

**ADMINISTRATIVE DRAFT**

**BIOLOGICAL RESOURCE ANALYSIS  
NEWPORT POINTE  
BIXLER ROAD, DISCOVERY BAY  
CONTRA COSTA COUNTY, CALIFORNIA**

**Revised  
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**Prepared for**

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## 1. INTRODUCTION

Monk & Associates, Inc. has prepared this biological resource analysis for the proposed Bixler Road project site, currently known as the “Newport Pointe” project site (herein referred to as the project site) located in Discovery Bay, in eastern Contra Costa County, California (Figures 1 and 2). The purpose of our analysis is to provide a description of existing biological resources on the project site and to identify potentially significant impacts that could occur to sensitive biological resources from the construction of a housing development and its associated infrastructure.

Biological resources include common plant and animal species, and special-status plants and animals as designated by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), and other resource organizations including the California Native Plant Society (CNPS). Biological resources also include waters of the United States and State, as regulated by the U.S. Army Corps of Engineers (Corps), California Regional Water Quality Control Board (RWQCB), and CDFG.

This biological resources analysis also provides mitigation measures for “potentially significant” and “significant” impacts that could occur to biological resources. When implemented, the mitigation measures would reduce impacts to levels considered less than significant pursuant to the California Environmental Quality Act (CEQA). Accordingly, this report is suitable for review and inclusion in any review being conducted by Contra Costa County for the proposed project pursuant to CEQA.

## 2. METHODOLOGY

### 2.1 Monk & Associates’ Background Research in 2010

Prior to preparing this biological resource analysis, Monk & Associates researched the 2010 version of the CDFG’s *Natural Diversity Database, RareFind 3.1 application* (CNDDDB 2010) for historic and recent records of special-status plant and animal species (that is, threatened, endangered, rare) known to occur in the region of the project site. In addition, Monk & Associates researched the California Native Plant Society’s (CNPS) 2010 electronic version of their *Inventory of Rare and Endangered Plants of California* (herein referred to as the *Inventory*) (CNPS 2001) which lists special-status plant species known from the nine U.S. Geological Survey quadrangles around the project site. All special-status species records were compiled into tables. Monk & Associates examined all known record locations for special-status species to determine if these species had the potential to occur on the project site.

### 2.2 Monk & Associates’ Field Reconnaissance in 2005

M&A biologists Ms. Hope Kingma and Ms. Sarah Lynch walked the entire project site on October 27, 2005 to document plant and animal species present on the site, and to note potential habitats on or adjacent to the project site that could support special-status species.

### **2.3 Wetland Delineation in 2006**

On April 26, 2006 M&A biologists Ms. Kingma and Ms. Stephanie Scolari conducted a wetland delineation to determine if there could be areas within the project site that would be regulated by the U.S. Army Corps of Engineers (Corps) or the Regional Water Quality Control Board (RWQCB) as waters of the United States and/or State, respectively. Similarly, M&A examined the project site to determine if stream channels regulated by the CDFG pursuant to Section 1602 of the Fish and Game Code could be affected by development of the project site.

The preliminary wetland delineation was verified by the Corps (Mr. William Guthrie) on December 5, 2006. The Corps-confirmed wetland map is provided in Appendix A. The Corps issued a confirmation letter on October 7, 2008 (Appendix B).

### **2.4 Rare Plant Surveys in 2006**

Special-status plant surveys were conducted by M&A biologists, Ms. Kingma and Ms. Scolari, on April 26, 2006 and by Ms. Scolari on June 7 and August 4, 2006. The surveys followed CDFG (2000) and CNPS (2001) published survey guidelines. These guidelines state that special-status plant surveys should be conducted at the proper time of year when special-status and locally significant plants are both evident and identifiable. These guidelines also state that the surveys be floristic in nature with every observed plant identified to species, subspecies, or variety as necessary to determine their rarity status. Finally, these surveys must be conducted in a manner that is consistent with conservation ethics, and adheres to accepted plant collection and documentation techniques. Following these guidelines, surveys were conducted during the months when special-status plant species from the region are known to be evident and flowering. All areas of the project site were examined by walking meandering transects through potential habitat, and by closely examining any existing microhabitats that could potentially support special-status plants.

Nearly all plant species found on the project site were identified to species; all were identified to the level needed to determine whether they qualify as special-status plants. A list of all vascular plant taxa encountered within the project site was recorded in the field. Plants that needed further evaluation were collected and keyed in the lab. Final determinations for collected plants were made by keying specimens using standard references such as *The Jepson Manual*. Appendix C provides a copy of the rare plant survey report prepared for this project site.

The results of our field analysis are provided below.

### **3. LIMITATIONS OF MONK & ASSOCIATES' STUDY**

The project site was fully accessible, and owing to the degree of disturbance throughout the project area, seasonal variation is seemingly irrelevant with respect to this analysis.

## **4. EXISTING CONDITIONS**

### **4.1 Setting/Project site Description**

The project site is located east of Bixler Road, and west of Newport Road in Discovery Bay (Figures 1 and 2). The project site is bordered by a new residential development and an open field to the north, a residential community and associated water bays to the east, low density, single family homes to the west, and an open field to the south. Transmission towers bisect the western corner of the project site. In addition, the western corner of the project site is characterized by numerous piles of imported fill material that were deposited on the site prior to the acquisition of the site by Disco Bay Partners LLC. Figure 3 provides an aerial photograph that shows the project site features and the surrounding land use.

### **4.2 Proposed Project**

The project is planned as 67 single-family homes on approximately 20 acres of land with frontage on Newport Avenue and Bixler Road in Discovery Bay, California. In addition, the proposed project will include a mitigation wetland area, a solar field array area, and a 0.72 acre community dog park.

## **5. PROJECT SITE ANALYSIS**

### **5.1 Project Site Soils**

Soils mapped by the Soil Conservation Service (SCS) (USDA 1997) in the vicinity of the project site are shown in Figure 4. Marcuse clay (Mb) is the only soil unit mapped on the site. The Marcuse series consists of very poorly drained soils that formed in alluvium from sedimentary rock. These soils are along lower edges of valley fill and on rims of basins. Slopes are 0 to 2 percent. Elevation ranges from 0 to 5 feet.

Marcuse clay soil is classified as hydric (i.e., those soils that form in wetlands) by the NRCS (NRCS 2004). In a representative profile of Marcuse clay, the surface layer is faintly mottled grayish-brown, dark grayish brown and light olive-brown, moderately alkaline clay about 9 inches thick. The subsoil is mottled dark-gray, dark grayish-brown, brown, and olive-brown, moderately alkaline clay about 28 inches thick. The substratum, to a depth of 60 inches, is mottled dark grayish brown, brown, and grayish-brown, moderately alkaline clay.

Permeability is slow, and the available water capacity is 5 to 7 inches. Roots can penetrate to a depth of 40 to 50 inches. This soil is poorly drained. It is subject to ponding, or water runs off very slowly. About 5 to 35 percent of area mapped as Marcuse clay is unsuited to most crops because it is affected by saline-alkali salts. This soil is used mainly for irrigated pasture and irrigated row crops.

During the site investigation visits, M&A confirmed that much of the project site soils were consistent with the soil description provided by Soil Conservation Service (i.e., Marcuse clay). At the sample sites taken for the delineation, the B-horizon soil matrix colors in the potential

wetland areas were 10YR3/1 and 10YR4/1, and in the upland areas the B-horizon soil matrix color was 10YR4/3. Soil consistency was mostly clay with some loam inclusions.

## 5.2 Project Site Topography and Hydrology

The project site is relatively flat, as shown on the topographic map of the project site (Figure 5). The site elevation is approximately 8 NGVD near Bixler Road, and gradually slopes to 5 NGVD at the eastern edge of the site near Newport Road. A berm occurs along the eastern property boundary, which likely prevents sheet flow and surface run-off from draining off the site into an off-site 15-foot wide ditch that occurs along Newport Road. This ditch is discussed in greater detail later in this report.

Numerous piles of imported fill material occur in the western corner on the site. These piles of dirt and rubble are approximately 3 feet higher in elevation than the surrounding topography. The topographic map also indicates that there are several isolated depressions throughout the site. These low areas were saturated, inundated, or otherwise had evidence of prolonged inundation such as cracked soils, algal matting, matted vegetation and vegetation suppression.

## 5.3 Plant Communities and Associated Wildlife Habitats

A complete list of plant species observed on the project site in 2005-2007 is presented in Table 1. Nomenclature used for plant names follows *The Jepson Manual* (Hickman 1993) and changes made to this manual that are published on the Jepson Interchange Project website (<http://ucjeps.berkeley.edu/interchange/index.html>). A complete list of animals observed on the project site is presented in Table 2. Two plant communities were identified within the project site. These are non-native annual grassland and seasonal wetlands. In this section we also discuss a ditch that occurs offsite but adjacent to the site.

### 5.3.1 NON-NATIVE ANNUAL GRASSLAND

Prior to the settlement of Europeans in California, the California landscape was dominated by native, perennial bunchgrasses. When the Europeans settled in California, a variety of Mediterranean grass and forb species were brought to California for use as crops or ornamentals, or inadvertently in the fur and digestive systems of livestock. Land use changes, such as domestic animal grazing and agriculture has resulted in native plants being reduced or eliminated. Introduced species tolerant of disturbance, particularly annual grasses of Eurasian ancestry, have displaced the native grasses, creating a new kind of grassland community.

Non-native annual grassland occurs on the majority of the project site. Dominant grass and forb species include non-native species such as foxtail barley (*Hordeum murinum* ssp. *leporinum*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), Italian ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), cut-leaf geranium (*Geranium dissectum*), common vetch (*Vicia sativa*), and California burclover (*Medicago polymorpha*). Disturbed areas within the grassland community along Bixler Road, on the berm along the ditch, and around the fill piles were dominated by mustards (*Brassica nigra*, *Brassica rapa*, *Sinapis arvensis*, *Raphanus raphanistrum*), milk thistle (*Silybum maritimum*), and Italian thistle (*Carduus pycnocephalus*).

Common wildlife species associated with the grassland community on the project site include western meadowlark (*Sturnella neglecta*), northern mockingbird (*Mimus polyglottos*), red-winged blackbird (*Agelaius phoeniceus*), rock dove (*Columba livia*), European starling (*Sturnus vulgaris*), ring-necked pheasant (*Phasianus colchicus*), killdeer (*Charadrius vociferus*), great egret (*Ardea alba*), and barn swallow (*Hirundo rustica*). California quail (*Callipepla californica*) were observed nesting under several Iodine bushes (*Allenrolfea occidentalis*) on the site. Botta's pocket gopher (*Thomomys bottae*) and California meadow vole (*Microtus californicus*) occur throughout the grassland community.

In 2005, western burrowing owl (*Athene cunicularia hypugaea*) pellets and feathers were observed in the grassland, near a pile of woody debris, indicating that this species occasionally occurs on the site, despite the lack of suitable burrows and the absence of California ground squirrels (*Spermophilus beechyi*) on the site. This owl most likely uses the site for foraging.

### 5.3.2 SEASONAL WETLANDS

Seasonal wetlands are habitats that may appear dry in the summer and fall months, but following the first winter rains become saturated or hold water for a period of several weeks to months. Prolonged inundation of wetlands typically occurs because of the presence of impervious soils and/or confining topography such as topographic low areas. Such areas support hydric soils, which are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (absence of free oxygen) conditions within the upper part of the soil profile. Such areas eventually become dominated by seasonal wetland plants and develop into seasonal wetlands.

The seasonal wetlands on the site are vegetated with hydrophytic (wetland) plant species such as salt grass (*Distichlis spicata*), curly dock (*Rumex crispus*), alkali heath (*Frankenia salina*), bristly ox-tongue (*Helminthotheca echioides* previously known as *Picris echioides*), Iodine bush, hyssop loosestrife (*Lythrum hyssopifolia*), rabbit's-foot grass (*Polypogon monspeliensis*), broad-leaf pepperweed (*Lepidium latifolium*), and toad rush (*Juncus bufonius*). One large clump of Baltic rush (*Juncus balticus*) also occurs at the eastern edge of the site.

Seasonal wetlands provide wildlife with a seasonal water source that allows animals to drink and forage in the water during the winter and spring months. Invertebrates such as seed shrimp (Ostracoda) are commonly associated with inundated seasonal wetland habitats and complete their life cycle in the wetlands.

### 5.3.3 OFF-SITE DRAINAGE

The off-site, 15-foot wide ditch that occurs along Newport Road supports open water and some dense mats of water-hyacinth (*Eichhornia crassipes*). Narrow-leaved cattails (*Typha angustifolia*), yellow iris (*Iris pseudacorus*), curly dock, salt grass and fat hen (*Atriplex triangularis*) also grow along the ditch's channel and steep banks. The banks are dominated by ruderal upland species, including mustards and thistles.

Bullfrog (*Rana catesbeiana*), mosquito fish (*Gambusia affinis*), Wilson's snipe (*Gallinago delicata*), and mallard (*Anas platyrhynchos*) were all observed in the ditch. Mallard apparently leave the ditch to nest in the Baltic rush on the project site.

## 6. SPECIAL-STATUS SPECIES DEFINITION

### 6.1 Definitions

For purposes of this analysis, special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the CNPS). Special-status species are defined as:

- plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 *et seq.*; 14 CCR §670.1 *et seq.*) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);
- plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);
- plants and animals that meet the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;
- Plants occurring on Lists 1A, 1B, 2, 3, and 4 of CNPS' *Electronic Inventory* (CNPS 2001). The California Department of Fish and Game (CDFG) recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFG requests their inclusion in EIRs. Plants occurring on CNPS Lists 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2001). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information;
- migratory nongame birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Nongame Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);
- animals that are designated as "species of special concern" by CDFG (2007);
- Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).

In the paragraphs below we provide further definitions of legal status as they pertain to the special-status species discussed in this report or in the attached tables.

Federal Endangered or Threatened Species. A species listed as Endangered or Threatened under the FESA is protected from unauthorized “take” (that is, harass, harm, pursue, hunt, shoot, trap) of that species. If it is necessary to take a Federal listed Endangered or Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from the USFWS prior to initiating the take.

State Threatened Species. A species listed as Threatened under the state Endangered Species Act (§2050 of California Fish and Game Code) is protected from unauthorized “take” (that is, harass, pursue, hunt, shoot, trap) of that species. If it is necessary to “take” a state listed Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from CDFG prior to initiating the “take.”

California Species of Special Concern. These are species in which their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible. This designation affords no legally mandated protection; however, pursuant to the CEQA Guidelines (14 CCR §15380), some species of special concern could be considered “rare.” Pursuant to its rarity status, any unmitigated impacts to rare species could be considered a “significant effect on the environment” (§15382). Thus, species of special concern must be considered in any project that will, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

CNPS List Species. The California Native Plant Society (CNPS) maintains an inventory of special status plant species. This inventory has four lists of plants with varying rarity. These lists are: List 1, List 2, List 3, and List 4. Although plants on these lists have no formal legal protection (unless they are also state or federal listed species), the California Department of Fish and Game requests the inclusion of List 1 species in environmental documents. In addition, other state and local agencies may request the inclusion of species on other lists as well. List 1 species have the highest priority: List 1A species are thought to be extinct, and List 1B species are known to still exist but are considered “rare, threatened, and endangered in California and elsewhere.” All of the plants constituting List 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the CDFG Code, and are eligible for state listing (CNPS 2001). List 2 species are rare in California, but more common elsewhere. Lists 3 and 4 contain species about which there is some concern, and are review and watch lists, respectively. Additionally, in 2006 CNPS updated their lists to include “threat code extensions” for each list. For example, List 1B species would now be categorized as List 1B.1, List 1B.2, or List 1B.3. These threat codes are defined as follows: .1 is considered “seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)”; .2 is “fairly endangered in California (20-80% of occurrences threatened)”; .3 is “not very endangered in California (less than 20% of occurrences threatened or no current threats known).”

Under the CEQA review process only CNPS List 1 and 2 species are considered since these are the only CNPS species that meet CEQA's definition of "rare" or "endangered." Impacts to List 3 and 4 species are not regarded as significant pursuant to CEQA.

Fully Protected Birds. Fully protected birds, such as the white-tailed kite and golden eagle, are protected under California Fish and Game Code (§3511). Fully protected birds may not be "taken" or possessed (i.e., kept in captivity) at any time.

Protected Amphibians. Under Title 14 of the California Code of Regulations (14 CCR 41), protected amphibians, such as the California tiger salamander, may only be taken under special permit from California Department of Fish and Game issued pursuant to Sections 650 and 670.7 of these regulations.

## **7. POTENTIALLY OCCURRING SPECIAL-STATUS PLANT AND ANIMAL SPECIES**

Based on the search of CDFG's Natural Diversity Database (RareFind 3.1)(CNDDDB), several special-status plant and wildlife species are known to occur within 5 miles of the project site. Figure 6 provides a graphical representation of the closest known records of special-status species recorded within five miles of the project site.

A search of the CNDDDB and the CNPS' *Inventory* (electronic version, 2010) for the U.S. Geological Survey's Woodward Island 7.5 mile quadrangle and the eight surrounding quadrangles returned 24 special-status plant species that are either known or have the potential to occur in the vicinity of the project site. All 23 plant species considered for the Discovery Bay project site are discussed in Table 3. Fourteen special-status wildlife species are known to occur in the vicinity of the project site. These species are listed and discussed in Table 4.

### **7.1 Special Status Plant Species**

Table 3 lists special-status plant species that have the potential to occur within the project site. These plants occur in a variety of habitats, including marshes and swamps, riparian scrub, valley and foothill grassland, chaparral, cismontane woodland, coastal prairie and scrub, vernal pools, and other relatively undisturbed habitats. Although some of these habitats may have been present on the project site historically, they have been eliminated by past and present anthropogenic (man-induced) activities on the site. Of the 23 special-status plant species that are known to occur in the project region, only twelve (12) species have potential to occur on the site. These species are discussed in further detail below.

Special-status plant surveys were conducted by M&A biologists, Ms. Kingma and Ms. Scolari, on April 26, 2006 and by Ms. Scolari on June 7 and August 4, 2006. The surveys followed CDFG (2000) and CNPS (2001) published survey guidelines. These guidelines state that special-status plant surveys should be conducted at the proper time of year when special-status and locally significant plants are both evident and identifiable. These guidelines also state that the surveys be floristic in nature with every plant observed identified to species, subspecies, or variety as necessary to determine their rarity status. Finally, these surveys must be conducted in a manner that is consistent with conservation ethics and accepted plant collection and

documentation techniques. Following these guidelines, surveys were conducted during the months when special-status plant species from the region are known to be evident and flowering. All areas of the project site were examined by walking meandering transects through potential habitat, and by closely examining any existing microhabitats that could potentially support special-status plants.

Nearly all plant species found on the project site were identified to species; all were identified to the level needed to determine whether they qualify as special-status plants. A list of all vascular plant taxa encountered within the project site was recorded in the field. Plants that needed further evaluation were collected and keyed in the lab. Final determinations for collected plants were made by keying specimens using standard references such as *The Jepson Manual*. Appendix C provides a copy of the rare plant survey report prepared for this project site.

#### 7.1.1 DELTA BUTTON-CELERY

Delta button-celery (*Eryngium racemosum*) is a state-listed endangered species. It is also a CNPS List 1B.1 species. This biennial or perennial member of the carrot family occurs in clay depressions in riparian habitats of the San Joaquin Valley (San Joaquin, Merced, and Stanislaus Counties). It blooms between the months of June and September. The closest record for this species is located 0.5-mile northeast of the project site (CNDDDB Occurrence No. 33). This population was found in habitat very similar to the habitat found on the project site; however, this species does not occur on the project site, since no *Eryngium* species were observed on the site during appropriately-timed surveys conducted in 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.2 BIG TARPLANT

Big tarplant (*Blepharizonia plumosa*) is a CNPS List 1B.1 species. It has no state or federal status. This annual member of the sunflower family is found in grassland habitats, typically with clay or clay-loam soils. It is most frequently encountered on slopes, and often in burned areas. Big tarplant flowers from July through October. This species does not occur on the project site, since none were observed on the site during appropriately-timed surveys conducted in 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.3 DIABLO HELIANTHELLA

Diablo helianthella (*Helianthella castanea*) is a CNPS List 1B.2 species. This plant has no federal or state status. This member of the sunflower family is found in a variety of habitat types including broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. It is a perennial herb that blooms from March through June. This species does not occur on the project site, since no *Helianthella* species were observed on the site in April or June of 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.4 CAPER-FRUITED TROPIDOCARPUM

Caper-fruited tropidocarpum (*Tropidocarpum capparideum*) is a CNPS List 1B.1 species. It has no state or federal status. It is known from only two occurrences. The species is possibly

threatened by grazing, trampling, and non-native plants. Caper-fruited tropidocarpum is found in alkaline hills in valley and foothill grassland. It is an annual herb that blooms from March through April. This species does not occur on the project site, since none were observed on the site in April of 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.5 HEARTSCALE

Heart scale (*Atriplex cordulata*) is a CNPS List 1B.2 species. It has no state or federal status. This annual herb is found in chenopod scrub, meadows and seeps, and grassland habitats with sandy, saline, or alkaline soils. It flowers from April through October. This species does not occur on the project site, since none were observed on the site during appropriately-timed surveys conducted in 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.6 BRITTLESCALE

Brittlescale (*Atriplex depressa*) is a CNPS List 1B.2 species. It has no state or federal status. This annual chenopod is found in chenopod scrub, meadows and seeps, playas, valley and foothill grassland habitats and vernal pools with alkaline or clay soils. It flowers from May through October. This species does not occur on the project site, since none were observed on the site during appropriately-timed surveys conducted in 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.7 SAN JOAQUIN SPEARSCALE

San Joaquin spearscale (*Atriplex joaquiniana*) is a CNPS List 1B.2 species. It has no state or federal status. San Joaquin spearscale is found in chenopod scrub, meadows, seeps, playas and alkaline valley and foothill grasslands. It is an annual herb that blooms from April through October.

A record for this species occurs on or immediately adjacent to the project site (CNDDDB Occurrence No. 47). During the 2006 rare plant surveys conducted at the site, a large population (over 500 individuals) of *Atriplex joaquiniana* was identified throughout the project site. Figure 7 illustrates the distribution of this population of plants on the project site. Avoidance of this plant population is recommended. If avoidance is not possible, this plant's seeds should be salvaged and seeded on the preserved portion of the site, in consultation with CDFG. Alternatively, mitigation for impacts to this plant species could be addressed through payment of a fee to use the East Contra Costa County Habitat Conservation Plan (HCP) (see Section 9.0 below). See the Impacts and Mitigations section of this report for further details.

#### 7.1.8 ALKALI MILK-VETCH

Alkali milk-vetch (*Astragalus tener* var. *tener*) is a CNPS List 1B.2 species. It has no state or federal status. This annual herb is a member of the pea family. It is found in vernal pools with alkaline soils, and mesic grassland habitats with adobe clay soils where it blooms from March through June. This species does not occur on the project site, since none were observed on the site in April or June of 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.9 LARGE-LEAF STORKSBILL

Large-leaf storksbill (*California macrophylla*) is a CNPS List 1B.1 species. It has no state or federal status. Large-leaf storksbill is found in grassland and open woodland habitats with clay soils or clay loam soils. It flowers between March and May. The white flowers stay open for only one day before closing and the petals falling off the plant. Thus, it is most important to identify this plant by its distinctive leaf and seed pod. This species does not occur on the project site, since none were observed on the site in April or June of 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.10 DIAMOND-PETALED CALIFORNIA POPPY

Diamond-petaled California poppy (*Eschscholzia rhombipetala*) is a CNPS List 1B.1 species. It has no state or federal status. This plant has no state status. This member of the poppy family is found in grassland habitats with alkaline or clay soils, where it flowers between March and April. This species does not occur on the project site, since none were observed on the site in April of 2006. Consequently, the proposed project will not result in impacts to this species.

#### 7.1.11 RECURVED LARKSPUR

Recurved larkspur (*Delphinium recurvatum*) is a CNPS List 1B.2 species. It has no state or federal status. Recurved larkspur is found in chenopod scrub, cismontane woodlands and alkaline valley and foothill grasslands. It is a perennial herb that blooms from March through June. This species does not occur on the project site, since none were observed on the site in April or June of 2006. Consequently, the proposed project will not result in impacts to this species.

## 7.2 Special-Status Wildlife Species

Table 4 presents a list of special-status wildlife species known from the region of the project site. Many of the special-status species known from the region discussed in Table 4 can be summarily dismissed owing to the absence of habitats that could support these species on or near the project site. In some cases, habitat conditions on the project site warrant further analysis to evaluate the potential presence of several special-status wildlife species. Thus, we further discuss selected special-status wildlife species that are known from the region below.

#### 7.2.1 VERNAL POOL FAIRY SHRIMP

Vernal pool fairy shrimp (*Branchinecta lynchi*) was designated as a federal threatened species in its entire range on September 19, 1994 (Federal Register 59:48136-48153). It has no state listing. Critical habitat for this species was designated on August 6, 2003 (Federal Register 68: 46683-46867). The project site is located 3 miles outside the USFWS' designated Critical Habitat Unit 19 area.

Its distribution extends from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County to Pinnacles in San Benito County. Four additional disjunct populations exist: one near Soda Lake in San Luis Obispo County, one in the mountain grasslands of northern Santa Barbara County, one near the Santa Rosa Plateau in Riverside County, and one near Rancho California in Riverside County.

Vernal pool fairy shrimp occupy a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. It tends to occur in smaller pools (less than 0.05-acre) that are most commonly found in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. It has also been collected in large vernal pools (e.g. 25 acres). Vernal pool fairy shrimp have been collected from early December to early May (USFWS 1994). When the pool dries out, so do the eggs (known as cysts when dry). They remain in the dry pool bed until rains and other environmental stimuli cause them to hatch. Cysts can withstand heat, cold and prolonged desiccation. When the pools refill, some, but not all, of the cysts may hatch. The cyst bank in the soil may contain cysts from several years of breeding. Average time to maturity is only forty-one days. In warmer pools it can be as little as eighteen. Populations of vernal pool fairy shrimp can be reduced in size or eliminated by modifications to local hydrologic conditions and water chemistry, conversions of breeding pools to agriculture, and activities that result in the introduction of hazardous materials such as pesticides and spills, and illegal dumping (Eriksen 1999).

The CNDDDB has a record for this species located 0.2 mile northwest of the project site (CNDDDB Occurrence No. 288). At this location, vernal pool fairy shrimp were identified in depressions in iodine scrub habitat, similar to the habitats found on the site. In the absence of surveys, the USFWS would likely assume presence of vernal pool fairy shrimp. If presence is assumed or vernal pool fairy shrimp are found during surveys, the USFWS would require mitigation for impacts to fairy shrimp habitat that could occur during development of the project site. Mitigation for impacts to vernal pool fairy shrimp could be addressed through payment of a fee to use the East Contra Costa County Habitat Conservation Plan (HCP) (see Section 9.0 below). See the Impacts and Mitigations section of this report for further details.

#### 7.2.2 LONGHORN FAIRY SHRIMP

The longhorn fairy shrimp (*Branchinecta longiantenna*) was designated as a federal endangered species in its entire range on September 19, 1994 (Federal Register 59:48136). It has no state listing. Critical habitat for this species was designated on August 6, 2003 (Federal Register 68:46684). The project site is located 3 miles outside the USFWS' designated Critical Habitat Unit 19 area.

The longhorn fairy shrimp is a small crustacean in the Branchinectidae family. It ranges in size from 0.5 to 0.8 inch long. Fairy shrimp are aquatic species in the order Anostraca. They have delicate elongate bodies, large stalked compound eyes, no carapaces, and eleven pairs of swimming legs. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back. Fairy shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus.

Longhorn fairy shrimp inhabit clear to rather turbid vernal pools. These include clear-water depressions in sandstone outcroppings near Tracy, grass-bottomed pools in Merced County and claypan pools around Soda Lake in San Luis Obispo County. Longhorn fairy shrimp have been collected from late December to late April. (Eriksen and Belk 1999).

The four known populations of longhorn fairy shrimp include: (1) areas within and adjacent to the Carrizo Plain National Monument, San Luis Obispo County; (2) areas within the San Luis National Wildlife Refuge Complex, Merced County; (3) areas within the Brushy Peak Preserve, Alameda County and (4) areas within the Vasco Caves Preserve, near the town of Byron in Contra Costa County.

The CNDDDB has two records for this species located 1.8 miles south of the project site (CNDDDB Occurrence Nos. 2 & 3). At this location, longhorn fairy shrimp were identified in clear water depression pools in sandstone outcrops, similar to the habitats found on the site. In the absence of surveys, the USFWS would likely assume presence of longhorn fairy shrimp. If presence is assumed or longhorn fairy shrimp are found during surveys, the USFWS would require mitigation for impacts to fairy shrimp habitat that could occur during development of the project site. Mitigation for impacts to longhorn fairy shrimp could be addressed through payment of a fee to use the East Contra Costa County Habitat Conservation Plan (HCP) (see Section 9.0 below). See the Impacts and Mitigations section of this report for further details.

#### 7.2.3 CALIFORNIA TIGER SALAMANDER

On July 27, 2004 the USFWS determined that they would list the Central California Distinct Population Segment (DPS) of the California tiger salamander (CTS) (*Ambystoma californiense*) as threatened and would downlist the status of the Sonoma and Santa Barbara DPSs from endangered to threatened. The USFWS also designated Critical Habitat for this salamander in the summer of 2004. The project site is located 4 miles outside of Critical Habitat Unit 17 designated in Contra Costa County (Map 15, Federal Register, Vol. 69, No 153, August 10, 2004).

In addition to being federally listed, CTS is also a California “species of special concern.” This title affords the CTS no legally mandated protection; however, pursuant to CEQA (14 CCR §15380), this species must be considered in any project that will undergo, or is currently undergoing CEQA review, and/or any project that must obtain an environmental permit(s) from a public agency (e.g., the U.S. Army Corps of Engineers).

CTS occur in grasslands and open oak woodlands that provide suitable aestivation (that is, summer retreats) and/or breeding habitats. CTS spend the majority of their lives underground. They typically only emerge from their subterranean refugia for a few nights each year during the rainy season to migrate to breeding ponds. Recent studies have found that ninety-five percent of CTS spend the summer aestivating within 2,200 feet of their breeding ponds (Trenham and Shaffer 2000). As such, unobstructed migration corridors are an important component of CTS habitats. Stock ponds, seasonal wetlands, and deep vernal pools typically provide most of the breeding habitat used by CTS. In such locations, CTS attach their eggs to rooted, emergent vegetation, and other stable filamentous objects in the water column. In most of the northern range of the CTS, seasonal wetlands that are used for breeding typically must hold water into the month of May to allow enough time for larvae to fully metamorphose.

The closest known record for this species located 2.9 miles southwest of the project site in a farm pond located in Byron (CNDDDB Occurrence No. 30). In 2001 this habitat was converted to an apple orchard, so this record is considered extirpated. There are no suitable breeding or aquatic

habitats for CTS on or adjacent to the project site. Consequently, M&A does not believe that the USFWS would consider the project site suitable habitat for the CTS. Therefore, it is unlikely that the Corps would have to contact the USFWS regarding CTS prior to issuing a permit for the project. However, if the Corps would need additional information regarding CTS in relation to the project site before making a “no effect” determination, M&A could provide the Corps with ample evidence and examples as to why the project site does not provide suitable habitat for this species. Consequently, M&A believes that the proposed project will not result in impacts to this species.

#### 7.2.4 CALIFORNIA RED-LEGGED FROG

California red-legged frog (*Rana aurora draytonii*) is a federal listed threatened species and a California species of special concern. The project site is located 2.8 miles outside of the USFWS’ designated critical habitat area for California red-legged frog (Unit 15 in Contra Costa County).

The California red-legged frog is typically found in slow-flowing portions of perennial streams and in intermittent streams that maintain water in the summer months. This frog is also found in hillside seeps that maintain pool environments or saturated soils throughout the summer months (Monk & Associates, Inc. personal observations). Riparian vegetation such as willows and emergent vegetation such as cattails (*Typha* spp.) are preferred red-legged frog habitats, though not necessary for this species to be present. This frog is also found in ponds. Larval California red-legged frogs require 11-20 weeks of permanent water to reach metamorphosis (that is, to change from a tadpole into a frog).

Populations of California red-legged frog will be reduced or eliminated from aquatic habitats supporting non-native species such as bullfrogs, Centrarchid fish species (such as sunfish, blue gill, or large mouth bass), and signal and red swamp crayfish, all of which are known California red-legged frog predators. However, the presence of these non-native species does not preclude the presence of the California red-legged frog (Monk & Associates unpublished data).

The closest known record for this species located 3.7 miles south of the project site in a pond located in grazed grassland (CNDDDB Occurrence No. 220). There are no suitable breeding or aquatic habitats for California red-legged frog on or adjacent to the project site. Consequently, M&A does not believe that the USFWS would consider the site suitable habitat for the California red-legged frog. Therefore, it is unlikely that the Corps would have to contact the USFWS regarding California red-legged frog prior to issuing a permit for the project. However, if the Corps would need additional information regarding the California red-legged frog in relation to the project site before making a “no effect” determination, M&A could provide the Corps with ample evidence and examples as to why the project site does not provide suitable habitat for this species. Consequently, M&A believes that the proposed project will not result in impacts to this species.

#### 7.2.5 WESTERN POND TURTLE

The Western pond turtle (*Emys marmorata*) is a California species of special concern. The Pacific pond turtle is a habitat generalist, inhabiting a wide range of fresh and brackish, permanent and intermittent water bodies from sea level to about 4,500 feet above sea level

(USFWS 1992). Typically, this species is found in ponds, marshes, ditches, streams, and rivers that have rocky or muddy bottoms. This turtle is most often found in aquatic environments with plant communities dominated by watercress, cattail, and other aquatic vegetation. It is a truly aquatic turtle that usually only leaves the aquatic site to reproduce and to overwinter. Recent field work has demonstrated that Pacific pond turtles may overwinter on land or in water, or may remain active in water during the winter season; this pattern may vary considerably with latitude, water temperature, and habitat type and remains poorly understood (Jennings and Hayes 1994).

The pond turtle also requires upland areas for burrowing habitat where it digs nests and buries its eggs. These nests can extend from 52 feet to 1,219 feet from watercourses (Jennings and Hayes 1992), however most pond turtles nest in uplands within 250 meters of water (Bury unpublished). Upland nest sites are usually found in areas with sparse vegetation. Sunny, barren, and undisturbed (not disked) land provides optimal habitat, while shady riparian habitat and planted agricultural fields do not provide suitable habitat (op. cit.). Eggs are typically laid from March to August (Zeiner et. al. 1988), with most eggs being laid in May and June. Hatchlings will stay in the nest until the following April (Bury unpublished). Predators of juvenile pond turtles include the non-native bullfrog (*Rana catesbeiana*) and Centrarchid fish (sunfish). This turtle is most visible between April and July when it can be observed basking in the sun. In areas where the water is very warm during these months, however, it will bask in the warm water and will be more difficult to observe. It eats plants, insects, worms, fish and carrion (Stebbins 1985 and 2003).

The closest record for this species located 3.6 miles southeast of the project site (CNDDDB Occurrence No. 155). The ditch located immediately off site along Newport Drive does not support large pools of open water or basking sites that would be necessary to support turtles. It also likely dries in the summer months. Finally, given the extent of new development surrounding the project site Pacific pond turtles would not migrate from known locations to the ditch located adjacent to the project site. Owing to the absence of suitable habitat conditions, and the fact that the ditch offsite is an unlikely migration corridor, M&A believes that development of the project site will not affect Pacific pond turtle.

#### 7.2.6 SWAINSON'S HAWK

The Swainson's hawk (*Buteo swainsonii*) is a state listed threatened species pursuant to the California Endangered Species Act (CESA), Title 14, California Code of Regulations. While it has no special federal status, it is protected from direct take under the Federal Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711). Swainson's hawks, their nests, eggs, and young are also protected under California Fish and Game Code (§3503, §3503.5, §3513, and §3800).

Swainson's hawk inhabits open to semi-open areas at low to middle elevations in valleys, dry meadows, foothills, and level uplands (Kochert 1986). It nests almost exclusively in trees and will nest in almost any tree species that is at least 10 feet tall (Schmutz et. al. 1984). Nests are constructed in isolated trees that are dead or alive along drainages and in wetlands, or in windbreaks in fields and around farmsteads (Palmer 1988). Swainson's hawks occasionally nest in shrubs, on telephone poles, and on the ground. In the Central Valley of California, the majority of Swainson's hawk nests and territories are associated with riparian systems and nests are commonly found in cottonwoods and oaks (Schlorff et. al. 1984). They have also been

documented nesting in eucalyptus, black walnut, black locust (*Robinia pseudoacacia*), almond, Osage orange (*Maclura pomifera*), Arizona cypress (*Cupressus arizonica*) and pine (*Pinus* spp.) (CNDDDB records).

Foraging habitats include alfalfa fields, fallow fields, beet, tomato, and other low-growing row or field crops, dry-land and irrigated pasture, and rice land when not flooded (CDFG 1994). The Swainson's hawk generally forages in open habitats with short vegetation containing small mammals, reptiles, birds, and insects. Its primary prey in the Central Valley is California meadow vole (*Microtus californicus*). Agricultural areas are often preferred over more natural grassland habitats due to larger prey populations. In addition agricultural practices (planting, maintenance, harvesting, disking) allow for access to prey, and very likely increase foraging success of Swainson's hawks by flushing prey (personal communication between J. Estep and G. Monk 2002). During the nesting season Swainson's hawks usually forage within two miles of the nest. Swainson's hawk does not require habitats that contain many perches because it most often searches for prey aerially, therefore it can occupy habitats with few or no perches except the nest tree (James 1992).

In California, the nesting population of Swainson's hawks has declined greatly in recent years due primarily to habitat loss. Swainson's hawks are regular summer visitors and breeders throughout the western states. In the fall months, most Swainson's hawks migrate to Argentina before returning to the United States to breed in the late-spring (typically April). There are also two relatively small populations of Swainson's hawks that remain resident in California year-round in the Davis area and a small population in the Sacramento River Delta.

The closest known nesting record for Swainson's hawk is 1.2 miles north of the project site (CNDDDB Occurrence No. 1211) on an island at the confluence of Dredger Cut and Indian Slough, at the southern end of Orwood Tract. There are three additional records for Swainson's hawk within 5 miles of the project site (CNDDDB). Implementation of the proposed project site would likely be viewed by CDFG as an impact to Swainson's hawk foraging habitat. Loss or alteration of foraging habitat or nest site disturbance which results in: (1) nest abandonment; (2) loss of young; (3) reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), may ultimately result in the take (killing) of nestling or fledgling Swainson's hawks incidental to otherwise lawful activities. The taking of Swainson's hawks in this manner can be viewed by the CDFG as a violation of Section 2080 of the Fish and Game Code. This interpretation of take has been judicially affirmed by the landmark appellate court decision pertaining to CESA (CDFG v. ACID, 8 CA App.4, 41554) (CDFG 1994).

Any disturbance around a Swainson's hawk nest that is not characteristic of the normal activities around the nest site that caused abandonment of the nest would likely be regarded by CDFG as a violation of CESA (unless the activities were well tolerated by the Swainson's hawks as determined by a qualified raptor biologist). Typically, CDFG requires that any impact to a Swainson's hawk nest be permitted through a Fish and Game Section 2081 management authorization. If an active nest is found on or adjacent to the project site "to avoid potential violation of Fish and Game Code 2080 (i.e., killing of listed species), project-related disturbance at active Swainson's hawk nesting sites should be reduced or eliminated during critical phases of the

nesting cycle (March 1- September 15 annually)” (CDFG 1994). There are no potential nest trees on or adjacent to the project site, consequently, M&A does not believe a 2081 management agreement with CDFG would be required for the proposed project.

However, pursuant to CEQA, any impacts to Swainson’s hawk foraging habitat would normally be considered a significant adverse impact. Due to the proximity of a known Swainson’s hawk nest site, Swainson’s hawk mitigation for loss of foraging habitat will most likely be required. CDFG will likely comment on any circulated CEQA document and would likely present a case that the project would result in a loss of Swainson’s hawk foraging habitat. Without direct evidence that the project would impact the Swainson’s hawk (that is, kill the hawk), CDFG would be unlikely to prosecute the project under the takings provision of the California Endangered Species Act. Rather, as a formal CEQA commenting agency, it is likely CDFG would put significant pressure on the CEQA lead agency (Contra Costa County) to require the developer to mitigate impacts to Swainson’s hawk foraging habitat as a condition of project approval. Typical mitigation requirements for impacts to Swainson’s hawk foraging habitat enforced through CEQA are presented below.

In CDFG’s Mitigation Guidelines, to replace impacted Swainson’s hawk foraging habitat, the acreage requirements for Habitat Management Lands is based upon how far the proposed development is from an active Swainson’s hawk nest site. The Mitigation Guidelines require applicants to replace any impacted Swainson’s hawk foraging habitat within one mile of a nest site with one acre of suitable Habitat Management Land (1:1 impact to replacement ratio). Impacts that occur to Swainson’s hawk foraging habitat greater than one mile from a nest site, but less than five miles require that each impacted acre be replaced with three-quarters of an acre of Habitat Management Land (1:¾ impacts to replacement ratio). Finally, impacts that occur to Swainson’s hawk foraging habitat greater than five miles, but less than 10 miles from an active Swainson’s hawk nest require that each impacted acre be replaced with one-half acre of Habitat Management Land (1:½ impact to replacement ratio).

Since the project site is located greater than one mile but less than five miles from a known Swainson’s hawk nesting site, the site is within the “defined foraging area” for this species (CDFG 1994). Consequently, it is expected that there will be a 1:¾ mitigation ratio requirement. Offsite occupied Swainson’s hawk foraging habitat could be acquired by the applicant via fee title or through purchase of the right to record a conservation easement over the conserved property. The conserved property would have to be managed by a qualified conservation organization. The conservation organization would also require a cash endowment from the developer, the interest from which would be used to manage or otherwise monitor the conserved property in perpetuity. It is M&A’s expectation that the CDFG will strongly encourage payment of a fee to use the East Contra Costa County Habitat Conservation Plan (HCP) as mitigation compensation for impacts to Swainson’s hawk foraging habitat (see Section 9.0 below). See the Impacts and Mitigations Section for further details.

#### 7.2.7 WESTERN BURROWING OWL

Western burrowing owl (*Athene cunicularia hypugaea*) is a California species of special concern. Its nest, eggs, and young are also protected under California Fish and Game Code (§3503, §3503.5,

and §3800). The burrowing owl is also protected from direct take under the Migratory Bird Treaty Act (50 CFR 10.13).

Burrowing owl habitat can be found in annual and perennial grasslands, characterized by low-growing vegetation. Typically, the burrowing owl utilizes rodent burrows, usually ground squirrel burrows, for nesting and cover. They may also on occasion dig their own burrows, or use man-made objects such as concrete culverts or riprap piles for cover. They exhibit high site fidelity, reusing burrows year after year. Occupancy of suitable burrowing owl habitat can be verified at a site by observation of a pair of burrowing owls during the spring and summer months or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement (white wash) at or near a burrow. Burrowing owls typically are not observed in grasslands with tall vegetation or wooded areas because the vegetation obscures their ability to detect avian and terrestrial predators. Since burrowing owls spend the majority of their time sitting at the mouths of their burrows, grazed grasslands seem to be their preferred habitat because it allows them an unobstructed 360 degree view of their environment.

The closest record for this species located 3.8 miles south of the project site in a disked field vegetated with ruderal (weedy) plants (CNDDDB Occurrence No. 635). While no burrowing owls were observed on the project site during M&A's initial project site assessment in October of 2005, burrowing owl pellets and feathers were found near a pile of woody debris on the project site. No evidence of burrowing owl use was found during the site inspections in April and June of 2006; however, our surveys were not conducted in conformance with the stringent methods required by the CDFG for conducting presence/absence surveys. This mobile owl species could be found on the project site in the future. Since there is a record for this species relatively near the site, and M&A found evidence of this species on the site, M&A recommends that formal surveys be conducted prior to site grading to determine if this owl is present on the project site. If this owl was not found during formal protocol surveys, no further regard for this owl would be necessary. However, if this owl is found onsite during future surveys, mitigation would be required.

Payment of a fee to use the HCP would also mitigate impacts to burrowing owl. Thus, if a burrowing owl were to move onto the project site, avoidance measures would have to be implemented while the owls nested. Upon completion of nesting, the owls could be passively removed from the project site (as allowed by CDFG). Payment of a fee would alleviate any further requirements by CDFG to purchase and preserve mitigation lands (see Section 9.0 below). See the Impacts and Mitigations Section for further details.

## **8. REGULATORY FRAMEWORK FOR NATIVE WILDLIFE, FISH, AND PLANTS**

This section provides a discussion of those laws and regulations that are in place to protect native wildlife, fish, and plants. Under each law we discuss their pertinence to the proposed project.

### **8.1 Federal Endangered Species Act**

The primary focus of the FESA of 1973 is that all federal agencies must seek to conserve threatened and endangered species through their actions. FESA has been amended several times in the past to correct perceived and real shortcomings. FESA contains three key sections. Section

4 (16 USCA §1533) outlines the procedure for listing endangered plants and wildlife. Section 7 (§1536) imposes limits on the actions of federal agencies that might impact listed species. Section 9 (§1538) prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies. In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases. Below, Sections 7, 9, and 10 of FESA are discussed since they are the two sections most relevant to the proposed project.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). A December 2001 decision by the 9<sup>th</sup> Circuit Court of Appeals (*Arizona Cattle Growers' Association, Jeff Menges, vs. the U.S. Fish and Wildlife Service and Bureau of Land Management, and the Southwest Center for Biological Diversity*) ruled that the USFWS must show that a threatened or endangered species is present on a project site and that it would be taken by the project activities. According to this ruling, the USFWS can no longer require mitigation based on the probability that the species could use the site. Rather they must show that it is actually present.

The project site is located in an area that is regulated by the USFWS' Sacramento Endangered Species Office. This office believes the above case was narrowly focused on federal grazing leases and the affects of these leases on federal listed species. Due to this narrow focus, the Sacramento office believes that this case has little bearing in northern California. This office claims that probable use of habitat by a federal listed species would still be subject to the provisions of FESA.

Section 9 applies not only to federal agencies but also to any local or State agency, and to any individual. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need for consultation under Section 7 of FESA (for Federal agencies and projects with a federal "nexus" (that is, an authorized, funded or carried out by a federal agency)), or requires preparation of a Habitat Conservation Plan (HCP) pursuant to Section 10 of FESA (for state and local agencies, or individuals, and projects without a federal "nexus").

Section 7(a)(2) of the Act requires that each Federal agency shall, in consultation with and with the assistance of the USFWS, insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat. Critical habitat identifies specific areas, both occupied and unoccupied, that are essential to the conservation of a listed species and that may require special management considerations or protection. Section 4 of the

Act requires USFWS to consider economic and other relevant impacts of specifying any particular area as critical habitat.

Federal actions include permitting, funding, and entitlements for both federal projects, as well as private projects facilitated by federal actions (for example, a private landowner applying to the Corps for a permit). As an example, if a federally listed endangered species is present in "waters of the United States" on a project site, prior to authorizing impacts to "waters of the United States," the U.S. Army Corps of Engineers (who administers the Clean Water Act) would be required to initiate "formal consultation" with USFWS pursuant to Section 7 of FESA. As part of the formal consultation, the USFWS would then be required to prepare a Biological Opinion based on a review and analysis of the project applicant's avoidance and mitigation plan. The Biological Opinion will either state that the project will or will not result in "take" or threaten the continued existence of the species (not just that population). If an endangered species could be harmed by a proposed project, USFWS has to be in complete concurrence with the proposed avoidance and mitigation plan. If USFWS is not in complete concurrence with the mitigation plan, they will submit a Biological Opinion to the Corps containing a "jeopardy decision" and state that a Corps' permit should not be issued for the pending project. The applicant would then have an opportunity to submit a revised mitigation plan that provides greater protection for the species.

In the 1982 amendments to FESA, Congress established a provision in Section 10 that allows for the "incidental take" of endangered and threatened species of wildlife by non-federal entities (for example, project applicants, state and local agencies). "Incidental take" is defined by FESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Under Section 10 of FESA, the applicant for an "incidental take permit" is required to submit a "conservation plan" to USFWS or NMFS that specifies, among other things, the impacts that are likely to result from the taking, and the measures the permit applicant will undertake to minimize and mitigate such impacts, and the funding that will be available to implement those steps. Conservation plans under FESA have come to be known as "habitat conservation plans" or "HCPs" for short. The terms incidental take permit, Section 10 permit, and Section 10(a)(1)(B) permit are used interchangeably by USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

#### 8.1.1 RESPONSIBLE AGENCY

FESA gives regulatory authority over terrestrial species and non-anadromous fish to the USFWS. The NMFS has authority over marine mammals and anadromous fish.

#### 8.1.2 APPLICABILITY TO THE PROPOSED PROJECT

There are no natural stream channels or waterways on the project site that could provide habitat for listed anadromous or non-anadromous fish species. Thus, there should be no requirement to consult with the NMFS for this proposed project.

M&A does not believe that the federally endangered Contra Costa goldfields is present on the project site, since this species was not observed during an appropriately-timed survey conducted

in April 2006. M&A believes that the seasonal wetlands onsite provide suitable habitat for vernal pool fairy shrimp, a federally threatened species. Although this species is not known to occur on the site, mitigation for potential impacts to vernal pool fairy shrimp could be addressed through payment of a fee to use the East Contra Costa County Habitat Conservation Plan (HCP) (see Section 9.0 below).

M&A does not believe that the USFWS would consider the site to provide suitable habitat for the California tiger salamander or California red-legged frog. Therefore, it is unlikely that the Corps would have to contact the USFWS regarding California tiger salamander or California red-legged frog prior to issuing a permit for the project. In the event the Corps needs additional information regarding the potential effects of the development project on the California tiger salamander or California red-legged frog before making a “no effect” determination, M&A could provide the Corps with ample evidence and examples as to why the project site does not provide suitable habitat for these species. In addition, M&A does not believe that the USFWS would consider the site to provide suitable habitat for the San Joaquin kit fox (*Vulpes macrotis mutica*) (see Table 4 and Figure 6). The project site is outside the mapped range for this species.

There are no other species under the regulatory authority of the USFWS that would potentially be affected by the proposed project. Consultation with the USFWS will likely not be required for this project.

## **8.2 Federal Migratory Bird Treaty Act**

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to “take” (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

Executive Order 13186 for conservation of migratory birds (January 11, 2001) requires that any project with federal involvement address impacts of federal actions on migratory birds. The order is designed to assist federal agencies in their efforts to comply with the MBTA and does not constitute any legal authorization to take migratory birds. The order also requires federal agencies to work with the USFWS to develop a memorandum of understanding (MOU). Protocols developed under the MOU must promote the conservation of migratory bird populations through the following means:

- avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

### **8.2.1 APPLICABILITY TO PROPOSED PROJECT**

Mallard and California quail are known to nest on the project site, and western burrowing owl could nest on the site in the future. Nesting migratory birds are protected under the Migratory Bird Treaty Act. As long as there is no direct mortality of birds, their eggs, or young protected pursuant to this Act caused by development of the project site, there should be no constraints to development of the site with respect to the Migratory Bird Treaty Act. To comply with the Migratory Bird Treaty Act, all active nest sites would have to be avoided while birds were nesting. If grading activities would occur between March 1<sup>st</sup> and August 31<sup>st</sup> a competent biologist should conduct a preconstruction nesting survey for these species to ensure that no impacts would occur to nesting birds. If any bird listed under the Migratory Bird Treaty Act is found nesting on the project site, adequate buffers should be established by a qualified biologist and fenced to protect the nest site(s). Upon completion of the nesting cycle(s), the buffer(s) could be removed and the project could commence as otherwise planned. Please review specific requirements for avoidance of nest sites for potentially occurring species in the Impacts and Mitigations Section below.

### **8.3 State Endangered Species Act**

#### **8.3.1 SECTION 2081 OF THE STATE ENDANGERED SPECIES ACT**

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would jeopardize threatened or endangered species if reasonable and prudent alternatives are available.

CESA requires that all state lead agencies (as defined under CEQA) conduct an endangered species consultation with CDFG if their actions could affect a state listed species. The state lead agency and/or project applicants must provide information to CDFG on the project and its likely impacts. CDFG must then prepare written findings on whether the proposed action would jeopardize a listed species, or would result in the direct take of a listed species. Because CESA does not have a provision for "harm" (see discussion of FESA, above), CDFG considerations pursuant to CESA are limited to those actions that would result in the direct take of a listed species.

If CDFG determines that a proposed project could impact a State listed threatened or endangered species, CDFG will provide recommendations for "reasonable and prudent" project alternatives. The CEQA lead agency can only approve a project if these alternatives are implemented, unless it finds that the project's benefits clearly outweigh the costs, reasonable mitigation measures are adopted, there has been no "irreversible or irretrievable" commitment of resources made in the interim, and the resulting project would not result in the extinction of the species. In addition, if there would be impacts to threatened or endangered species, the lead agency typically requires project applicants to demonstrate that they have acquired "incidental take" permits from CDFG and/or USFWS (if it is a Federal listed species) prior to allowing/permitting impacts to such species.

If proposed projects would result in impacts to a State listed species, an "incidental take" permit pursuant to §2081 of the Fish and Game Code would be necessary (versus a Federal incidental take permit for Federal listed species). CDFG will issue an incidental take permit only if:

- 1) The authorized take is incidental to an otherwise lawful activity;
- 2) the impacts of the authorized take are minimized and fully mitigated;
- 3) measures required to minimize and fully mitigate the impacts of the authorized take:
  - a) are roughly proportional in extent to the impact of the taking on the species;
  - b) maintain the project applicant's objectives to the greatest extent possible; and,
  - c) capable of successful implementation; and,
- 4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with, and the effectiveness of, the measures.

If an applicant is preparing a habitat conservation plan (HCP) as part of the federal 10(a) permit process, the HCP might be incorporated into the §2081 permit if it meets the substantive criteria of §2081(b). To ensure that an HCP meets the mitigation and monitoring standards in Section 2081(b), an applicant should involve CDFG staff in development of the HCP. If a final Biological Opinion (federal action) has been issued for the project pursuant to Section 7 of the federal Endangered Species Act, it might also be incorporated into the §2081 permit if it meets the standards of §2081(b).

No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of "take." These species are listed in several statutes that identify "fully protected" species and "specified birds." *See* Fish and Game Code §§ 3505, 3511, 4700, 5050, 5515, and 5517. If a project is planned in an area where a "fully protected" species or a "specified bird" occurs, an applicant must design the project to avoid all take.

In September 1997, Assembly Bill 21 (Fish and Game Code §2080.1) was passed. This bill allows an applicant who has obtained a "non-jeopardy" federal Biological Opinion pursuant to Section 7, or who has received a federal 10(a) permit (federal incidental take permit), to submit the federal opinion or permit to CDFG for a determination as to whether the federal document is "consistent" with CESA. If after 30 days CDFG determines that the federal incidental take permit is consistent with state law, and that all state listed species under consideration have been considered in the federal Biological Opinion, then no further permit or consultation is required under CESA for the project. However, if CDFG determines that the federal opinion or permit is not consistent with CESA, or that there are state listed species that were not considered in the federal Biological Opinion, then the applicant must apply for a state permit under Section 2081(b). The process provided in Fish and Game Code §2080.1 (Assembly Bill 21) may be of use when the incidental take would occur to species that are listed under both the federal and state endangered species acts. Assembly Bill 21 is of no use if an affected species is state-listed, but not federally listed.

State and federal incidental take permits are issued on a discretionary basis, and are typically only authorized if applicants are able to demonstrate that impacts to the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that

the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would be impacts to a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, management endowment fees are usually collected as part of the agreement for the incidental take permit(s). The endowment is used to manage any lands set-aside to protect listed species, and for biological mitigation monitoring of these lands over (typically) a five-year period.

#### 8.3.2 APPLICABILITY TO PROPOSED PROJECT

State listed plant and wildlife species known from the region of the project site are presented in Tables 3 and 4 (respectively). The project site does not support Delta button-celery, a state endangered species, since none were observed during appropriately-timed surveys conducted in 2006. Since the project site is outside the known range map for San Joaquin kit fox, a state threatened species, the project site could be developed with no affect to this fox species. However, Swainson's hawk, a state threatened species, is known to nest 1.1 miles northeast of the project site. Consequently, implementation of the proposed project site would likely be viewed by CDFG as an impact to Swainson's hawk foraging habitat. Since the project site is greater than one mile but less than five miles from a known Swainson's hawk nest site it is expected that there will be a 1:¾ mitigation ratio requirement for loss of foraging habitat. It is M&A's expectation that the CDFG will strongly encourage payment of a fee to use the East Contra Costa County Habitat Conservation Plan (HCP) as mitigation compensation for impacts to Swainson's hawk foraging habitat (see Section 9.0 below). Please see the Impacts and Mitigations Section, below.

#### **8.4 California Fish and Game Code § 3503, 3503.5, 3511, and 3513**

California Fish and Game Code §3503, 3503.5, 3511, and 3513 prohibit the “take, possession, or destruction of birds, their nests or eggs.” Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered “take.” Such a take would also violate federal law protecting migratory birds (Migratory Bird Treaty Act).

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, “fully protected” birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under California Fish and Game Code (§3511). “Fully protected” birds may not be taken or possessed (that is, kept in captivity) at any time.

#### 8.4.1 APPLICABILITY TO THE PROJECT

Mallard and California quail are known to nest on the project site, and western burrowing owl could nest on the site in the future. Consequently, if construction or site grading would commence between March 1<sup>st</sup> and August 31<sup>st</sup>, it would be prudent to conduct preconstruction nesting surveys to ensure that there is no direct take of nesting birds of prey including their eggs, or young. Any active nests that were found during preconstruction surveys would have to be avoided by the project until such time that the nesting cycle was complete. Suitable non-disturbance buffers would have to be established around nest sites to ensure that the project would not impact the nest site while occupied. A qualified ornithologist would have to determine

a suitable buffer distance. Upon completion of the nesting cycle, the nest could be removed and the project could commence as otherwise planned. Please note that there would be other requirements for the project if western burrowing owl took up residence on the project site. Please review Section 7.2.6 and the Impacts and Mitigations Section for details. More specifics on the size of buffers are provided in the Impacts and Mitigations Section for species that could be affected by the project.

## **8.5 Protected Amphibians**

Under Title 14 of the California Code of Regulations (CCR 14, Division 1, Subdivision 1, Chapter 5, §41. Protected Amphibians), protected amphibians, such as the California tiger salamander may only be taken under special permit from California Department of Fish and Game issued pursuant to Sections 650 and 670.7 of these regulations.

### **8.5.1 APPLICABILITY TO THE PROJECT**

There are no “protected amphibian” species that would likely be impacted by the proposed project.

## **8.6 Applicable CEQA Regulations**

Section 15380 of CEQA defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. “Rare” species are defined by CEQA as those who are in such low numbers that they could become endangered if their environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in the FESA. The CEQA Guidelines also state that a project will normally have a significant effect on the environment if it will “substantially affect a rare or endangered species of animal or plant or the habitat of the species.” The significance of impacts to a species under CEQA, therefore, must be based on analyzing actual rarity and threat to that species despite its legal status or lack thereof.

### **8.6.1 APPLICABILITY TO PROPOSED PROJECT**

This document addresses impacts to species that would be defined as endangered or rare pursuant to Section 15380 of CEQA. This document is suitable for use by the CEQA lead agency (in this case Contra Costa County) for preparation of any CEQA review document prepared for the proposed project. This report has been prepared as a Biology Section that is suitable for incorporation into an Initial Study/Mitigated Negative Declaration, or other suitable CEQA document prepared for the proposed project.

## **8.7 County General Plan**

The Contra Costa County General Plan 2005-2020 published in January 2005 has several goals and policies that pertain to the protection of biological resources. According to the General Plan, the most significant ecological resource areas in Contra Costa County are defined by three separate categories: (1) areas containing rare, threatened, and endangered species; (2) unique natural areas; and (3) wetlands and marshes. Below we list the goals and policies that are in place

to protect these ecological resource areas. Those goals and policies that pertain specifically to the plant communities and wildlife habitats present on the project site are discussed in the “Applicability” section below.

8.7.1 VEGETATION AND WILDLIFE GOALS

8-D. To protect ecologically significant lands, wetlands, plant, and wildlife habitats.

8-E. To protect rare, threatened and endangered species of fish, wildlife, and plants, significant plant communities, and other resources which stand out as unique because of their scarcity, scientific value, aesthetic quality or cultural significance. Attempt to achieve a significant net increase in wetland values and functions within the County over the life of the General Plan. The definition of rare, threatened, and endangered includes those definitions provided by the Federal Endangered Species Act, the California Endangered Species Act, the California Native Plant Protection Act, and the California Environmental Quality Act.

8.7.2 VEGETATION AND WILDLIFE POLICIES

8-6. Significant trees, natural vegetation, and wildlife populations generally shall be preserved.

8-7. Important wildlife habitats which would be disturbed by major development shall be preserved, and corridors for wildlife migration between undeveloped lands shall be retained.

8-8. Significant ecological resource areas in the County shall be identified and designated for compatible low-intensity land uses. Setback zones shall be established around the resource areas to assist in their protection.

8-9. Areas determined to contain significant ecological resources, particularly those containing endangered species, shall be maintained in their natural state and carefully regulated to the maximum legal extent. Acquisition of the most ecologically sensitive properties within the County by appropriate public agencies shall be encouraged.

8-10. Any development located or proposed within significant ecological resource areas shall ensure that the resource is protected.

8-11. The County shall utilize performance criteria and standards which seek to regulate uses in and adjacent to significant ecological resource areas.

8-12. Natural woodlands shall be preserved to the maximum extent possible in the course of land development.

8-13. The critical ecological and scenic characteristics of rangelands, woodlands, and wildlands shall be recognized and protected.

8-14. Development on hillsides shall be limited to maintain valuable natural vegetation, especially forests and open grasslands, and to control erosion. Development on open hillsides

and significant ridgelines throughout the County shall be restricted, and hillsides with a grade of 26 percent or greater shall be protected through implementing zoning measures and other appropriate actions.

8-15. Existing vegetation, both native and non-native, and wildlife habitat areas shall be retained in the major open space areas sufficient for the maintenance of a healthy balance of wildlife populations.

8-16. Native and/or sport fisheries shall be preserved and re-established in the streams within the County wherever possible.

8-17. The ecological value of wetland areas, especially the salt marshes and tidelands of the bay and delta, shall be recognized. Existing wetlands in the County shall be identified and regulated. Restoration of degraded wetland areas shall be encouraged and supported whenever possible.

8-18. The filling and dredging of lagoons, estuaries, and bays which eliminate marshes and mud flats shall be allowed only for water-oriented projects which will provide substantial public benefits and for which there are not reasonable alternatives, consistent with State and Federal laws.

8-19. The County shall actively oppose any and all efforts to construct a peripheral canal or any other water diversion system that reduces Delta water flows unless and until it can be conclusively demonstrated that such a system would, in fact, protect, preserve and enhance water quality and fisheries of the San Francisco Bay-Delta estuary system.

8-20. Fish, shellfish, and waterfowl management shall be considered the appropriate land use for marshes and tidelands, with recreation being allowed as a secondary use in limited locations, consistent with the marshland and tideland preservation policies of the General Plan.

8-21. The planting of native trees and shrubs shall be encouraged in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are sustained in urban areas.

8-22. Applications of toxic pesticides and herbicides shall be kept at a minimum and applied in accordance with the strictest standards designed to conserve all the living resources of the County. The use of biological and other non-toxic controls shall be encouraged.

8-23. Runoff of pollutants and siltation into marsh and wetland areas from outfalls serving nearby urban development shall be discouraged. Where permitted, development plans shall be designed in such a manner that no such pollutants and siltation will significantly adversely affect the value or function of wetlands. In addition, berms, gutters, or other structures should be required at the outer boundary of the buffer zones to divert runoff to sewer systems for transport out of the area.

8-24. The County shall strive to identify and conserve remaining upland habitat areas which are adjacent to wetlands and are critical to the survival and nesting of wetland species.

8-25. The County shall protect marshes, wetlands, and riparian corridors from the effects of potential industrial spills.

8-26. The environmental impacts of using poisons to control ground squirrel populations in grasslands shall be thoroughly evaluated by the County.

8-27. Seasonal wetlands in grassland areas of the County shall be identified and protected.

8-28. Efforts shall be made to identify and protect the County's mature native oak, bay, and buckeye trees.

#### 8.7.3 APPLICABILITY TO THE PROPOSED PROJECT

Many of the policies presented in the General Plan are relevant to the project site and the project site's plant communities, wildlife habitats, and wetlands. Under the current development plan, it will not be possible to adhere to all of these policies that are in place to protect natural resources. For example, Policy 8-10 that states, "any development located or proposed within significant ecological resource areas shall ensure that the resource is protected" cannot be adhered to under the current development plan since the proposed plan calls for filling wetland habitats onsite that may support the federally listed vernal pool fairy shrimp. In addition, Policy 8-27 which states: "seasonal wetlands in grassland areas of the County shall be identified and protected" also cannot be adhered to under the current development plan since some of the seasonal wetlands on the project site shall be filled to allow for development. Mitigation measures will be necessary to offset the project's impact to these County protected (and agency protected) resources.

### **9. USE OF EAST CONTRA COSTA COUNTY HABITAT CONSERVATION PLAN**

In October 2006 Contra Costa County finalized the East Contra Costa County Habitat Conservation Plan (HCP) that was prepared in consultation with the USFWS CDFG. The history of this effort is provided on the East Contra Costa County Habitat Conservation Plan Association's web page (<http://www.cocohcp.org/documents.html>). On March 18, 1998, the USFWS and the CDFG sent a letter to local government agencies urging that a regional HCP be developed for Eastern Contra Costa County. In the fall of 1998, local agencies within eastern Contra Costa County received a report from staff and heard a presentation from representatives of USFWS and CDFG. Each local agency authorized its staff to examine the concept further and explore funding and other arrangements for moving forward.

On January 25, 2000, the Contra Costa County Board of Supervisors declared its intent to participate in the development of an HCP for East Contra Costa County. On June 30, 2000, the East Contra Costa County Habitat Conservation Plan Association Agreement went into effect. This agreement established the East Contra Costa Habitat Conservation Plan Association (HCPA) as the lead agency in drafting the Habitat Conservation Plan for submittal to the governing boards and councils of member agencies, oversee compliance with CEQA and the

National Environmental Policy Act (NEPA), and would serve as the lead agency under CEQA for developing the HCP.

Regional Habitat Conservation Plans (HCPs) establish a coordinated process for permitting and mitigating the incidental take of endangered species. This process creates an alternative to the current project-by-project, CDFG and USFWS incidental taking authority permitting approach. Rather than individually surveying, negotiating, and securing mitigation that satisfies USFWS, CDFG, and the local CEQA lead agency, project proponents typically receive an endangered species permit by simply paying a fee to “append” their project to an adopted HCP. Typically HCPs contain or stipulate additional permit conditions. The fees are collected by an implementation authority defined during development of the HCP, often a Joint Powers Authority, such as the East Contra Costa Habitat Conservation Plan Association, which is composed of representatives of local agencies. The implementation authority uses the fee money, as well as grants and any other funding sources established in the plan, to purchase habitat lands or easements from willing sellers. Collected funds are also used for monitoring and any habitat enhancement or management actions. Other noteworthy features of HCPs are listed below:

- HCPs are typically voluntary. Project proponents can choose to secure permits through the HCP or to address environmental regulations individually as has occurred in the past.
- Plans can be broadened to provide additional environmental permits, such as those issued by the US Army Corps of Engineers for wetlands. The East Contra Costa County HCP would likely try to include as many permits as feasible.
- Some HCPs rely heavily on maps to prioritize habitat acquisitions and guide mitigation assessments. Other HCPs are process-driven, and rely on habitat and species goals to be met through land acquisition and management, rather than the acquisition of specific areas on a map.
- HCPs enhance local agencies' control of local development and land use patterns. HCPs provide an alternative mechanism for projects to receive permits and comply with currently applicable state and federal regulations.

For Project site impacts, paying a fee to the East Contra Costa County Habitat Conservancy to append the project to the HCP may be possible. It is up to the discretion of the East Contra Costa County Habitat Conservancy. Payment of a fee would mitigate impacts to special-status species including the California red-legged frog, giant garter snake, Swainson’s hawk, burrowing owl, and vernal pool fairy shrimp. It should be noted that paying a fee to the HCP does not relieve applicants from acquiring separate USFWS and CDFG incidental take permits if required by these agencies. Since federal and state listed species could be impacted by the project (as listed above) incidental taking authority would still have to be obtained by the applicant independent of the fee payment. While other avoidance measures may be required for impacts to special-status species, payment of the fee would likely be all the mitigation compensation required by USFWS and/or CDFG for impacts to (most) listed species. Thus, the long and arduous task of finding and dedicating mitigation lands, recording conservation easements, and endowing the Grantee or

beneficiary of the conservation easement is not required to obtain an incidental take permit when using the HCP.

#### 9.1.1 APPLICABILITY TO PROPOSED PROJECT

Since vernal pool fairy shrimp may occur in the site and could be impacted from implementation of the proposed project, a federal incidental take permit may be required for this project. While the Swainson's hawk is a state listed species, and its habitat could be impacted by the project, incidental taking authority from CDFG is not warranted as no nest site would be removed by the project. Payment of the fee to use the HCP would mitigate impacts to Swainson's hawk foraging habitat and impacts to all other special-status species, such as *Atriplex joaquiniana* and western burrowing owl that could be affected by the proposed project.

It is M&A's expectation that the CDFG will strongly encourage payment of a fee to mitigate for impacts to Swainson's hawk foraging habitat and impacts to *Atriplex joaquiniana*. Likewise, USFWS would also likely encourage payment of such a fee to mitigate for potential impacts to vernal pool fairy shrimp.

The HCP requires payment of approximately \$10,558.09 per project site acre in the Zone I (Discovery Bay) area. However, it must be noted that the Project site is located just outside of (east of) the HCP Inventory Area, so the set fee for projects located within Zone I must be negotiated with the resource agencies (CDFG and USFWS), and it may be slightly higher or less than the Zone I fee (J. Kopchik, East Contra Costa County Habitat Conservancy, pers. comm. with S. Lynch of M&A, December 11, 2006). The fee would be determined at the time incidental take permits are under review by CDFG and USFWS for this Project. There is also precedent in the Project area for payment of an interim fee to use the HCP. Hoffman Homes paid an interim fee to use the HCP for their project in Discovery Bay West located immediately northwest of the project site.

Please note that contribution of funds to the HCP would also mitigate many other special-status species impacts under consideration for the proposed project. Thus, for example, if burrowing owls were to move onto the Project site, avoidance measures would have to be implemented while the owls nested. Upon completion of nesting, the owls could be passively removed from the Project site (as allowed by CDFG). Payment of the fee would alleviate any further requirements by CDFG to purchase and preserve burrowing owl mitigation lands. Use of the HCP would also mitigate impacts to vernal pool fairy shrimp as approved by CDFG and USFWS. Thus, it would be a one-stop shopping process. That is, the applicant would not have to find and seek agency approval for separate preservation lands or methods for the affected special-status species.

### **REGULATORY REQUIREMENTS PERTAINING TO WATERS OF THE UNITED STATES AND STATE**

This section presents an overview of the criteria used by the U.S. Army Corps of Engineers, the California Regional Water Quality Control Board, the State Water Resources Control Board, and CDFG to determine those areas within a project area that would be subject to their regulation.

## 9.2 U.S. Army Corps of Engineers Jurisdiction and General Permitting

### 9.2.1 SECTION 404 OF THE CLEAN WATER ACT

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged or fill material into "waters of the United States" (33 CFR Parts 328 through 330). This requires project applicants to obtain authorization from the Corps prior to discharging dredged or fill material into any water of the United States. In the Federal Register "waters of the United States" are defined as, "...all interstate waters including interstate wetlands...intrastate lakes, rivers, streams (including intermittent streams), wetlands, [and] natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce..." (33 CFR Section 328.3).

Limits of Corps' jurisdiction.

(a) Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)

(b) Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:

- (1) Extends to the high tide line, or
- (2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.

(c) Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:

- (1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
- (2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
- (3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

Section 404 jurisdiction in "other waters" such as lakes, ponds, and streams, extends to the upward limit of the ordinary high water mark (OHWM) or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]). Wetlands are defined as "...those areas that are inundated or saturated by surface or ground water at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions" (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by the Corps pursuant to Section 404 of the Clean Water Act.

It should be noted that the extent of the Corps jurisdiction pursuant to Section 404 of the Clean Water Act was recently modified. In *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, the U.S. Supreme Court [148 L. Ed. 2d 576 (2001) (SWANCC)] ruled that the Corps exceeded its authority under the Clean Water Act when it regulated discharges of fill material into "isolated" waters used as habitat by migratory birds. Accordingly, waters (including wetlands) that are not connected hydrologically to navigable waters are not subject to regulation by the Corps.

Another recent Supreme Court decision also significantly changes how the Corps defines waters of the United States. On June 19, 2006 the United States Supreme Court, in a "four-one-four" decision, addressed the extent of Clean Water Act jurisdiction over wetlands adjacent to tributaries of navigable waters. In two consolidated cases, *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers*, a five-Justice majority of the Court remanded the case to the Sixth circuit for further consideration. The Court was unable to produce a majority vote in favor of any one jurisdictional standard for the Sixth Circuit to apply (or for the regulated community to follow). Instead, Justice Scalia authored a plurality opinion that would significantly narrow the reach of federal wetlands jurisdiction, while Justice Kennedy, concurring in the judgment only, concluded that the appropriate test for jurisdiction over wetlands was the presence of a "significant nexus" between wetlands and "navigable waters" in the traditional sense. The remaining four Justices, in a dissenting opinion by Justice Stevens, would have upheld the Corps of Engineers' assertion of jurisdiction and would have affirmed the Sixth Circuit's decision. When no opinion garners at least five votes, lower courts follow the concurrence that reached the result on the narrowest grounds. Here, that is Justice Kennedy's opinion. Unfortunately, Justice Kennedy did not provide specific guidance about the extent of federal jurisdiction over wetlands that are adjacent to tributaries of navigable waters.

Justice Kennedy concluded that the Clean Water Act applies only to those wetlands with a "significant nexus" to "navigable waters in the traditional sense." A significant nexus exists when a wetland, "either alone or in combination with similarly situated lands in the region, significantly affect[s] the chemical, physical, and biological integrity" of factually navigable waters. Under Supreme Court precedent, wetlands adjacent to navigable waters meet this test. For wetlands located near tributaries of navigable waters, however, each wetland demands a case-by-case jurisdictional inquiry. We know that a "mere hydrological connection" is not enough in all cases, and that "speculative or insubstantial" effects on water quality will not suffice to satisfy the test. [Preceding text excerpted from a news letter prepared by Briscoe, Ivester, and Bazel LLP]. The Corps of Engineers and the Environmental Protection Agency jointly prepared an Instructional Guidebook to aid Corps field staff in completing the new "Approved Jurisdictional Determination Form," and is intended to be used as the U.S. Army Corps of Engineers Regulatory National Standard Operating Procedures for conducting an approved jurisdictional determination.

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to acquire authorization from the Corps prior to discharging or otherwise impacting "waters of the United States". In many cases, the Corps must visit a proposed project area to confirm the extent of area falling under their jurisdiction (to

conduct a “jurisdictional determination”) prior to authorizing any permit for that project. Typically, at the time the jurisdictional determination is conducted, applicants (or their representative) will discuss the appropriate permit application that would be filed with the Corps for permitting the proposed impact(s) to “waters of the United States.”

Pursuant to Section 404 of the Clean Water Act, the Corps normally provides two alternatives for permitting impacts to “waters of the United States.” The first alternative would be to use Nationwide Permit(s). The second alternative is to apply to the Corps for an Individual Permit (33 CFR Section 235.5(2)(b)). The application process for Individual Permits is extensive and includes a public review (i.e., public notice and receipt of public comments) and must contain an “alternatives analysis” that is prepared pursuant to Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)). The alternatives analysis is also typically reviewed by the federal Environmental Protection Agency (EPA), and thus brings another resource agency into the permitting framework. Both the Corps and EPA take the initial viewpoint that there are practical alternatives to any proposed project there would not result in impacts to waters of the U.S., if the proposed permitted action is not a water dependent project (e.g. a pier or a dredging project). Alternative analyses therefore must provide convincing reasons that the proposed impacts are unavoidable.

Nationwide Permit(s) (NWP) are a type of general permit administered by the Corps and issued on a nationwide basis that authorize minor activities that affect Corps regulated waters. Under the NWP program, if certain conditions are met, the specified activities can take place without the need for an individual or regional permit from the Corps (33 CFR, Section 235.5[c][2]). In order to use NWP(s), a project must meet 27 general nationwide permit conditions, and all specific conditions pertaining to the NWP being used (as presented at 33 CFR Section 330). It is also important to note that pursuant to 33 CFR Section 330.4(e), there may be special regional conditions or modifications to NWPs that could have relevance to individual proposed projects. Finally, pursuant to 33 CFR Section 330.6(a), Nationwide permittees may, and in some cases, request from the Corps confirmation that an activity complies with the terms and conditions of the NWP intended for use (i.e., must receive “verification” from the Corps).

Prior to finalizing design plans, the applicant needs to be aware that the Corps maintains a policy of “no net loss” of wetlands (waters of the United States). Therefore, it is incumbent upon applicants that propose to impact Corps regulated areas to submit a mitigation plan that demonstrates that impacted regulated areas would be recreated (i.e., impacts would be mitigated). Typically, the Corps requires mitigation to be “in-kind” (i.e., if a stream channel would be filled, mitigation would include replacing it with a new stream channel), and at a minimum of a 1:1 replacement ratio (i.e., one acre or fraction thereof recreated for each acre or fraction thereof lost). Often a 2:1 replacement ratio is required. Usually the 2:1 ratio is met by recreation or enhancement of an equivalent amount of wetland that is impacted, in addition to preserving an equivalent amount of wetland. In some cases, the Corps allows “out-of-kind” mitigation if the compensation/mitigation has greater value than the impacted area. Finally, there are many Corps approved wetland mitigation banks where wetland mitigation credits can be purchased by applicants to meet their mitigation requirements. Mitigation banks have limited distribution and the Corps typically only allows their use when projects have limited impacts. If a

project meets conditions of Nationwide Permits, and an Individual Permit is not required by the Corps, then typically the Corps allows use of wetland mitigation banks (if available) to meet its no net loss requirement and to otherwise mitigate the impacts to waters of the United States resulting from the proposed project.

#### 9.2.2 APPLICABILITY TO THE PROPOSED PROJECT

The preliminary wetland delineation was verified by the Corps (Mr. William Guthrie) on December 5, 2006. The Corps confirmed a total of 1.36 acres of jurisdictional wetlands on the project site. The Corps-confirmed wetland map is provided in Appendix A. The Corps issued a confirmation letter on October 7, 2008 (Appendix B).

Prior to impacting jurisdictional features (filling any wetland designated on the Corps-confirmed map) it would be necessary to receive authorization for the activity from the Corps pursuant to Section 404 of the Clean Water Act. For residential projects, Nationwide Permit 29 (Residential Developments) allows “discharges of fill material into non-tidal water of the United States for the construction or expansion of a single residence, a multiple unit residential development, or a residential subdivision. ...The discharge must not cause the loss of greater than ½-acre of non-tidal waters of the United States, including the loss of no more than 300 linear-feet of stream bed, unless for intermittent and ephemeral stream beds this 300 linear foot limit is waived in writing by the district engineer.” Based on the Development Plan prepared by Humann Company, Inc. (dated 06/28/2010), the project will impact less than 0.5-acre of jurisdictional area. Consequently, this project will qualify to use a Nationwide Permit.

Prior to the time the Corps authorizes impacts to regulated wetlands, mitigation requirements for these impacts must be met by the applicant. The Corps typically requires that all impacted wetlands be replaced at a 2:1 ratio (for each square foot of impact, two square feet of wetland would be enhanced/created) [or as otherwise specified in permitting conditions imposed by the Corps (and RWQCB)]. Mitigation requirements are based upon the existing conditions of the regulated area(s) that would be impacted. If there are impacts to wetlands, adequate compensation would include creating wetlands that remain inundated or saturated for sufficient duration to support hydrophytic vegetation. Minimum requirements for mitigating impacts to wetlands include:

- Replacement of impacted wetlands at a 2:1 ratio. For permanent wetland impacts, wetlands can be replaced at a minimum ratio of two acres created for each acre, or fraction thereof that is permanently impacted.
- Creation of in perpetuity preservation. The Corps and other regulatory agencies generally require that wetlands not impacted by the proposed project and any new wetlands created to mitigate project impacts be set aside in perpetuity, either through fee title transfer of the preserve site to a conservation organization, or via recordation of a conservation or other permanent easement over the protected area.
- Establishment of a five-year monitoring program to monitor the progress of the wetland mitigation toward an established goal. At the end of each monitoring year, an annual

report must be submitted to the Corps, RWQCB and other resource agencies that permitted the project. This report would document the hydrological and vegetative condition of the mitigation wetlands, and will recommend remedial measures as necessary to correct deficiencies.

### *Conceptual Wetland Mitigation Plan*

Because full avoidance of waters of the United States/State is not possible, potential impacts will be minimized to the extent feasible through changes in project design. Impacts will also be minimized by the use of Best Management Practices to protect preserved wetlands and water quality in preserved wetlands within the project area. These practices can include installing orange construction fencing, hay or gravel waddles, and other protective measures during construction. During project construction, the applicant states that a biological monitor will be on-site to monitor the integrity of preserved wetlands and other waters.

For the 0.45-acre of seasonal wetlands that cannot be avoided, compensation wetlands shall be created to replace those wetlands permanently affected by project activities (as approved by the Corps and RWQCB). Seasonal wetlands will be created on-site and will resemble those wetlands affected by the project (known as in-kind replacement). All impacted wetlands will be replaced at a 2:1 ratio (for each square foot of impact, two square feet of wetland would be created) or as otherwise specified in permitting conditions imposed by the Corps and RWQCB.

### *Seasonal Wetland Habitat*

Approximately 1 acre of seasonal wetland will be created within the 4.85-acre preserve area as approved by the Corps and RWQCB. Specifically, the creation of the seasonal wetland will occur in the 4.85-acre open space preserve area along the western edge of the site.

Soil borings will be taken prior to the construction of the seasonal wetlands within the open space preserve to determine if soils are suitable for creation of wetlands. In addition, ground water depths will be identified within the open space preserve. The locations of the created wetlands will be selected based on the existing topography within the uplands, soil composition, and ground water depths. As is the case with the existing seasonal wetlands on the site, hydrology in created wetlands will be provided by direct rainfall and seasonal groundwater; not runoff from surrounding uplands. The conceptual plan prepared by M&A proposes to create one (1) acre of wetlands within the 4.85 open space preserve area.

The upper 6 inches of topsoil will be harvested from the seasonal wetlands to be impacted and will be placed in the created wetlands for seed source. These topsoils would contain a seed bank of the impacted pool plant species which would germinate with fall/winter hydration of the created wetlands. The created wetlands will be slightly over-excavated to accommodate the addition of topsoil inoculum. A five-year monitoring program will be established to monitor the progress of the wetland mitigation toward an established goal. At the end of each monitoring year, an annual report will be submitted to the Corps, RWQCB, and Contra Costa County. This report will document the hydrological and vegetative condition of the mitigation wetlands, and will recommend remedial measures as necessary to correct deficiencies.

Aside from the minimum replacement ratio and in perpetuity protection, the Corps and/or the RWQCB may provide additional conditions and stipulations for this project. Any other conditions that are stipulated for wetland impacts by the Corps and/or RWQCB shall also become conditions of project approval by Contra Costa County.

### **9.3 State Water Resources Control Board (SWRCB) / California Regional Water Quality Control Board (RWQCB)**

#### 9.3.1 SECTION 401 OF THE CLEAN WATER ACT

The SWRCB and RWQCB regulate activities in "waters of the State" (which includes wetlands) through Section 401 of the Clean Water Act. While the Corps administers a permitting program that authorizes impacts to waters of the United States, including wetlands and other waters, any Corps permit authorized for a proposed project would be invalid unless it is a NWP that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification or waiver of water quality. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the permit (the term is typically for five years). Certification must be consistent with the requirements of the federal Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual Corps permits, would require a project specific RWQCB certification of water quality.

Additionally, if a proposed project would impact waters of the State, including wetlands, the project applicant must demonstrate that the project is unable to avoid these adverse impacts, or water quality certification will most likely be denied. Section 401 Certification may also be denied based on significant adverse impacts to waters of the United States/State, including wetlands. The RWQCB has also adopted the Corps' policy that there shall be "no net loss" of wetlands. Thus, prior to certifying water quality, the RWQCB will impose avoidance mitigation requirements on project proponents that impact waters of the State.

#### 9.3.2 APPLICABILITY TO THE PROPOSED PROJECT

Any Section 404 permit authorized by the Corps for the project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the Clean Water Act (i.e., without obtaining a certification of water quality). Since the RWQCB does not have a formal method for technically defining what constitutes waters of the state, M&A expects that the RWQCB would remain consistent with any Corps' determination for the project site.

Any impacts to waters of the State would have to be mitigated to the satisfaction of the RWQCB prior to the time this resource agency would issue a permit for impacts to such features. The RWQCB requirements for issuance of a "401 Permit" typically parallel the Corps requirements for permitting impacts to Corps regulated areas pursuant to Section 404 of the Clean Water Act. Please refer to the Corps "Applicability Section" above for likely mitigation requirements for impacts to RWQCB regulated wetlands.

### 9.3.3 PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that “any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge” with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1)). The term “waters of the State” is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (Water Code § 13050(e)). It should be noted that pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates “isolated wetlands,” or those wetlands considered to be outside of the Corps’ jurisdiction pursuant to the SWANCC decision (see Corps Section above).

The RWQCB generally considers filling in waters of the State to constitute “pollution.” Pollution is defined as an alteration of the quality of the waters of the state by waste that unreasonably affects its beneficial uses (Water Code §13050(1)). The RWQCB litmus test for determining if a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act is if the action could result in any “threat” to water quality.

The RWQCB requires complete pre- and post-development Best Management Practices Plan (BMPs) of any portion of the project site that is developed. This means that a water quality treatment plan for the pre- and post-developed project site must be prepared and implemented. Preconstruction requirements must be consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES). That is, a *Stormwater Pollution Prevention Plan* (SWPPP) must be developed prior to the time that a site is graded (see NPDES section below). In addition, a post construction BMPs plan, or a Stormwater Management Plan (SWMP) must be developed and incorporated into any site development plan.

While SWMPs are complex, some of the basics include that 85 percent or greater of all stormwater falling on impervious surfaces must be treated prior to being discharged into features that will carry the stormwater off site. Also, beginning in 2005, the RWQCB changed their policies to include a requirement that the first 2/10ths of an inch of any storm event be treated prior to the time it is discharged from a project site. Flows above those generated on a project site during the first 2/10ths-inch of rainfall may be discharged from the project site without water quality treatment, although the project must still demonstrate that peak storm event discharges from the project site are ameliorated, or do not exceed pre-project levels. Above ground pretreatment water quality basins can be designed into the site development plan to accommodate this requirement. Peak flow amelioration can be achieved any number of other ways such as over sized piping with metered release points. Again though, water should be treated prior to entering any peak flow amelioration feature. Treatment can occur by having stormwater flow into and through “bioswales” or similar treatment facilities. The current standard the RWQCB is looking for is not necessarily flow-through swales as much as features that provide vertical percolation. The RWQCB has expressed a desire to see two feet of vertical percolation capacity in any created water treatment swale. If soils are not suitable, the RWQCB suggests the swale feature be over-excavated and the base soils in the first two feet of the soil profile be replaced below the swale with well-drained soils. Swale-like features can also be constructed in a sense similar to linear detention basins. These basins should be landscaped or otherwise vegetated. Irrigation systems, necessary to sustain vegetation in the dry periods of the

year, are often a component of linear bioswale basins. Finally, typically roof leaders would be diverted into splash blocks that then drain through grassy swales in side and front yards. These measures are now standard policies that the RWQCB looks for prior to issuing any discretionary permit(s) for a development project.

Please note that post construction BMPs is a relatively new science, and the RWQCB continually updates its requirements to remain consistent with evolving technologies. Hence, it will be important that applicants contract with an engineering firm that has direct experience working with the RWQCB and its recent BMP requirements.

#### 9.3.4 APPLICABILITY TO PROPOSED PROJECT

The Corps determined there are 1.36 acres of waters of the United States on the property. The RWQCB will also exert its jurisdiction over these areas pursuant to the Porter-Cologne Water Quality Control Act. Since any “threat” to water quality could conceivably be regulated pursuant to the Porter-Cologne Water Quality Control Act, care will be required when constructing the proposed project to be sure that adequate pre and post construction Best Management Practices Plan (BMPs) are incorporated into the project implementation plans.

The project site currently does not have a stormwater drainage system, and no municipal provision for stormwater management exists on the site. Rather the property relies on natural flow and ditches to convey stormwater runoff. Therefore, when the property is developed, a stormwater management system (and sewer system) will likely need to be installed into the street right-of-ways, and tied into existing infrastructure in Discovery Bay. To the extent possible, the project should tie into any existing storm water system owned and operated by Contra Costa County.

It should also be noted that prior to issuance of any permit from the RWQCB this agency will require submittal of a Notice of Determination from Contra Costa County, indicating that the proposed project has completed a review conducted pursuant to CEQA. The pertinent sections of the CEQA document (typically the biology section) are often submitted to the RWQCB for review prior to the time this agency will issue a permit for a proposed project.

#### 9.3.5 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

In 1972 the Clean Water Act was amended to state that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) which establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (EPA) published final regulations that establish stormwater permit application requirements for specified categories of industries. The regulations provide that discharges of stormwater to waters of the United States from construction projects that encompass five (5) or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 expand the existing NPDES program to address stormwater discharges from construction sites that disturb land equal

to or greater than one (1) acre. The one acre threshold was lowered to 10,000 square feet in late 2005.

While federal regulations allow two permitting options for stormwater discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide General Permit at this time that will apply to all stormwater discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (CalTrans). The General Permit requires all dischargers where construction activity disturbs greater than 10,000 square feet to:

1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving off site into receiving waters.
2. Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
3. Perform inspections of all BMPs.

This General Permit is implemented and enforced by the nine California Regional Water Quality Control Boards (RWQCBs).

#### Types of Construction Activity Covered by the General Permit

Construction activity subject to this General Permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least 10,000 square feet or more of total land area. Construction activity that results in soil disturbances to a smaller area would still be subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses greater than 10,000 square feet of soil disturbance, or if there is significant water quality impairment resulting from the activity. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety. Project proponents (landowners) should confirm with the local RWQCB whether or not a particular routine maintenance activity is subject to this General Permit.

#### 9.3.6 APPLICABILITY TO PROPOSED PROJECT

Surface grading and excavation of the project site will exceed 10,000 square feet and thus would be regulated pursuant to the NPDES program. It is the responsibility of the applicant to obtain coverage under the General Permit prior to commencement of construction activities that disturb greater than one acre of area. To obtain coverage, the project proponent (landowner) must file an NOI with a vicinity map and the appropriate fee with the SWRCB. In addition, coverage under this permit does not occur until the applicant develops an adequate SWPPP for the project. Section A of the General Permit outlines the required contents of a SWPPP. The entity

responsible for the construction activity shall file the NOI and submit the filing fee and shall be responsible for development of the SWPPP, all of which must occur prior to commencement of construction activities.

The NOI must be sent to the following address:

State Water Resources Control Board  
Division of Water Quality  
Storm Water Permit Unit  
1001 I Street, 15<sup>th</sup> floor  
Sacramento, CA 95814  
(916) 341-5455

#### **9.4 RWQCB Municipal Storm Water Permitting Program**

The Municipal Storm Water Permitting Program regulates stormwater discharges from municipal separate storm sewer systems (MS4s). MS4 permits were issued in two phases. Under Phase I, which started in 1990, the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. These permits are reissued as the permits expire. As part of Phase II, the SWRCB adopted a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities, including non-traditional Small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes.

The MS4 permits require the discharger to develop and implement a Storm Water Management Plan/Program (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the Clean Water Act. The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations. In general, medium and large municipalities are required to conduct chemical monitoring, though small municipalities are not.

##### **9.4.1 RWQCB PHASE I PROGRAM REQUIREMENTS**

The C.3 NPDES requirements went into effect for any project (public or private) that is “deemed complete” by the City or County (Lead Agency) on or after February 15, 2005, and which will result in the creation or replacement (other than normal maintenance) of at least one acre of impervious surface area (roofs, streets, patios, parking lots, etc.). (This one-acre threshold was reduced to 10,000 square feet on August 15, 2006). Intended to reduce the introduction of urban pollutants into San Francisco Bay, creeks, streams, lakes, and other water bodies in the region, Provision C.3 requires the onsite treatment of stormwater prior to its discharge into downstream receiving waters. Note that these requirements are in addition to the existing NPDES requirements for erosion and sedimentation controls during project construction.

Projects subject to Provision C3 must include the capture and onsite treatment of all stormwater from the site prior to its discharge, including rainwater falling on building rooftops. Project applicants are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the maximum extent practicable. While the Clean Water Act does not define “maximum extent practicable,” the Stormwater Quality Management Plans required as a condition of the municipal NPDES permits identify control measures (known as Best Management Plans, or BMPs) and, where applicable, performance standards, to establish the level of effort required to satisfy the maximum extent practicable criterion. It is ultimately up to the professional judgment of the reviewing municipal staff in the individual jurisdictions to determine whether a project’s proposed stormwater controls will satisfy the maximum extent practicable criterion. However, there are numeric criteria used to ensure that treatment BMPs have been adequately sized to accommodate and treat a site’s stormwater. The C3 requirements are quite extensive, and their complete explanation is not provided here. However, the following are minimums that should be understood and adhered to:

- The applicant must provide a detailed and realistic site design and impervious surface area calculations. This site design and calculations will be used by the Lead Agency (County or City) to determine/verify the amount of impervious surface area that is being created or replaced. It should include all proposed buildings, roads, walkways, parking lots, landscape areas, etc., that are being created or redeveloped. If large (greater than one acre) lots are being created an effort will need to be made to determine the total impervious surface area that could be created on that parcel. For example if only a portion of the lot is shown as a “building envelope” then the lead agency will need to consider that a driveway will have to be constructed to access the envelope and that the envelope will then be developed as shown. If the C.3 thresholds are met (creation/redevelopment of one acre of impervious surface area), a Stormwater Control Plan (SWCP) (if required by the Lead Agency, or whatever steps for compliance with Provision C3 are required locally) must accompany the application.
- If a SWCP is required by the Lead Agency for the project it must be stamped by a Licensed Civil Engineer, Architect, or Landscape Architect.

Incorporating the C3 requirements into the early phases of new project planning will speed the approval process (by reducing or eliminating the need for redesign of the site plan once it gets to the municipal review process), improve the integration of treatment into site landscaping, enhance the project’s aesthetics, reduce the water quality impacts of the project, improve the natural absorption of urban pollutants into the environment, and reduce the amount of stormwater discharged from the site. If these requirements are not incorporated into the early stages of site design, a subsequent redesign of the site plan may be required in order to provide all of the required onsite water treatment, adding unnecessarily to project development costs.

#### 9.4.2 APPLICABILITY TO THE PROPOSED PROJECT

The RWQCB is requiring that these requirements be addressed through the implementation of BMPs programs that reduce pollutants in stormwater. Contra Costa County now vigorously enforces the C3 provisions and provides a handbook showing/stating how the C3 provisions may be achieved by project applicants. Each Discharger is individually responsible for adopting and enforcing ordinances, and implementing assigned BMPs to prevent or reduce pollutants in stormwater, and providing funds for capital, operation, and maintenance expenditures necessary to implement and maintain BMPs for any installed storm drain system that it owns and/or operates. A BMPs plans must now be submitted to Contra Costa County for review and approval and show how discharges will not cause or contribute to violations of water quality objectives of the RWQCB (C3 provisions), nor shall they cause certain conditions to occur which create a condition of nuisance or water quality impairment in receiving waters.

## **9.5 California Department of Fish and Game Protections**

### 9.5.1 SECTION 1602 OF CALIFORNIA FISH AND GAME CODE

Pursuant to Section 1602 of the California Fish and Game Code, California Department of Fish and Game (CDFG) regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream which CDFG typically considers to include its riparian vegetation. Any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, would require entering into a Streambed Alteration Agreement (SBAA) with CDFG prior to commencing work in the stream. However, prior to authorizing such permits, CDFG typically reviews an analysis of the expected biological impacts, any proposed mitigation plans that would be implemented to offset biological impacts and engineering and erosion control plans. Finally, it should also be noted that prior to issuing a SBAA, CDFG will require submittal of a Notice of Determination from the City of San Rafael, indicating that the proposed project has completed a CEQA review.

### 9.5.2 APPLICABILITY TO PROPOSED PROJECT

The proposed project will gain access to the site via a crossing over the unnamed roadside ditch located offsite along the eastern boundary of the site. The proposed clear span crossing will likely require a SBAA.

## **10. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REGULATIONS**

Pursuant to CEQA, a lead agency would have to determine if there could be significant adverse impacts to the environment from a proposed project, and if a proposed project will require further review pursuant to the CEQA. Typically, if within the city limits, the city would be the CEQA lead agency. If a discretionary permit (i.e., conditional use permit) would be required for a project (e.g. an occupancy permit must be issued), the lead agency typically must determine if there could be significant environmental impacts. This is usually accomplished by an “initial study.” If there could be significant environmental impacts, the lead agency must determine an appropriate level of environmental review prior to approving and/or otherwise permitting the project. In some cases, there are “Categorical Exemptions” provided in CEQA that apply to the proposed activity; thus the activity would be exempt from CEQA review. There are also Statutory Exemptions in CEQA that must be investigated for any proposed project. If the project

is not exempt from CEQA, the lowest level of review typically reserved for projects with no significant affects on the environment would be for the lead agency to prepare a “Negative Declaration.” If a proposed project would have only minimal impacts that can be mitigated to a level of less than significant pursuant to the CEQA, then a “Mitigated Negative Declaration” is typically prepared by the lead agency. Finally those projects that may have or will have significant affects on the environment, or for project with environmental impacts that cannot be mitigated to a level considered less than significant pursuant to the CEQA, typically must be reviewed via an Environmental Impact Report (EIR). All CEQA review documents are subject to public circulation and public comment periods.

Section 15380 of CEQA defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. “Rare” species are defined by CEQA as those who are in such low numbers that they could become endangered if their environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in FESA. The CEQA Guidelines also state that a project will normally have a significant effect on the environment if it will “substantially affect a rare or endangered species of animal or plant or the habitat of the species.” The significance of impacts to a species under CEQA, therefore, must be based on analyzing actual rarity and threat of extinction to that species despite its legal status or lack thereof.

#### 10.1.1 APPLICABILITY TO THE PROPOSED PROJECT

Contra Costa County is the lead agency for this project. This project will be reviewed pursuant to CEQA. This biological resources section will be incorporated into an Initial Study/Mitigated Negative Declaration being prepared by Contra Costa County for this project. Several animals and one plant species that meet the definition of “rare” and “endangered” pursuant to CEQA and significant impacts waters of the U.S./State are being considered in this biological resources section.

## 11. IMPACTS ANALYSIS

In this section we discuss potential impacts to sensitive biological resources on the project site. We follow each impact with a mitigation prescription that when implemented would reduce impacts to the greatest extent possible. This impact analysis is based on a Development Plan prepared by Humann Company, Inc. (dated 06/28/2010) for the Newport Pointe/Bixler Road project site.

### 11.1 Significance Criteria

A significant impact is determined using CEQA and CEQA Guidelines. Pursuant to CEQA §21068, a significant effect on the environment means a substantial, or potentially substantial, adverse change in the environment. Pursuant to CEQA Guideline §15382, a significant effect on the environment is further defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. Other

Federal, State, and local agencies' considerations and regulations are also used in the evaluation of significance of proposed actions.

Direct and indirect adverse impacts to biological resources are classified as "significant," "potentially significant," or "less than significant." Biological resources are broken down into four categories: vegetation, wildlife, threatened and endangered species, and regulated "waters of the United States" and/or stream channels. "Significant" impacts as they pertain to these four categories are discussed under the appropriate heading below.

A "potentially significant" designation is used under circumstances where the presence of a special-status species or resource is uncertain and project construction could result in its loss. This designation is also used if it is unclear if the proposed project would result in a significant adverse impact, but the likelihood is great. "Less than significant" impacts are those impacts not put into either significant or potentially significant categories. Impacts would be generally considered less than significant if the habitats and species affected were common and widespread in the region and in the State.

#### 11.1.1 THRESHOLDS OF SIGNIFICANCE

##### 11.1.1.1 Plants, Wildlife, Waters

In accordance with Appendix G (Environmental Checklist Form) of the CEQA Guidelines, implementing the project would have a significant biological impact if it would:

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

#### 11.1.1.2 Waters of the United States and State.

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged or fill material into waters of the United States, which includes wetlands, as discussed in the bulleted item above, and also includes “other waters” (stream channels, rivers) (33 CFR Parts 328 through 330). Substantial impacts to Corps regulated areas on a project site would be considered a significant adverse impact. Similarly, pursuant to Section 401 of the Clean Water Act, and to the Porter-Cologne Water Quality Control Act, the RWQCB regulates impacts to waters of the state. Thus, substantial impacts to RWQCB regulated areas on a project site would also be considered a significant adverse impact.

#### 11.1.1.3 Stream Channels

Pursuant to Section 1602 of the California Fish and Game Code, CDFG regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream which CDFG typically considers to include riparian vegetation. Any proposed activity that would result in substantial modifications to a natural stream channel would be considered a significant adverse impact.

## **12. IMPACT ASSESSMENT AND PROPOSED MITIGATION**

### **12.1 Impact BIO-1. Impacts to *Atriplex joaquiniana*.**

San Joaquin spearscale (*Atriplex joaquiniana*) is a CNPS List 1B.2 species. A large population (over 500 individuals) of *Atriplex joaquiniana* was identified throughout the project site (Figure 7). Full avoidance of this population is not possible. Hence, impacts to *Atriplex joaquiniana* from the proposed project is a significant impact pursuant to CEQA. This impact could be mitigated to a level regarded as less than significant.

### **12.2 Mitigation Measure BIO-1. *Atriplex joaquiniana***

In order to offset the project’s impact on *Atriplex joaquiniana* the applicant will contribute to the East Contra Costa County HCP. The amount of this fee shall be determined in consultation with CDFG. Prior to site grading, a copy of the mitigation transaction (i.e., payment of the fee) for use of the HCP, and/or a copy of an incidental take permit from CDFG shall be provided to Contra Costa County. Finally, prior to site grading, this plant’s seeds should be salvaged and seeded on the preserved portion of the site, in consultation with CDFG. This area shall be fenced to ensure protection of the species. No further mitigation for this impact will be required.

**Significance after Mitigation:** Less than significant.

### **12.3 Impact BIO-2. Potential Impacts to Vernal Pool Fairy Shrimp.**

The vernal pool fairy shrimp, a federally listed threatened species, may occur in the seasonal wetland habitats found on the project site. Several seasonal wetlands onsite will be filled to allow for the proposed development project. Hence, impacts to vernal pool fairy shrimp from the proposed project would be a potentially significant impact pursuant to CEQA. This impact could be mitigated to a level regarded as less than significant.

#### **12.4 Mitigation Measure BIO-2. Vernal pool fairy shrimp**

In order to offset the project's potential impact on vernal pool fairy shrimp the applicant will contribute to the East Contra Costa County HCP. The amount of this fee shall be determined during negotiations with USFWS during Section 7 consultation between the Corps and the USFWS. Prior to site grading, a copy of the mitigation transaction (i.e., payment of the fee) for use of the HCP, and/or a copy of an incidental take permit from USFWS shall be provided to Contra Costa County. Finally, topsoils from the wetlands to be filled that may contain fairy shrimp cysts (eggs) shall be scalped and redeposited in appropriate seasonal mitigation wetlands that shall be created within the wetland mitigation open space preserve onsite. No further mitigation for this impact will be required.

**Significance after Mitigation:** Less than significant.

#### **12.5 Impact BIO-3. Impacts to Swainson's Hawk Foraging Habitat.**

The Swainson's hawk is a state listed threatened species. While the Swainson's hawk has no special federal status it is protected from direct take under the Federal Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711). Swainson's hawks, their nests, eggs, and young are also protected under California Fish and Game Code (§3503, §3503.5, §3513, and §3800). Swainson's hawks are known to nest 1.1 mile (northeast) of the project site along Indian Slough (CNDDDB Occurrence Number 1211). Implementation of the proposed project would likely be viewed by CDFG as an impact to Swainson's hawk foraging habitat. Pursuant to CEQA, any impacts to Swainson's hawk foraging habitat would be considered a significant impact pursuant to CEQA. This impact could be mitigated to a level considered to be less than significant.

#### **12.6 Mitigation Measure BIO-3. Swainson's Hawk Foraging Habitat.**

CDFG has prepared a *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (CDFG 1994) (hereinafter the Mitigation Guidelines) that prescribe avoidance and mitigation guidelines for impacts to Swainson's hawk nesting and foraging habitats. The Mitigation Guidelines state that acceptable mitigation to offset impacts to Swainson's hawk foraging habitat can be met by Fee Title acquisition of Swainson's hawk habitat, or by acquisition of conservation easements over lands that can be managed for this hawk species (hereinafter Habitat Management Lands). Any land acquired through Fee Title would have to be donated to a suitable conservation organization for management. In addition to providing Habitat Management Lands, the applicant would be assessed a management fee for the long-term management of the Habitat Management Lands by a suitable conservation organization.

In CDFG's Mitigation Guidelines, to replace impacted Swainson's hawk foraging habitat, the acreage requirements for Habitat Management Lands is based upon how far the proposed development is from an active Swainson's hawk nest site. The Mitigation Guidelines require applicants to replace any impacted Swainson's hawk foraging habitat within one mile of a nest site with one acre of suitable Habitat Management Land (1:1 impact to replacement ratio). Impacts that occur to Swainson's hawk foraging habitat greater than one mile from a nest site, but less than five miles require that each impacted acre be replaced with three-quarters of an acre of Habitat Management Land (1:¾ impacts to replacement ratio). Finally, impacts that occur to

Swainson's hawk foraging habitat greater than five miles, but less than 10 miles from an active Swainson's hawk nest require that each impacted acre be replaced with one-half acre of Habitat Management Land (1:½ impact to replacement ratio). Because the known nest site is located 1.1 mile northeast of the project site, CDFG can be expected to request that the applicant mitigate loss of foraging habitat at a 1:¾ impacts to replacement ratio.

To meet the CDFG's mitigation requirements for impacts to Swainson's hawk foraging habitat the applicant would have to dedicate and preserve 16.5 acres of habitat (this is a 1:¾ impact to mitigation ratio), as approved by CDFG, to a conservation organization. An operating endowment would need to be provided to the conservation organization to manage any preserved lands in perpetuity. Since the impact of development would not leave 16.5 acres available onsite to mitigate the impact, in lieu of this mitigation requirement, the applicant will contribute to the East Contra Costa County HCP to fully mitigate impacts to Swainson's hawk foraging habitat as approved by CDFG. The amount of the fee would be consistent for treatment of land in the HCP in the location of the project site and commensurate with approximately 16.5 acres of impacts to foraging habitat. Please review the section of this report called Use of the East Contra Costa County Habitat Conservation Plan for further details. The above stated measures would reduce significant impacts to Swainson's hawk foraging habitat to a level regarded as less than significant pursuant to CEQA.

**Significance after Mitigation:** Less than significant.

#### **12.7 Impact BIO-4. Impacts to Western Burrowing Owl.**

The western burrowing owl is a state species of special concern. This owl is also protected under California Fish and Game Code §3503, §3503.5, §3513, and §3800, and the Federal Migratory Bird Treaty Act. No burrowing owls were observed on the project site; however, during M&A's initial project site assessment in October of 2005, burrowing owl pellets and feathers were found near a pile of woody debris on the project site. No evidence of burrowing owl use was found during the site inspections in April and June of 2006. Since there is a record for this species relatively near the site, and M&A found evidence of this species on the site, their presence onsite cannot be ruled out. Burrowing owls are mobile species and could nest on any portion of the project site in subsequent years. Impacts to burrowing owl would be regarded as a potentially significant impact pursuant to CEQA. This impact could be mitigated to a level considered less than significant.

## **12.8 Mitigation Measure BIO-4. Western Burrowing Owl.**

Mitigation Measure BIO-4-A. A protocol survey shall be conducted to assess the presence of burrowing owls on the project site. The project site and a 150 meter (approximately 500 ft.) buffer (where possible based on habitat) should be surveyed to assess the presence of burrowing owls and their habitat. The survey should be conducted in accordance with the survey requirements detailed in the California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation (CDFG 1995). Surveys shall be conducted in both breeding season (April 15-July 15) and non-breeding season (December-January), for a total of four surveys, to assess use of the project site by this species.

If burrowing owls are found on the project site during the non-breeding season (September 1 through January 31), impacts to burrowing owls will be avoided by establishing a fenced 160-foot buffer (50 meters) between the nest site (i.e., the active burrow) and any earth-moving activity or other disturbance on the project site.

If burrowing owls are detected on the site during the breeding season (peak of the breeding season is April 15 through July 15), and appear to be engaged in nesting behavior, a fenced 250-foot buffer (75 meters) would be required between the nest site (i.e. the active burrows) and any earth-moving activity or other disturbance on the project site. This 250-foot buffer could be removed once it is determined by a qualified raptor biologist that that young have fledged (that is, left the nest). Typically, the young fledge by August 31<sup>st</sup>. This date may be earlier than August 31<sup>st</sup>, or later, and would have to be determined by a qualified raptor biologist.

Mitigation Measure BIO-4-B. If the earlier surveys do not identify burrowing owls in the project area, preconstruction surveys will still be required. Preconstruction surveys of the project site shall be conducted no more than 30 days prior to ground disturbing activities. If more than 30 days lapse between the time of the preconstruction survey and the start of ground-disturbing activities, another preconstruction survey must be completed. This process should be repeated until the habitat is converted to non-habitat (e.g., developed for residential and recreational uses).

Mitigation Measure BIO-4-C. If occupied burrows are found within 160 feet of the proposed project area during the non-breeding season, and may be impacted, passive relocation measures will be implemented according to the Burrowing Owl Consortium Guidelines (BOC 1993). Passive relocation shall not commence before September 30th and shall be completed prior to February 1<sup>st</sup> of any given year. These activities shall be approved by CDFG in advance. After passive relocation, the project site and vicinity will be monitored by a qualified biologist daily for one week and once per week for an additional two weeks to document where the relocated owls move. A report detailing the results of the monitoring will be submitted to CDFG within two months of the relocation.

Mitigation Measure BIO-4-D. If burrowing owls were found occupying burrows on the project site, a qualified raptor biologist shall delineate the extent of burrowing owl habitat on the site. To mitigate impacts to burrowing owls, the applicant shall implement mitigation measures required by the CDFG which state that six and a half acres (6.5 acres) of replacement habitat must be set-

aside (i.e., protected in perpetuity) for every occupied burrow, pair of burrowing owls, or unpaired resident bird. Such a set-aside will off-set permanent impacts to burrowing owl and their habitat. For example, if two pairs of burrowing owls are found occupying burrows on the project site, 13 acres of mitigation land must be acquired. Additionally, if one pair and one resident bird are identified, 13 acres of mitigation land must be acquired. The protected lands shall be adjacent to occupied burrowing owl habitat and at a location acceptable to CDFG. Land identified to off-set impacts to burrowing owls must be protected in perpetuity either by a conservation easement or via fee title acquisition. CDFG will likely require that a detailed mitigation and monitoring plan be developed for the burrowing owl mitigation area. This plan shall be prepared by the project biologist and will be subject to CDFG approval. Mitigation lands will be protected in perpetuity and the applicant will provide an endowment fund to the Grantee of the Conservation Easement for the long-term management of the burrowing owl mitigation lands.

In lieu of preserving mitigation land for burrowing owls, the project applicant may contribute funds to use the East Contra Costa County HCP equal to 6.5 acres per pair of owls or single owl observed in the project area. Any other purchase to use the HCP for other species would not be additive to this requirement. Thus if 22 acres of credit were purchased for impacts to other species, this purchase would fully mitigate impacts to the burrowing owl.

**Significance after Mitigation:** Less than significant.

### **12.9 Impact BIO-5. Impacts to Other Nesting Birds.**

Birds protected pursuant to the Migratory Bird Treat Act and California Department of Fish and Game Code §3503 and §3800 could nest on the project site and may be disturbed to an extent that eggs and/or young would be lost. Mallard and California quail likely nest on the project site. Impacts to protected bird species during the nesting season would be regarded as a potentially significant impact pursuant to CEQA. Such an impact could be mitigated to a level considered less than significant.

### **12.10 Mitigation BIO-5. Impacts to Other Nesting Birds**

In order to avoid impacts to common nesting birds protected pursuant to the Migratory Bird Treat Act and California Department of Fish and Game Codes §3503, §3503.5, and §3800, a nesting survey should be conducted prior to ground disturbance or site grading activities if this work would commence between March 15<sup>th</sup> and August 31<sup>st</sup>. If any birds are identified nesting on the site, site grading and other ground disturbance (such as vegetation clearing) would have to be postponed until it is determined by a qualified ornithologist that the young have fledged and have attained sufficient flight skills to leave the project site. Unless otherwise prescribed for special-status bird species, upon completion of nesting no further protection or mitigation would be warranted for nesting birds.

**Significance after Mitigation:** Less than significant.

### **12.11 Impact BIO-6. Impacts to Waters of the United States and/or State**

The Corps and the RWQCB have jurisdiction over waters of the United States and State pursuant to Sections 404 and 401 of the Clean Water Act, respectively. The proposed project would result in impacts to 0.45-acre of seasonal wetlands, as confirmed by the Corps. Such impacts could be mitigated to a level considered less than significant.

### **12.12 Mitigation Measure BIO-6. Waters of the United States and/or State**

Because full avoidance of waters of the United States/State is not possible, potential impacts will be minimized to the extent feasible through changes in project design. Impacts will also be minimized by the use of Best Management Practices to protect preserved wetlands and ensure water quality in preserved wetlands within the project area. These practices can include installing orange construction fencing, hay or gravel waddles, and other protective measures during construction. During project construction, the applicant states that a biological monitor will be on-site to monitor the integrity of preserved wetlands and other waters.

For the 0.45-acre of seasonal wetlands that cannot be avoided, compensation wetlands shall be created to replace those wetlands permanently affected by project activities (as approved by the Corps and RWQCB). Seasonal wetlands will be created on-site and will resemble those wetlands affected by the project (known as in-kind replacement). All impacted wetlands will be replaced at a 2:1 ratio (for each square foot of impact, two square feet of wetland would be created) or as otherwise specified in permitting conditions imposed by the Corps and RWQCB.

#### ***Seasonal Wetland Habitat***

Approximately 1 acre of seasonal wetland will be created within the 4.85-acre preserve area as approved by the Corps and RWQCB. Specifically, the creation of the seasonal wetland will occur in the 4.85-acre open space preserve area along the western edge of the site.

Soil borings will be taken prior to the construction of the seasonal wetlands within the open space preserve to determine if soils are suitable for creation of wetlands. In addition, ground water depths will be identified within the open space preserve. The locations of the created wetlands will be selected based on the existing topography within the uplands, soil composition, and ground water depths. As is the case with the existing seasonal wetlands on the site, hydrology in created wetlands will be provided by direct rainfall and seasonal groundwater; not runoff from surrounding uplands. The conceptual plan prepared by M&A proposes to create 1 acre of wetlands within the 4.85 open space preserve area.

The upper 6 inches of topsoil will be harvested from the seasonal wetlands to be impacted and will be placed in the created wetlands for seed source. These topsoils would contain a seed bank of the impacted pool plant species which would germinate with fall/winter hydration of the created wetlands. The created wetlands will be slightly over-excavated to accommodate the addition of topsoil inoculum.

A five-year monitoring program will be established to monitor the progress of the wetland mitigation toward an established goal. At the end of each monitoring year, an annual report will

be submitted to the Corps, RWQCB, and Contra Costa County. This report will document the hydrological and vegetative condition of the mitigation wetlands, and will recommend remedial measures as necessary to correct deficiencies.

Aside from the minimum replacement ratio and in perpetuity protection, the Corps and/or the RWQCB may provide additional conditions and stipulations for this project. Any other conditions that are stipulated for wetland impacts by the Corps and/or RWQCB shall also become conditions of project approval by Contra Costa County.

**Significance after Mitigation:** Less than significant.

### **12.13 Impact BIO-7. Cumulative Impacts to Vegetation and Wildlife Resources**

Implementation of the proposed project would contribute to a cumulative loss of seasonal wetlands, non-native annual grassland, and iodine bush scrub habitat in the region. Implementation of the development project would also result in cumulative impacts to common plant and animal species. Implementation of the proposed project would contribute to a cumulative loss of *Atriplex joaquiniana*, a CNPS List 1B.2 species. The seasonal wetlands may support a federal listed species: the vernal pool fairy shrimp. Additionally, the iodine bush scrub and non-native grassland communities of the project site may also be important for several special-status animal species such as the Swainson's hawk and burrowing owl (see Impacts and Mitigations Section above). There are other proposed projects in Eastern Contra Costa County that would/are impacting similar resources to those that would be impacted by the project. Project-related impacts would be considered cumulative with other projects in the region. These impacts would be considered significant (and potentially significant) impacts pursuant to CEQA. These impacts could be mitigated to a level considered less than significant.

Construction of the project would also result in cumulative impacts to "waters of the United States" that are regulated by the U.S. Army Corps of Engineers and the Regional Water Quality Control Board. On a regional basis, these impacts would add to other development related losses of "waters of the United States". This impact would be a considered significant impact pursuant to CEQA. This impact could be mitigated to a level considered less than significant.

### **12.14 Mitigation Measure BIO-7. Cumulative Impacts to Vegetation and Wildlife Resources**

The mitigation measures prescribed above would offset cumulative impacts to special-status species and plant communities/wildlife habitats to levels regarded as less than significant. Specifically, payment of fees to use the East Contra Costa County HCP will reduce these cumulative impacts, which is the intent of a regional HCP.

**Significance after Mitigation:** Less than significant.

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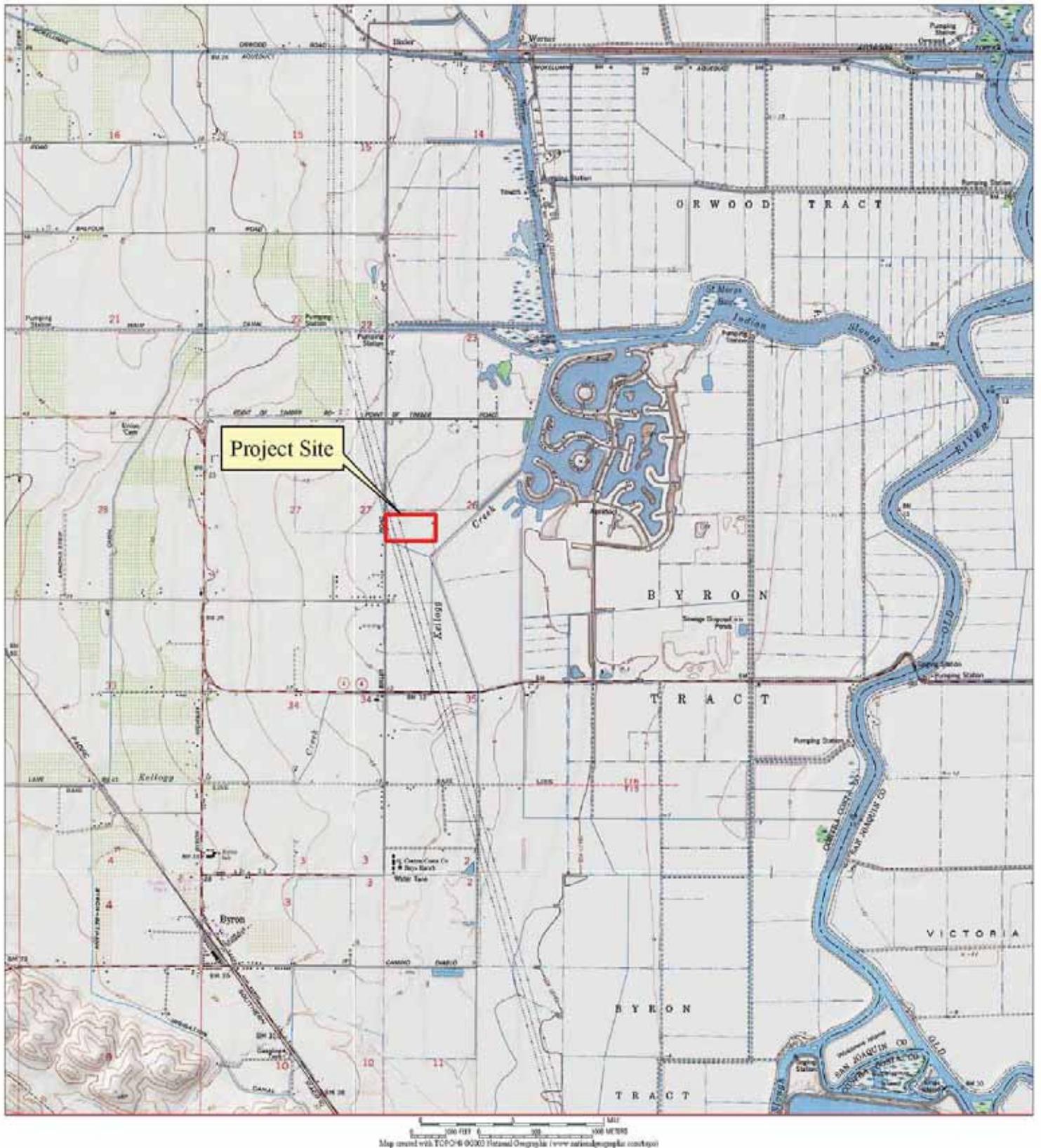


Figure 2. Bixler Road Project Site Location Map  
 Contra Costa County, California



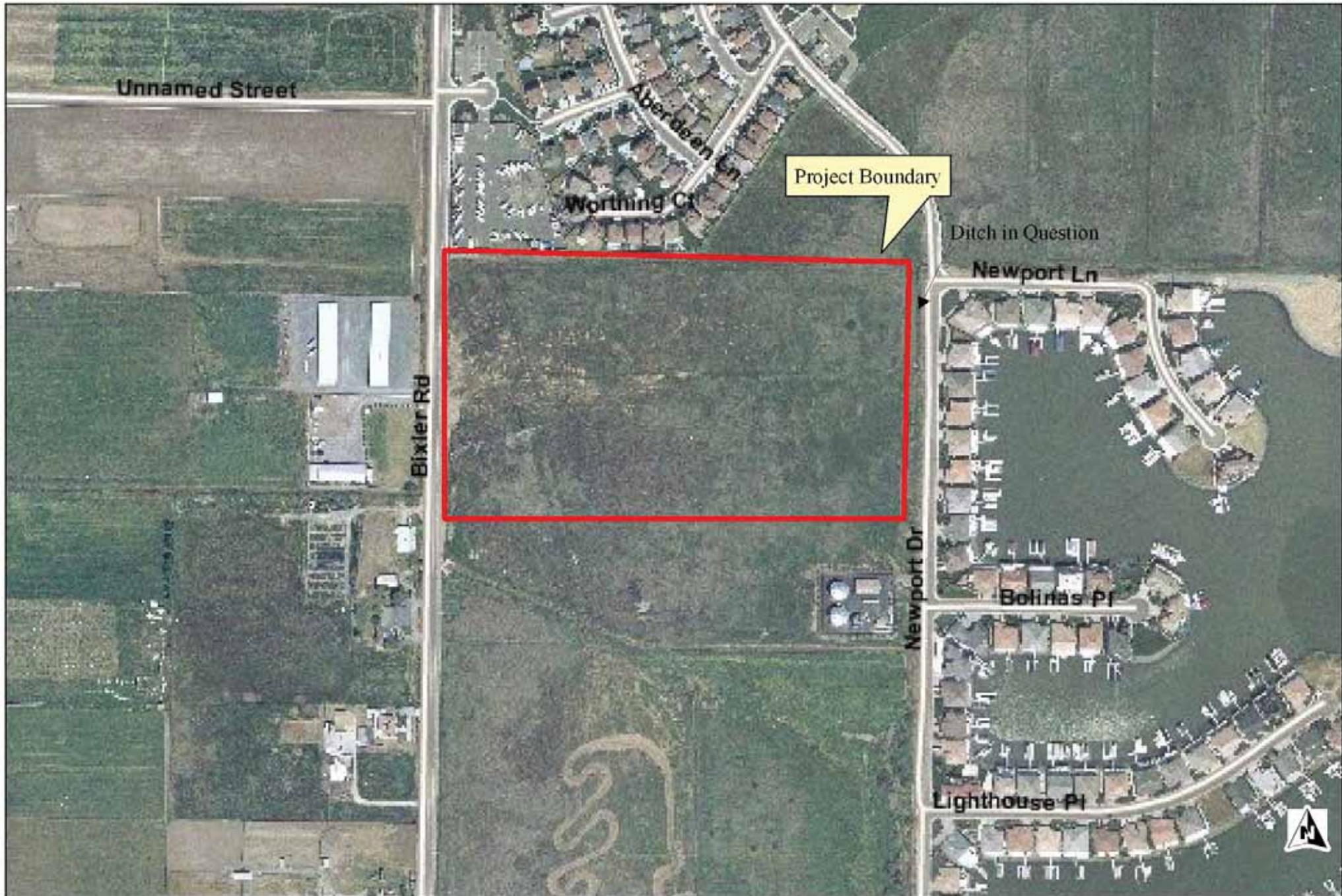


Figure 3. Aerial Photograph of Bixler Road Project Site  
Discovery Bay, California



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Environmental Consultants  
1136 Saranap Avenue, Suite Q  
Walnut Creek, California 94595  
(925) 947-4867



Figure 4. Soils of Bixler Road Project Site  
Discovery Bay, California

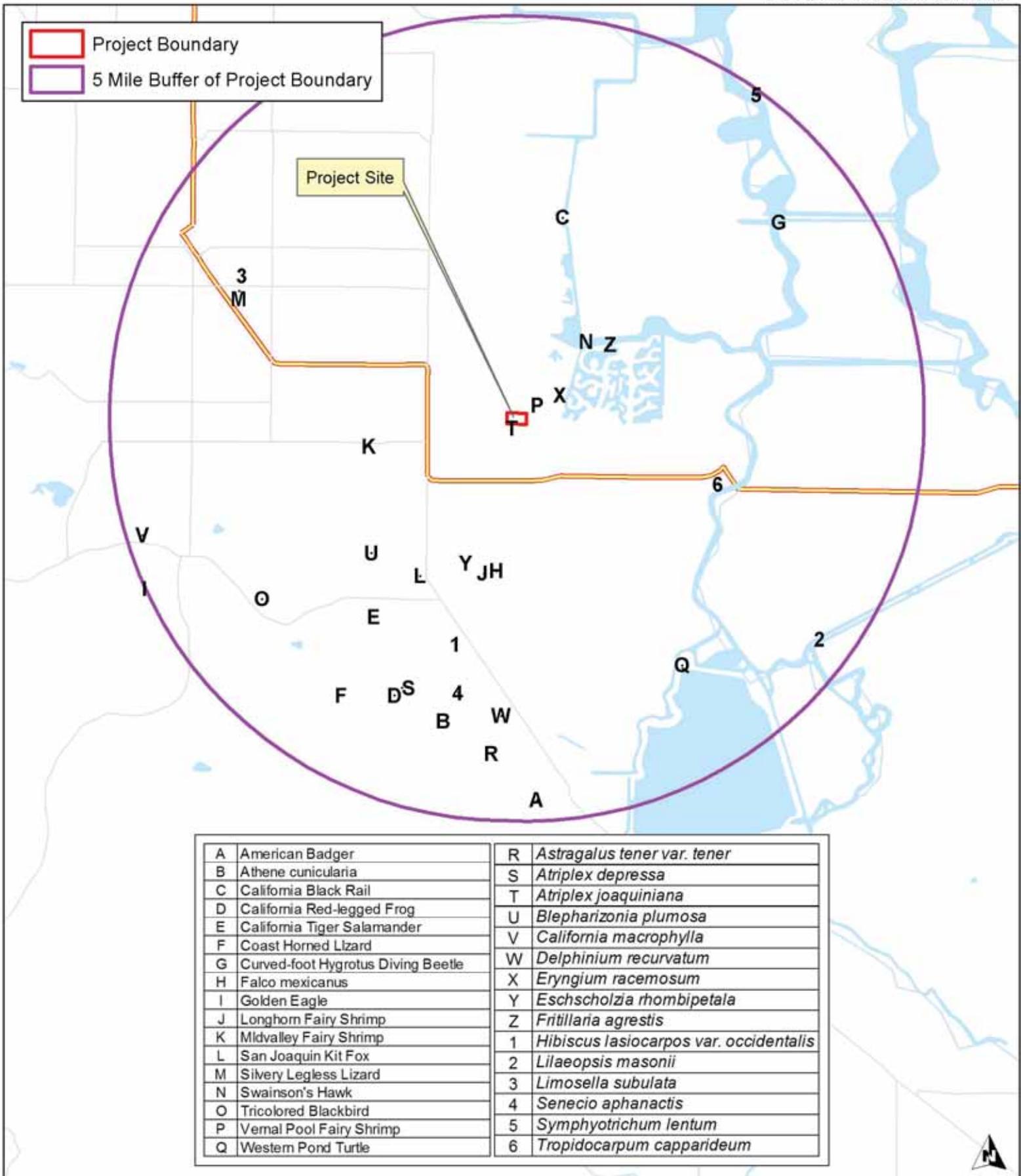
Map Preparation Date: December 21, 2007  
Source: California Spatial Information Library  
Digital Orthophoto (Quarter) Quads - DOQQs  
Aerial Photograph Date: September 30, 1993



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Figure 5. Topographic Map and Aerial Photograph  
of Bixler Road Project Site  
Discovery Bay, California

Map Preparation Date: December 21, 2007  
Aerial Photograph Date: April 2004  
Source: Contra Costa County MIC



A	American Badger	R	<i>Astragalus tener var. tener</i>
B	<i>Athene cucularia</i>	S	<i>Atriplex depressa</i>
C	California Black Rail	T	<i>Atriplex joaquiniana</i>
D	California Red-legged Frog	U	<i>Blepharizonia plumosa</i>
E	California Tiger Salamander	V	<i>California macrophylla</i>
F	Coast Horned Lizard	W	<i>Delphinium recurvatum</i>
G	Curved-foot Hygrotus Diving Beetle	X	<i>Eryngium racemosum</i>
H	<i>Falco mexicanus</i>	Y	<i>Eschscholzia rhombipetala</i>
I	Golden Eagle	Z	<i>Fritillaria agrestis</i>
J	Longhorn Fairy Shrimp	1	<i>Hibiscus lasiocarpus var. occidentalis</i>
K	Midvalley Fairy Shrimp	2	<i>Lilaeopsis masonii</i>
L	San Joaquin Kit Fox	3	<i>Limosella subulata</i>
M	Silvery Legless Lizard	4	<i>Senecio aphanactis</i>
N	Swainson's Hawk	5	<i>Symphyotrichum lentum</i>
O	Tricolored Blackbird	6	<i>Tropidocarpum capparideum</i>
P	Vernal Pool Fairy Shrimp		
Q	Western Pond Turtle		

Figure 6: Closest CNDDDB Records for Special-Status Species Within 5-Miles of the Bixler Road Project Site.



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Figure 7. *Atriplex joaquiniana*  
on the Bixler Road Project Site  
Discovery Bay, California

● *Atriplex joaquiniana*  
Map Preparation Date: December 21, 2007  
Aerial Photograph Date: April 2004  
Source: Contra Costa County MIC

**Table 1**  
**Plant Species Observed on the Bixler Road Project Site**

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**Angiosperms - Dicots**


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**Amaranthaceae**

\**Amaranthus retroflexus* Rough pigweed

**Apiaceae**

\**Conium maculatum* Poison hemlock

**Asteraceae**

*Achyrachaena mollis* Blow-wives  
 \**Carduus pycnocephalus* Italian thistle  
 \**Centaurea solstitialis* Yellow star-thistle  
*Centromadia pungens pungens* Common spikeweed  
 \**Cirsium vulgare* bull thistle  
*Conyza canadensis* Horseweed  
 \**Helminthotheca echioides* bristly ox-tongue  
 \**Lactuca serriola* prickly lettuce  
 \**Lactuca virosa* Wild lettuce  
 \**Senecio vulgaris* Common groundsel  
 \**Silybum marianum* Milk thistle  
 \**Sonchus asper asper* Prickly sow-thistle  
 \**Sonchus oleraceus* common sow-thistle

**Boraginaceae**

*Amsinckia menziesii menziesii* Common fiddleneck

**Brassicaceae**

\**Brassica nigra* Black mustard  
 \**Brassica rapa* Field mustard  
 \**Lepidium latifolium* Broad-leaf peppergrass  
 \**Raphanus raphanistrum* jointed charlock  
 \**Sinapis arvensis* Charlock

**Caryophyllaceae**

*Spergularia sp.* sand spurrey

**Chenopodiaceae**

*Allenrolfea occidentalis* Iodine bush  
*Atriplex argentea mohavensis* Silverscale  
*Atriplex joaquiniana* San Joaquin spearscale  
*Atriplex triangularis* Spearscale  
 \**Chenopodium sp.* Goosefoot  
 \**Salsola tragus* Russian thistle  
*Suaeda moquinii* Bush seepweed

**Convolvulaceae**

\**Convolvulus arvensis* Bindweed  
*Cressa truxillensis* Alkali weed

**Euphorbiaceae**

\**Chamaesyce serpens* Spurge

**Fabaceae**

\**Lathyrus odoratus* Sweet pea  
 \**Lotus corniculatus* birdfoot trefoil  
*Lupinus succulentus* Arroyo lupine

**Table 1**  
**Plant Species Observed on the Bixler Road Project Site**

* <i>Medicago polymorpha</i>	California burclover
* <i>Melilotus indica</i>	Sour clover
* <i>Trifolium hirtum</i>	Rose clover
* <i>Vicia sativa</i>	common vetch
* <i>Vicia villosa</i>	Hairy vetch
<b>Frankeniaceae</b>	
<i>Frankenia salina</i>	Alkali heath
<b>Geraniaceae</b>	
* <i>Geranium dissectum</i>	cut-leaf geranium
<b>Lamiaceae</b>	
* <i>Lamium purpureum</i>	Purple deadnettle
<b>Lythraceae</b>	
* <i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<b>Malvaceae</b>	
* <i>Malva parviflora</i>	Cheeseweed
<i>Malvella leprosa</i>	Alkali mallow
<b>Onagraceae</b>	
<i>Epilobium brachycarpum</i>	Summer cottonweed
<b>Papaveraceae</b>	
<i>Eschscholzia californica</i>	California poppy
<b>Polygonaceae</b>	
* <i>Polygonum aviculare</i>	common knotweed
* <i>Rumex conglomeratus</i>	Green dock
* <i>Rumex crispus</i>	curly dock
<b>Primulaceae</b>	
* <i>Anagallis arvensis</i>	Scarlet pimpernel
<b>Scrophulariaceae</b>	
<i>Castilleja exserta exserta</i>	Purple owl's-clover
<b>Angiosperms - Monocots</b>	
<b>Cyperaceae</b>	
<i>Cyperus eragrostis</i>	Tall flatsedge
<b>Juncaceae</b>	
<i>Juncus balticus</i>	Baltic rush
<i>Juncus bufonius</i>	toad rush
<b>Poaceae</b>	
* <i>Avena barbata</i>	slender wild oat
* <i>Bromus diandrus</i>	ripgut grass
* <i>Bromus hordeaceus</i>	soft chess
<i>Distichlis spicata</i>	Saltgrass
<i>Hordeum brachyantherum</i>	Meadow barley
* <i>Hordeum marinum gussoneanum</i>	Mediterranean barley
* <i>Hordeum murinum leporinum</i>	Foxtail barley
<i>Leymus triticoides</i>	Creeping wildrye
* <i>Lolium multiflorum</i>	Italian ryegrass
* <i>Phalaris aquatica</i>	Harding grass

\* Indicates a non-native species

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**Table 1**  
**Plant Species Observed on the Bixler Road Project Site**

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* <i>Phalaris paradoxa</i>	Paradox canary-grass
* <i>Polypogon interruptus</i>	Ditch beard grass
* <i>Polypogon monspeliensis</i>	Annual beard grass
* <i>Triticum aestivum</i>	Wheat
<b>Pontederiaceae</b>	
* <i>Eichhornia crassipes</i>	Water-hyacinth
<b>Typhaceae</b>	
<i>Typha latifolia</i>	broad-leaved cattail

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**Table 2**  
**Wildlife Species Observed on the Discovery Bay Project Site**

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**Birds**

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Great egret	<i>Ardea alba</i>
Mallard	<i>Anas platyrhynchos</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
California quail	<i>Callipepla californica</i>
Killdeer	<i>Charadrius vociferus</i>
Common snipe	<i>Gallinago gallinago</i>
Rock dove	<i>Columba livia</i>
Western burrowing owl	<i>Athene cunicularia hypugaea</i>
Barn swallow	<i>Hirundo rustica</i>
Northern mockingbird	<i>Mimus polyglottos</i>
European starling	<i>Sturnus vulgaris</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Western meadowlark	<i>Sturnella neglecta</i>

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**Mammals**

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Botta's pocket gopher	<i>Thomomys bottae</i>
California meadow vole	<i>Microtus californicus</i>

Table 3

## Special-status Plant Species with the Potential to Occur in the Vicinity of the Bixler Road Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
<b>Amaranthaceae</b>					
<i>Atriplex cordulata</i> Heartscale	Fed: - State: - CNPS: List 1B.2	April-October	Meadows and seeps; chenopod scrub; valley and foothill grassland (sandy)(saline or alkaline); vernal pools/alkaline clay. Elevation 1-375 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<i>Atriplex depressa</i> Brittlescale	Fed: - State: - CNPS: List 1B.2	April-October	Chenopod scrub; playas; meadows and seeps; vernal pools [alkaline or clay]; valley and foothill grassland. Elevation 1-320 meters.	Closest record for this species is 3.6 miles south of the project site (CNDDDB Occurrence No. 1).	None. None observed during appropriately timed surveys conducted in 2006.
<i>Atriplex joaquiniana</i> San Joaquin saltbush	Fed: - State: - CNPS: List 1B.2	April-October	Chenopod scrub; meadows and seeps; valley and foothill grassland (alkaline); playas. Elevation 1-835 meters.	Record for this species located within or adjacent to the project site (CNDDDB Occurrence No. 47).	Significant population identified onsite during 2006 surveys (see text).
<b>Apiaceae</b>					
<i>Eryngium racemosum</i> Delta button-celery	Fed: - State: CE CNPS: List 1B.1	June-September	Riparian scrub (vernally mesic clay depressions). Elevation 3-30 meters.	Closest record for this species is 0.4 mile northeast of the project site (CNDDDB Occurrence No. 33).	None. No Eryngium found on the project site during surveys conducted in 2006.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	Fed: - State: CR CNPS: List 1B.1	April-November	Marshes and swamps (brackish or freshwater); riparian scrub. Elevation 0- 10 meters.	Closest record for this species is 2.6 miles north of the project site (CNDDDB Occurrence No. 108).	None. None observed during appropriately timed surveys conducted in 2006.
<b>Asteraceae</b>					
<i>Blepharizonia plumosa</i> Big tarplant	Fed: - State: - CNPS: List 1B.1	July-October	Valley and foothill grassland. Elevation 30-505 meters.	Closest record for this species is 2.4 miles southwest of the project site (CNDDDB Occurrence No. 38).	None. None observed during appropriately timed surveys conducted in 2006.

Table 3

## Special-status Plant Species with the Potential to Occur in the Vicinity of the Bixler Road Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
<i>Centromadia parryi congonii</i> Congdon's tarplant	Fed: - State: - CNPS: List 1B.2	May-November	Valley and foothill grassland (alkaline). Elevation 1- 230 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<i>Helianthella castanaea</i> Diablo helianthella	Fed: - State: - CNPS: List 1B.2	March-June	Broadleafed upland forest; chaparral; cismontane woodland; coastal scrub; riparian woodland; valley and foothill grassland. Elevation 60-1300 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<i>Lasthenia conjugens</i> Contra Costa goldfields	Fed: FE State: - CNPS: List 1B.1	March-June	Valley and foothill grassland (mesic); vernal pools; cismontane woodlands; playas. Elevation 0-470 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<i>Senecio aphanactis</i> Rayless ragwort	Fed: - State: - CNPS: List 2.2	January-April	Chaparral; cismontane woodland; coastal scrub (sometimes alkaline). Elevation 15-800 meters.	Closest record for this species is 3.3 miles south of the project site (CNDDDB Occurrence No. 16).	None. None observed during appropriately timed surveys conducted in 2006.
<i>Symphotrichum lentum</i> Suisun Marsh aster	Fed: - State: - CNPS: List 1B.2	May-November	Marshes and swamps (brackish and fresh water). Elevation 0-3 meters.	Closest record for this species is 4.9 miles northeast of the project site (CNDDDB Occurrence No. 151).	None. None observed during appropriately timed surveys conducted in 2006.
<b>Brassicaceae</b>					
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	Fed: - State: - CNPS: List 1B.1	March-April	Valley and foothill grassland (alkaline hills). Elevation 1- 455 meters.	Closest record for this species is 2.5 miles east of the project site (CNDDDB Occurrence No. 9).	None. None observed during appropriately timed surveys conducted in 2006.

Table 3

## Special-status Plant Species with the Potential to Occur in the Vicinity of the Bixler Road Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
<b>Cyperaceae</b>					
<i>Carex comosa</i> Bearded sedge	Fed: - State: - CNPS: List 2.1	May-September	Marshes and swamps; coastal prairie; valley and foothill grassland. Elevation 0-625 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<i>Carex vulpinoidea</i> Fox sedge	Fed: - State: - CNPS: List 2.2	May-June	Marshes and swamps; riparian woodland. Elevation 30-1200 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<b>Fabaceae</b>					
<i>Astragalus tener tener</i> Alkali milkvetch	Fed: - State: - CNPS: List 1B.2	March-June	Playas; valley and foothill grassland (adobe clay), vernal pools (alkaline). Elevation 1-60 meters.	Closest record for this species is 4.1 miles south of the project site (CNDDDB Occurrence No. 9).	None. None observed during appropriately timed surveys conducted in 2006.
<i>Lathyrus jepsonii jepsonii</i> Delta tule pea	Fed: - State: - CNPS: List 1B.2	May-September	Marshes and swamps (freshwater and brackish). Elevation 0-4 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006. Project site does not support suitable habitats. <i>Lathyrus odoratus</i> found on site in 2006.
<b>Geraniaceae</b>					
<i>California macrophylla</i> Large-leaf storksbill	Fed: - State: - CNPS: List 1B.1	March-May	Cismontane woodland; valley and foothill grassland/clay. Elevation 15- 1200 meters.	Closest record for this species is 4.8 miles west of the project site (CNDDDB Occurrence No. 46).	None. None observed during appropriately timed surveys conducted in 2006.

Table 3

## Special-status Plant Species with the Potential to Occur in the Vicinity of the Bixler Road Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
<b>Lamiaceae</b>					
<i>Scutellaria galericulata</i> Marsh skullcap	Fed: - State: - CNPS: List 2.2	June-September	Lower montane coniferous forest; meadows (mesic) and seeps; marshes and swamps. Elevation 0-2100 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<b>Malvaceae</b>					
<i>Hibiscus lasiocarpus</i> Rose-mallow	Fed: - State: - CNPS: List 1B.2	June-September	Marshes and swamps (freshwater). Elevation 0-120 meters.	Closest record for this species is 1.2 miles northeast of the project site (CNDDDB Occurrence No. 1).	None. None observed during appropriately timed surveys conducted in 2006. Project site does not support suitable habitats.
<b>Onagraceae</b>					
<i>Oenothera deltooides howellii</i> Antioch dunes evening-primrose	Fed: FE State: CE CNPS: List 1B.1	March-September	Inland dunes. Elevation 0-30 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006. Project site does not support suitable habitats.
<b>Orobanchaceae</b>					
<i>Cordylanthus mollis mollis</i> Soft bird's-beak	Fed: FE State: CR CNPS: List 1B.2	July-November	Marshes and swamps (coastal salt). Elevation 0-3 m.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006. Project site does not support suitable habitats.
<b>Papaveraceae</b>					
<i>Eschscholzia rhombipetala</i> Diamond-petaled California poppy	Fed: - State: - CNPS: List 1B.1	March-April	Valley and foothill grassland (alkaline, clay). Elevation 0-975 meters.	Closest record for this species is 2.0 miles south of the project site (CNDDDB Occurrence No. 4).	None. None observed during appropriately timed surveys conducted in 2006.

Table 3

## Special-status Plant Species with the Potential to Occur in the Vicinity of the Bixler Road Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
<b>Plantaginaceae</b>					
<i>Limosella subulata</i> Southern mudwort	Fed: - State: - CNPS: List 2.1	May-August	Marshes and swamps. Elevation 0-3 meters.	Closest record for this species is 4.5 miles to the southeast of the project site (CNDDDB Occurrence No. 34).	None. None observed during appropriately timed surveys conducted in 2006.
<b>Potamogetonaceae</b>					
<i>Potamogeton zosteriformis</i> Eel-grass pondweed	Fed: - State: - CNPS: List 2.2	June-July	Marshes and swamps (assorted freshwater). Elevation 0-1860 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.
<b>Ranunculaceae</b>					
<i>Delphinium recurvatum</i> Recurved larkspur	Fed: - State: - CNPS: List 1B.2	March-June	Chenopod scrub; cismontane woodland; valley and foothill grassland; [alkaline]. Elevation 3-750 meters.	Closest record for this species is 3.7 miles south of the project site (CNDDDB Occurrence No. 7).	None. None observed during appropriately timed surveys conducted in 2006.
<i>Myosurus minimus apus</i> Little mousetail	Fed: - State: - CNPS: List 3.1	March-June	Valley and foothill grasslands; vernal pools (alkaline). Elevation 20-640 meters.	On CNPS nine quad search.	None. None observed during appropriately timed surveys conducted in 2006.

**Table 3**

**Special-status Plant Species with the Potential to Occur in the Vicinity of the Bixler Road Project Site**

Family	Taxon	Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
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**\*Status**

Federal:

- FE - Federal Endangered
- FT - Federal Threatened
- FPE - Federal Proposed Endangered
- FPT - Federal Proposed Threatened
- FC - Federal Candidate

State:

- CE - California Endangered
- CT - California Threatened
- CR - California Rare
- CC - California Candidate
- CSC - California Species of Special Concern

CNPS Continued:

- List 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
- List 2.1 - Seriously endangered in California, but more common elsewhere
- List 2.2 - Fairly endangered in California, but more common elsewhere
- List 2.3 - Not very endangered in California, but more common elsewhere
- List 3 - Plants about which we need more information (Review List)
- List 3.1 - Plants about which we need more information (Review List) Seriously endangered in California
- List 3.2 - Plants about which we need more information (Review List) Fairly endangered in California
- List 4 - Plants of limited distribution - a watch list

CNPS:

- List 1A - Presumed extinct in California
- List 1B - Plants rare, threatened, or endangered in California and elsewhere
- List 1B.1 - Seriously endangered in California (over 80% occurrences threatened/ high degree and immediacy of threat)
- List 1B.2 - Fairly endangered in California (20-80% occurrences threatened)
- List 1B.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)

**Table 4**

**Special-status Wildlife Species with the Potential to Occur on the Newport Pointe Project Site**

Species	*Status	Habitat	Closest Locations	Probability on Project Site
<b>Invertebrates</b>				
Longhorn fairy shrimp <i>Branchinecta longiantenna</i>	Fed: FE State: - Other:	Occurs in vernal pools on the eastern margin of the Central Coast Range. Inhabits small, clear water depressions in sandstone or in shallow swales.	Record for this species located 1.8 miles south of the project site (Occurrence Nos. 2 & 3).	Moderate potential to occur. Topographic lows on site provide suitable habitat. Given the proximity of a known record for this species and similar habitat, protocol surveys should be conducted or payment to use the HCP (see text).
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	Fed: FT State: - Other:	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains. Inhabit static rain-filled/vernal pools, small, clear water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression	Record for this species located 0.2 mile northwest of the project site (Occurrence No. 288). Found in depressions in iodine bush scrub.	Moderate potential to occur. Topographic lows on site provide suitable habitat. Given the proximity of a known record for this species and similar habitat, protocol surveys should be conducted or payment to use the HCP (see text).
Midvalley fairy shrimp <i>Branchinecta mesovallensis</i>	Fed: -- State: - Other:	Grassy vernal pool habitats of the Central Valley.	Record for this species located 1.7 miles west of the project site (Occurrence No. 46).	Moderate potential to occur. Topographic lows on site provide suitable habitat. Given the proximity of a known record for this species and similar habitat, protocol surveys should be conducted or payment to use the HCP (see text).
<b>Amphibians</b>				
California tiger salamander <i>Ambystoma californiense</i>	Fed: FT State: CC Other:	Found in grassland habitats of the valleys and foothills. Requires burrows for aestivation and standing water until late spring (May) for larvae to metamorphose.	Record for this species located 2.9 miles southwest of the project site (Occurrence No. 30).	Not likely to occur on the project site. No suitable breeding habitats found on or adjacent to the project site.
California red-legged frog <i>Rana aurora draytonii</i>	Fed: FT State: CSC Other:	Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	Record for this species located 3.7 miles south of the project site (Occurrence No. 220). Record in a pond in a grazed grassland.	Unlikely to occur on the project site. No suitable breeding habitats found on or adjacent to the project site.

**Table 4**

**Special-status Wildlife Species with the Potential to Occur on the Newport Pointe Project Site**

Species	*Status	Habitat	Closest Locations	Probability on Project Site
<b>Reptiles</b>				
Western Pond Turtle <i>Emys marmorata</i>	Fed: -- State: CSC Other:	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying. Occurs in the Central Valley and Contra Costa County.	Record for this species located 3.6 miles southeast of the project site (Occurrence No. 155).	Not likely to occur on the project site. No suitable aquatic habitats found on the project site, and adjacent ditch provides low quality habitat.
Coast horned lizard <i>Phrynosoma blanvillii</i>	Fed: -- State: CSC Other:	The Coast Horned Lizard's range extends from northern California to the tip of Baja California. It frequents areas with abundant, open vegetation such as chaparral or coastal sage scrub.	Record for this species located 3.9 miles south of the project site (Occurrence No. 613).	None. Project site does not support suitable habitat, lacks friable soils or coastal scrub.
Silvery legless lizard <i>Anniella pulchra pulchra</i>	Fed: -- State: CSC Other:	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with high moisture content.	Record for this species located 3.8 miles west of the project site (Occurrence No. 58).	None. This species occurs exclusively on sanddunes and sandy washes, none of which occur on the project site.
<b>Birds</b>				
Swainson's hawk <i>Buteo swainsoni</i>	Fed: - State: CT Other: *	Migratory and resident raptor that breeds in open areas with scattered trees. Prefers riparian and sparse oak woodland habitats for nesting. Requires nearby grasslands, grain fields, or alfalfa for foraging.	Record for this species located 1.2 miles north of the project site (Occurrence No. 1211).	Likely forages over the project site, however, no suitable nest sites on the project site. Mitigation for impacts to foraging habitat within 5 miles of a known nest site may be required by CDFG (see text).
California black rail <i>Laterallus jamaicensis coturniculus</i>	Fed: -- State: CT Other: *	Inhabits salt marshes bordering larger bays. Prefers tidal salt marshes of pickleweed. May also occur in fresh to brackish marshes.	Record for this species located 4.1 miles northeast of the project site (Occurrence No. 97).	None. Project site does not support marsh habitats.

**Table 4**

**Special-status Wildlife Species with the Potential to Occur on the Newport Pointe Project Site**

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Western burrowing owl <i>Athene cucularia hypugaea</i>	Fed: -- State: CSC Other: *	Found in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Record for this species located 3.8 miles south of the project site (Occurrence No. 635).	Moderate potential to occur. In 2005 pellets and feathers were found onsite, however, this species was not observed in 2006. Project site lacks suitable burrows. Surveys should be conducted (see text).
Tricolored blackbird <i>Agelaius tricolor</i>	Fed: -- State: CSC Other: *	Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	Record for this species located 3.9 miles southwest of the project site (Occurrence No. 266).	May forage on the site, however the site lacks suitable nesting habitat.

**Mammals**

San Joaquin kit fox <i>Vulpes macrotis mutica</i>	Fed: FE State: CT Other:	Inhabits open grasslands with scattered shrubs. Needs loose-textured sandy soils for burrowing.	Record for this species located 2.2 miles southwest of the project site (Occurrence No. 575).	Does not likely occur on the site. No potential dens/burrows on the site. Project site located immediately outside mapped range for this species (CDFG).
American badger <i>Taxidea taxus</i>	Fed: - State: CSC Other:	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils & open, uncultivated ground. Prey on burrowing rodents. Dig burrows.	Record for this species located 4.6 miles south of the project site (Occurrence No. 34).	None. Project site does not support adequate prey population and lacks suitable burrows.

**Table 4**

**Special-status Wildlife Species with the Potential to Occur on the Newport Pointe Project Site**

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Species	*Status	Habitat	Closest Locations	Probability on Project Site
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**\*Status**

Federal:

- FE - Federal Endangered
- FT - Federal Threatened
- FPE - Federal Proposed Endangered
- FPT - Federal Proposed Threatened
- FC - Federal Candidate
- FPD - Federally Proposed for delisting

State:

- CE - California Endangered
- CT - California Threatened
- CR - California Rare
- CC - California Candidate
- CSC - California Species of Special Concern

\*Other:

Most birds have protection under the Migratory Bird Treaty Act. Raptors and their nests are protected by provisions of the California Fish and Game Code. A few species, such as the monarch butterfly and "California Fully Protected Animals," may be protected by policies of the California Department of Fish and Game.