sediment retention. Require developments to include on-site facilities for the retention of sediments, and, if necessary, require continued monitoring and maintenance of these facilities upon project completion.

WR-2.4: Design County Facilities to Minimize Pollutant Input. Design, construct, and maintain County buildings, landscaped areas, roads, bridges, drainages, and other facilities to minimize the volume of toxics, nutrients, sediment, and other pollutants in stormwater flows, and continue to improve road maintenance methods to reduce erosion and sedimentation potential.

Noise Policies

NO-1.1: Limit Noise from New Development. Direct the siting, design, and insulation of new development to ensure that acceptable noise levels are not exceeded.

Hazards Policies

EH-3.2: Retain Natural Conditions. Ensure that flow capacity is maintained in stream channels and floodplains, and achieve flood control using biotechnical techniques instead of storm drains, culverts, riprap, and other forms of structural stabilization.

Aesthetics Polices

DES-4.1: Preserve Visual Quality. Protect scenic quality and views of the natural environment — including ridgelines and upland greenbelts, hillsides, water, and trees — from adverse impacts related to development.

Biological Resources Polices

BIO-2.7: Protect Sensitive Coastal Habitat. Protect coastal dunes, streams, and wetlands, and sensitive wildlife habitat from development in accordance with coastal resource management standards in the development code.

BIO-1.3: Protect Woodlands, Forests, and Tree Resources. Protect large native trees, trees with historical importance; oak woodlands; healthy and safe eucalyptus groves that support colonies of monarch butterflies, colonial nesting birds, or known raptor sites; and forest habitats. Prevent the untimely removal of trees through implementation of standards in the Development Code and the Native Tree Preservation and Protection Ordinance. Encourage other local agencies to adopt tree preservation ordinances to protect native trees and woodlands, regardless of whether they are located in urban or undeveloped areas.

San Francisco Bay and Shoreline Band

The San Francisco Bay Conservation and Development Commission (BCDC) has regulatory jurisdiction, as defined by the McAteer-Petris Act, over San Francisco Bay (Bay), including San Pablo Bay, and its shoreline (the Shoreline Band), which generally consists of the area between the Bay shoreline and a line 100 feet landward of and parallel to the shoreline. In the northern end of the project site, natural, sandy beach is present. Any part of this beach that is below the mean high water line would be considered part of the Bay. The remaining eastern boundary of the project site is primarily unvegetated, riprapped shoreline, and anything landward of this boundary is not considered part of the Bay. However, the fishing pier extends into the Bay from the riprap shoreline and is thus potentially jurisdictional by BCDC. The eastern part of the park is part of the Shoreline Band. Though this 100-foot-wide zone is primarily composed of what would otherwise be considered non-sensitive biological communities, everything in it is potentially within BCDC jurisdiction. The U.S. Army Corps of Engineers (Corps) also has jurisdiction below the high tide line, which in this case includes parts of the beaches and riprap shoreline, as well as the fishing pier.

County of Marin Protected and Heritage Trees

Under the County of Marin NTPPO, certain tree species with diameters ranging from a minimum of 6 to 10 inches at breast height, depending on the species, are considered Protected or Heritage trees and may require a permit for removal. During the September 2, 2014 site visit by WRA biologists, several trees were observed at the project site that may meet the size requirements of the NTPPO. However, measurements were not recorded. A certified arborist survey is recommended if project activity will involve the removal of or impacts to potential protected or heritage trees.

Environmental Constraints Map

Figure 3 represents a constraints map of the McNears Beach Master Plan project site. It includes the following layers: topographic survey of the project site, existing facilities, vegetation communities, soils, and sensitive cultural resources. This map is to be treated confidentially and shall be reviewed only by qualified individuals unless the cultural resources layer is removed from the map.

Figure 3. Environmental Constraints Map

*This figure has been removed as it contains
Confidential Cultural Resource Information.*

Biological Site Inventory and Constraints Assessment

As a part of the biological site inventory and constraints assessment prepared for the project site (Attachment A), the site was assessed for existing conditions and sensitive biological resources, including sensitive habitats and special-status species. The biological assessment found that no special-status plant or wildlife species were observed during the September 2, 2014 site visit. Two special-status plant species have potential to occur within the project site, primarily due to the presence of disturbed coastal scrub habitat. The species are Brewer's calandrinia (*Calandrinia breweri*) and coastal triquetrella (*Triquetrella californica*). Suitable habitat for the remaining 59 special-status plant species is not present in the project site, primarily due to a lack suitable habitat and the disturbed vegetative conditions at the park.

Of the 87 special-status wildlife species in the vicinity of the project site, 71 have no potential or are unlikely to occur within the project site due to the absence of suitable habitats such as salt marshes and grasslands, breeding and wintering ranges outside of the project site (species may pass through the project site during migration), and restricted species ranges that do not include the project site. The 16 special-status wildlife species with potential to occur within the project site are:

- Townsend's big-eared bat (*Corynorhinus townsendii*); State Candidate as threatened, WBWG-high priority species
- pallid bat (*Antrozous pallidus*); CDFW Species of Special Concern, WBWG-high priority species
- Nuttall's woodpecker (*Picoides nuttali*); USFWS Bird of Conservation Concern
- oak titmouse (*Baeolophus inornatus*); USFWS Bird of Conservation Concern
- Allen's hummingbird (*Selaphorus sasin*); USFWS Bird of Conservation Concern
- olive-sided flycatcher (*Contopus cooperi*); CDFW Species of Special Concern, USFWS Bird of Conservation Concern
- monarch butterfly (*Danaus plexippus*); winter roosts protected by CDFW
- river lamprey (*Lampetra ayersi*); CDFW Species of Special Concern
- green sturgeon (*Acipenser medirostris*); Federal Threatened, CDFW Species of Special Concern
- steelhead - Central Valley DPS (*Oncorhynchus mykiss*); Federal Threatened
- steelhead - California Coast DPS (*Oncorhynchus mykiss*); Federal Threatened
- Chinook salmon - Central Valley Spring-run ESU (*Oncorhynchus tshawytscha*); Federal Threatened, State Threatened
- Chinook salmon - Central Valley Winter-run ESU (*Oncorhynchus tshawytscha*); Federal Endangered, State Endangered
- Chinook salmon - Central Valley Fall/Late Fall-run ESU (*Oncorhynchus tshawytscha*); CDFW Species of Special Concern
- Pacific herring (*Clupea pallasii*); commercially important species regulated by CDFW
- longfin smelt (*Spirinchus thaleichthys*); Federal Candidate, State Threatened, CDFW Species of Special Concern

Unused and underused buildings and large trees with cavities or exfoliating bark within the park may support roosting for Townsend's big-eared bat and pallid bat. Woodland trees and other vegetation provide suitable nesting habitat for the four bird species listed above. However, these birds would primarily utilize the wooded and forested areas on the hillside within the park. Wintering monarch butterflies have been known to roost in the eucalyptus trees on the site (CDFW 2014). The special-status fish species listed above may be located in tidal waters of the Bay within the project site.

Additionally, a variety of bird species protected by the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (FGC) likely use the project site, including for nesting. In addition to protecting adult birds, these laws also prohibit the deliberate destruction of active bird nests (those with eggs or young).

Primary areas of biological constraints present in the park are the sandy beach and tidal waters, the coastal scrub in the northern portion of the site, and the wooded hillsides. The landscaped areas of the park do not contain significant biological constraints, although trees and shrubs present could support nesting birds.

Several trees were observed that may meet the size requirements of the NTPPO, and they occur in the various biological communities as follows: in oak/bay forest contained numerous California bays and coast live oaks and a small number of California buckeyes. Blue gum eucalyptus forest contains a small number of California bay, coast live oak, and planted coast redwood. In the landscape area, there is a single, large Douglas-fir near the tennis courts. A certified arborist survey is recommended if project activity will involve the removal of potential protected or heritage trees.

The sandy beach and tidal waters are considered sensitive habitats and are within the jurisdiction on the Corps, RWQCB, and BCDC. In addition, areas within 100 feet of the shoreline are within BCDC jurisdiction regardless of the type of biological community present. Construction in these areas may require permits from these agencies. No wetlands were identified on-site, and with the exception of San Pablo Bay, there are no Waters of the United States at the site.

Portions of the park have potential to provide habitat for wildlife, specifically breeding birds protected under the MBTA/CFGC, roosting bats, wintering monarch butterflies, and aquatic species that inhabit San Pablo Bay. Species that may be impacted by any future demolition or development activities are wintering monarch butterflies, nesting birds (generally within 50 feet of disturbances, though up to 250 feet or more for raptors and some special-status birds), and roosting bat species (within 100 feet of a disturbance), and aquatic species if there is in-water work.

The portions of the project site within San Pablo Bay are within designated Essential Fish Habitat (EFH) for various life stages of fish species. EFH can include the water column, certain bottom types such as sandy or rocky bottoms, vegetation such as eelgrass or kelp, or structurally complex coral or oyster reefs. In-water work would require consultation with NMFS for EFH and surveys for eelgrass may be recommended, depending on the location and extent of in-water work.

Soils

According to the Soil Survey of Marin County, California (U.S. Department of Agriculture 2012), the predominant soil type at the project site is Tocaloma-McMullin complex, 30 to 50 percent slope. The Tocaloma series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. The McMullin series consists of shallow, well and somewhat excessively drained soils that formed in material weathered from shale, sandstone, basic igneous and metamorphic rocks. McMullin soils are on ridges and south-facing slopes in Oregon and on north-facing slopes in California. As illustrated in Figure 3, the upper entrance driveway contains Saurin-Bonnydoon complex, 15 to 30 percent slopes. The

northern and southern portions of the site contains Tocaloma-McMullin complex, 30 to 50 percent slope. The remaining portion of the site where all of the existing improvements are located contain Xerorthents fill. Other soil types include artificial fill over marine and marsh deposits.

Soil liquefaction is a condition where saturated granular soils near the ground surface undergo a substantial loss of strength during seismic events. Loose, water-saturated soils are transformed from a solid to a liquid state during ground shaking. Liquefaction can result in significant deformations and ground rupture or sand boils. Soils most susceptible to liquefaction are loose, uniformly graded, saturated, fine-grained sands that lie close to the ground surface. Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying alluvial material toward an open area, such as a steep bank of a stream channel. ABAG has created a map of the Bay Area, which classifies land according to five liquefaction-susceptibility levels: very low, low, moderate, high and very high. According to ABAG, portions of project site are located in a very low liquefaction hazard severity zone, while others are in a very high liquefaction zone.

Cultural Resources

Tom Origer & Associates conducted a cultural resources survey for the McNears Beach Park for the Site Inventory and Constraints Assessment. The study included archival research at the Northwest Information Center, Sonoma State University, contact with the Native American Heritage Commission and local Native American representatives, and field survey of the park.

Archival research revealed that there are five recorded archaeological sites within the study area. These locations were visited during the survey and current conditions were noted. Supplementary documentation was prepared to be added to existing records. In addition, one new resource was recorded. The following section provides a brief discussion of each of the resources. Refer to Figure 3 for the location of the cultural resources. Due to the specific location descriptions provided below for each resource, this information shall be reviewed by qualified individuals only and not be shared with the general public.

CA-MRN-108/H: This prehistoric archaeological site was first noted by Nels Nelson in 1907. Nelson described the site as a shellheap located in the "garden of one of the private houses" (Nelson 1907). He stated that the heap "is leveled out," and suggested that the materials might even have been imported to this location. During a survey of the park in 1986, archaeologists from Sonoma State University searched Nelson's mapped location and found surface evidence of archaeological materials. A one-meter deep auger hole was excavated but no midden was found (Bieling 1987; Bieling and Simons 1986).

In the vicinity of site CA-MRN-108, as it was referred to in 1986, were two historic dwellings dating, one dating to the late 1800s and the other to the early to mid 1900s. A partially refilled, brick-lined well was found nearby, as were two rows of Canary Island date palms. Bieling and Simons added the historic features to the already existing site record and a "/H" was appended to the site designation.

During the current survey, the site location was again searched and a few small pieces of shell were observed on the surface in a disturbed area. No other possible archaeological items were found. The field crew did not find the well, and both of the dwellings have been removed. The palm trees and some fruit trees are still there. In addition, a retaining wall was noted that runs along the bottom of the slope, behind the former location of the 20th century house. Beginning

at the south end, the retaining wall is constructed of bricks for about 22 yards, and concrete blocks for another 28 yards.

CA-MRN-109: CA-MRN-109 was also shellheap recorded by Nelson in 1907. Nelson observed a four-foot deep deposit of shell in a gravelly bank, and stated that "the place has been much disturbed in making room for the house." The house he described as being "the last house above the McNear wharf." The site was not found during the 1986 survey, nor was it found during the current survey. The mapped site location is covered with fill that Bieling found to be roughly three feet deep when his crew tried to auger at that location. There is the possibility that the fill caps the archaeological deposit that Nelson recorded in 1907.

CA-MRN-532: This site was recorded during the 1986 survey. It was first noted by park personnel during excavation for a storm drain. At the time of Bieling's survey, the site was overlain by eroded soil and a shovel probe was excavated to search for evidence of the site. A deposit of shell was encountered at about eight inches. The location recorded by Bieling was revisited during the current survey and no surface site indicators were found. The location itself had not changed much since the 1986 survey.

CA-MRN-533: CA-MRN-533 is a shell midden identified during the 1986 survey, and relocated during the current survey. The field crew observed several concentrations of midden in an area measuring about 50 feet by 90 feet. A footpath, picnic tables, and barbeque grills have been constructed on the site.

CA-MRN-534/H: As recorded by Bieling and Psota in 1986, this site has both prehistoric and historical components. The prehistoric component consists of shell and midden soils eroding from the terrace where there is an existing park residence. Archaeological deposits were observed on the slope and along a service road southeast of the house. The historical component is 19th century barn/stable located southeast of the prehistoric component. This building is a two-story structure built into the side of the hill. It is wood-framed and is clad with cove-rustic wood siding with fish-scale shingling in the gable ends. The barn is used by park personnel. There have been some modifications over the years but the barn retains good historic integrity.

Eucalyptus Lined Road: In addition to the previously recorded resources, a 680 foot-long section of eucalyptus-lined road was noted and recorded during the survey. This road way and trees are shown on the 1898 coast survey map and represent the original roadway. Cantera Way was constructed just north of the old road.

If Master Plan improvements cannot avoid the sensitive cultural resources identified above, an archaeological resource treatment plan would have to be prepared which would evaluate the significance of each resource as well as the precise boundaries.

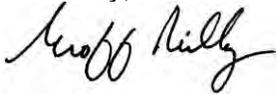
Environmental Review

Under the assumption that the Master Plan will qualify for a CEQA Initial Study/Mitigated Declaration, all of the information reviewed and prepared as part of this assessment appears to be adequate for the CEQA analysis. Based on this information as well as preliminary Master Plan design input from meetings with park rangers and maintenance staff, Marin County Parks staff, and the City of San Rafael staff, it is possible that additional studies, surveys and/or permits may be required by the County and/or regulatory agencies in order to implement the Master Plan. These efforts include but may not be limited to:

- Traffic Report (if proposed Master Plan improvements significantly increase the existing use of the park during weekdays and weekends).
- A certified arborist survey is recommended if project activity would involve the removal of or impacts to potential protected or heritage trees.
- Biological Surveys and Consultation (dependent upon final proposed Master Plan improvements and work windows)
 - Monarch Butterflies
 - Nesting Birds
 - Roosting Bats
 - Eelgrass consultation with the National Marine Fisheries Service
- Phase II Cultural Resources Analysis (if Master Plan improvements are proposed within areas identified as being culturally sensitive).
- Consultation with BCDC may be necessary if work is to be done within the shoreline.
- Construction within the sandy beach and tidal waters may require permits from the Corps, and/or the RWQCB.
- In-water work would require consultation with NMFS for EFH and surveys for eelgrass may be recommended, depending on the location and extent of in-water work.

Please do not hesitate to contact me with any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Geoff Reilly". The signature is written in a cursive, flowing style.

Geoff Reilly
WRA, Inc.

References

- Association of Bay Area Governments (ABAG). Earthquake and Hazards Program.
<http://gis.abag.ca.gov/website/Hazards/?hlyr=femaZones> Accessed August 2014.
- Natural Resources Conservation Service. 2013. Soil Classification. Online at
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/class/>.
- Tom Origer & Associates. McNears Beach Park Master Plan Cultural Resources Analysis.
October 10, 2014.
- WRA, Inc. Biological Site Inventory and Constraints Assessment. October 10, 2014.

Attachment A: WRA Biological Site Inventory and Constraints Assessment

October 10, 2014

Christine Reed
Office of Cheryl Barton
146 Eleventh Street
San Francisco, CA 94103

Dear Ms. Reed,

The purpose of this letter is to inform you of the results of the biological site inventory and constraints assessment performed for the McNears Beach Master Plan at the McNears Beach County Park, 201 Cantera Way, San Rafael, Marin County, California. Specifically, WRA's intent was to identify potential sensitive habitat areas, including wetlands, riparian, and shoreline habitats, as well as sensitive plant and animal species that are included on lists prepared by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), California Native Plant Society (CNPS), and other applicable agencies. This analysis also identifies applicable permits that may be required for work within environmental resource agency jurisdiction. The WRA site visit took place on September 2, 2014 by WRA biologists Scott Batiuk and Claire Woolf.



Fishing pier, facing east.

Survey Methods

The project site was assessed for existing conditions and sensitive biological resources, including sensitive habitats and special-status species. A visit to the project site was made on September 2, 2014. Prior to the site visit, a review was conducted of background information including:

- County of Marin Native Tree Protection and Preservation Ordinance (NTPPO; County of Marin 2002)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB, CDFW 2014)
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants
- U.S. Fish and Wildlife Service (USFWS) list of species occurring within a 5-mile radius of the Study Area
- Marin County Breeding Bird Atlas (Shuford 1993)
- California Bird Species of Special Concern (Shuford and Gardali 2008)
- Western Bat Working Group (WBWG) species accounts (WBWG 2014)

- NMFS Distribution Maps for California Salmonid Species (2014)
- CDFG publication “Amphibians and Reptile Species of Special Concern in California” (Jennings and Hayes 1995)

During the site visit, the park was examined for: (a) sensitive habitat areas as defined by federal, state and local laws and regulations, and (b) for the presence, and potential to support, special-status plant and wildlife species. The survey area was examined for indicators of wetlands, and unvegetated waters for the purposes of determining the extent of resource agency jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), CDFW, and San Francisco Bay Conservation and Development Commission (BCDC).

Survey Results

The 55-acre park is bounded to the north by China Camp State Park; to the west by private residential property and the San Rafael Rock Quarry property; to the south by the San Rafael Rock Quarry property; and to the east by San Pablo Bay.



Landscaped areas and shoreline, and oak woodland communities within the park.

The area has existed as a Marin County Park since 1970. Much of the project site is landscaped vegetation, paved roads and parking areas, buildings, a swimming pool, a fishing pier, and other structures, but it also includes patches of native and non-native forest, coastal scrub, and natural and riprapped shoreline.

Figure 1 is a map of the biological communities found with the project site.

Non-Sensitive Biological Communities

Landscape

The park is dominated by landscaped areas, reflective of the managed public park setting. These areas consist of paved and graveled roads and parking lots, trails, manicured lawn, ornamental trees and other vegetation, tennis courts, a swimming pool, a pier, and other buildings and structures. Ornamental trees include Canary Island date palm (*Phoenix canariensis*), Chinese pistache (*Pistacia chinensis*), black locust (*Robinia pseudoacacia*), and other similar horticultural species. Manicured lawns are dominated by non-native species including annual bluegrass (*Poa annua*), English daisy (*Bellis perennis*), and common plantain (*Plantago major*). Numerous ornamental shrubs and herbs are planted throughout the landscaped part of the park.

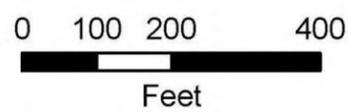
Blue gum eucalyptus forest

Established blue gum eucalyptus (*Eucalyptus globulus*) forest exists on the hill slopes along most of the western boundary of the park. This species forms a near monoculture in these areas. The understory is sparse and contains species including rattlesnake grass (*Briza maxima*), coyote brush (*Baccharis pilularis* ssp. *consanguinea*), coast live oak (*Quercus agrifolia*), and California bay (*Umbellularia californica*).



Figure 1. Biological Study Area and Vegetation Communities

McNears Beach Park Master Plan Project
San Rafael, California



Date: September 2014
Map By: DC
Base Source: NAIP 2012

Oak/bay forest

Small patches of mixed stands of coast live oak and California bay trees occur on slopes adjacent to stands of blue gum eucalyptus. Coast live oak and California bay are the dominant species of the overstory. The understory contains several species including poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and honeysuckle (*Lonicera* sp.).

Coastal scrub

At the far northern end of the park, small patches of coastal scrub are present on slopes near the shoreline. These areas are disturbed and sometimes have a large non-native species component. Common species include French broom (*Genista monspessulana*), coyote brush, poison oak, and sticky monkeyflower (*Mimulus aurantiacus*).

Sensitive Biological Communities and Resource Agency Jurisdiction

No wetlands or streams were observed in the park. Areas of sensitive biological communities and resource agency jurisdiction include tidal waters offshore of the park and heritage trees.

Tidal Waters and Sandy Beach

In the northern end of the park, tidal waters and a natural, sandy beach are present. Vegetation on the beach is sparse and includes species such as western ragweed (*Ambrosia psilostachya*), European sea rocket (*Cakile maritima*), and salt grass (*Distichlis spicata*). Portions of this area that are below the reach of the tides are within the jurisdiction of the Corps, RWQCB, and BCDC. The remaining eastern boundary of the project site is primarily unvegetated, riprapped shoreline.

BCDC has regulatory jurisdiction, as defined by the McAteer-Petris Act, over San Francisco Bay (Bay), including San Pablo Bay, and its shoreline (the Shoreline Band), which generally consists of the area between the Bay shoreline and a line 100 feet landward of and parallel to the shoreline. Within the park, this 100-foot-wide zone is primarily composed of what would otherwise be considered non-sensitive biological communities; however, everything in that shoreline band is within BCDC jurisdiction. The fishing pier extends into the Bay from the riprap shoreline and any modification of the pier would require a BCDC permit. Any activities involving in-water construction within tidal areas would require permits from BCDC, the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), and consultation with the National Marine Fisheries Service (NMFS). This case includes parts of the beaches and riprap shoreline, as well as the fishing pier.

County of Marin Protected and Heritage Trees

Under the County of Marin NTPPO, in unincorporated Marin County, certain native tree species with diameters ranging from a minimum of 6 to 10 inches at breast height are considered Protected or Heritage trees and may require a permit for removal. During the September 2, 2014, site visit, several trees were observed at the project site that may meet the size requirements of the NTPPO. Potential Heritage and Protected trees at the site included the following species: California bay, California buckeye (*Aesculus californica*), coast live oak, coast redwood (*Sequoia sempervirens*), and Douglas-fir (*Pseudotsuga menziesii*). A certified arborist

survey is recommended if project activity will involve the removal of or impacts to potential protected or heritage trees.

Special-Status Species

No special-status plant or wildlife species were observed at the project site during the site visit. Sixty-one special-status plant species and 89 special-status wildlife species have documented occurrences within the four United States Geological Survey 7.5' quadrangle maps surrounding the project site: Novato, Petaluma Point, San Quentin, and San Rafael. Attachment 1 documents the potential for all of these species to occur within the project site.

Of the 61 special-status plant species, two have moderate potential to occur, both within the disturbed coastal scrub habitat. The species are Brewer's calandrinia (*Calandrinia breweri*) and coastal triquetrella (*Triquetrella californica*). Suitable habitat for the remaining 59 special-status plant species is not present in the project site, primarily due to a lack suitable habitat and the disturbed vegetative conditions at the park.

Of the 87 special-status wildlife species in the vicinity of the project site, 71 have no potential or are unlikely to occur within the project site due to the absence of suitable habitats such as salt marshes and grasslands, breeding and wintering ranges outside of the project site (species may pass through the project site during migration), and restricted species ranges that do not include the project site. The 16 special-status wildlife species with potential to occur within the project site are:

- Townsend's big-eared bat (*Corynorhinus townsendii*); State Candidate as threatened, WBWG-high priority species
- pallid bat (*Antrozous pallidus*); CDFW Species of Special Concern, WBWG-high priority species
- Nuttall's woodpecker (*Picoides nuttali*); USFWS Bird of Conservation Concern
- oak titmouse (*Baeolophus inornatus*); USFWS Bird of Conservation Concern
- Allen's hummingbird (*Selaphorus sasin*); USFWS Bird of Conservation Concern
- olive-sided flycatcher (*Contopus cooperi*); CDFW Species of Special Concern, USFWS Bird of Conservation Concern
- monarch butterfly (*Danaus plexippus*); winter roosts protected by CDFW
- river lamprey (*Lampetra ayersi*); CDFW Species of Special Concern
- green sturgeon (*Acipenser medirostris*); Federal Threatened, CDFW Species of Special Concern
- steelhead - Central Valley DPS (*Oncorhynchus mykiss*); Federal Threatened
- steelhead - California Coast DPS (*Oncorhynchus mykiss*); Federal Threatened
- Chinook salmon - Central Valley Spring-run ESU (*Oncorhynchus tshawytscha*); Federal Threatened, State Threatened
- Chinook salmon - Central Valley Winter-run ESU (*Oncorhynchus tshawytscha*); Federal Endangered, State Endangered
- Chinook salmon - Central Valley Fall/Late Fall-run ESU (*Oncorhynchus tshawytscha*); CDFW Species of Special Concern
- Pacific herring (*Clupea pallasii*); commercially important species regulated by CDFW
- longfin smelt (*Spirinchus thaleichthys*); Federal Candidate, State Threatened, CDFW Species of Special Concern

Unused and underused buildings and large trees with cavities or exfoliating bark within the park may support roosting for Townsend's big-eared bat and pallid bat. Woodland trees and other vegetation provide suitable nesting habitat for the four bird species listed above. However, these birds would primarily utilize the wooded and forested areas on the hillside within the park. Wintering monarch butterflies have been known to roost in the eucalyptus trees on the site (CDFW 2014). The special-status fish species listed above may be located in bay habitats within the project site.

Additionally, a variety of bird species protected by the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (FGC) likely use the project site, including for nesting. In addition to protecting adult birds, these laws also prohibit the deliberate destruction of active bird nests (those with eggs or young).

Conclusions

Primary areas of biological constraints present in the park are the sandy beach and tidal waters, the coastal scrub in the northern portion of the site, and the wooded hillsides. The landscaped areas of the park do not contain significant biological constraints, although trees and shrubs present could support nesting birds.

The sandy beach and tidal waters are considered sensitive habitats and are within the jurisdiction on the Corps, RWQCB, and BCDC. In addition, areas within 100 feet of the shoreline are within BCDC jurisdiction regardless of the type of biological community present. Construction in these areas may require permits from these agencies.

Several trees were observed that may meet the size requirements of the NTPPO, and they occur in the various biological communities as follows: in oak/bay forest contained numerous California bays and coast live oaks and a small number of California buckeyes. Blue gum eucalyptus forest contains a small number of California bay, coast live oak, and planted coast redwood. In the landscape area, there is a single, large Douglas-fir near the tennis courts. A certified arborist survey is recommended if project activity will involve the removal of potential protected or heritage trees.

Portions of the park have potential to provide habitat for wildlife, specifically breeding birds protected under the MBTA/CFGC, roosting bats, wintering monarch butterflies, and aquatic species that inhabit San Pablo Bay. Species that may be impacted by any future demolition or development activities are wintering monarch butterflies, nesting birds (generally within 50 feet of disturbances, though up to 250 feet or more for raptors and some special-status birds), and roosting bat species (within 100 feet of a disturbance), and aquatic species if there is in-water work.

- Wintering monarch butterflies: If construction or tree removal activities are initiated during the monarch wintering season (October 1 to February 28), pre-construction surveys for roosting monarchs are recommended. If a roost is found, the roost would need to be avoided until roosting ceases. If avoidance is not feasible, consultation with CDFW may be required.
- Nesting birds (including raptors): If construction, demolition, or tree removal activities are initiated during the nesting bird season (generally February 16 through August 31), a pre-construction bird survey would be necessary prior to commencement of activities. The bird survey should cover areas of construction and a 500-foot buffer around these

areas. If nests are found, buffers would be established, and depending on the species nesting, nests would either be monitored during construction or project construction would need to avoid nesting bird buffers. These measures would ensure that impacts to nesting birds would be avoided per the requirements of the MBTA and FGC.

- Roosting bats: A bat roost assessment is recommended to determine the potential for bat species to roost within unused and underused buildings within the park. If the bat assessment determines there is potential for bat roosting, pre-construction bat surveys would likely be required prior to construction or demolition activities, especially during the maternity season from April 1 to August 31. Consultation with CDFW and habitat mitigation may be required if maternal bat roosts are found, and would be dependent upon bat species found and roost type.
- Special-status fish: Construction best management practices (BMPs) to prevent water quality impacts would also prevent impacts to special-status fish from increases in turbidity, runoff, and pollutants associated with construction in and surrounding tidal waters. Additionally, in-water work would be restricted to the period between June 1 and November 30 of any given year and require consultation NMFS.

The portions of the project site within San Pablo Bay are within designated Essential Fish Habitat (EFH) for various life stages of fish species. EFH can include the water column, certain bottom types such as sandy or rocky bottoms, vegetation such as eelgrass or kelp, or structurally complex coral or oyster reefs. In-water work would require consultation with NMFS for EFH and surveys for eelgrass may be recommended, depending on the location and extent of in-water work.

Summary

No special-status plant or wildlife species were observed during the site visit. Two special-status plant species have potential to occur within the project site, primarily due to the presence of disturbed coastal scrub habitat. Sixteen special-status wildlife species have the potential to occur within the park. Breeding birds may nest in trees throughout the park, and unused and underused buildings and large trees have the potential to support roosting special-status bat species. Monarch butterflies may winter in the eucalyptus within the Study Area. Special-status fish species may be present in bay waters within and adjacent to the park.

Depending on activities in wooded areas on the hillside, an arborist survey is recommended to preserve heritage trees. A BCDC permit may be necessary if work is to be done within tidal waters or within 100 feet of the shoreline. Construction within the sandy beach and tidal waters may also require permits from the Corps, and/or the RWQCB. Additionally, any in-water work would require consultation with NMFS. Finally, surveys for monarch butterflies, nesting birds, roosting bats, eelgrass consultation with the appropriate government agencies may be necessary to avoid impacts to the wildlife species discussed above.



Shoreline with beach and woodland habitats at the northern edge of the park.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Justin Semion".

Justin Semion
Principal Aquatic Ecologist

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Attachment 1: USFWS and CDFW Special-Status Plant and Wildlife Species List

Attachment 1: Potential for special-status plant and wildlife species to occur within McNears Beach County Park, Marin County, California. List compiled from the U.S. Fish and Wildlife Service (USFWS) Species Lists for Marin County and a search of the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CDFW 2014) for the Novato, Petaluma Point, San Quentin, and San Rafael USGS 7.5' quadrangles, and a review of other CDFW lists and publications.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Plants				
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	Rank 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6,560 feet. Blooms: April – July.	Unlikely. The project site contains broadleaf upland forest, but it is dense and does not provide suitable openings. Other, more open, wooded areas are present at the project site, but they are disturbed or part of landscaping. In addition, the project site does not contain chaparral habitat and is below the known elevation range of this species.	No further action recommended for this species.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	Rank 1B	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Elevation range: 10 – 1,625 feet. Blooms: March – June.	No Potential. The project site contains open, wooded and grassy areas, but they are disturbed and part of or adjacent to landscaped and heavily used areas. In addition, the project site does not contain coastal bluff scrub habitat.	No further action recommended for this species.
<i>Arabis blepharophylla</i> coast rockcress	Rank 1B	Rocky ground in broadleaf upland forest, coastal bluff scrub, coastal prairie, and coastal scrub habitat. Elevation range: 10 – 3,610 feet. Blooms: February – May.	No Potential. The project site does not contain rocky substrate in any habitat type.	No further action recommended 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 – 2,470 feet. Blooms: February – April.	No Potential. The project site does not contain serpentine substrate.	No further action recommended 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 – 2,275 feet. Blooms: January – March.	Unlikely. The project site contains sandstone-derived substrate, broadleaf upland forest, and a small number of planted Monterey pines and coast redwoods, but the wooded habitat is limited, disturbed, and part of or adjacent to landscaped and heavily used areas. In addition, the project site does not contain chaparral habitat.	No further action recommended for this species.
<i>Aspidotis carlotta-halliae</i> Carlotta Hall's lace fern	Rank 4	Chaparral and cismontane woodland; usually on serpentine substrate. Elevation range: 330 – 4,595 feet. Blooms: January – December.	No Potential. The project site does not contain serpentine substrate or chaparral habitat. The open, wooded area at the project site is landscaped and heavily disturbed.	No further action recommended for this species.
<i>Astragalus breweri</i> Brewer's milkvetch	Rank 4	Valley and foothill grassland that is open and often gravelly; chaparral; cismontane woodland; and meadows and seeps. Often on serpentine or volcanic substrate. Elevation range: 295 – 2,395 feet. Blooms: April – June.	No Potential. The project site contains open, grassy or wooded areas, but they are heavily disturbed and part of landscaping. In addition, the project site does not contain chaparral habitat, seeps, or serpentine or volcanic substrate.	No further action recommended for this species.
<i>Calamagrostis ophitidis</i> serpentine reed grass	Rank 4	Rocky locations on serpentine substrate in chaparral (open, often north-facing); lower montane coniferous forest; meadows and seeps; and valley and foothill grassland. Elevation Range: 295 – 3,495 feet. Blooms: April – July.	No Potential. The project site does not contain serpentine substrate.	No further action recommended for this species.
<i>Calandrinia breweri</i> Brewer's calandrinia	Rank 4	Sandy or loamy disturbed sites and burns in chaparral and coastal scrub. Elevation Range: 30 – 4,000 feet. Blooms: March – June.	Moderate Potential. The project site contains a limited amount of ruderal coastal scrub habitat.	Appropriately timed surveys are recommended for this species.

<i>Calochortus tiburonensis</i> Tiburon mariposa lily	FT; ST; Rank 1B	Valley and foothill grassland; located on open, grassy or rocky slopes derived from serpentine. Elevation range: 160 – 490 feet. Blooms: March – June.	No Potential. The project site does not contain serpentine substrate.	No further action recommended 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 on serpentine substrate. Elevation range: 330 – 2,295 feet. Blooms: May – March.	Unlikely. The project site contains broadleaf upland forest, a small number of planted Monterey pines and coast redwoods, and grassy areas. However, these areas are limited, disturbed, and part of or adjacent to landscaped and heavily used areas. In addition, the project site does not contain chaparral habitat or serpentinite substrate.	No further action recommended 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.	No Potential. The project site does not contain serpentine substrate.	No further action recommended for this species.
<i>Castilleja ambigua</i> var. <i>ambigua</i> johnny-nip	Rank 4	Coastal bluff scrub; coastal prairie; coastal scrub; marshes and swamps; valley and foothill grassland; and vernal pool margins. Elevation range: 0 – 1,425 feet. Blooms: March – August.	Unlikely. The project site contains limited coastal scrub that is ruderal and poor quality. Grassy habitat in the project site is landscaped lawn. The project site does not contain coastal bluff scrub or vernal pool habitat.	No further action recommended for this species.
<i>Ceanothus gloriosus</i> var. <i>exaltatus</i> glory brush	Rank 4	Chaparral. Elevation range: 100 – 2,000 feet. Blooms: March – August.	No Potential. The project site does not contain chaparral habitat.	No further action recommended for this species.

<i>Ceanothus rigidus</i> Monterey ceanothus	Rank 4	Sandy substrate in closed-cone coniferous forest, chaparral, and coastal scrub. Elevation range: 10 – 1,800 feet. Blooms: February – June.	Unlikely. The project site contains limited coastal scrub that is ruderal and poor quality. A small number of Monterey pine are present, but they are planted trees that do not constitute true closed-cone coniferous forest. In addition, the project site does not contain chaparral habitat.	No further action recommended 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.	No Potential. The project site does not contain salt marsh habitat.	No further action recommended 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 sandy substrates of terraces and slopes. Elevation range: 10 – 700 feet. Blooms: April – August.	Unlikely. The project site contains limited coastal scrub habitat that is ruderal and poor quality. In addition, the project site does not contain coastal bluff scrub or coastal prairie habitat.	No further action recommended for this species.
<i>Cirsium hydrophilum</i> var. <i>vaseyi</i> Mt. Tamalpais thistle	Rank 1B	Serpentine seeps in broadleaf upland forest, chaparral, and meadows. Elevation range: 780 – 2,015 feet. Blooms: May – August.	No Potential. The project site does not contain serpentine substrate.	No further action recommended for this species.
<i>Cistanthe maritima</i> seaside cistanthe	Rank 4	Sandy substrate in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Elevation range: 15 – 985 feet. Blooms: February – August.	Unlikely. The project site contains limited coastal scrub habitat that is ruderal and poor quality. The grassy areas in the project site are landscaped lawn. In addition, the project site does not contain coastal bluff scrub habitat and limited sandy substrate.	No further action recommended for this species.

<p><i>Cypripedium californicum</i> California lady's-slipper</p>	<p>Rank 4</p>	<p>Lower montane coniferous forest in bogs, fens, seeps, and streambanks. Usually on serpentine substrate. Elevation range: 165 – 1285 feet. Blooms: April – September.</p>	<p>Unlikely. The project site contains small numbers of Monterey pine and coast redwood, but these are planted, landscape trees and do not constitute true or high-quality forest habitat. In addition, the project site does not contain bogs, fens, seeps, or serpentine substrate.</p>	<p>No further action recommended for this species.</p>
<p><i>Elymus californicus</i> California bottle-brush grass</p>	<p>Rank 4</p>	<p>Broadleaf upland forest, cismontane woodland, North Coast coniferous forest, riparian woodland. Elevation range: 50 – 1,540 feet. Blooms: April – September.</p>	<p>Unlikely. The project site contains small numbers of Monterey pine and coast redwood, but these are planted, landscape trees and do not constitute true or high-quality forest habitat. The project site contains broadleaf upland forest and open, wooded areas. However, these habitats are limited, disturbed, and part of or adjacent to landscaped and heavily used areas.</p>	<p>No further action recommended for this species.</p>
<p><i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat</p>	<p>Rank 1B</p>	<p>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.</p>	<p>No Potential. The project site does not contain serpentine substrate.</p>	<p>No further action recommended for this species.</p>
<p><i>Erysimum franciscanum</i> San Francisco wallflower</p>	<p>Rank 4</p>	<p>Chaparral, coastal dunes, coastal scrub, and valley and foothill grassland. Often on serpentine or granitic substrate. Sometimes on roadsides. Elevation range: 0 – 1,805 feet. Blooms: March – June.</p>	<p>Unlikely. The project site contains limited coastal scrub that is ruderal and poor quality. The project site contains grassy areas, but they are landscaped lawn. In addition, the project site does not contain chaparral or coastal dune habitats and serpentine or granitic substrates.</p>	<p>No further action recommended for this species.</p>

<i>Fissidens pauperculus</i> minute pocket moss	Rank 1B	North Coast coniferous forest; located on damp soil along the coast. Elevation range: 30 – 3,330 feet.	Unlikely. The project site contains a small number of coast redwood trees with a small stream at its edge, but these are planted, landscape trees and do not constitute true or high-quality North Coast coniferous forest.	No further action recommended 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.	Unlikely. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain serpentine substrate, coastal bluff scrub habitat, or coastal prairie habitat.	No further action recommended for this species.
<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.	Unlikely. The project site contains open, wooded and grassy areas, but these habitats are limited, disturbed, and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain serpentine or volcanic clay substrate.	No further action recommended for this species.
<i>Gilia capitata</i> ssp. <i>tomentosa</i> woolly-headed gilia	Rank 1B	Serpentine, rocky outcrops in coastal bluff scrub and valley and foothill grassland. Elevation range: 30 – 720 feet. Blooms: May – July.	No Potential. The project site does not contain serpentine substrate.	No further action recommended for this species.

<p><i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant</p>	<p>Rank 3</p>	<p>Sandy or serpentine substrate in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Elevation range: 50 – 1,310 feet. Blooms: June – September.</p>	<p>Unlikely. The project site contains open grassy areas, but they are disturbed and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain serpentine substrate.</p>	<p>No further action recommended for this species.</p>
<p><i>Helianthella castanea</i> Diablo helianthella</p>	<p>Rank 1B</p>	<p>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 – 4,225 feet. Blooms: March – June.</p>	<p>No Potential. The project site does not contain oak woodland/chaparral ecotone underlain by rocky, azonal substrates. The project site is otherwise mostly disturbed and landscaped.</p>	<p>No further action recommended for this species.</p>
<p><i>Hemizonia congesta</i> ssp. <i>congesta</i> hayfield tarplant</p>	<p>Rank 1B</p>	<p>Coastal scrub, valley and foothill grassland. Elevation range: 65 – 1840 feet. Blooms: April – October.</p>	<p>Unlikely. The project site contains open grassy areas, but they are disturbed and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality.</p>	<p>No further action recommended for this species.</p>
<p><i>Hesperolinon congestum</i> Marin western flax</p>	<p>FT, ST, Rank 1B</p>	<p>Chaparral, valley and foothill grassland; located on serpentine substrate. Elevation range: 15 – 1,205 feet. Blooms: April – July.</p>	<p>No Potential. The project site does not contain serpentine substrate.</p>	<p>No further action recommended for this species.</p>

<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT; SE; Rank 1B	Coastal prairie, coastal scrub, valley and foothill grassland; located on light, sandy to sandy clay substrate; tolerant of non- native herbaceous vegetation. Elevation range: 30 – 715 feet. Blooms: June – October.	Unlikely. The project site contains open grassy areas, but they are disturbed and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality. The nearest occurrences are approximately 6 to 8 miles southwest of the project site and have uncertain validity according to CNDDDB.	No further action recommended 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 – 1,640 feet. Blooms: May – July.	Unlikely. The project site contains broadleaf upland forest and grassy areas, but these habitats are limited, disturbed, and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality.	No further action recommended for this species.
<i>Kopsiopsis hookeri</i> small groundcone	Rank 2	North Coast coniferous forest; located in open woods and shrublands, generally hosts on salal (<i>Gaultheria shallon</i>). Elevation range: 290 – 2, 880 feet. Blooms: April – August.	Unlikely. The project site contains small numbers of coast redwood trees, but these are planted, landscape trees and do not constitute true or high-quality North Coast coniferous forest. In addition, no salal was observed at the project site.	No further action recommended for this species.
<i>Leptosiphon acicularis</i> bristly leptosiphon	Rank 4	Chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. Elevation range: 180 – 4,920 feet. Blooms: April – July.	Unlikely. The project site contains open, wooded and grassy areas, but they are limited, disturbed, and part of or adjacent to landscaped and heavily used areas. In addition, the project site does not contain chaparral habitat or coastal prairie habitats.	No further action recommended for this species.

<p><i>Leptosiphon grandiflorus</i> large-flowered leptosiphon</p>	<p>Rank 4</p>	<p>Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, and valley and foothill grassland. Elevation range: 180 – 4,920 feet. Blooms: April – July.</p>	<p>Unlikely. The project site contains open, wooded and grassy areas, but they are limited, disturbed, and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain coastal bluff scrub, closed-cone coniferous forest, coastal dunes, or coastal prairie habitats.</p>	<p>No further action recommended for this species.</p>
<p><i>Lessingia hololeuca</i> woolly-headed lessingia</p>	<p>Rank 3</p>	<p>Clay and serpentine substrate in broadleaf upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Elevation range: 90 – 305 feet. Blooms: June – October.</p>	<p>Unlikely. The project site contains broadleaf upland forest and grassy areas, but they are limited, disturbed, and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain lower montane coniferous forest habitat or serpentine substrate.</p>	<p>No further action recommended for this species.</p>
<p><i>Lessingia micradenia</i> var. <i>micradenia</i> Tamalpais lessingia</p>	<p>Rank 1B</p>	<p>Chaparral, valley and foothill grassland; typically located in serpentine grassland or serpentine scrub, often on roadsides. Elevation range: 325 – 1625 feet. Blooms: June – October.</p>	<p>No Potential. The project site does not contain serpentine substrate.</p>	<p>No further action recommended for this species.</p>
<p><i>Micropus amphibolus</i> Mt. Diablo cottonweed</p>	<p>Rank 3</p>	<p>Rocky areas in broadleaf upland forest, chaparral, cismontane woodland, and valley and foothill grassland. Elevation range: 325 – 1,625 feet. Blooms: June – October.</p>	<p>No Potential. The project site does not contain rocky substrate in any habitat type.</p>	<p>No further action recommended for this species.</p>

<i>Microseris paludosa</i> marsh microseris	Rank 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation range: 0 – 1,000 feet. Blooms: April – June.	Unlikely. The project site contains open, wooded and grassy areas, but they are limited, disturbed, and part of or adjacent to landscaped and heavily used areas. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain coastal bluff scrub, closed-cone coniferous forest.	No further action recommended for this species.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	Rank 1B	Wet depressions and vernal pools in cismontane woodland, lower montane coniferous forest, meadows, and valley and foothill grassland. Elevation range: 15 – 5,700 feet. Blooms: April – July.	No Potential. The project site does not contain wet depressions or vernal pool habitat.	No further action recommended 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 – 2,065 feet. Blooms: May – July.	No Potential. The project site does not contain closed-cone coniferous forest or chaparral habitats or serpentine substrate.	No further action recommended 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.	No Potential. The project site does not contain open, dry rocky slopes or serpentine substrate.	No further action recommended for this species.
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> Gairdner's yampah	Rank 4	Vernal pools and other vernal mesic habitat in broadleaf upland forest, chaparral, coastal prairie, and valley and foothill grassland. Elevation range: 0 – 2,000 feet. Blooms: June – October.	No Potential. The project site does not contain vernal mesic habitat.	No further action recommended for this species.

<i>Piperia michaelii</i> Michael's rein orchid	Rank 4	Coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub, lower montane coniferous forest. Elevation range: 10 – 3,000 feet. Blooms: April – August.	Unlikely. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain coastal bluff scrub, closed-cone coniferous forest, chaparral, or lower montane coniferous forest habitats.	No further action recommended for this species.
<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.	No Potential. The project site does not contain alkaline meadow, seep, marsh, or swamp habitats.	No further action recommended for this species.
<i>Pleuropogon hooverianus</i> North coast semaphore grass	Rank 1B	Open, mesic areas in broadleaf upland forests, meadows and seeps, and North Coast coniferous forest. Elevation range: 10 – 635 feet. Blooms May – August.	No Potential. The project site contains open, grassy and wooded areas, but they are heavily disturbed and part of landscaping.	No further action recommended 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.	No Potential. The project site does not contain marsh habitat.	No further action recommended for this species.
<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 – 2,275 feet. Blooms: March – April.	No Potential. The project site does not contain lower montane coniferous forest and is not on the slopes of Mt. Tamalpais.	No further action recommended for this species.
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	Rank 4	Ponds and vernal wet areas in cismontane woodland, North Coast coniferous forest, and valley and foothill grassland. Elevation range: 50 – 1,540 feet. Blooms: February – May.	No Potential. The project site does not contain ponds or vernal wet habitat.	No further action recommended for this species.

<i>Ribes victoris</i> Victor's gooseberry	Rank 4	Mesic and shady broadleaf upland forest and chaparral. Elevation range: 3300 – 2,460 feet. Blooms: March – April.	Unlikely. The project site contains broadleaf upland forest, but it is limited, disturbed, and part of or adjacent to landscaped and heavily used areas. In addition, the project site does not contain chaparral habitat.	No further action recommended 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.	No Potential. The project site does not contain marsh or swamp habitat.	No further action recommended for this species.
<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.	No Potential. The project site does not contain serpentine or volcanic substrate.	No further action recommended 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 – 1,625 feet. Blooms: April – May.	Unlikely. The project site contains grassy areas, but they are landscaped lawn and do not constitute true grassland habitat. The project site contains limited coastal scrub that is ruderal and poor quality. In addition, the project site does not contain closed-cone coniferous forest, chaparral, or coastal prairie habitats or serpentine substrate.	No further action recommended 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 – 2,115 feet. Blooms: April – July.	No Potential. The project site does not contain serpentine substrate.	No further action recommended 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.	No Potential. The project site does not contain serpentine substrate.	No further action recommended for this species.
<i>Streptanthus glandulosus</i> var. <i>pulchellus</i> Mt. Tamalpais bristly jewelflower	Rank 1B	Chaparral, valley and foothill grassland; located on serpentine slopes. Elevation range: 490 – 2,600 feet. Blooms: May – August.	No Potential. The project site does not contain serpentine substrate.	No further action recommended for this species.
<i>Symphotrichum lentum</i> Suisun marsh aster	Rank 1B	Marshes and swamps in brackish and fresh water. Elevation range: 0 – 1,000 feet. Blooms: May – November.	No Potential. The project site does not contain marsh or swamp habitat.	No further action recommended 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 – 1,365 feet. Blooms: April – June.	No Potential. The project site contains open, sunny grassy areas, but they are landscaped lawn and do not constitute true grassland habitat. In addition, the project site does not contain coastal bluff scrub habitat, swales, or serpentine substrate.	No further action recommended for this species.
<i>Trifolium hydrophilum</i> saline clover	Rank 1B	Marshes and swamps; mesic, alkaline valley foothills and grasslands; vernal pools. Elevation range: 0 – 1,000 feet. Blooms: April – June.	No Potential. The project site does contain marsh, swamp, alkaline grassland, or vernal pool habitat.	No further action recommended for this species.

<i>Triquetrella californica</i> coastal triquetrella	Rank 1B	Thin, gravelly, rocky, or sandy soil in coastal bluff scrub, coastal scrub, valley and foothill grassland; grows within 10 miles of the coastline. Reported from trails, roadsides, picnic areas, playgrounds, and rock outcrops. Elevation range: 0 – 1,600 feet.	Moderate Potential. This species has few known occurrences, but its habitat requirements are very general, and thus its presence cannot easily be ruled out. The project site contains suitable coastal scrub and sandy substrates.	Surveys for this species are recommended prior to disturbance.
Mammals				
salt-marsh wandering shrew <i>Sorex vagrans halicoetes</i>	SSC	Confined to small remnant stands of salt marsh found around the southern arm of the San Francisco Bay in San Mateo, Santa Clara, Alameda and Contra Costa counties. Inhabits salt marshes that provide dense cover with driftwood and other debris for resting and nesting, and continuous ground moisture.	No Potential. The Study Area contains no tidal marsh habitat and is outside of this subspecies' range.	No further actions are recommended for this species.
Suisun shrew <i>Sorex ornatus sinuosus</i>	SSC	Tidal marshes of the northern shores of San Pablo and Suisun Bays. Require dense low-lying cover and driftweed and other litter above the mean high tide line for nesting and foraging.	No Potential. The Study Area contains no tidal marsh habitat.	No further actions are recommended for this species.

<p>salt-marsh harvest mouse <i>Reithrodontomys raviventris</i></p>	FE, SE, CFP	<p>Found only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but can be found in various types of vegetation with a dense thatch layer. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.</p>	<p>No Potential. The Study Area contains no tidal or brackish wetland and provides no habitat for this species.</p>	<p>No further actions are recommended for this species.</p>
<p>San Pablo vole <i>Microtus californicus sanpabloensis</i></p>	SSC	<p>Saltmarshes of San Pablo Creek, on the south shore of San Pablo Bay. Constructs burrow in soft soil. Feeds on grasses, sedges and herbs. Forms a network of runways leading from the burrow.</p>	<p>No Potential. The Study Area does not provide any tidal marsh habitat, and is outside of this subspecies' range.</p>	<p>No further actions are recommended for this species.</p>
<p>fringed myotis <i>Myotis thysanodes</i></p>	WBWG High	<p>Associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwoods/sequoia groves. Buildings, mines, and large snags are important day and night roosts.</p>	<p>Unlikely. The Study Area is not located in the typical arid, mountainous, forested habitat for this species, and roosting is unlikely. This species may occasionally forage within the Study Area.</p>	<p>No further actions are recommended for this species.</p>
<p>long-legged myotis <i>Myotis volans</i></p>	WBWG High	<p>Typically occupies mountainous or relatively rugged areas, in dry coniferous forests, and sometimes in oak or streamside woodlands, and deserts. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.</p>	<p>Unlikely. The Study Area is not located in the typical arid, mountainous, forested habitat for this species, and roosting is unlikely. This species may occasionally forage within the Study Area.</p>	<p>No further actions are recommended for this species.</p>

western red bat <i>Lasiurus blossevillii</i>	SSC, WBWG High	This species is typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamore).	Unlikely. The Study Area does not contain riparian habitats or other habitats typically associated with this species. This species may occasionally forage within the Study Area, but roosting is unlikely.	No further actions are recommended for this species.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SC, SSC, WBWG High	Primarily found in rural settings in a wide variety of habitats including oak woodlands and mixed coniferous-deciduous forest. Day roosts are highly associated with caves and mines, but have also been reported to utilize buildings, bridges, rock crevices and hollow trees as roost sites. Very sensitive to human disturbance.	Moderate Potential. Unoccupied buildings and trees within the Study Area may provide roosting habitat for this species.	Bat roost assessments of trees and buildings within the Study Area are recommended. Pre-construction surveys likely required prior to construction during the maternity season from April 1 to August 31.
hoary bat <i>Lasiurus cinereus</i>	WBWG: Medium	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Unlikely. Trees found within the Study Area are not typical roosting trees for the species. May occasionally forage over the Study Area during migration.	No further actions are recommended for this species.

<p>pallid bat <i>Antrozous pallidus</i></p>	<p>SSC, WBWG High</p>	<p>Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include old ranch buildings, rocky outcrops and caves within sandstone outcroppings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.</p>	<p>Moderate Potential. CNDDDB records show maternity colonies of this species in residential buildings surrounded by oak-bay woodland 6.2 miles from the Study Area (CDFW 2014). Trees, unoccupied buildings, and other structures within the Study Area may provide roosting habitat. Presence of this species may also indicate suitable habitat for other sensitive bats.</p>	<p>Bat roost assessments of trees and buildings within the Study Area are recommended. Pre-construction surveys likely required prior to construction during the maternity season from April 1 to August 31.</p>
<p>American badger <i>Taxidea taxus</i></p>	<p>SSC</p>	<p>Most abundant in drier open stages of most grassland, shrub, forest, and herbaceous habitats. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.</p>	<p>Unlikely. The Study Area does not contain large grassland areas with a suitable prey base for this species. Furthermore, the Study Area is surrounded by development and open water, precluding access.</p>	<p>No further actions are recommended for this species.</p>
<p>Ringtail (ring-tailed cat) <i>Bassariscus astutus</i></p>	<p>CFP</p>	<p>Is widely distributed throughout most of California, but absent from some portions of the Central Valley and northeastern California. The species is nocturnal, primarily carnivorous and is associated with a mixture of dry forest and shrubland in close association with rocky areas and riparian habitat, using hollow trees and cavities for shelter. Usually not found more than 1 km (0.6 mi) from permanent water (Zeiner et al.1990).</p>	<p>Unlikely. The Study Area does not contain riparian or shrubland habitat typical for this species, and is surrounded by development and open water, precluding access.</p>	<p>No further actions are recommended for this species.</p>

Steller (=northern) sea-lion <i>Eumetopias jubatus</i>	FD, MMPA	Breeds on Año Nuevo, San Miguel and Farallon islands, Point Saint George, and Sugarloaf. Hauls-out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance.	Unlikely. The Study Area is outside the typical range of the species and areas within the Study Area that could be used as haul-outs are highly disturbed by park visitors.	No further actions are recommended for this species.
Birds				
great egret <i>Ardea alba</i>	none (rookeries documented and protected by CDFW))	Primarily a year-round resident. Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	Unlikely. While rookeries have been documented within 2 miles of the Study Area, no signs of established rookeries within the Study Area were observed during the September 2, 2014 site visit (CDFW 2014). Individuals may forage along the shore within the Study Area.	Project activities are unlikely to result in take of the species, as impacts are temporary and would not affect nesting. No further actions are recommended for this species.
great blue heron <i>Ardea herodias</i>	none (rookeries documented and protected by CDFW)	Primarily a year-round resident. Colonial nester in tall trees, cliffs, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Unlikely. While rookeries have been documented within 2 miles of the Study Area, no signs of established rookeries within the Study Area were observed during the September 2, 2014 site visit (CDFW 2014). Individuals may forage along the shore within the Study Area.	Project activities are unlikely to result in take of the species, as impacts are temporary and would not affect nesting. No further actions are recommended for this species.

<p>snowy egret <i>Egretta thula</i></p>	<p>none (rookeries documented and protected by CDFW)</p>	<p>Primarily a year-round resident. Colonial nester, with nest sites situated in trees or protected beds of emergent vegetation. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.</p>	<p>Unlikely. While rookeries have been documented within 2 miles of the Study Area, no signs of established rookeries within the Study Area were observed during the September 2, 2014 site visit (CDFW 2014). Individuals may forage along the shore within the Study Area.</p>	<p>Project activities are unlikely to result in take of the species, as impacts are temporary and would not affect nesting. No further actions are recommended for this species.</p>
<p>black-crowned night heron <i>Nycticorax nycticorax</i></p>	<p>none (rookeries documented and protected by CDFW)</p>	<p>Primarily a year-round resident. Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots. Largely nocturnal, roosting during the day.</p>	<p>Unlikely. While rookeries have been documented within 2 miles of the Study Area, no signs of established rookeries within the Study Area were observed during the September 2, 2014 site visit (CDFW 2014). Individuals may forage along the shore within the Study Area.</p>	<p>Project activities are unlikely to result in take of the species, as impacts are temporary and would not affect nesting. No further actions are recommended for this species.</p>
<p>American white pelican <i>Pelecanus erythrorhynchos</i></p>	<p>SSC</p>	<p>Colonial nester on large interior lakes. Nests on large lakes, providing safe roosting and breeding places in the form of well-sequestered islets. Winter visitor to the San Francisco Bay Area.</p>	<p>Moderate Potential. Individuals may use the pier within the Study Area for daily loafing and may occasionally forage in the surrounding water. Does not nest in the San Francisco Bay Area.</p>	<p>Project activities are unlikely to result in take of the species, as impacts are temporary and would not affect nesting. No further actions are recommended for this species.</p>
<p>California brown pelican <i>Pelecanus occidentalis californicus</i></p>	<p>FD, SD, CFP</p>	<p>Winter/non-breeding visitor to estuarine and coastal marine waters. Nests in colonies on offshore islands, from the Channel Islands southward, that are free of mammalian predators and human disturbance. Individuals use breakwaters, jetties, sand bars, etc. for loafing and roosting.</p>	<p>Moderate Potential. Individuals may use the pier within the Study Area for daily loafing and may occasionally forage in the surrounding water. Does not nest in northern California.</p>	<p>Project activities are unlikely to result in take of the species, as impacts are temporary and would not affect nesting. No further actions are recommended for this species.</p>

short-tailed albatross <i>Diomedea albatrus</i>	FE, SSC	Found in the open ocean. Breeds on remote islands in the Pacific Ocean.	No Potential. The Study Area is outside the typical range of the species.	No further actions are recommended for this species.
common loon <i>Gavia immer</i>	SSC	Winter visitor; does not nest in the vicinity San Francisco Bay. Aquatic, generally found in large, deep water bodies with abundant fish.	Unlikely. The Study Area provides no suitable aquatic habitat for the species. Individuals may incidentally occur in adjacent Bay waters.	No further actions are recommended for this species.
northern harrier <i>Circus cyaneus</i>	SSC	Primarily a year-round resident in the region. Nests and forages in open grassland and wetland habitats, usually in association with coastal salt and freshwater marshes. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. Preys mostly on small mammals.	Unlikely. The Study Area does not contain grassland or wetland habitats to support nesting or foraging in this species. This species may fly over the Study Area.	No further actions are recommended for this species.
white-tailed kite <i>Elanus leucurus</i>	CFP	Year-round resident of coastal and valley lowlands. Occurs in a variety of open habitats, including agricultural areas. Preys on small mammals, other vertebrates, and insects. Nests in small to large trees, often at habitat edges.	Unlikely. The Study Area does not contain grassland habitat typical for foraging in this species and trees within the Study Area provide marginal nesting habitat.	No further actions are recommended for this species.
bald eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP, BCC	Primarily a winter visitor in the region; small numbers are present year-round and breed. Favors areas near larger bodies of water with abundant fish: lakes and reservoirs, rivers, and the ocean. Nests in large, old-growth, or dominant live tree with open branchwork. Often roosts communally in winter.	Unlikely. The open water adjacent to the Study Area provides some foraging habitat for this species. However, the Study Area does not contain trees suitable for nesting.	No further actions are recommended for this species.

golden eagle <i>Aquila chrysaetos</i>	CFP, BCC	Resident in rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees in open areas.	Unlikely. The Study Area does not provide large open habitats to support foraging or nesting in this species. This species may fly over the Study Area.	No further actions are recommended for this species.
American peregrine falcon <i>Falco peregrinus anatum</i>	FD, SD, CFP, BCC	Year-round resident and winter visitor in the region. Habitat variable, though usually associated with coasts, bays, marshes and other bodies of water. Nests on sheer, protected cliffs and also on manmade structures including buildings and bridges. Preys on birds, especially waterbirds. Forages widely.	Unlikely. This species may occasionally forage within and adjacent to the Study Area, but nesting is unlikely as there are no cliffs and buildings within the Study Area provide marginal nesting habitat.	No further actions are recommended for this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP, BCC	Extremely secretive year-round resident of emergent marshes in the northern San Francisco Bay Estuary and portions of the Central Valley. Occurs in salt, brackish and freshwater marshes. Nests on the ground in dense stands of emergent vegetation, usually near bodies of waters.	No Potential. The Study Area does not provide any suitable marsh habitat for this species.	No further actions are recommended for this species.
California clapper rail <i>Rallus longirostrisobsoletus</i>	FE, SE, CFP	Year-round resident in tidal and brackish marshes of the San Francisco Bay Estuary. Requires networks of tidal sloughs and mud flats for foraging, and dense marsh vegetation for nesting. Associated with abundant growth of cordgrass and pickleweed. Largest populations in south San Francisco Bay.	No Potential. The Study Area does not provide any suitable marsh habitat for this species.	No further actions are recommended for this species.

black oystercatcher <i>Haematopus bachmani</i>	BCC	Resident on rocky shores of marine habitats along almost the entire California coast and adjacent islands. Breeds on undisturbed, rocky, open shores and cliffs.	Unlikely. While this species may occasionally forage within the Study Area, breeding is unlikely as rocky shore habitats are of poor quality and are frequently disturbed by park visitors.	No further actions are recommended for this species.
western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, BCC, SSC	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor on sandy beaches, salt pond levees and shores of large alkali lakes. Requires sandy, gravelly or friable soils for nesting.	Unlikely. The beaches within the Study Area are regularly disturbed by park visitors and thus are poor breeding habitat for this species.	No further actions are recommended for this species.
California least tern <i>Sternula</i> (formerly <i>Sterna</i>) <i>antillarum browni</i>	FE, SE, CFP	Summer resident, nesting colonially in coastal and estuarine areas from San Francisco Bay south. Breeding colonies in the San Francisco Bay Estuary found on protected estuarine shores and salt ponds. Prefers barren or sparsely vegetated, flat substrates near water. Forages for small surface fish along shores, coasts, etc.	Unlikely. The beaches within the Study Area are regularly disturbed by park visitors and thus are poor breeding habitat. Least terns within the San Francisco Bay are generally found in Alameda and Santa Clara Counties.	No further actions are recommended for this species.
Caspian Tern <i>Hydroprogne caspia</i>	BCC	Nests in small colonies inland and along the coast on sandy estuarine shores, levees, and salt ponds. Found in inland fresh-water lakes and marshes; also, brackish or salt waters of estuaries and bays.	Unlikely. The Study Area does not contain levees, salt ponds, or other typical breeding habitat for this species. Beaches are highly disturbed, precluding nesting.	No further actions are recommended for this species.

long-billed curlew <i>Numerius americanus</i>	SSC	Winter visitor to large coastal estuaries, upland herbaceous areas, and agricultural lands. Within California, nests only in the northeastern portion of the state in wet meadow habitat.	Unlikely. The Study Area does not contain suitable mudflat or grassland foraging habitat for this species. May occur on adjacent mudflat habitat during low-tide conditions. Does not breed in the vicinity of San Francisco Bay.	No further actions are recommended for this species
marbled murrelet <i>Brachyramphus marmoratus</i>	FT, SE	Feeds near shore; nests inland along the Pacific coast, from Eureka to Oregon border, and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland. Nests often built in Douglas-fir or redwood stands containing platform-like branches.	No Potential. The Study Area and adjacent areas do not contain suitable nesting habitat, and this coastal marine species does not occur in the interior portions of San Francisco Bay.	No further actions are recommended for this species.
burrowing owl <i>Athene cunicularia</i>	BCC, SSC	Year-round resident and winter visitor in open, dry grassland and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Nests and roosts in old mammal burrows, most commonly those of ground squirrels. Preys upon insects and small vertebrates.	Unlikely. This species is extirpated as a breeder in Marin County (Shuford and Gardali 2008), and the Study Area is unlikely to support wintering due to lack of contiguous open grassland habitat.	No further actions are recommended for this species.
long-eared owl <i>Asio otus</i>	SSC	Primarily a year-round resident. Inhabits riparian bottomlands to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Requires dense foliage cover within occupied tree stands, adjacent open land productive of mice for foraging, and the presence of old nests of other birds for nesting.	Unlikely. The oak woodlands within the Study Area are not as dense as what is typical for nesting and are relatively small in size. More suitable woodland habitats are found nearby. This species may occasionally pass through or forage within the Study Area.	No further actions are recommended for this species.

<p>short-eared owl <i>Asio flammeus</i></p>	<p>SSC</p>	<p>Primarily a winter visitor in the region, with very restricted local breeding. Occurs in open, treeless areas (e.g. marshes, grasslands) with elevated sites for foraging perches and dense vegetation for roosting and nesting. Preys on small mammals, most particularly voles.</p>	<p>Unlikely. Documented nesting by this species within Marin County is very limited (Shuford 1993), and the Study Area is unlikely to support wintering due to the absence of unmowed, open grassland habitat.</p>	<p>No further actions are recommended for this species.</p>
<p>Vaux's swift <i>Chaetura vauxi</i></p>	<p>SSC</p>	<p>Summer resident, primarily in forested areas. Nests in tree cavities, favoring those with a large vertical extent. Also uses chimneys and other manmade substrates. Forages widely for aerial insects, often over or near rivers and lakes.</p>	<p>Unlikely. The Study Area is outside this species' local breeding range (Shuford and Gardali 2008). May pass through the Study Area during migration.</p>	<p>No further actions are recommended for this species.</p>
<p>northern spotted owl <i>Strix occidentalis caurina</i></p>	<p>FT, SC (threatened), SSC</p>	<p>Year-round resident of dense, structurally-complex forests in western California north of San Francisco Bay. Old-growth coniferous stands provide typical habitat. Favors a high incidence of trees with large cavities, snags, and an abundance of large, dead wood on the ground. Nests on platform-like substrates in the canopy. Also requires open space within and below the upper canopy to fly. Preys on nocturnal mammals.</p>	<p>Unlikely. Woodland within the Study Area is comprised primarily of oaks and eucalyptus, is relatively sparse, and lacks the habitat elements favored by this subspecies.</p>	<p>No further actions are recommended for this species.</p>

olive-sided flycatcher <i>Contopus cooperi</i>	SSC, BCC	Summer resident. Breeds in montane coniferous forests, as well as mixed forests along the coast. Often associated with edge habitats.	Moderate Potential. The Study Area contains woodland habitat that could support breeding in this species, and the mix of human-influenced and more natural habitats could support foraging. Furthermore, Shuford and Gardali (2008) note that this species has been documented to use eucalyptus trees for breeding.	If ground disturbance and/or vegetation removal occurs during the breeding bird season, (February 1 - August 31), a breeding bird survey should be conducted.
loggerhead shrike <i>Lanius ludovicianus</i>	SSC, BCC	Primarily a year-round resident in open habitats including woodland, grassland, savannah and agricultural areas. 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 a densely-foliaged shrub or tree.	Unlikely. The Study Area and adjacent areas contain suboptimal open habitat with scattered trees and low perches for the species.	No further actions are recommended for this species.
purple martin <i>Progne subis</i>	SSC	Summer resident. In northwestern California, typically breeds in coniferous forest and woodlands. Nest in tree cavities, usually high off the ground, and in the cavities of manmade structures (e.g. bridges, utility poles). Forages for aerial insects.	Unlikely. Although tree snags and cavities are present within the Study Area, this species prefers coniferous trees for nesting in this region, and there are no recent nesting records for eastern Marin County (Shuford and Gardali 2008).	No further actions are recommended for this species.
bank swallow <i>Riparia riparia</i>	ST	Summer resident of lowland habitats in western California. Nests colonially in areas with vertical cliffs and banks with fine-textured or sandy soils in which to dig nesting burrows.	Unlikely. This species is not currently known to nest in Marin County and is unlikely to occur even during migration.	No further actions are recommended for this species.

(Brewster's) yellow warbler <i>Dendroica petechia brewsteri</i>	SSC	Summer resident, nesting in riparian stands of willows, cottonwoods, aspens, sycamores, and alders. Also nests in suitable montane shrubbery. Occurs widely during migration.	Unlikely. The Study Area does not contain suitable riparian nesting habitat for this species. May pass through the Study Area during migration.	No further actions are recommended for this species.
San Francisco (saltmarsh) common yellowthroat <i>Geothlypis trichas sinuosa</i>	SSC, BCC	Year-round resident of marshes and wetlands with dense vegetation, including tidal, brackish and freshwater. Requires continuous, thick cover down to water for foraging.	Unlikely. The Study Area does not contain marshes or wetlands with suitably dense emergent vegetation to support nesting in this species.	No further actions are recommended for this species.
yellow-breasted chat <i>Icteria virens</i>	SSC	Summer resident, utilizing riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	Unlikely. The Study Area does not contain suitable riparian nesting habitat for this species.	No further actions are recommended for this species.
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Year-round resident subspecies, associated with the coastal fog belt. Occupies upper tidally-influenced habitats and moist grasslands, often occurring where wetland communities merge into grassland. Nests in vegetation on or near the ground.	Unlikely. The Study Area does not contain any tidally influenced, moist grassland habitats to support breeding in this species.	No further actions are recommended for this species.
grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Summer resident. Nests in open grassland habitats, generally with low- to moderate-height grasses and scattered shrubs. Nest typically placed on the ground and well-hidden. Secretive.	Unlikely. The Study Area does not contain the grassland or shrubland habitats typical for this species.	No further actions are recommended for this species.

Bell's Sage Sparrow <i>Amphispiza belli belli</i>	BCC, SSC, DFG:WL	(Nesting) Nests in chaparral dominated by dense stands of chamise. Found in coastal sage scrub in southern portions of range. Nest is typically located on the ground beneath a shrub or in a shrub 6 to 18 inches above ground. Territories about 50 yards apart.	Unlikely. The Study Area does not contain the chemise or high quality scrub habitats typical for this species.	No further actions are recommended for this species.
Alameda song sparrow <i>Melospiza melodia pusillula</i>	SSC	Year-round resident of San Francisco Bay tidal marshes, including in northeastern San Francisco Bay. Requires dense vegetation, including in higher-elevation areas. Also requires relatively open ground for foraging.	No Potential. The Study Area does not contain tidal marsh habitat and is outside of this subspecies' range.	No further actions are recommended for this species.
Samuels (San Pablo) song sparrow <i>Melospiza melodia samuelis</i>	SSC	Year round-resident of San Pablo Bay and northwestern San Francisco Bay tidal marshes. Associated with dense upper marsh vegetation, where nests are placed high enough to avoid flooding by high tides. Also requires relatively open adjacent ground for foraging.	Unlikely. The Study Area does not contain tidal marsh to support nesting in this species.	No further actions are recommended for this species.
Allen's hummingbird <i>Selaphorus sasin</i>	BCC	Breeds along the California coastline in habitats including mixed evergreen, Douglas fir, redwood and Bishop pine forests, riparian woodlands, nonnative eucalyptus and planted cypress groves, and occasionally live oak woodlands and coastal scrub with at least a scattering of trees, such as on north-facing slopes	Moderate Potential. The Study Area contains some nectar-producing flowers and may provide marginal breeding habitat for the species.	If ground disturbance and/or vegetation removal occurs during the breeding bird season, (February 1 - August 31), a breeding bird survey should be conducted.

Rufous Hummingbird <i>Selasphorus rufus</i>	BCC	Spring migrant; does not breed in California. Favors habitats rich in nectar-producing flowers. Nests in berry tangles, shrubs, deciduous forests and conifers. Favors habitats rich in nectar-producing flowers.	Unlikely. This species does not breed in California, may occasionally pass through the Study Area during migration.	No further actions are recommended for this species.
Lawrence's goldfinch <i>Carduelis lawrencei</i>	BCC	Resident to nomadic; inhabits oak woodlands, chaparral, riparian woodlands and other areas, often near water. Not known to breed in the vicinity of San Francisco Bay.	Unlikely. This species is rarely observed in the vicinity of San Francisco Bay and has very few breeding records in Marin County, none of which were in the vicinity of the Study Area (Shuford 1993).	No further actions are recommended for this species.
oak titmouse <i>Baeolophus inornatus</i>	BCC	Oak woodland and savannah, open broad-leaved evergreen forests containing oaks, and riparian woodlands. Associated with oak and pine-oak woodland and arborescent chaparral	Present. This species was observed during the September 2, 2014 site visit in the oak/bay forest habitat on the northern side of the Study Area.	If ground disturbance and/or vegetation removal occurs during the breeding bird season, (February 1 - August 31), a breeding bird survey should be conducted.
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC	Resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks.	Present. This species was observed during the September 2, 2014 site visit in the oak/bay forest habitat on the northern side of the Study Area.	If ground disturbance and/or vegetation removal occurs during the breeding bird season, (February 1 - August 31), a breeding bird survey should be conducted.

tricolored blackbird <i>Agelaius tricolor</i>	SSC	Year-round resident in California lowlands; most numerous in the Central Valley. Nests colonially along ponds or in marshes with dense and tall emergent vegetation (tules, cattails, etc.), and/or dense riparian shrubbery. Highly gregarious and colonial; breeding aggregations tend to be dense and large.	Unlikely. The Study Area does not provide any marsh or riparian habitat suitable for nesting by this species.	No further actions are recommended for this species.
yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	SSC	Migrant and local summer resident. Nests colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or larger ponds. Forages primarily on large aquatic insects during the breeding period.	Unlikely. This species is a rare breeder in the San Francisco Bay Area, and riparian habitat within the Study Area is not sufficient to support nesting.	No further actions are recommended for this species.
Reptiles and Amphibians				
foothill yellow-legged frog <i>Rana boylei</i>	SSC	Occurs in direct association with perennial rocky creeks and streams in a variety of habitats. Favors an open canopy that allows for sunlit areas. Feed on both aquatic and terrestrial invertebrates.	Unlikely. The Study Area does not contain deep water streams and, thus, provides no suitable habitat for the species.	No further actions are recommended for this species.

California red-legged frog <i>Rana draytonii</i>	FT, SSC	Associated with quiet, perennial to intermittent ponds, stream backwaters and wetlands. Prefers shorelines with extensive emergent and/or riparian vegetation. Requires at least 20 weeks of continuous inundation for successful breeding. Documented to disperse through upland habitats during and after rains.	Unlikely. There are no aquatic features within or adjacent to the Study Area to support breeding in this species. Additionally, this area does not provide suitable non-breeding aquatic habitat due to its proximity to the bay, distance from known occurrences, and distance from breeding habitat. No suitable breeding habitat is located within or adjacent to the Study Area that would support dispersal and the Study Area is encompassed by development and San Francisco Bay.	No further actions are recommended for this species.
California tiger salamander <i>Ambystoma californiense</i>	FE/FT, ST, SSC	Inhabits grasslands, oak woodland and scrublands. Spends most of the year underground in mammal burrows and Adults utilize mammal burrows as estivation habitat.	No Potential. There is no breeding habitat within the Study Area. Grassland within the proposed work area is mowed regularly.	No further actions are recommended for this species.
Pacific (western) pond turtle <i>Emys marmorata</i>	SSC	Thoroughly aquatic, occurring in ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites (e.g., logs, rocks, vegetation mats, open mud banks), and adjacent upland habitat with friable soils for egg-laying (e.g., banks, riparian areas, grassland).	No Potential. The Study Area does not contain suitable aquatic habitat for the species.	No further actions are recommended for this species.
leatherback turtle <i>Dermochelys coriacea</i>	FE	Pelagic, living in the open ocean and occasionally entering the shallower water of bays and estuaries. Nesting beaches are sandy with a gradual slope and a deep water approach.	Unlikely. Although this species lives mostly in the open ocean, in 2012 sightings were documented in the San Francisco Bay near Marin County. No nesting habitat occurs within the Study Area.	No further actions are recommended for this species.

green sea turtle <i>Chelonia mydas</i>	FT (west coast populations)	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.	Unlikely. This species is uncommon along the California coast. This turtles prefers warm waters and only a few sightings have been documented in the San Francisco Bay Area.	No further actions are recommended for this species.
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT, ST	Inhabits chaparral and foothill-hardwood habitats in the eastern Bay Area. Prefers south-facing slopes and ravines with rock outcroppings where shrubs form a vegetative mosaic with oak trees and grasses.	No potential. The Study Area does not contain suitable chaparral or foothill- hardwood habitat for the species.	No further actions are recommended for this species.
Fishes				
river lamprey <i>Lampetra ayersi</i>	SSC	An anadromous and parasitic fish found from central California to British Columbia. In the San Francisco Bay region, spawns in freshwater tributaries to the Delta and San Pablo and Suisun Bay	Moderate Potential. This species is known to occur in the waters of San Francisco Bay and may pass through the bay waters of the Study Area during migration.	If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.
green sturgeon <i>Acipenser medirostris</i>	FT, SSC, NMFS	Spawn in deep pools or "holes" in large, turbulent, freshwater river mainstems. Adults live in oceanic waters, bays, and estuaries when not spawning. Species is known to forage in estuaries and bays.	Moderate Potential. This species is known to occur in the waters of San Francisco Bay and may pass through the bay waters of the Study Area.	If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.

<p>Pacific herring <i>Clupea pallasii</i></p>	<p>None (commercially important species)</p>	<p>A commercially important fishery in the San Francisco Bay. Typically spawn in rocky intertidal areas or areas with marine vegetation, may also spawn on boats, pilings, tires, and other debris; typically avoid spawning in sand and mud.</p>	<p>High Potential. This species is known to occur in the waters of San Francisco Bay. Pier pilings adjacent to the Study Area provide suitable spawning structures for the species.</p>	<p>Dredging and similar operations are suspended by CDFW from Dec 1st – March 1st in San Francisco Bay; if work is to occur during this time then approval from CDFW is required. No further actions are recommended for this species if work is to occur out of water or after March 1st and before December 1st if in water.</p>
<p>coho salmon, central California coast ESU <i>Oncorhynchus kisutch</i></p>	<p>FE, SE, NMFS</p>	<p>Anadromous, spending most of life cycle in the ocean. Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Spawns in coastal creeks and streams. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.</p>	<p>Unlikely. Coho salmon are considered extirpated in San Francisco Bay and its associated watershed.</p>	<p>No further actions are recommended for this species.</p>

<p>steelhead, central California coast DPS <i>Oncorhynchus mykiss</i></p>	<p>FT, NMFS</p>	<p>Anadromous, spending most of life cycle in the ocean. 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.</p>	<p>Moderate Potential. Water in the Study Area does not provide spawning habitat for the species; however, the bay waters within the Study Area are within the range of this species and individuals can occur in the area during migration.</p>	<p>If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.</p>
<p>steelhead, Central Valley DPS <i>Oncorhynchus mykiss</i></p>	<p>FT, NMFS</p>	<p>Anadromous, spending most of life cycle in the ocean. Occurs in the Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo bays and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.</p>	<p>Moderate Potential. Water in the Study Area does not provide spawning habitat for the species; however, the bay waters within the Study Area are within the range of this species and individuals can occur in the area during migration.</p>	<p>If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.</p>
<p>chinook salmon, Sacramento winter-run ESU <i>Oncorhynchus tshawytscha</i></p>	<p>FE, SE, NMFS</p>	<p>Occurs in the Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees C for spawning. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles typically migrate to the ocean soon after emergence from the gravel.</p>	<p>Moderate Potential. Water in the Study Area does not provide spawning habitat for the species; however, the bay waters within the Study Area are within the range of this species and individuals can occur in the area during migration.</p>	<p>If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.</p>

chinook salmon, Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	FT, ST, NMFS	Anadromous, spending most of life cycle in the ocean. Federal listing includes populations spawning in the Sacramento River and its tributaries. 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.	Moderate Potential. Water in the Study Area does not provide spawning habitat for the species; however, the bay waters within the Study Area are within the range of this species and individuals can occur in the area during migration.	If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.
chinook Salmon - Central Valley Fall/Late Fall-run ESU <i>Oncorhynchus tshawytscha</i>	SSC, NMFS	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean	Moderate Potential. Water in the Study Area does not provide spawning habitat for the species; however, the bay waters within the Study Area are within the range of this species and individuals can occur in the area during migration.	If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.
euchalon <i>Thaleichthys pacificus</i>	FT, SSC	Anadromous. Found in Klamath River, Mad River, and Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand and woody debris.	Unlikely. Although there are recent documented occurrences of this species in San Francisco Bay within two miles of the Study Area (CDFW 2014), San Francisco Bay is south of the typical range of this species.	No further actions are recommended for this species.

delta smelt <i>Hypomesus transpacificus</i>	FT, SE	Endemic to the Sacramento Delta, where it is distributed from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties. The delta smelt is a pelagic and euryhaline species.	No Potential. The Study Area does not contain estuarine aquatic habitat for this species and is outside of its range.	No further actions are recommended for this species.
longfin smelt <i>Spirinchus thaleichthys</i>	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.	Moderate Potential. The bay waters of the Study Area are within the known range of the species.	If in-water work occurs, consultation with the appropriate agencies may be necessary. Construction BMPs and work windows are some of the typical measures taken to reduce impacts to fish species.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	SSC	Endemic to California's Central Valley and the Sacramento-San Joaquin Delta. Primarily freshwater fish, but are tolerant of moderate salinity and can survive in water with salinities of 10-18 parts per thousand. Spawn on submerged vegetation in temporarily flooded upland and riparian habitat. Spawning occurs in the lower reaches of rivers, dead-end sloughs and in the larger sloughs.	Unlikely. The Study Area does not provide the freshwater habitats required for this species, and is outside of this species' typical range.	No further actions are recommended for this species.

Sacramento perch <i>Archoplites interruptus</i>	SSC (within native range)	Historically, this species occupies sloughs, lakes, and slow moving rivers in Central California. Native range for the species is Sacramento - San Joaquin, Pajaro, and Salinas River drainages, and Clear Lake in Lake County.	No Potential. The Study Area does not provide the freshwater habitats required for this species, and is outside of this species' range.	No further actions are recommended for this species.
tidewater goby <i>Eucyclogobius newberryi</i>	FE, SSC	Habitat is characterized by brackish water in shallow lagoons and in lower stream reaches where the water is fairly still, but not stagnant. Restricted to waters with low to moderate salinities in California's coastal wetland habitats.	No Potential. The Study Area does not provide the required brackish water or similar habitat for this species. Species is considered extirpated from San Francisco Bay	No further actions are recommended for this species.
Invertebrates				
black abalone <i>Haliotes cracherodii</i>	FE	Found wedged into crevices, cracks, and holes of intertidal and shallow subtidal rocks, where they are fairly concealed. Generally occur in areas of moderate to high surf. However, when immersed or during night time, this species has been observed using its muscular foot to move freely over rock surfaces. Able to withstand extreme variation in environmental conditions such as temperature, salinity, moisture, and wave action.	No Potential. The Study Area is outside the range for this species.	No further actions are recommended for this species.

white abalone <i>Haliotes sorenseni</i>	FE	Found in open low and high relief rock or boulder habitat that is interspersed with sand channels. Feed upon <i>Laminaria farlowii</i> , <i>Agarum fimbriatum</i> , and a variety of red algae.	No Potential. The Study Area lacks suitable habitat and is outside the range of the species.	No further actions are recommended for this species.
California freshwater shrimp <i>Syncaris pacifica</i>	FE, SE	Inhabits lowland perennial streams in Sonoma, Marin and Napa counties. Found within stream pools, in areas away from the main current, where there are often undercut banks, exposed root systems, and vegetation hanging into the water.	No Potential. The Study Area does not provide perennial stream habitat for the species and is outside its documented range. There are no CNDDDB occurrences within the four relevant USGS quads searched (CDFW 2014).	No further actions are recommended for this species.
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE	Inhabits coastal mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is <i>Sedum spathulifolium</i> .	No Potential. The Study Area is outside of the very restricted known range of this species and does not contain suitable habitat or the host plant.	No further actions are recommended for this species.
monarch butterfly <i>Danaus plexippus</i>	none (roosts protected by CDFW)	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby.	High Potential. The Study Area contains extensive eucalyptus groves, and the Study Area contained a roost in the late 1980s. Individual monarchs likely occur within the Study Area, especially during migration.	If construction or tree removal occurs during the wintering season from October 1 to February 28, pre-construction surveys are recommended. If a roost is found, consultation with CDFW may be required.

mission blue butterfly <i>Icaricia icarioides missionensis</i>	FE	Inhabits grasslands of the San Francisco peninsula and portions of southern Marin County. Three larval host plants occur in Marin County: <i>Lupinus albifrons</i> , <i>L. variicolor</i> , and <i>L. formosus</i> , of which <i>L. albifrons</i> is favored.	No Potential. The Study Area is outside of the very restricted known range of this species and does not contain suitable habitat or the host plant.	No further actions are recommended for this species.
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be <i>Viola adunca</i> .	No Potential. The Study Area is outside of the very restricted known range of this species and does not contain suitable habitat or the host plant.	No further actions are recommended for this species.

*** Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
FD	Federal Delisted
FC	Federal Candidate
BCC	USFWS Birds of Conservation Concern
MMPA	Species protected under the Marine Mammal Protection Act
NMFS	Species under the Jurisdiction of the National Marine Fisheries Service
SE	State Endangered
ST	State Threatened
SC	State Candidate
SR	State Rare
SSC	CDFG Species of Special Concern
CFP	CDFG Fully Protected Animal
WBWG	Western Bat Working Group (High or Medium) Priority species
CCC	California Coastal Commission
G1, S1	NatureServe:, Globally Imperiled (G1), Statewide Imperiled (S1)

California Rare Plant Ranks

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)

Species Evaluations:

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.

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

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APPENDIX C

SITE ASSESSMENT & SURVEY FOR CALIFORNIA RED-LEGGED FROG

APPENDIX C-1

**SITE ASSESSMENT
FOR
CALIFORNIA RED-LEGGED FROG
WILDLIFE RESEARCH ASSOCIATES, MARCH 2015**

**SITE ASSESSMENT
For
CALIFORNIA RED-LEGGED FROG**

**McNears Beach Park
Santa Rafael, Marin County**

March 20, 2015

Prepared for:

Matt Sagues
Marin County Parks
3501 Civic Center Drive, Ste 260
Santa Rafael, CA 94903
415-507-2686
MSagues@co.marin.ca.us

Prepared by:

Wildlife Research Associates
1119 Burbank Avenue
Santa Rosa, CA 95407
707-544-6273
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MCNEARS BEACH PARK

CALIFORNIA RED-LEGGED FROG SITE ASSESSMENT

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SUMMARY

This Site Assessment was prepared for Marin County Parks in preparation for focused surveys at McNears Beach Park, located at 201 Cantera Way, approximately 3 miles east of the City of San Rafael, in the eastern portion of Marin County, California. The project area, situated along the western shore of San Pablo Bay in San Rafael, southeast of China Camp State Park, occurs within the range of the California red-legged frog (*Rana draytonii*), a federally listed Threatened species, with Critical Habitat. Over the course of 20 years, CRF have been found periodically at McNears Beach Park. To evaluate the habitats the species likely inhabits within the study area, we conducted a Site Assessment, as outlined in the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005), in preparation for conducting focused surveys.

This Site Assessment, based partly on a single site-reconnaissance visit, presents the findings of a habitat evaluation, identifies the Primary Constituent Elements required by the species to sustain the essential life-history functions of the species, as required in the *Revised Guidance* (USFWS 2005). This report also includes a review of scientific literature and previous reports detailing studies conducted in the area, and the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Data Base (CNDDDB) for reported occurrences of the California red-legged frog.

Vegetation present within the study area is dominated by eucalyptus forest on the west, and non-native grasslands and coastal scrub on the north side. No ponds occur within the 55-acre park. Outside the study area, an active quarry occurs to the west, with associated scrub in areas not actively used, and several ponds created by the quarry action. North of the park is the Peacock Gap residential development, built in 1990's. Several aquatic water bodies occur within and adjacent to the study area. All are man-made.

No reported sightings of California red-legged frog occur east of Highway 101 in this portion of Marin County. The closest reported sightings of California red-legged frog occurs 7.5 miles south of the study area, in Keil Cove and more than 5 miles west in Olema Creek (CNDDDB 2015). Neither of these two areas is hydrologically connected to the study area. Focused surveys of the identified water bodies in and around the McNears Beach Park study area in 2015 will potentially provide the information on breeding sites of CRF in this general area.

INTRODUCTION

The purpose of this Site Assessment is to review and provide technical biological information on the McNears Beach Park, located in the eastern portion of Marin County, approximately 3-miles east of the City of San Rafael. The request for focused surveys is to update the fauna in the area and to evaluate the breeding habitat location for amphibians.

Wildlife Research Associates prepared this Site Assessment for the federally-listed Threatened California red-legged frog (*Rana draytonii*, hereafter CRF) of a study area that occurs within a semi residential, open space area in the northern portion of the range of the CRF (USFWS 2002). A Site Assessment is required by the U.S. Fish and Wildlife Service (USFWS) to assess the status of the species on site and in the vicinity of a proposed study area. The study methods and report of this Site Assessment conform to the guidelines outlined in the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005) and presents the results of our investigation. Identified in this report are terrestrial habitats and breeding sites or other aquatic features that may provide habitat for CRF, both on site and within 1.24 miles.

This Site Assessment does not evaluate the potential impacts to the species. This Site Assessment was conducted in preparation for focused surveys for California red-legged frog to determine the potential breeding location of the species in this area of Marin County. Over the course of 20 years, CRF have been found periodically in the winter in the swimming pool at McNears Beach Park. No suitable breeding habitat occurs within the park boundaries, although an ephemeral wetland occurs on the eastern portion of the park that may provide a movement corridor from the west to the east. If CRF are found within the study area, a Section 7 or 10 consultation with the USFWS to prevent take of individuals will be required.

Site Location

McNears Beach Park is located at 201 Cantera Way, on the east side of Point San Pedro Road, on the western portion of the San Pablo Bay. The study area is situated southeast of China Camp State Park and north of San Pedro (Figure 1).

PROJECT DESCRIPTION

The 55-acre McNears Beach Park site supports several public facilities, including a swimming pool and wading pool, a snack bar, sand volleyball courts, several group picnic areas of varying size, expansive turf areas, and newly renovated tennis courts. The pool and the snack bar operate during the summer season only. Maintenance during the winter months consists of checking the pools twice a day to retrieve debris and wildlife.

METHODS

Literature Review: Background research was conducted prior to the initiation of field surveys. Information on locations of CRF was compiled through a review of the California Natural Diversity Data Base (CNDDDB 2015) for the San Quentin, San Rafael, Petaluma Point, and Novato 7.5-minute topographic quadrangles. The CNDDDB was reviewed specifically for reported occurrences of CRF within 1 mile of the study area, or the closest reported sighting, in order to determine a pattern of dispersal in the area. The CNDDDB provides the best available information regarding species presence; however, limitations of the database include the reliance of voluntary submittal of data by field biologists, typically, only those areas that are developed have had surveys conducted and those areas not planned for development rarely have surveys conducted. Typically, listed species are surveyed more than non-listed species, providing a bias in coverage of species.

Other sources of information regarding CRF locations include previously reported locations from the U.C. Berkeley Museum of Vertebrate Zoology and the California Academy of Sciences that have not been included in the CNDDDB.

We also reviewed the California Essential Habitat Connectivity Plan (Spencer, et al. 2010) for identified habitat linkages that are to be preserved in the future.

Field Work: Trish Tatarian, Wildlife Research Associates, met with staff from Marin County Parks, including Matt Sagues (Senior Resource Planner), and Sam Abercrombie (Resource Specialist), on March 13, 2015 for the field reconnaissance visit. Trish evaluated the habitat areas within the proposed 55-acre park, focusing on the ephemeral wetland on the west side of the study area. For purposes of this report, the **study area** includes all lands within the 55-acre project area. Aerial photograph analysis was conducted of appropriate ponds and water bodies that could provide potential breeding habitat. Habitats within 1.24 miles were evaluated for their potential to provide connectivity between sites, which could enable CRF to move onto the site.

For this report, upland habitat suitability was based on structure on the ground, such as downed logs or other suitable aestivation holes, such as soil cracks. Aquatic habitat suitability was based on the presence of ponds and ditches and streams.

BIOLOGICAL SITE DESCRIPTION

The McNears Beach Park study area is located within the Central Coast Ecoregion of California, which runs from the Russian River in Sonoma County down to the north of Point Conception in Santa Barbara County (Spencer, et al. 2010). The study area is located on the southwest side of the San Pablo Bay, on the north side of Point San Pedro, which, like many parts of California, are characterized by a Mediterranean climate, comprised of dry summers with temperatures as high as 100° Fahrenheit, and wet winters. This portion of the County is influenced by the San Pablo Bay with summers cool with frequent fog and wind. This area supports an average rainfall of 32 inches and temperatures between 97° F, and as low as 44° F (NOAA 2015).

Located on the north side of Point San Pedro, on the edge of the San Pablo Bay, this portion of the Marin County is located on the San Quentin 7.5-minute topographic quadrangle, within the unsectioned portion of the San Pedro, Santa Margarita and Las Gallinas Rancheria, Township 2N and Range 5W. The majority of Point San Pedro is an active quarry and is also the northern area of San Rafael Bay that supports a brackish marsh, which is fed by several springs which flow from the north to the south into San Rafael Bay.

The majority of the lands adjacent to the west are part of the Dutra Quarry, with a roadway connecting Point San Pedro Road with the McNear Brick and Block company yard, which acts as a levee, allowing the conditions to support a pickleweed marsh (San Rafael Rock Quarry 2012), which is located to the west, adjacent to San Rafael Bay. A second roadway connecting San Pedro Road with the quarry places a levee that prevents the brackish marsh from reaching east. As a result, a freshwater marsh is formed on the eastern side of the roadway. Urban runoff from the adjacent development that is located on the north side of Point San Pedro Road also drains into the marsh at several points along Point San Pedro Road (San Rafael Rock Quarry 2012). The northeastern area is primarily shallow fresh water habitat. The eastern area is primarily shallow freshwater habitat with interspersed uplands areas (San Rafael Rock Quarry 2012).

As a result of constant disturbance, several non-native plants occur in the upland areas around the marshes, including non-native French broom (*Genista monspessulana*) stands, pampass grass (*Cortaderia jubata*) and blue gum (*Eucalyptus globulus*).

Habitats Within the Study Area

Wildlife habitats within the study area are characteristic of open areas in this portion of Marin County, which are typically dominated by various hardwoods, such as oaks (*Quercus* sp.) and madrones (*Arbutus menziesii*), among others. Eucalyptus trees (*Eucalyptus* sp.) occur along the edge of the southwestern portion of the park. Within McNear's Beach Park, several ephemeral springs occur along the hillside that flow into San Pablo Bay. One ephemeral drainage surface at the entrance to the park and flows south into the freshwater marsh that is located off site. An aerial depicts several of these habitats in Figure 2. The following provides a brief paragraph description for each wildlife habitat type, according to *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988).

Eucalyptus Forest: Within the park, eucalyptus trees form a band between 150 and 200 feet wide along the southern and western edge of the park. This community is usually monotypic, with only one species providing canopy and very little undergrowth (Fig. 3 and 4). The loose bark of blue gum eucalyptus, and crevices and cracks in the bark provide foraging substrate and nest sites for some species. Species reported nesting in eucalyptus trees include brown creepers (*Certhia americana*), Anna's hummingbird (*Calypte anna*) and American robin (*Turdus migratorius*), among others. The flowers of blue gum, red gum, and other species provide a bounty for many different birds during the winter and spring. Birds visit the flowers for the copious nectar, and to eat insects that are attracted to the flowers, and include yellow-rumped warbler (*Dendroica coronata*) and Townsend's warblers (*Dendroica townsendi*), Anna's hummingbird, ruby-crowned kinglet (*Regulus calendula*), house finch (*Carpodacus mexicanus*), chestnut-backed chickadee (*Poecile rufescens*), and several others. Eucalyptus trees may provide key nest sites for raptors, such as red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and great horned owl (*Bubo virginianus*).

The lack of understory growth does not provide much habitat for insects and other invertebrates and, therefore, reptiles that prey upon them are reduced in numbers within this habitat. The monarch butterfly will use these forests, especially the eucalyptus forests, for cover and thermal regulation during the winter months. For this same reason, mammals would not use this habitat except for cover and resting areas. However, slender salamanders (*Batrachoseps attenuatus*) have been observed in this habitat and California tiger salamander (*Ambystoma californiense*) has been observed using pools beneath eucalyptus trees (Tatarian, pers. obs.).

Willow Riparian Ephemeral Drainage – southwest: This habitat occurs from the entrance to the park and flows south into the freshwater marsh off-site (Fig. 5 and 6). The headwaters of this drainage supports Himalayan blackberry (*Rubus armeniacus*) and cattails (*Typha latifolia*) before the willow trees begin. When the willow trees fill the channel, this habitat turns into a low shrubby tree structure that can cover an entire watercourse, supporting a 100% canopy cover, and fallen limbs and other structures. Within the study area, this habitat ranges between 15 and 65 feet in width and is approximately 350 feet in length.

The willow riparian habitat attracts bird species that hover while catching insects, such as Bewick's wren (*Thryomanes bewickii*), bushtit (*Psaltriparus minimus*), plain titmouse (*Parus inornatus*) and black phoebe (*Sayornis nigricans*). Other species such as mallards and snowy egrets use the shallow quiet waters of the river or stream to forage for vegetation and small fish. The American crow is found in this habitat and others, feeding on insects, fruits, carrion, amphibians, and reptiles. Predators, such as sharp-shinned hawks and red-shouldered hawks, nest in the high canopy and feed on the smaller birds and amphibians. Omnivores, such as the raccoon and striped skunk forage on invertebrate species, plant

parts, amphibians and fruits.

Willow Riparian Ephemeral Drainage – north: An ephemeral drainage occurs in the north-central portion of the park, and appears to be a seep that has surfaces on a steep hillside (Fig. 7). Smaller in size, approximately 15 feet wide by 25 feet in length, than the southwestern site, this ephemeral drainage supports sedges (*Carex* sp.), rushes (*Juncus* sp.) and Himalayan blackberry underneath the willow trees. Water remains long enough to support a few cattails (*Typha latifolia*) along the pavement edges.

Wildlife Species Observed: Wildlife species or signs observed at the time of the Site Assessment include California newt (*Taricha torosa*) and Sierra treefrog (*Pseudacris sierrae*). California newt have been documented feeding on egg masses of California red-legged frog (Rathbun 1998).

Movement Corridors

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

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

As described in the *California Essential Connectivity Project* (Spencer, et al. 2010), the project area is located in the North Coast Ecoregion. The natural drainages in the area (e.g., Porter Creek) flow west into the Russian River Watershed. The project area is located north of a Natural Landscape Blocks (defined as relatively natural habitat blocks that support native biodiversity), the Annadel State Park. The project area is not located in an Essential Connectivity Area (defined as areas that are essential for ecological connectivity between blocks) (Fig. 3.2, Spencer, et al. 2010).

Barriers to movement include those structures that impede such movements, such as major highways with no undercrossings. Roads cause habitat fragmentation because they break large habitat areas into smaller habitat patches that support fewer individuals, which can increase loss of genetic diversity and risk of local extinction. Additionally, roads may prevent access to essential physical or biological features necessary for breeding, feeding, or sheltering.

As stated in the USFWS *Designation of Critical Habitat for California red-legged frog* (2010), impassible barriers that impact dispersal of the California red-legged frog include wide or fast-flowing rivers and streams, lakes greater than 50 ac (20 ha), and heavily traveled roads (such as highways or freeways) without underpasses or culverts (Reh and Seitz 1990, Fahrig, et al. 1995). Passable roadways that are heavily used by vehicles may also result in a high rate of mortality for California red-legged frog adults and juveniles, and other amphibians, thereby limiting dispersal capabilities (Glista et al. 2008, Charry and Jones 2009).

Within the study area, movement corridors for large and small animals occur along the eucalyptus forests along the western and southern boundaries of the study area. The ephemeral drainage and associated eucalyptus forests likely provide a movement corridor from the west to the east. The cooler north facing slopes supporting eucalyptus trees and oak trees likely provide habitat with sufficient moisture for amphibians to move through when relocating from their breeding pond.

BIOLOGICAL OVERVIEW

Conservation Status: In 1996, the California red-legged frog was listed Threatened (USFWS 1996). A draft Recovery Plan was presented in 2000 (USFWS 2000) with a final published in 2002 (USFWS 2002) and in 2001 a final determination of critical habitat for the CRF was published (USFWS 2001). In 2004, the critical habitat was reassessed (USFWS 2004), adopted in 2008 (USFWS 2008) and further revised in 2010 (USFWS 2010).

The California Natural Diversity Data Base (CNDDB) recognizes the CRF as a Species of Special Concern (California Department of Fish and Game 2015). Although the state designation does not afford the CRF any legal protection, the CRF qualifies as a rare species under CEQA.

Critical Habitat: In Marin County, areas of habitat were adopted under the 2010 rule for Critical Habitat for the species and are more than four miles west of the study area (USFWS 2010).

Recovery Units: The USFWS designated Recovery Units for CRF in Marin County includes the Unit X North Coast and North San Francisco Bay (USFWS 2002). The Study area is outside this recovery unit.

Autecology: Breeding habitat for this frog is primarily in ponds, but they will also breed in slow moving streams, or deep pools in intermittent streams. Inhabited ponds are typically permanent and contain emergent and shoreline vegetation. Sufficient pond depth and shoreline cover are both critical, because they provide means of escape from predators for the frogs (Stebbins 1985, Tatarian 2008). Additionally, emergent vegetation is necessary for the deposition of eggs. The breeding period begins during heavy rains, from early to late winter, usually November through early May. The larvae mature in 11 to 20 weeks. To prevent desiccation, CRF need to have aquatic habitat deep enough to avoid predators or contains cover associated with wet soils that prevents predation.

Non-breeding CRF have been found in both aquatic and upland habitats. The majority of individuals prefer dense, shrubby or emergent vegetation, closely associated with deep (>0.7 meters) still, or slow moving water. However, some individuals use habitats that are removed from aquatic habitats, seeking cover in ground squirrel burrows, under boulders and logs and in non-native grasslands (Tatarian 2008). Upland refugia habitat includes areas up to 90 meters from a stream corridor and includes natural features, such as boulders, rocks, trees, shrubs, and logs. Incised stream channels with portions narrower than 18 inches and depths greater than 18 inches may also provide habitat. In general, densely vegetated terrestrial areas within the riparian corridor provide important sheltering habitat during the winter flooding of the streams (Tatarian 2008).

Based on the knowledge of the life history, biology, and ecology of the species and the requirements of the habitat to sustain the essential life-history functions of the species, the Service (2010) has determined that the primary constituent elements (PCE) for the California red-legged frog are:

- (i) *Aquatic Breeding Habitat.* Standing bodies of fresh water (with salinities less than 4.5 ppt), including natural and manmade (e.g., stock) ponds, slow moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and

hold water for a minimum of 20 weeks in all but the driest of years.

- (ii) *Aquatic Non-Breeding Habitat*. Freshwater pond and stream habitats, as described in paragraph (2)(i) of this entry, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult California red-legged frogs. Other wetland habitats considered to meet these criteria include, but are not limited to: plunge pools within intermittent creeks, seeps, quiet water refugia within streams during high water flows, and springs of sufficient flow to withstand short-term dry periods.
- (iii) *Upland Habitat*. Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1 mi (1.6 km) in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetational series such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the California red-legged frog. Upland habitat should include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the aquatic, wetland, or riparian habitat. These upland features contribute to:
 - (A) Filling of aquatic, wetland, or riparian habitats;
 - (B) Maintaining suitable periods of pool inundation for larval frogs and their food sources; and
 - (C) Providing non-breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance).
- (iv) *Dispersal Habitat*. Accessible upland or riparian habitat within and between occupied locations within a minimum of 1 mi (1.6 km) of each other and that support movement between such sites. Dispersal habitat includes various natural habitats, and altered habitats such as agricultural fields, that do not contain barriers (e.g., heavily traveled roads without bridges or culverts) to dispersal. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, nor does it include large lakes or reservoirs over 50 ac (20 ha) in size, or other areas that do not contain those features identified in paragraphs (2)(i), (2)(ii), and (2)(iii) of this entry as essential to the conservation of the species.

Historic and Current Range: Once widespread throughout California, from the Coast Ranges to the Sierra Nevada below 1,500 m, and into the southern San Joaquin Valley (Jennings and Hayes 1985, 1994), the species is now extirpated from the San Joaquin Valley and has declined to near extinction in the Sierra Nevada, with only eight populations remaining. California red-legged frog has been extirpated from approximately 70% of its former range and is known to occur in 243 streams or drainages in 22 counties. Within Marin County, this species occurs primarily in the surrounding foothills of the Coast Ranges in the west (CNDDDB 2015).

SITE ASSESSMENT

Areas within the Study Area Potentially Providing Habitat

Freshwater Marsh and Willow Riparian: The willow riparian habitat that is supported by the freshwater marsh/seep area likely provides dispersal habitat and a movement corridor for juvenile, subadult and adults CRF from the breeding habitat. This habitat is not considered breeding habitat based on the depth of water and the lack of ponding.

Areas within the Study Area not Providing Habitat

As stated in the Methods Section, those areas that contain hardscape (i.e., parking lots, compacted gravel surfaces, buildings or other structures) are not counted as supporting suitable habitat. Other factors that would reduce the suitability of habitat include being surrounded by development, or development (with

curbs and gutters) bisecting the areas of known CRF occurrences and the proposed project. As a result, the following areas, starting from the North, are considered not to be habitat within the approximately 55-acre study area:

- The existing facilities and swimming pool.
- Landscaping around facilities and pool.

Habitats Within 1.24 Miles of the Study Area

No access to private lands outside the study area was provided. Only an aerial analysis was conducted. The surrounding lands may support occupied ponds that are located on private property.

Freshwater Marsh: The freshwater marsh on the south side of the study area likely supports dispersal habitat and if deep enough, may support breeding habitat (Fig. 8).

Willow Riparian Sedimentation Basin - Biscayne Road and Partridge Road: Although the sedimentation basin looks to be perennial, it is too shallow to provide breeding habitat for California red-legged frog. California newts were observed in the smaller pools and likely breed in the water body. California newts have been documented feeding on egg masses of *Rana draytonii* (Rathbun 1998). Anecdotally, Tatarian has observed ponds in Contra Costa County with high populations of newts that show an absence of breeding California red-legged frogs. The sedimentation basin may provide non-breeding aquatic habitat for adults and juveniles (Fig. 9).

Golf Course Lake: The lake at the Peacock Gap Golf Course is tidally influenced as determined by the presence of pickleweed around the perimeter and the culver that connects it to San Rafael Bay. As a result, this is not considered habitat for CRF.

Movement Corridors

As stated earlier, major highways such as Porter Creek Road, are considered barriers to movements for amphibians. Although several culverts and the tributary to Porter Creek cross underneath the roadway, these corridors are likely predator feeding areas when amphibians are migrating, thus causing a sink in the population. Movements likely occur between ponds via drainages and forested areas, based on the elevational gradients in the general vicinity of the study area.

Reported Occurrences

California red-legged frog: In December 2014, as part of the routine maintenance of the swimming pool during the winter season, Park Ranger Kevin O'Donoghue retrieved two California red-legged frogs from the vents of the swimming pool and the children's pool. This is routine maintenance for the longevity of the pool. In the past, other amphibians have also been retrieved from the vents including slender salamanders, California newts and Sierra treefrogs. The other Park Ranger, Rob Ruiz, has found them several times over the course of his 20 years working at the park (O'Donoghue, pers. com.).

A review of the CNDDDB in March 2015 for the San Quentin, San Rafael, Petaluma Point, and Novato topographic quadrangles revealed no occurrences for CRF. The closest reported sighting is in Olema Creek, in western Marin County, more than 5 miles west. The next closest reported sighting is Keil Cover in Tiburon, more than 7 miles south (CNDDDB 2015). There are no reported sightings occur that are hydrologically connected to the study area.

CONCLUSION

This Site Assessment was conducted in preparation of focused surveys for California red-legged frog. Although aquatic habitat is present at the site, no CNDDB-reported CRF sightings occur closer than 10 miles. Focused surveys of the identified water bodies in and around the McNears Beach Park study area in 2015 will potentially provide the information on breeding sites of CRF in this general area.

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Figure 1: Project Vicinity Map.



Figure 2: Locations of Habitats.



Fig. 3: Eucalyptus forest in Study Area.



Fig. 4: Eucalyptus along entrance to park.



Fig. 5: Willow riparian scrub, south of entrance to park.



Fig 6: Ephemeral drainage at park entrance.



Fig. 7: Willow seep within Study Area.



Fig. 7: Freshwater marsh located south of Study Area.



Fig.
9



: Willow habitat at Biscayne Road and Partridge Road.

APPENDIX C-2

**SURVEY
FOR
CALIFORNIA RED-LEGGED FROG
WILDLIFE RESEARCH ASSOCIATES, JULY 2015**



Wildlife Research Associates

Greg and Trish Tatarian

1119 Burbank Avenue

Santa Rosa, CA 95407

Ph: 707.544.6273 Fax: 707.544.6317

www.wildliferesearchassoc.com

trish@wildliferesearchassoc.com

greg@wildliferesearchassoc.com

July 9, 2015

Sam Abercrombie
Marin County Open Space District
3501 Civic Center Drive, Ste 260
San Rafael, CA 94903
415-473-2128
SAbercrombie@marincounty.org

Matt Sagues – Sr. Natural Resource Planner

415-507-2686
MSagues@co.marin.ca.us

RE: California Red-legged Frog Surveys, McNears Beach Park, San Rafael, Marin County

Dear Sam and Matt:

This letter presents the results of our protocol-level aquatic surveys of the ponds and freshwater marshes located in the general vicinity of McNears Beach Park, located at 201 Cantera Way, approximately 3 miles east of the City of San Rafael, in the eastern portion of Marin County, California. The project area, situated along the western shore of San Pablo Bay in San Rafael, southeast of China Camp State Park, occurs within the range of the California red-legged frog (*Rana draytonii*) (CRF), a federally listed Threatened species, with Critical Habitat.

Over the course of 20 years, CRF have been found periodically in the winter in the swimming pool at McNears Beach Park, with the latest sighting occurring on December 4, 2014 (O'Donoghue, pers. comm.). No suitable breeding habitat occurs within the park boundaries, although an ephemeral wetland occurs on the eastern portion of the park that may provide a movement corridor from the west to the east. Please refer to the *Site Assessment for California Red-legged Frog, McNears Beach Park, San Rafael, Marin County* (Wildlife Research Associates 2015) for more details. To determine where CRF are and the type of habitats they are occupying in the general landscape, we conducted protocol surveys in the vicinity of the McNears Beach Park following the U.S. Fish and Wildlife Service (USFWS) *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005).

Site Description

As described in the *Site Assessment for California Red-legged Frog* (Wildlife Research Associates 2015) three habitats occur within the Study Area of McNears Beach Park, eucalyptus forest, willow riparian ephemeral drainage on the southwest and north side of the study area, and freshwater marsh and willow riparian, which occurs on the north side of the Study Area. None of these areas provide suitable breeding or non-breeding aquatic habitat. They do provide suitable habitats for frogs to move through.

Aquatic habitats within 1.24 miles, as identified in the *Site Assessment* (Wildlife Research Associates 2015), were surveyed and are described in detail under Methods.

Methods

Focused surveys were conducted according to the *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005), which requires that surveys be conducted of all suitable aquatic habitat during the breeding season (January 1-June 31) and non-breeding season (July 1 - September 30), if possible. For this survey area, all nocturnal visual encounter surveys for amphibians (Crump and Scott 2001) were conducted between approximately one half hour after sunset and midnight.

To avoid cross-contamination and potential infection to and from other amphibians, hiking boots used for surveying were sterilized in a 10% bleach solution between each use, according to DAPTF procedures, based on Johnson, et al. (2003). No nets were used for these surveys.

Surveyors Qualifications

Trish Tatarian, Wildlife Research Associates, (Permit Number TE 802089) conducted these surveys.

Survey Timing and Weather Conditions

Daytime and nighttime surveys were conducted between May 6 and July 6, 2015. Table 1 presents the dates, duration of the survey along with the weather, and moon phase, as required on page 1 of Appendix E of the survey protocol (USFWS 2005). Daytime surveys consisted of walking along the banks of the various water bodies, stopping every 5 feet to look into the water to detect tadpoles. No dipnetting was conducted during these surveys. Nighttime surveys consisted of scanning the water bodies using 8x42 roof-prism binoculars with the addition of a 393 Lumens flashlight¹ to provide illumination. Surveys were started approximately one hour after sunset to detect eyeshine and to allow frogs to resurface after predators have moved through an area. The close proximity of the various survey areas allowed for some areas to be surveyed several times per night.

Table 1: Survey Dates, Times and Weather Conditions

Date	Survey Times	Weather (moon phase)	Air Temperature (° Fahrenheit)
5/6/2015	1845 - 1930 2000 - 2145	Clear, winds calm, 100% visibility on ground (full moon)	65 - 57
5/13/2015	2030 - 2230	Foggy, winds ~5mph, 100% visibility on ground (quarter moon)	57
6/1/2015	2100 - 2200	Foggy, winds ~5mph, 100% visibility on ground (full moon)	57
6/16/2015	2045 - 2145	Clear, winds ~5mph, 100% visibility on ground (new moon)	65
7/6/2015	2000-2045 2045 - 2145	Clear, winds calm, 100% visibility on ground (new moon)	68

¹ At the time the USFWS protocol was written in 2005, light manufacturers typically used candlepower as a brightness rating. However, it is widely understood today that candlepower ratings varies widely among manufacturers, and that a more uniform measure of the amount of light emitted by a source is represented as Lumens. Although there is no absolute correlation between candlepower and Lumens, the USFWS limitation of 100,000 “candle watt” (sic – should have been “candlepower”) roughly translates to about 393 Lumens, based on equivalence of light output measurements provided by Streamlight, the manufacturer of one of the lights used in the formulation of the 2005 USFWS protocol.

Based on the Site Assessment and field discoveries, the following aquatic areas located within 1.24 miles were surveyed and are shown in Figure 1. No ponds on private property, which are identified with red circles on Figure 1, were surveyed.

A - Freshwater Marsh – San Pedro Drive: The freshwater marsh is located on the south side of the study area and supports an open water areas surrounded by cattails (*Typha* sp.) and bulrush (*Scirpus* sp.), with picklweed (*Salicornia virginiana*) and salt grass (*Distichlis spicata*) occurring in the more shallow areas. A small channel located between the marsh and San Pedro Drive was also surveyed and is included in the freshwater marsh survey results.

B - Willow Riparian Sedimentation Basin - Biscayne Drive and Partridge Drive: Although the sedimentation basin looks to be perennial, it is too shallow to provide breeding habitat for California red-legged frog. The sedimentation basin may provide non-breeding aquatic habitat for adults and juveniles.

C - Golf Course Lake: The lake at the southern end of the Peacock Gap Golf Course is surrounded by private home owners. The public access to this water body occurs at the grate that connects it to San Rafael Bay.

D - Cattail and Willow Sedimentation Basin – Biscayne Drive within Peacock Estates: This sedimentation basin was detected after the Site Assessment was approved and was added to the surveyed area. Measuring approximately 150 feet in diameter at the time of the surveys, the basin was dominated by cattails (*Typha* sp.) with very little open water. Willows (*Salix* sp.) were located on the northern bank outside of the water’s edge.

Results

California red-legged frog were observed at two locations during these surveys – at the willow riparian sedimentation basin at the corner of Biscayne Drive and Partridge Drive, and at the cattail and willow sedimentation basin located on Biscayne Drive within Peacock Estates (Figure 2). The coordinates for these occurrences are Universal Trans Mercator (UTM) 10S 4205661N 0546843E for the willow riparian scrub basin, and 4205591N and 0546427E for the cattail basin.

Other amphibians observed or heard throughout the course of the surveys included Sierran chorus frog (*Pseudacris sierra*) and Coast Range newt (*Taricha torosa*). See Table 2 for the number of amphibians observed during the surveys.

Golf Course Lake: No amphibians were observed at this water body during any of these surveys.

Table 2: Number of Amphibians Observed During Surveys at Aquatic Features

Map Designation	Aquatic Feature	Date	Amphibians (observed/heard) (#individuals)
A	Freshwater Marsh – San Pedro Drive	5/6/15	>1 adult, 4 juvenile PSSI (O) >20 PSSI (H)
		5/13/15	>5 adult, 4 juvenile PSSI (O) >10 PSSI (H)
		6/1/15	6 adult, >10 juvenile PSSI (O)
		6/16/15	Drying, >20 juvenile PSSI (O)
		7/6/15	Dry

Map Designation	Aquatic Feature	Date	Amphibians (observed/heard) (#individuals)
B	<i>Sedimentation Basin - Biscayne Drive and Partridge Drive</i>	5/6/15	2 adult TATO (O)
		5/13/15	2 adult RADR (O)
		6/1/15	0
		6/16/15	0
		7/6/15	0
D	<i>Cattail and Willow Sedimentation Basin – Biscayne Drive within Peacock Estates</i>	5/6/15	NA
		5/13/15	NA
		6/1/15	2 adult RADR (O)
		6/16/15	1 adult RADR (O)
		7/6/15	Dry

Note: RADR – *Rana draytonii*; PSSI - *Pseudacris sierra*; TATO - *Taricha torosa*

China Camp State Beach Pond: On July 6, 2015 I conducted a nocturnal survey of the pond located on the San Francisco Bay, directly over the hill from the sedimentation basin at Partridge Drive. This pond was encircled by pickleweed and saltgrass and contained brown algae, all indicators of a saline marsh habitat. No amphibians were observed in the pond.

Conclusions and Discussion

Although not located within or adjacent to the McNears Beach Study Area, two California red-legged frogs were observed within 1.0 miles of the Study Area. These sightings were sent to the California Natural Diversity Data Base on June 17, 2015. The two sedimentation basins associated with the Peacock residential development shows that individual frogs are using the area. It is likely that the ponds and waterways associated with the Peacock Gap Golf Country Club, privately owned and not accessed for this survey effort are used for breeding by California red-legged frog.

Although no CRF were detected during the surveys in the freshwater marsh located on San Pedro Drive, there are ponds located on the south side of the freshwater marsh (Figure 2, red circles), privately owned and not accessed for this survey effort, which could provide breeding habitat California red-legged frog.

Please call if you have any questions regarding this report.

Sincerely,

Trish Tatarian

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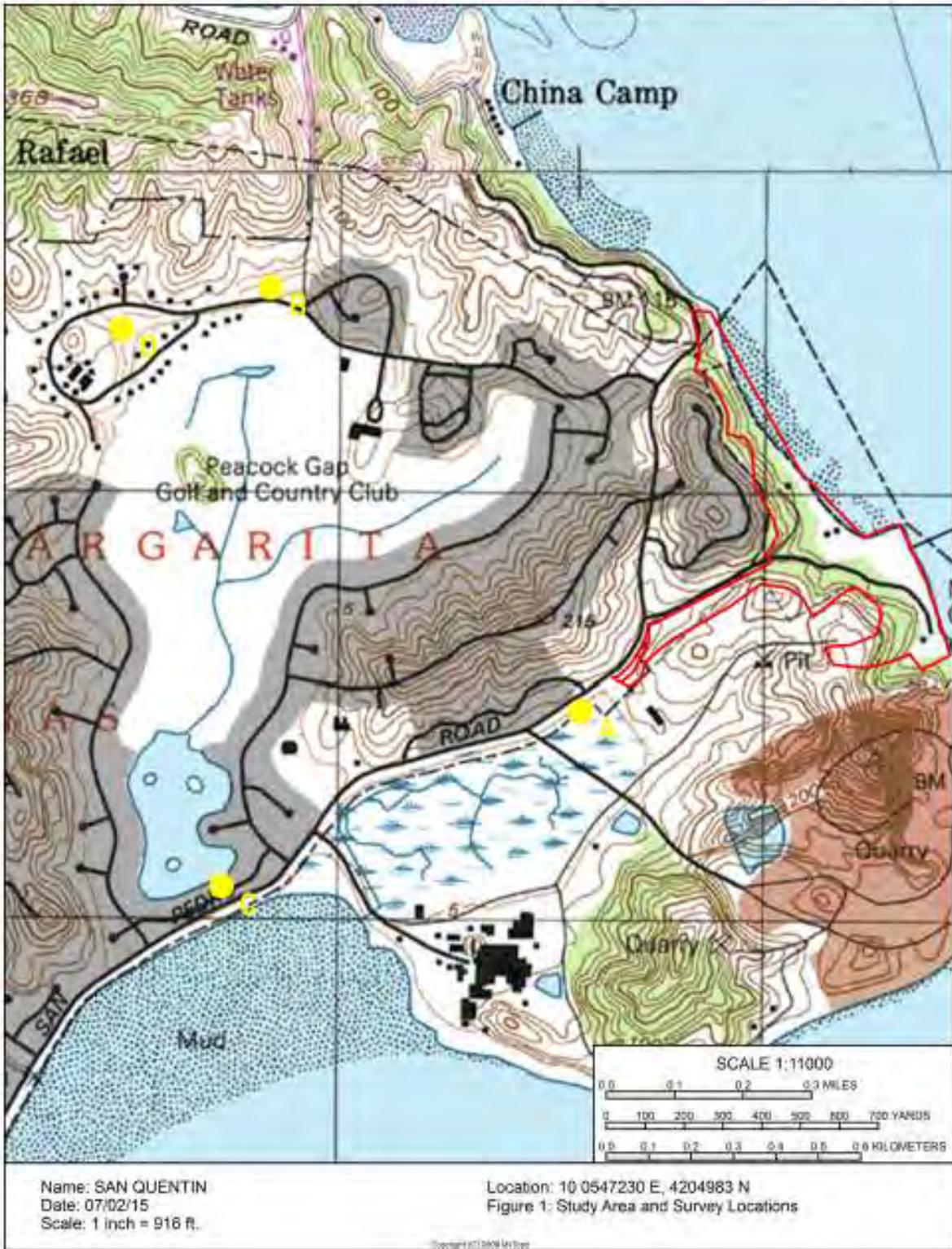


Figure 1: Study Area and Survey Locations, A-D.



Figure 2: Focused Survey Locations. Red circles show ponds not surveyed on private property.



Figure 3. Area A, May.



Figure 4. Area A, June



Figure 5. Overview of Area B, June.



Figure 6. Location of CRF sighting in Area B, July.



Figure 9. Location of CRF sighting in Area D, June.



Figure 10: Area D, July

APPENDIX D

FEDERATED INDIANS OF GRATON RANCHERIA (FIGR) FORMAL REQUEST FOR CONSULTATION LETTER



December 30, 2015

RE: Formal Request for Tribal Consultation Pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subs. (b), (d) and (e) for projects at McNears Beach Park, an area within the Federated Indians of Graton Rancheria's Ancestral Lands.

Dear Agency Representative:

This letter constitutes a formal request for tribal consultation under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e) for the mitigation of potential project impacts to tribal cultural resource for a project within the Federated Indians of Graton Rancheria's ancestral lands.

Receiving this letter sets forth the Tribe's formal request for consultation on the following topics checked below, which shall be included in consultation if requested (Public Resources Code section 21080.3.2, subd. (a):

- Alternatives to the project
- Recommended mitigation measures
- Significant effects of the project

The Tribe also requests consultation on the following discretionary topics checked below (Public Resources Code section 21080.3.2, subd. (a):

- Type of environmental review necessary
- Significance of tribal cultural resources, including any regulations, policies or standards used by your agency to determine significance of tribal cultural resources
- Significance of the project's impacts on tribal cultural resources
- Project alternatives and/or appropriate measures for preservation or mitigation that we may recommend, including, but not limited to:

- (1) Avoidance and preservation of the resources in place, pursuant to Public Resources Code section 21084.3, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks or other open space, to incorporate the resources with culturally appropriate protection and management criteria;
- (2) Treating the resources with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resources, including but not limited to the following:



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- a. Protecting the cultural character and integrity of the resource;
 - b. Protection the traditional use of the resource; and
 - c. Protecting the confidentiality of the resource.
- (3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- (4) Protecting the resource.

Additionally, the Tribe would like to receive any cultural resources assessments or other assessments that have been completed on all or part of the project's potential "area of project effect" (APE), including, but not limited to:

- 1). The results of any record search(es) conducted at an archaeological information center of the California Historical Resources Information System (CHRIS), including, but not limited to:
 - (a) Any known cultural resources that have already been recorded on or adjacent to the potential APE;
 - (b) Whether the probability is low, moderate or high that cultural resources are located in the potential APE; and
 - (c) If a survey is required to determine whether previously unrecorded cultural resources are present in the potential APE.
- 2). The results of any archaeological inventory survey that was conducted of all or part of the potential APE, including, but not limited to:
 - (a) Any report that may contain site forms, site significance, and suggested mitigation measures.
- 3). The results of any Sacred Lands File searches conducted through the Native American Heritage Commission for all or part of the potential APE;
- 4). Any ethnographic studies conducted for any area including all or part of the potential APE; and
- 5) Any geotechnical reports regarding all or part of the potential APE.

We would like to remind your agency that CEQA Guidelines section 15126.4, subdivision (b)(3) states that preservation in place is the preferred manner of mitigating impacts to archaeological sites. Section 15126.4, subd. (b)(3) of the CEQA Guidelines has been interpreted by the California Court of Appeal to mean that "feasible preservation in place must be adopted to mitigate impacts to historical resources of an archaeological nature unless the lead agency determines that another form of mitigation is available and provides superior mitigation of impacts." *Madera Oversight Coalition v. County of Madera* (2011) 199 Cal.App.4th 48,



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disapproved on other grounds, *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439.

The Tribe expects to begin consultation within 30 days of your receipt of this letter. Please contact my office at (707) 566-2288 or by email at bmcquillen@gratonrancheria.com as the person who will serve as the lead contact on behalf of the Tribe.

Sincerely,

Buffy McQuillen, THPO/NAGPRA
Federated Indians of Graton Rancheria