

4.5 BIOLOGICAL RESOURCES

4.5.1 INTRODUCTION

This section addresses the potential for the proposed project to impact biological resources within the selected site locations. An overview of the regional and biological setting is presented in **Section 4.5.3** and the relevant federal, state, and local regulations are presented in **Section 4.5.4**. Project-related impacts and recommended mitigation measures are presented in **Section 4.5.5**.

As explained in **Section 1.0**, the discussion and analyses in this SEIR tier from the information and conclusions included within the 2006 City of Hollister Domestic Wastewater System Improvement (DWSI) and San Benito County Water District Recycled Water Project (RWP) EIR (2006, EIR). The 2006 EIR described, generally, what potential environmental effects may be expected from the development of reclaimed water sites and the extension of water distribution pipelines, and how these impacts are to be addressed and/or mitigated. The 2006 EIR anticipated no significant and unavoidable biological resources impacts resulting from implementation of the DWSI and RWP. Potential impacts to special-status species and their habitats were able to achieve less-than-significant levels through implementation of mitigation measures. This section expands on the biological resource impacts discussion presented in the 2006 EIR as it relates specifically to the development of reclaimed water irrigation sites and previously un-assessed pipeline alignments.

4.5.2 METHODOLOGY

The programmatic EIR for the proposed project was certified in 2006, prior to the identification of specific reclaimed water irrigation locations. This document uses the background information and conclusions reached in the 2006 EIR, and expands upon them by employing site-specific analyses. In addition, this document considers the most recent information on the occurrences of special-status species within the vicinity of the selected sites (study areas). Likewise, the 2006 EIR included an extensive analysis of the habitats existing within a broad generalized area (Figure 4.4-1 of the 2006 EIR, ~~AES-2006~~), while the sections below provide a focused and detailed analysis of the specific reclaimed water irrigation alternatives. This includes the habitat types within them and the potential for special-status species to occur within these locations. The proposed project includes five alternatives and their associated pipeline routes: Hollister Municipal Airport (Site 1- Airport), Brookhollow Ranch (Site 2- Brookhollow), Riverside Park (Site 3), Pacific Sod Farm (Site 4- Sod Farm), and San Juan Oaks Golf Course (Site 5- Golf Course). Two potential areas are considered for reclaimed water irrigation at the Brookhollow Ranch, and include a northern site (Site 2Aa) and a southern site (Site 2Bb).

Preliminary Research

Information about the study areas and the biological resources with the potential to occur in the study areas was obtained from the following sources:

- The 2006 programmatic EIR for the proposed project;
- A new query of the U. S. Fish and Wildlife Service (USFWS, 2007a) database for Federally listed species with the potential to occur within San Benito County (**Appendix I**);

- A new query of the California Natural Diversity Database (CNDDDB, 2007) for special-status species known to occur within the “Hollister, California” 7.5’ USGS topographic quadrangle and the following eight surrounding quadrangles: Chittenden, San Felipe, Three Sisters, San Juan Bautista, Tres Pinos, Natividad, Mount Harlan, and Paicines (**Appendix I**);
- A new query of the California Native Plant Society’s (CNPS) online inventory (CNPS, 2007) for special-status species known to occur within the “Hollister, California” 7.5’ USGS topographic quadrangle and the following eight surrounding quadrangles: Chittenden, San Felipe, Three Sisters, San Juan Bautista, Tres Pinos, Natividad, Mount Harlan, and Paicines (**Appendix I**);
- All records of all known special-status species occurrences within five miles of the study area (CNDDDB, 2007) were used to produce a 5-mile Radius Map (**Figure 4.5-1**, discussed in **Section 4.5.3**);
- Aerial photographs and topographic maps of the study area;
- Literature discussing the biological characteristics of the area (Hickman, 1993; Sibley, 2003; CDFG, 2005; Niehaus and Ripper, 1976; Petrides and Petrides, 1998; Stebbins, 2003; and Jameson and Peeters, 2004)

Field Assessments

Preliminary habitat and constraints surveys were conducted in February and April of 2006 for the 2006 EIR. The purpose of these surveys was to characterize the habitats occurring within the Phase I disposal area boundary, particularly along the potential pipeline routes, and to determine the potential for the pipeline and reclaimed water irrigation development to impact biological resources. The pipeline routes within the Brookhollow Ranch property were not covered during these surveys. Reclaimed water irrigation sites surveyed during this time were Sites 1, 4, and 5.

Following the finalization of the proposed project design and the locations of the proposed irrigation areas, a reconnaissance level biological survey was conducted of the five proposed sites on April 5, 2007. AES biologists spent a total of 15 person-hours surveying the proposed sites and recording the habitats found at each site. Focused biological and wetland surveys were then conducted at the five sites on May 2-4, and July 24-26, 2007. The purpose of the focused biological surveys was to determine the presence/absence of regionally occurring special-status species and whether or not suitable habitat for those regionally occurring special-status species occurs within the proposed reclaimed water irrigation sites. These focused biological surveys were timed such that the survey dates coincided with the period of identification (i.e., bloom) for each of the potentially occurring special-status plants. A total of 54.5 person-hours were spent conducting surveys for target special-status plants during the May 2-4 plant surveys and 48 person-hours were spent conducting surveys for target special-status plants during the July 24-26 surveys. Plant and animal species observed within the study areas were identified and recorded. Lists of all plant and animal species observed in the study areas are included as **Appendix J**. Detailed descriptions of the surveys conducted in each site are available in **Section 4.5.5**.

Insert Figure 4.5-1

Habitat Classification Including Waters of the U.S.

Habitats were classified during field assessments using the California Department of Fish and Game (CDFG) Terrestrial Natural Communities of California system, or “Holland type” (Holland, 1986), and, where applicable, detailed by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the California Native Plant Society (CNPS) Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Wetlands and other aquatic habitats were identified using criteria defined in the 1987 Wetland Delineation Manual by the U.S. Army Corps of Engineers (USACE) and classified using the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory/Classification System for Wetland and Deepwater Habitats, or “Cowardin class” (Cowardin et al, 1979). Additional information on aquatic habitats was obtained from CalFish, a multi-agency cooperative program that provides direct access to various types of data relating to fish and aquatic habitat.

4.5.3 EXISTING SETTING

Regional Setting

The Jepson Manual (Hickman, 1993) divides California into 21 regions based on weather patterns, topography, and vegetative communities. The proposed project is located within the Inner South Coast Range region, which is in the Coast Ranges immediately west of the San Joaquin Valley (Hickman, 1993). This region has an annual precipitation of 14.05 inches. The climate is relatively mild, with an average low temperature of 38.8 degrees Fahrenheit in the winter and an average high temperature of 80.1 degrees Fahrenheit in the summer (WRCC 2007). The dominant habitat types in this region include blue oak woodland and chaparral (Hickman, 1993). Agricultural fields dominate most of the areas surrounding Hollister. The proposed reclaimed water irrigation sites range in elevation from 61 meters above mean sea level (msl) at Site 4 to 110 meters above msl at Site 2.

Relevant Habitat Types

Seven major habitat types are found along the project site: agricultural fields/vineyard, redwood forest, California bay forest, mixed evergreen forest, mixed woodland, willow riparian scrub, rural residential and ruderal/developed. In addition, wetland habitats occur as described below under *Wetland Habitats and Waters of the U. S.*

Annual Grassland (Sites 1-2, 5)

Annual grassland habitat occurs at Site 1 between the airport runways and west of the short runway, throughout Site 2, around the golf course regions at Site 5, and along the pipeline routes. When considering potentially occurring special-status species fallow fields within areas designated as dryfarm graincrop and/or the weedy margins surrounding cultivated dryfarm graincrop regions were considered to provide the same habitat as annual grassland. This habitat type is dominated by annual grass species such as barley (*Hordeum murinum*), wild oat (*Avena* species), ripgut brome (*Bromus diandrus*), Italian ryegrass (*Lolium multiflorum*), little quaking grass (*Briza minor*), and wheat (*Triticum aestivum*). It also contains other herbaceous species including, black mustard (*Brassica nigra*), shepherd's purse (*Capsella bursa-pastoris*), common skullcap (*Scutellaria tuberosa*), common groundsel (*Senecio vulgaris*), and prickly lettuce (*Lactuca serriola*). AES biologists observed several ground squirrel (*Spermophilus*

beldingi) colonies in this habitat, along with mammal burrows up to six inches in diameter. These larger burrows may be indicative of larger species, such as foxes and burrowing owls. The large population of ground squirrels may also attract predators such as raptors and snakes. A northern harrier (*Circus cyaneus*) was observed during surveys for the 2006 EIR. This vegetation community also provides suitable nesting habitat for some ground-nesting bird species. This community corresponds to the Non-Native Grassland (42200) in the Holland system (Holland, 1986), and California annual grassland series in Sawyer, Keeler-Wolf's *A Manual of California Vegetation* (1995).

Riparian Woodland (Site 3)

Riparian woodland occurs along the southern boundary of Site 3 and along a berm that runs east-west through this site. The canopy is dominated by interior live oak (*Quercus wislizenii*), walnut (*Juglans californica*), and California buckeye (*Aesculus californica*), while the shrub layer is dominated by poison oak (*Toxicodendron diversiloba*), California rose (*Rosa californica*), and blue elderberry (*Sambucus mexicana*). The open areas contain grass species common in the annual grassland habitat discussed above. Ground squirrels were observed in the adjacent pasture. This habitat is less favorable for raptor species to forage, but it provides suitable ground and tree nesting habitat for birds. This community corresponds to the Interior Live Oak Woodland (71150) in the Holland system (Holland, 1986).

Dry-farm Graincrop (Sites 1, 3)

Dry-farm graincrop fields occur at Site 1, throughout Site 3, and along the proposed pipeline routes. This habitat is not irrigated and contains monocultures of oat (*Avena sativa*), wheat (*Triticum aestivum*), or barley (*Hordeum murinum*). Subject to annual discing and regular human disturbance, it provides suitable habitat for insects, rodents, and reptiles, which in turn make it suitable foraging habitat for raptors and insectivorous birds. This community corresponds to the Dryland Grain and Seed Crop (11204) in the Holland system (Holland, 1986).

Irrigated Row Crop (Site 1)

Irrigated row crop fields occur in Site 1 and along the proposed pipeline routes. These areas are regularly cultivated and are subject to normal agricultural practices, including the use of herbicide and pesticide. Irrigated row crop provides marginal habitat for native plant and animal species. This community corresponds to Row and Field Crop (11201) in the Holland system (Holland, 1986).

Sod Farm (Site 4)

Site 4 contains cultivated grass plots that are repeatedly seeded for harvest. Site 4 is regularly disturbed via disking and provides minimal/marginal habitat for native plant and animal species. Marginal habitat only occurs around the perimeter of the cultivated fields. Mammal, reptile, and bird species occurring in the adjacent San Benito River may occasionally and briefly occur in the sod farm. There is not any vegetation community in the Holland system that accurately describes this vegetation community. The vegetation community that most closely corresponds to the sod farm is Urban or Built-Up Land (11100) in the Holland system (Holland, 1986).

Golf Course (Site 5)

Site 5 is composed of maintained turf and horticultural plant species used in landscaping. There are a few scattered trees that may provide suitable habitat for bird species. Several engineered water features on the site provide habitat for waterfowl such as the American coot (*Fulica americana*) and the mallard (*Anas platyrhynchos*). These bird species were observed in the water features during surveys for the 2006 EIR. The water features and their associated emergent vegetation may also provide suitable habitat for turtle species not affected by human disturbance. The potential chemical load of these ponds makes it unlikely for salamander or newt species to occur. Species that occur in the surrounding annual grassland and aquatic habitats may occasionally and briefly occur in the golf course. There is no vegetation community in the Holland system that accurately describes this vegetation community. The vegetation community that most closely corresponds to the golf course is Urban or Built-Up Land (11100) in the Holland system (Holland, 1986).

Developed/Ruderal (Site 1)

This habitat consists of paved areas and buildings. The majority of the pipeline routes occur in paved roads, which do not provide suitable habitat for animal or plant species. Mobile species may move across the paved roads, but are not likely to remain on them for extended periods of time as these areas are subject to high levels of human disturbance. Paved areas also occur at Site 1 and are also subject to a high level of disturbance. This habitat is equivalent to the Urban or Built-Up Land (11100) in the Holland system (Holland, 1986).

Wetland Habitats and Waters of the U.S.

The term “waters of the U.S.” is defined as:

- All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands; or all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use or degradation of which could affect interstate or foreign commerce (38 CFR Part 328).

“Wetlands” are defined as:

- Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (38 CFR Part 328).

Wetland and drainage features occur in Sites 1, 2 and 5. All features in Site 5 are engineered. Since formal wetland delineations were not conducted, the shapes, total acreages, exact locations, and jurisdictional status of all potential waters of the U.S. presented are approximate and intended for general project planning purposes only. The proposed project has been designed to avoid impacts to waters of the U.S. (see mitigation measures listed in **Section 4.5.5**).

Reclaimed Water Irrigation Site Summaries

Site 1 - Hollister Municipal Airport

Habitats

Site 1 contains dryfarm graincrop, irrigated rowcrop, annual grassland, and ruderal habitats. The dryfarm graincrop fields on-site are dominated by wheat and hay. These fields appear to be disked annually. The irrigated row crop fields are regularly cultivated. No animal species or native plant species were observed in this habitat, which is subject to a high level of human disturbance. The ruderal/developed habitats are all paved and do not provide habitat for any special-status species. Bird and bat species may occur in some of the buildings on the site. The annual grassland habitat is largely dominated by non-native grass species. The locations of these habitats in Site 1 are shown in **Figure 4.5-2**.

Wetlands and Waters of the U.S.

The wetland and drainage features in Site 1 consist largely of wetland swales occurring in grassland or dryland grain crop habitats parallel to the runways and taxi-ways. These swales appear to have been constructed at the same time as the runways in order to channel storm water runoff. The dominant species in these swales is Italian ryegrass (*Lolium multiflorum*), cut-leaved geranium (*Geranium dissectum*) and fescue (*Vulpia* species). A few of these swales were inundated during the surveys, especially near culverts. All of the wetlands in Site 1 were dominated by non-native plant species and are subject to a high frequency of human activity. No animal species were observed in the wetlands during the surveys.

Site 2 - Brookhollow Ranch

Habitats

Site 2a contains annual grassland, irrigated rowcrop, wetland, and ephemeral drainage habitats. The locations of these habitats are shown in **Figure 4.5-3b**. This site is adjacent to a pond and a reservoir. Site 2b contains annual grassland, and wetland/vernal pool habitats. The locations of these habitats are shown in **Figure 4.5-3c**. It is adjacent to another reservoir and a large alkali playa. The undisked annual grassland in Sites 2a and 2b is used for cattle grazing. The annual grassland provided suitable refuge for mammals and reptiles. Burrow holes and ground squirrels were frequently observed within the annual grassland.

Wetlands and Waters of the U.S.

The wetland and drainage features in Sites 2a and 2b, except for an engineered stock pond and two reservoirs, are naturally occurring. One large, alkaline playa is located immediately east of Site 2B. The remaining wetland features are vernal pools, seasonal wetlands, wetland swales, or palustrine emergent wetlands. **Figures 4.5-3a-c** show the locations of these features. The playa, vernal pools, and palustrine emergent wetlands provide suitable habitat for several special-status species.

Insert Figure 4.5-2

Insert Figure 4.5-3a

Insert Figure 4.5-3b

Insert Figure 4.5-3c

Site 3 - Riverside Park**Habitats**

This site contains riparian woodland, dryfarm graincrop, and developed/ruderal habitats. The locations of these habitats are shown in **Figure 4.5-4**. The graincrop fields in Site 3 are disked annually. There were several active ground squirrel populations observed at the site during field survey. The riparian woodland habitat occurs along the southern border of Site 3 and along a berm that runs east-west through this site. The canopy is dominated by interior live oak, California walnut and California buckeye, while the shrub layer is dominated by poison oak and elderberry.

Wetlands and Waters of the U.S.

No wetlands or potential waters of the U.S. were observed on this site.

Site 4 - Pacific Sod Farm**Habitats**

Site 4 is comprised entirely of sod farm habitat. The borders around the sod farm habitat are subject to routine removal of vegetation. The locations of these habitats are shown in **Figure 4.5-5**. Mammal, reptile, and bird species occurring in the adjacent San Benito River may occasionally and briefly occur in the sod farm; however, this habitat type is disturbed regularly and does not provide suitable habitat for special-status plant and/or animal species.

Wetlands and Waters of the U.S.

No wetlands or potential waters of the U.S. were observed on this site.

Site 5 - San Juan Oaks Golf Club**Habitats**

Site 5 is composed of golf course, annual grassland, and wetland habitats. The locations of these habitats are shown in **Figure 4.5-6**. The grass in the golf course habitat is regularly trimmed, maintained, and fertilized. ~~The Conversely,~~ Annual grassland at the margins of the golf course habitat is not subject to landscape management activities. The golf course habitat is not suitable habitat for any special-status plants; however, the golf course habitat type is considered potential habitat for several special-status animal species because these species may forage, migrate, aestivate, or frequent these areas.

Wetlands and Waters of the U.S.

Several engineered ponds occur within the golf course habitat. These ponds contain landscape/ornamental plant species. Several bird species, including mallard and American coot, were observed in these ponds. This site also contains several naturally occurring intermittent drainages, which support riparian species such as willows (*Salix* sp.) and rushes (*Juncus* sp.).

Insert Figure 4.5-4

Insert Figure 4.5-5

Insert Figure 4.5-6

Special-Status Species

For the purposes of this DEIR, “special-status” is defined to include those species that are:

- Listed as endangered or threatened under the Federal Endangered Species Act (or formally proposed, or candidates, for listing);
- Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as species of special concern by CDFG;
- Plants or animals that meet the definitions of rare or endangered under CEQA;
- Plants listed as rare under the California Native Plant Protection Act; or
- Plants considered by the CNPS to be “rare, threatened, or endangered in California” (Lists 1A, 1B, and 2).

Since the USFWS no longer maintains a list of Federal Species of Concern, one bird (Nuttall's woodpecker [*Picoides nuttallii*]), one invertebrate (California linderiella [*Linderiella occidentalis*]), and three bat species (greater western mastiff bat [*Eumops perotis californicus*], fringes myotis mat [*Myotis thysanodes*], and Yuma myotis bat [*Myotis yumanensis*] listed in the 2006 EIR no longer qualify as special-status species and are not discussed in this EIR.

A list of regional special-status plant and wildlife species with the potential to be within the project site was compiled from the CNPS, CNDDDB, and USFWS databases. **Appendix K** contains a table with all of the special-status species known to occur in the region and describes their potential to occur in the project areas based on a comparison of the individual habitat requirements of each the species and the habitats present in the project areas. Of the 19 special-status plant species and 34 special-status animal species known to occur in the region, 8 plant species and 26 animal species have the potential to occur on or adjacent to the project sites. These species are discussed below.

A query of the CNDDDB was conducted to determine which regionally occurring special-status species are known to occur within five miles of the study areas. All occurrences of special-status species within five miles of the reclaimed water irrigation sites were plotted in relation to the project sites using GIS software (**Figure 4.5-1**) (CDFG, 2003). Twenty-four special-status species and one special-status habitat are known to occur within five miles of the sites. The special-status habitat, the North Central Coast Drainage Sacramento Sucker/Roach River, does not occur in the immediate vicinity of any of the study areas and the proposed project is not expected to impact this habitat. The California linderiella and Pinnacles optioservus riffle beetle are not listed as a special-status species by the federal or state governments and are therefore not discussed further in this report. The remaining 22 species (and several other species) and their potential to occur in the potential reclaimed water irrigation sites or associated pipeline routes are discussed in **Appendix K**.

Special-Status Plant Species**Alkali Milk-Vetch (*Astragalus tener* var. *tener*)**

Federal Status – None

State Status – None

Other – CNPS 1B

Alkali milkvetch is a member of the Fabaceae family with purple flowers. The species is found in alkali soils of dry lakebeds, on the floor of vernal pools, and in grasslands on heavy clay “adobe” soils. It typically blooms from March through June.

The various wetland features within Site 2 provide suitable habitat for this species. According to CNDDDB, this species may be extirpated from San Benito County. However, the presence of an alkali playa (ideal habitat for this species) east of Site 2b and vernal pools within Site 2b, and the fact that this species was at one time known to occur in the Hollister area give the species the potential to occur in Site 2. A common species of *Astragalus* (*Astragalus gambelianus*), which has no listing status, was observed in the alkali playa and was blooming during the April and May surveys. The special-status species was not observed on-site during the surveys.

San Joaquin Spearscale (*Atriplex joaquiniana*)

Federal Status – None

State Status – None

Other – CNPS 1B

San Joaquin spearscale is often found in drier portions on the alkaline soils of the Santa Clara and San Joaquin valleys including the dry, interior valleys of the south Coast Ranges. It is an annual herb in the Chenopodiaceae family, and grows well in chenopod scrub, meadows, seeps, playas, and grasslands. The blooming period for this species occurs from April through October.

San Joaquin spearscale has potential to occur within the annual grassland habitats on Sites 1, 2, and 3 (within fallow dry-farmed cropland and around margins of fields). This species was observed at Site 1 in 1938 (CNDDDB occurrence number 20). Two other populations were observed 3.75 and 4.25 miles southeast of the San Juan Oaks Golf Course (CNDDDB occurrence numbers 34 and 48 respectively) as recently as 1995. This species was not observed during species-specific surveys conducted on May 4, 2007 and July 24-26, 2007 during its blooming period.

Big Tarplant (*Blepharizonia plumosa*)

Federal Status – None

State Status – None

Other – CNPS 1B

Big tarplant is an annual member of the Asteraceae family. It generally occurs in dry valley and foothill grassland in the San Joaquin Valley and the South Coast Ranges. In San Benito County, the majority of known populations occur in annual grassland habitat, including fallow grain crop fields, pastures, and the

edges of disked fields. A few populations occur in road cuts. The blooming period of this species occurs from July through October.

Big tarplant has potential to occur within the annual grassland habitats on Sites 1, 2, and 3 (within fallow dry-farmed cropland and around margins of fields). The nearest known CNDDDB occurrence of this species is 9.253 miles southeast of Site 5 (CNDDDB occurrence number 47), where it was observed in a ruderal field. This species was not observed during species-specific surveys conducted in July 24-26, 2007 during its blooming period.

Congdon's Tarplant (*Centromadia parryi* ssp. *congdonii*)

Federal Status – None

State Status – None

Other – CNPS 1B

Congdon's tarplant is an annual member of the Asteraceae family. This species has yellow ray and disk flowers with yellow anthers (as opposed to other members of the *Centromadia parryi* species, which have black anthers). It generally occurs in alkaline soils in valley and foothill grassland habitats. In San Benito County, this species generally occurs in annual grassland habitat, sometimes in grazed fields. The blooming period of this species is from May through October.

Congdon's tarplant has potential to occur within the annual grassland habitats on Sites 1, 2, and 3 (within fallow dry-farmed cropland and around margins of fields). The nearest known CNDDDB occurrence of this species is 9.75 miles southwest of the San Juan Oaks Golf Course study area in annual grassland habitat. This species was not observed during the focused surveys conducted on May 4, 2007 and July 24-26, 2007 during its blooming period.

Round-Leaved Filaree (*Erodium macrophyllum*)

Federal Status – None

State Status – None

Other – CNPS 2

Round-leaved filaree is an herbaceous annual in the Geraniaceae family. It typically grows in valley and foothill grasslands in open habitat on friable clay soils. The petals are usually white but can be tinted pink. Unlike most filaree, there is a single style column, which is approximately 3-5 centimeters in length. The majority of the known occurrences in San Benito County occur in annual grassland habitat, some of which are grazed. This species is known to occur in dryland grain crop fields, but only rarely. The blooming period of this species is from March through May.

This species has potential to occur within the annual grassland habitats on Sites 1, 2, and 3 (within fallow dry-farmed cropland and around margins of fields). The nearest known occurrence of this species is next to the San Justo Reservoir, one mile north of the San Juan Oaks Golf Course study area (CNDDDB occurrence number 43). This species was not observed during species-specific surveys conducted on May 4, 2007 during its blooming period.

Hoover's Button Celery (*Eryngium aristulatum* var. *hooveri*)

Federal Status – None

State Status – None

Other – CNPS 1B

Hoover's button celery is a member of the Apiaceae family. This species is a biennial or perennial herb that is native to California and is endemic to vernal pools, lagunas, and other seasonal wetlands. It grows to be 90 centimeters tall and has white or pale purple flowers with spiked bracts. In San Benito County, this species is known to occur in alkali flats and in slightly alkaline wetlands. The blooming period of this species is limited to the month of July.

The nearest occurrence of this species is five miles north of Site 2a (CNDDDB occurrence number 4) in an alkali flat in pasture. This species has the potential to occur in the vernal pools and wetlands in Site 2- Brookhollow. This species was not observed during the focused surveys conducted in July 24-26, 2007 during its blooming period.

Hairless Popcorn-Flower (*Plagiobothrys glaber*)

Federal Status – None

State Status – None

Other – CNPS 1A

Hairless popcorn-flower is an annual herb in the Boraginaceae family, which grows to be less than 50 centimeters tall. The flowers grow on a fiddlehead-shaped spike and are white or yellow. It is known to occur in alkaline meadows and seeps and in coastal saltwater marshes and swamps, and blooms from March to May. This species is presumed extinct because the last confirmed sighting was in 1954. However, all collections of this species since 1930 are from the Hollister area, and CNPS recommends further surveys in this area (CNPS, 2007).

The nearest known occurrence of this species was at Site 1 in 1954 (CNDDDB occurrence number 1). Hairless popcorn flower has potential to occur within the wetland features on Site 2- Brookhollow. A common species of popcorn-flower (*Plagiobothrys undulatus*), which has no listing status, was observed in the vernal pools on Brookhollow during surveys conducted in April and May 2007; however, the special-status species was not observed during species-specific surveys conducted on May 4, 2007 during its blooming period.

Saline Clover (*Trifolium depauperatum* var. *hydrophilum*)

Federal Status – None

State Status – None

Other – CNPS 1B

Saline clover is an annual herb in the Fabaceae family. Its flowers are pink and resemble inflated sacs when mature, similar to bull clover (*Trifolium fucatum*). This species grows in marshes, swamps, alkaline wetlands in grassland habitat, and in vernal pools, and it blooms from April to June.

Saline clover has potential to occur within the wetland features on Site 2. The nearest known occurrence of this species is 3.75 miles north of Site 2a (CNDDDB occurrence number 5). A common variety of *Trifolium depauperatum* (*Trifolium depauperatum* var. *amplectens*), which has no listing status, was observed in the alkali playa adjacent to Brookhollow during the April and May 2007 surveys; however, the special-status species was not observed during species-specific surveys conducted on May 4, 2007 during its blooming period.

Special-Status Animal Species

Invertebrates

Conservancy fairy shrimp (*Branchinecta conservatio*)

Federal Status – Endangered

State Status –

Other – None

Conservancy fairy shrimp are a small crustacean ranging in size from approximately 0.5 to one inch long. As with other fairy shrimp (*Branchinecta* species), they glide upside down by the peristaltic movement of the eleven pair of legs, searching for food (algae, bacteria, protozoa, rotifers and detritus). Conservancy fairy shrimp inhabit large vernal pools with moderately turbid water. Reproduction is performed through the deposition of cysts in the bottom of the pool. The cysts may persist for several years and are capable of withstanding heat, cold, and desiccation. The seasonal filling of vernal pools cues hatching.

The conservancy fairy shrimp was listed as endangered by the USFWS in September of 1994 (59 Federal Register 48136-48153), and is discussed in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS, 2005). Conservancy fairy shrimp is known to occur in Butte, Colusa, Glenn, Mariposa, Merced, Solano, Stanislaus, Tehama and Ventura counties.

The project areas are outside of the current known range of this species. There are no CNDDDB records for Conservancy Fairy Shrimp in San Benito County. No critical habitat has been designated for Conservancy Fairy Shrimp in San Benito County. However, due to a lack of surveys in San Benito County for federally listed fairy shrimp, USFWS considers suitable habitat within the County to be potentially occupied. The wetland features within Site 2 provide potential habitat for this species.

Longhorn Fairy shrimp (*Branchinecta longiantenna*)

Federal Status – Endangered

State Status – None

Other – None

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.

The longhorn fairy shrimp (*Branchinecta longiantenna*), is a small crustacean in the Branchinectidae family. It ranges in size from 0.5 to 0.8 inch long and has long antennae. The long antennae (which range from 6.7 to 10.4 millimeters) are most noticeable on the males, whose second antennae are twice as long as other *Branchinecta* species when scaled for body length.

The longhorn fairy shrimp was listed as endangered by the USFWS in September of 1994 (59 Federal Register 48136-48153), and is discussed in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS, 2005). Its original distribution extended from San Luis Obispo County to Contra Costa County, and included the San Joaquin Valley and the Southern Sierra Foothills (USFWS, 2005). Currently, the species is limited to a small number of isolated and widely separated populations in San Luis Obispo, Merced, Alameda, and Contra Costa counties. They occur in alkaline vernal pools located in alkali scrub or alkali grassland communities. The USFWS states that there are likely populations that have not been identified in the San Joaquin Valley and between San Luis Obsipo and Contra Costa counties. Populations are not likely to occur north of Contra Costa County because the shrimp is not able to tolerate cooler temperatures it would be exposed to that far north (USFWS, 2005).

The project areas are outside of the current known range of this species. There are no CNDDDB records for Longhorn Fairy Shrimp in San Benito County and no critical habitat has been designated for this species in San Benito County. However, due to a lack of surveys in San Benito County for federally listed fairy shrimp, USFWS considers suitable habitat within the County to be potentially occupied. The wetland features within Site 2 provide potential habitat for this species.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Federal Status – Threatened

State Status – None

Other – None

Vernal pool fairy shrimp are also in the Branchinectidae family and grow to be between 11 and 25 millimeters long. This species can be identified and distinguished from other fairy shrimp species by the mounds on the male's second antennae (USFWS, 2005). The vernal pool fairy shrimp commonly inhabit vernal swales and pools, ditches, shallow stockponds, and ephemeral drainages ranging from 1-4 feet in depth. Persistence of water is essential, as the fairy shrimp completes its lifecycle within the vernal pools. The fairy shrimp hatch from cysts that can withstand heat, cold, and desiccation. Cysts are deposited within the bottom of pools where they persist for one to many years before hatching. Hatching is cued by the persistence of water received from winter rains, which propagate the lifecycle.

This species was listed as threatened by the USFWS in September of 1994 (59 Federal Register 48136-48153) and is discussed in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS, 2005). Originally, this species likely occurred in vernal pools throughout the Central Valley in California and as far north as southern Oregon. Currently, this species is known to occur in 28 counties throughout the Central Valley and Coast Ranges of California, but its populations are generally

small and relatively spread out. Suitable habitat consists of vernal pools in a variety of habitats. Based on recorded occurrences, this species is not likely to occur in large vernal pools or playas. It appears to prefer smaller vernal pools, though these pools may be part of a larger vernal pool complex. (USFWS, 2005)

The project areas are outside of the current known range of this species. The only records for Vernal Pool Fairy Shrimp in San Benito County are in the southern part of the County on the Topo Valley quad. Critical habitat has also been designated for Vernal Pool Fairy Shrimp in southern San Benito County. However, due to a lack of surveys in San Benito County for federally listed fairy shrimp, USFWS considers suitable habitat within the County to be potentially occupied. The wetland features within Site 2 provide potential habitat for this species.

Vernal Pool Tadpole Shrimp (*Lepidurus packardii*)

Federal Status – Endangered

State Status – None

Other – None

The vernal pool tadpole shrimp (*Lepidurus packardii*) is a small crustacean in the family Triopsidae. It has compound eyes, a large shield-like carapace (shell) that covers most of the body, and a pair of long cercopods (appendages) at the end of the last abdominal segment. Vernal pool tadpole shrimp adults reach a length of 2 inches in length. This animal inhabits vernal pools containing clear to highly turbid water, ranging in size. The life history of the vernal pool tadpole shrimp is linked to the seasonal cycle of the vernal pool. After winter rainwater fills the pool, the population is reestablished from cysts that lie dormant in the dry pool sediments. Sexually mature adults have been observed in vernal pools three to four weeks after the pools had been filled. Some cysts hatch immediately and the others remain dormant in the soil to hatch during later rainy seasons (USFWS, 2005). Due to the extensive loss of vernal pools in the Central Valley, the USFWS listed the vernal pool tadpole shrimp as threatened in 1994 pursuant to the Federal Endangered Species Act.

The vernal pool tadpole shrimp was listed as endangered by the USFWS in September of 1994 (59 Federal Register 48136-48153), and is discussed in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS, 2005). Historically, the vernal pool tadpole shrimp occurred throughout the Central Valley. It is known to occur in vernal pools from Shasta County southward to Tulare County in the Central Valley and in portions of Solano, Contra Costa, and Alameda Counties.

The project areas are outside of the current known range of this species. There are no CNDDDB records for Vernal Pool Tadpole Shrimp in San Benito County and no critical habitat has been designated for this species in San Benito County. However, due to a lack of surveys in San Benito County for federally listed tadpole shrimp, USFWS considers suitable habitat within the County to be potentially occupied. The wetland features within Site 2 provide potential habitat for this species.

Amphibians

California Tiger Salamander (*Ambystoma californiense*)

Federal Status – Threatened

State Status – Species of Concern

Other – None

The California tiger salamander (CTS) is separated into three distinct population segments (DPS): Sonoma County DPS, Santa Barbara County DPS, and Central California DPS. The Sonoma County DPS occurs in the Santa Rosa area. The Santa Barbara DPS occurs in northwestern Santa Barbara County. The Central California DPS occurs in the Coast Range (from southern San Mateo County south to San Luis Obispo County) and in the Central Valley and surrounding Sierra Nevada foothills and Coast Range (from northern Yolo County south to northwestern Kern County and northern Tulare and Kings counties) (69 Federal Register 47212-47248).

California tiger salamanders require suitable aquatic habitat for breeding and upland habitat for aestivation. Aquatic breeding habitat includes vernal pools, and seasonal and perennial ponds in grassland and oak savannah plant communities from sea level to approximately 3,600 feet. Aquatic breeding ponds are almost always found in grassland. Only on very rare occasion have CTS breeding ponds been observed in grasslands with scattered oak trees or in scrub or chaparral habitats. CTS spend most of their lives in upland habitats. Upland habitat consists of grassland and oak savannah with burrows of small mammals such as California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*). CTS most commonly use burrows in open grassland or under isolated oaks, and less commonly in oak woodlands. They cannot dig or maintain their own burrows, and consequently require the presence of burrowing mammals for burrow construction and maintenance. CTS have been observed up to 1.3 miles from breeding ponds, though this is a greater distance than is typical.

California tiger salamanders remain in their upland burrows through the dry summer and fall months. Once fall or winter rains begin, adults emerge from their burrows on rainy nights to feed and migrate to breeding ponds. After approximately one to eight weeks, adults migrate back to upland burrows. Metamorphosed juveniles leave the breeding sites in late spring or early summer. After returning to burrows, adults may continue to come out nightly for approximately two weeks to feed; juveniles similarly may come out on nights of relatively high humidity to feed after migrating to upland burrows. Throughout the juvenile and adult phases, overland movements occur during the night (69 Federal Register 47212-47248).

Several critical habitat units have been designated for the Central California DPS of CTS throughout San Benito County. Critical habitat unit 12 is located in the northern portion of the County and into Santa Clara County. Critical habitat unit 15a and 15b are located along State Highway 25 in the northern/central region of the County. Critical habitat unit 15 also occurs along State Highway 25 in the southern region of the County. Critical habitat unit 17 occurs in the western region of the County and into Monterey County (70 Federal Register 49379-49458).

A documented occurrence of CTS is located approximately 0.20 miles east of Site 2a. This individual was observed in 1991 and it occurred in a stock pond on the Brookhollow Ranch property (CNDDDB

occurrence number 259). Two other documented occurrences are within the vicinity of the San Juan Oaks Golf Course study area (CNDDDB occurrence numbers 473 and 474 respectively). CNDDDB occurrence number 473 is located approximately 0.20 mile south of the golf course and it was observed in a large, artificially-bermed perennial reservoir in a broad swale. CNDDDB occurrence number 474 is located approximately 0.50 mile southeast of the golf course. This sighting occurred in a seasonal cattle pond.

Suitable breeding habitat for CTS occurs in the pond, wetlands, and reservoirs within Site 2 and within the immediate vicinity of this site. Suitable aestivation habitat for CTS also occurs in Site 2. Although no breeding habitat for CTS was identified within Site 1, a dead California tiger salamander was found near a mammal burrow in Site 1 during the May 2007 survey and an occurrence record was submitted to CNDDDB. Site 1 does not provide suitable aestivation habitat for this species because the site is disked several times per year. Likewise, Site 3 and Site 4 are not considered suitable aestivation habitat for CTS because they are highly disturbed, and disked several times per year. The level of disturbance within Sites 1, 3, and 4 is not conducive to CTS aestivation. Site 5 is considered suitable aestivation habitat for this species.

California Red-Legged Frog (*Rana aurora draytonii*)

Federal Status – Threatened

State Status – Species of Concern

Other – None

California red-legged frog (CRLF) occurs from Baja California, Mexico, north to the vicinity of Redding inland, and at least to Point Reyes, California coastally (Jennings and Hayes, 1994). CRLF is primarily an aquatic species, though it may use some upland habitat during the non-breeding season. Aquatic habitat consists of low-gradient freshwater bodies, including ponds, marshes, lagoons, seeps, springs, and backwaters within streams and creeks. While CRLF can occur in either ephemeral or perennial streams or ponds, populations generally cannot be maintained in ephemeral streams in which surface water disappears before metamorphosis (July to September) during most years. Adults seek out waters with dense shoreline vegetation such as willows (*Salix* sp.) and cattails. During the non-breeding season, frogs may use upland habitat that provides shade, moisture, and cooler temperatures, such as spaces under boulders and organic debris. CRLF may use these upland habitats up to approximately 200 feet from suitable aquatic habitat (USFWS, 2002).

CRLF typically lays eggs between December and early April. Eggs are attached to vegetation in shallow water. Tadpoles develop into terrestrial frogs between July and September. Breeding ponds must retain water until this time. CRLF may remain active throughout the year along the coast. In drier inland areas they aestivate in upland habitat from late summer to early winter (USFWS, 2002; USFWS, 2007a).

USFWS designated eight recovery units in the “Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*)” (USFWS, 2002). The study areas are located within the “Diablo Range and Salinas Valley” recovery unit. Within this recovery unit are core areas, which are the focus of recovery actions. One of the criteria for de-listing this species is protecting or managing all suitable CRLF habitat within these core areas. None of the study areas are within core areas, but they are within ten miles of the “Watsonville Slough-Elkhorn Slough” and “East San Francisco Bay” core areas.

The USFWS has also designated critical habitat for this species. Two sites with ten miles of the study areas are designated critical habitat for CRLF (USFWS, 2007b). One is 3.75 miles south of the City of Hollister, 3.5 miles southeast of the San Juan Oaks Golf Course study area. The other is 6.5 miles southeast of the City of Hollister, just south of the City of Tres Pinos.

Site 2 and Site 5 contain suitable habitat for this species. CRLF may use the wetlands and vernal pools within Site 2 for breeding as well as the pond, wetlands, and reservoirs adjacent to Site 2. The CRLF is known to occur near several of the study areas. One frog was observed in the San Benito River, approximately 20 meters downstream of the San Juan Hollister Bridge and approximately 0.25 miles north of Site 4 (CNDDDB occurrence number 465). Another two populations were observed within 0.5 miles of Site 5 in 1999 (CNDDDB occurrence numbers 349 and 351). One of these populations was observed in an engineered pond at the edge of the golf course. The other was observed in a creek at the edge of the golf course. Two additional sightings are located east of Site 2b (CNDDDB occurrence numbers 484 and 483). Both sightings were of adult CRLF found in stock watering ponds in 2001. The first pond is three miles east of Site 2b, and the second pond is 3.75 miles east of Site 2b.

Western Spadefoot Toad (*Spea [=Scaphiopus] hammondi*)

Federal Status – None

State Status – Species of Concern

Other – None

The western spadefoot toad (WSFT) occurs throughout the Central Valley and adjacent foothills (including the Sierra foothills). It also occurs in the Southern Coast Range from Santa Barbara County to the Mexican border. This species primarily inhabits lowlands, including such features as washes, floodplains of rivers, alluvial fans, playas, and alkali flats. The toad is almost completely terrestrial, entering water only to breed. Preferring areas of short grasses, where soil is sandy or gravelly, it can be found in valley and foothill grasslands, open chaparral, and pine-oak woodlands. Though some surface activity may occur in any month between October and April, it typically becomes surface-active following relatively warm rains in late winter-spring and fall. The western spadefoot toad breeds in temporary pools, such as vernal pools, or pools in ephemeral waterways. In order for young to successfully metamorphose, breeding pools must lack exotic predators, such as fishes, bullfrogs, and crayfishes. Breeding occurs between January and May (CDFG, 2005; Stebbins 2003). In San Benito County, this species generally occurs in grassland, blue oak woodland, and open chaparral habitats surrounding seasonal pools. In this county, the western spadefoot toad is also known to occur in stock watering ponds in pasture (CNDDDB occurrence numbers 166 and 194) and in a detention basin adjacent to Ridgemark Golf Course (CNDDDB occurrence number 115; 5.15 miles east of the San Juan Oaks Golf Course).

Site 2 provides suitable habitat for this species. WSFT may use the wetlands and vernal pools within Site 2 for breeding as well as the pond, wetlands, and reservoirs adjacent to Site 2. WSFT may also use the ponds within Site 5 and the adjacent upland habitats. No new development is proposed within Site 5, so no impacts to this species will occur. The nearest known occurrence of this species is 1.4 miles northeast of Site 5 and 1.15 miles south of Site 4 (CNDDDB occurrence number 341). This population has been observed as recently as 2006 and breeds in a seasonal pool in a ruderal field (CNDDDB, 2003).

Coast Range Newt (*Taricha torosa torosa*)

Federal Status – None

State Status – Species of Concern

Other – None

The California newt (*Taricha torosa*) is most often found in the Coast Ranges from central Mendocino County south to northern San Diego Co. It is also known to occur in the Peninsular Ranges of San Diego County, in the Sierra foothills, and in the watershed for Shasta Reservoir (Shasta County). A few populations are known to occur in the Central Valley. Suitable habitats include: valley-foothill hardwood forest, valley-foothill hardwood-conifer forest, coastal scrub, mixed chaparral, annual grassland, and mixed conifer forest. Its elevation range extends from sea level to 1830 m (6000 ft). Adults of this species occurs near streams or other sources of water in suitable habitat and prefer areas with plenty of refuges, such as rocks, logs, mammal burrows, or fissures in rock surfaces. Suitable breeding habitat includes emergent vegetation in intermittent or semi-permanent bodies of water. Larvae are aquatic and require underwater refuges. They feed on aquatic insects and crustaceans. Migrations to and from breeding areas usually occur at night during, or just following, rains. Some migration also takes place on cloudy days. Breeding adults and aquatic larvae are active both day and night. (CDFG, 2005)

The Coast Range newt (*Taricha torosa torosa*) is a subspecies of the California newt that occurs in the northern and southern Coast Ranges. Originally, this subspecies occurred from Mendocino County south to San Diego County. Currently, populations of this species are still distributed throughout this area, but are highly fragmented. This subspecies has a higher temperature tolerance than other salamander species. Originally, this species was quite abundant with large populations; however, these populations appear to be reduced due to sedimentation of breeding habitat. (CDFG, 2005)

This species has potential to occur within Site 2 and Site 5. The nearest known occurrence of this species is 0.5 miles southeast of Site 5 in annual grassland habitat within 20 meters of riparian habitat (CNDDDB occurrence number 4). As the proposed project will avoid all wetland features (**Section 4.5-1**), impacts to this species will not occur.

Reptiles**Western Pond Turtle (*Clemmys [=Emmys] marmorata*) and subspecies**

Federal Status – None

State Status – Species of Concern

Other – None

The western pond turtle (*Clemmys marmorata*) occurs in wet habitats throughout California. Suitable habitat consists of any permanent or nearly permanent water body or stream with suitable refuges, basking sites, and nesting sites. Refuge sites can be submerged logs or rocks or mats of floating vegetation. Basking sites can be partially submerged rocks or logs, as well as shallow-sloping banks with little or no cover. This species constructs nests in sandy banks if present, or in soils up to 100 meters away from aquatic habitat as at least 10 centimeters deep. The nests must have a relatively high

humidity in order for the hatchlings to avoid desiccation. This species eats a variety of organisms, including aquatic plants, beetles, fish, and frogs. (CDFG, 2005)

The northwestern pond turtle (*Clemmys marmorata marmorata*) is one of two subspecies of the western pond turtle. This subspecies occurs from Washington state south to the Central Valley of California. It is found in Pacific-slope drainages to an elevation of approximately 4,700 feet, and has the same habitat requirements as the species. This subspecies generally leaves the aquatic site only to reproduce and to hibernate. Hibernation typically takes place from October or November to March or April. Egg-laying typically occurs in May and June (CDFG, 2006; Stebbins, 2003).

The range of the northwestern pond turtle intergrades with that of the southwestern pond turtle (*Clemmys marmorata pallida*) in California's Central Valley and San Francisco Bay Area. The southwestern pond turtle differs from the northwestern pond turtle both in geographical range and in physical characteristics (it has poorly developed inguinal scutes and a brighter yellow or darker brown color on the throat. This subspecies has the same habitat requirements as the western and northwestern pond turtles.

Two northwestern pond turtles were observed in Tequisquita Slough, approximately 4.1 miles northeast of Site 2a (CNDDDB occurrence number 134). No other occurrences of this species within ten miles were identified down to subspecies, so the following occurrences could be either of the two subspecies. The nearest known occurrence of western pond turtle is in the San Benito River directly north of Site 4, where one adult western pond turtle was observed in 2001 (CNDDDB occurrence number 188). This species has the potential to occur in the pond, reservoir, and wetland features within Site 2.

San Joaquin Whipsnake (*Masticophis flagellum ruddocki*)

Federal Status – None

State Status – Species of Concern

Other – None

The San Joaquin whipsnake, also known as the San Joaquin coachwhip, is a large, smooth-scaled, large-eyed, slender snake. Its range stretches from Colusa County in the Sacramento Valley to Kern County in the San Joaquin Valley, with an isolated population occurring in the Sutter Buttes. This species is diurnal and maintains a high activity level when on the surface. Similar to other *M. flagellum* subspecies, it voluntarily maintains a higher active body temperature than most other snakes. As a result emergence tends to be relatively late in the season (usually April-early May) and later in the morning (when the ground surface temperature reaches 82 degrees Fahrenheit), although some evidence exists that smaller (younger) individuals emerge earlier in the day and the season than larger (older) snakes. *Masticophis f. ruddocki* occurs in open, dry, vegetative associations with little or no tree cover. In the western San Joaquin Valley, it occurs in valley grassland and saltbush scrub associations and is known to climb bushes such as *Atriplex* for viewing prey and potential predators. It uses mammal burrows for refuge and oviposition. (CDFG, 2006)

One adult San Joaquin whipsnake was observed in 1996 adjacent to the eastern point of Site 4 in riparian scrub of the San Benito River (CNDDDB occurrence number 1). This species has the potential to occur in Sites 1, 2, 3, and 5.

Birds

Tricolored Blackbird (*Agelaius tricolor*)

Federal Status – None

State Status –Species of Concern

Other – None

This species is largely found in the Central and San Joaquin Valley and in coastal counties south of Sonoma County. Populations also documented from the Peninsular Range near San Diego county and extreme northern California. It eats insects and seeds (particularly from grain crops). Suitable foraging habitat consists of grassland, flooded fields, and on the edges of ponds where emergent vegetation is present (e.g. cattails or tules). This species usually nests in large flocks (at least 50 breeding pairs) in dense vegetation near fresh water or by emergent wetlands. Nesting sites are typically associated with cattails, tules, willows, blackberry, and wild rose and nesting occurs from April to July (CDFG, 2005).

AES biologists observed a large flock (approximately 250 individuals) of tricolored blackbirds within Site 2b during the spring surveys. The birds were observed in flight and in the water of the alkali playa, which is adjacent to the eastern project boundary. The nearest documented occurrence of this species is 4.75 miles west of Site 2A in a stock-watering pond with tules in the margins and surrounded by annual grassland (CNDDDB occurrence number 169). This species has the potential to occur in the riparian woodland habitat within Site 3.

Golden Eagle (*Aquila chrysaetos*)

Federal Status – None

State Status – Species of Concern

Other – None

This species is a year-round resident in most of California, wintering in the Central Valley and in the Colorado Desert. In general, they occur in rolling foothills, montane regions, sage-juniper flats, and deserts from 0 to 3,833 meters above msl. Suitable foraging habitat is open grassland, desert or savannah, and occasionally early successional stages of forest or shrub habitats. Common prey includes lagomorphs (e.g. rabbits and hares) and rodents, but it will also eat other mammals, birds, and reptiles of similar size. Roosting habitat consists of cliffs and large trees, while nesting habitat consists of cliffs and large trees in open areas. Due to its preference for nesting in cliffs, this species is generally found nesting in canyons and other similar topographic features. Breeding season starts in late January and peaks in March. Eggs are laid between February and mid-May, with nesting season continuing through August. (CNDDDB, 2003)

AES biologists observed a golden eagle within Site 2a during the summer surveys. This individual was spotted flying over the annual grassland habitat in the northern portion of the site. The nearest recorded occurrences of this species are 26 miles northwest of Site 2 (CNDDDB occurrence number 39) and 29 miles east of Site 1 (CNDDDB occurrence numbers 120 and 121). Personal communication from Dennis Rose, the DWTP operator, indicated that a golden eagle has been seen foraging at the DWTP around the percolation beds (Rose, 2006). The project area is outside of the nesting range of this species. Suitable foraging habitat occurs in Sites 1, 2, 3, and 5.

Burrowing Owl (*Athene cunicularia*)

Federal Status – None

State Status – Species of Concern

Other – None

Burrowing owls occur in suitable habitat throughout California, except in northwestern coastal forests and on high mountains. Suitable habitat consists of open grasslands, pasture, prairie, plains, and savanna. This species can occasionally occur in more urban environments and open areas such as vacant lots near human developments or airports. Nesting and roosting occurs in burrows dug by mammals (such as ground squirrels), but may also occur in pipes, culverts, and nest boxes if no suitable burrows occur in the vicinity. This species spends large amounts of time on the ground or on low perches such as fence posts or dirt mounds in search of prey. While the burrowing owl is primarily diurnal, it does take refuge in its burrow during the day if the ambient temperature is too high. This species is known to hunt during both the day and night. The nesting season for this species is generally from February to August.

The burrowing owl is known to occur in several locations within five miles of the study areas. The nearest occurrence is one mile northeast of Site 2a and two miles west of Site 1 (CNDDDB occurrence number 277). This occurrence consisted of one adult bird and its burrow in a berm along the railroad tracks (CNDDDB, 2003). Other occurrences within five miles of the site alternatives are in pasture or grassland habitat, with the most recent sighting being in 2003 (CNDDDB occurrence number 648). Suitable habitat occurs in Sites 1, 2, 3, and 5.

Northern Harrier (*Circus cyaneus*)

Federal Status – None

State Status – Species of Concern

Other – None

Northern harriers occur year-round in the Central Valley, along the coast, in the Sierra Nevada, and in northeastern California. It winters throughout California in suitable habitat. In general, occurs in meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands, and very occasionally in wooded areas. Suitable foraging habitat consists of open areas, such as grassland or agricultural fields, where it can fly close to the ground. This species eats small mammals (such as voles), birds, frogs, small reptiles, crustaceans, insects, and rarely fish. The northern harrier roosts on the ground in tall grasses or emergent wetland species such as cattails. Nesting habitat is generally in marshes or emergent wetlands or along rivers or lakes. However, this species is known to nest in grasslands, grain fields, or on sagebrush flats. Nests are built on the ground using a mound of sticks, and nesting season occurs from April to September (CDFG, 2005).

AES biologists observed several northern harriers during the spring and summer surveys. These sightings occurred in Site 3, Site 2b, and in the vicinity of the pipeline route, which is proposed between Site 2 and Site 1. This species was observed at the northern edge of Site 1 during field surveys for the 2006 EIR (**Appendix J**).

The nearest recorded occurrence of this species is 16 miles northeast of Site 1 near Pacheco Pass (CNDDDB occurrence number 39). Suitable habitat for this species occurs in Sites 1, 2, 3, and 5. No northern harrier nests were observed during any of the surveys. However, this species could begin nesting in or adjacent to the project areas prior to construction.

White-tailed Kite (*Elanus leucurus*)

Federal Status – None

State Status – Fully Protected

Other – None

White-tailed kites are yearlong residents in the Central Valley, Coast Ranges, and coastal areas in California. Foraging occurs in open grasslands, meadows, farmland, and emergent wetlands. Prey includes small mammals, small bird species, voles, amphibians, reptiles, and insects. Roosting habitat consists of trees with dense canopies. In southern California, this species is known to roost in saltgrass and Bermuda grass habitats as well. Nesting habitat is located near suitable foraging habitat in dense stands of trees (usually oak or willow), generally between 6 and 20 meters above the ground. Nesting takes place from February through October with a peak season ranging May to August. (CNDDDB, 2003)

AES biologists observed a white-tailed kite foraging over the annual grassland habitat in Site 2a during the spring surveys. This species was also observed near the DWTP by AES biologists during the field assessments for the 2006 EIR (AES, 2006).

The nearest known occurrence of this species is 11.75 miles northwest of Brookhollow Ranch subarea 1 near Gilroy (CNDDDB occurrence number 84). Suitable habitat for this species occurs within Sites 1, 2, 3, and 5. No raptor nests were observed during any of the surveys. However, this species could begin nesting in or adjacent to the project areas prior to construction.

California Horned Lark (*Eremophila alpestris actia*)

Federal Status – None

State Status – Species of Concern

Other – None

The horned lark (*Eremophila alpestris*) occurs as a permanent resident throughout most of the contiguous U.S. and Mexico. Populations are known to breed in Canada and Alaska, but do not winter there. In California, this species occurs in suitable habitat along the coast, in the Central Valley, and in desert regions. It is less common in the North Coast Ranges and the Sierra Nevada, and winters in lowlands throughout California. Suitable foraging habitat consists of open habitats, such as grasslands, relatively free of trees and shrubs. It is known to occur in coniferous and chaparral habitats, but use of these habitats is not common. This species roosts on the ground in tall grasses or in shrubs. The horned lark nests in hollows on the ground, often next to grass tufts or clods of earth or manure. Nesting season for this species is from March through July (CDFG, 2005).

The California horned lark is a subspecies of the horned lark. Information regarding the range of this subspecies is incomplete, but it is generally limited to California and Baja California. In California, it has the same distribution and habitat requirements as the species.

The California horned lark occurs in several locations within five miles of the site alternatives, the nearest one being 3.5 miles east of Site 4 and 2.5 miles southeast of Site 1 (CNDDDB occurrence number 14). This species is generally found in undisturbed grasslands and pastures, but one active nest was observed in grassland that is regularly disked (CNDDDB occurrence number 15). Suitable habitat for this species occurs within Sites 1, 2, 3, and 5. No California horned lark nests were observed during any of the surveys. However, this species could begin nesting in or adjacent to the project areas prior to construction.

Prairie Falcon (*Falco mexicanus*)

Federal Status – None

State Status – Species of Concern

Other – None

This species occurs year-round in the Coast Ranges, in the southeastern desert region of California, and in the Modoc Plateau. It winters in the Central Valley and near the coast. Suitable habitats include anything from annual grasslands to alpine meadows, but this bird is associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. It eats mainly small mammals, birds, and reptiles. Nest sites include cliffs, bluffs, and discarded eagle or crow nests in large trees. Nesting season for this species is from mid-February through mid-September, peaking from April to early August (CDFG, 2005).

There are three recorded occurrences for this species in the Three Sisters USGS quadrangle, but the locations of these occurrences is considered sensitive and therefore not released to the public (CNDDDB occurrence numbers 347-349). Because this information is not available, these occurrences are not shown in **Figure 4.5-1**. The Three Sisters quadrangle extends from 1.4 miles east of Site 1 to 11 miles northeast of Site 1. Suitable foraging habitat for this species occurs in the Sites 1, 2, 3, and 5. Suitable nesting habitat does not occur in any of the sites.

Loggerhead Shrike (*Lanius ludovicianus*)

Federal Status – None

State Status – Species of Concern

Other – None

The loggerhead shrike occurs year-round in lowlands and foothills throughout California. On the North Coast region of California, populations may migrate for the winter. Suitable foraging habitat is in open areas in grassland, woodland, and desert habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. This species roosts in shrubs or small trees. Nesting habitat consists of densely foliated shrubs or trees with stable nest branches at least 0.4 meters above the ground. Nesting season for this species is from March to August (CDFG, 2005).

AES biologists observed a loggerhead shrike perched on a fencepost within Site 2a during the summer surveys. AES biologists also observed a loggerhead shrike at the DWTP during a field assessment for the 2006 EIR (AES, 2006).

There are no recorded occurrences of this species within ten miles of the study areas. Suitable foraging habitat for this species occurs in Sites 2 and 3. Suitable nesting habitat for this species occurs in Site 2 (eucalyptus groves) and Site 3 (riparian woodland). No loggerhead shrike nests were observed during any of the surveys. However, this species could begin nesting in or adjacent to the project areas prior to construction.

Mammals

Pallid Bat (*Antrozous pallidus*)

Federal Status – None

State Status – Species of Concern

Other – None

Pallid bat occurs from British Columbia to Texas south to Baja California and central Mexico. In California, pallid bat occurs throughout the state except in the high Sierra Nevada Range from Shasta County to Kern County. The pallid bat is most commonly found in dry, open habitats with rocky areas for roosting. This species has three different roosts: the day roost is usually in a warm horizontal opening such as in attics or rock cracks; the night roost is usually in the open, near foliage; and the hibernation roost, which is often in buildings, caves, or cracks in rocks (CDFG, 2005).

The nearest known occurrence of this species is 7.3 miles west of Site 3 in the vicinity of Highway 101 (CNDDDB occurrence number 246). Suitable roosting habitat occurs under the bridge located on Highway 156, near the current Hollister DWTP. This bridge falls within one of the proposed pipeline routes (situated between Site 1 and Site 2, **Figure 3.2**).

American Badger (*Taxidea taxus*)

Federal Status – None

State Status – Species of Concern

Other – None

The American badger has a flat body with short legs and a triangular face with a long, pointed, tipped-up nose. It has long brown or black fur with white stripes on its cheeks and one stripe running from its nose to the back of its head. This species occurs with low frequency throughout a large range including most of California. The American badger forages for small rodents, reptiles, invertebrates, and birds in dry, open habitats such as grassland or open woodland. Suitable burrowing habitat requires dry, often sandy soil. Breeding occurs in summer and early fall, with young being born from March to April. (CDFG, 2005)

In San Benito County, this species is known to occur in dryland grain crop fields, pasture, and annual grassland habitats. The nearest known occurrence of this species was observed in the vicinity of Hollister, within one mile of Site 4 (CNDDDB occurrence number 121). The precise date of this observation is not known; however, another American badger was observed 3.7 miles east of Site 4 in 1993 (CNDDDB

occurrence number 186). This species has the potential to occur in the annual grassland habitat in Sites 1, 2, 3, and 5.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

Federal Status – Endangered

State Status – Threatened

Other – None

The federally endangered San Joaquin kit fox occurs in grasslands or other open areas within shrublands and/or scrub habitats. The kit fox (*Vulpes macrotis*) is the smallest canid species in North America. San Joaquin kit foxes have an average body length of 20 inches, an average tail length of 12 inches and stand about nine to 12 inches at the shoulder. Historically, San Joaquin kit foxes occurred in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities included Valley Sink Scrub, Valley Saltbush Scrub, Upper Sonoran Subshrub Scrub, and Annual Grassland. Currently, this species occurs in grassland and other open habitats from Contra Costa to San Joaquin Valley. Suitable foraging habitat includes any open habitat such as grassland, woodland, or open scrub. Suitable burrowing habitat includes open, flat areas with loose (generally sandy or loamy) soils.

This species was listed as endangered by the USFWS on March 11, 1967 (32 Federal Register §4001), and its Recovery Plan was finalized in 1998 (USFWS, 1998). A petition to de-list the San Joaquin kit fox was found insubstantial by the USFWS in 1992 (57 Federal Register §28167 and §21869). This species was listed as threatened by the CDFG in 1971, and a review of the species in 1999 found it to be in decline.

In San Benito County, this species is known to occur in oak woodlands, annual grassland, pasture, and dryland grain crop habitats. This species is known to occur in a large area less than 0.5 miles east of Site 1 and including Site 5 (CNDDDB occurrence number 11; 1992). Suitable habitat for this species occurs within Sites 2, 3, 5, and along several of the pipeline routes.

4.5.4 REGULATORY SETTING

A description of the regulatory setting is incorporated by reference from Section 4.4.1 the 2006 EIR. Section 4.4.1 of the 2006 EIR provides a description of the following:

- Federal Endangered Species Act (FESA)
- Migratory Bird Treaty Act (MBTA)
- Section 404 of the Federal Clean Water Act
- Section 401 of the Clean Water Act
- Magnuson-Stevens Fishery Conservation and Management Act
- California Endangered Species Act (CESA)
- California Environmental Quality Act (CEQA) Section 15380
- Sections 1600-1616, 2080, 2081, and 3503 of the CDFG Code
- Association of Monterey Bay Area Governments (AMBAG)
- San Benito County General Plan

- City of Hollister General Plan

San Benito County Ordinance No. 541 Interim Mitigation Fees and Guidelines for San Joaquin Kit Fox

The San Benito County Ordinance No. 541 (Ordinance) was not addressed in the 2006 EIR. This Ordinance establishes interim mitigation fees and provides guidelines for the protection of the San Joaquin kit fox for projects within San Benito County (San Benito County Planning and Building, 1988). The purpose of the Ordinance is to provide a method for financing, development, and implementation of a forth-coming Habitat Conservation Plan (HCP) for this species. The Ordinance designates a preliminary HCP study area within San Benito County for the San Joaquin kit fox. Interim mitigation fees are required for projects that occur within the designated HCP study area. These fees “will satisfy U.S. Fish and Wildlife Service, as well as County, mitigation requirements for endangered species and their habitats which may occur within the area of the County designated herein pending completion and adoption of a HCP and issuance of a Section 10(a) permit.” The Resolution covers all suitable San Joaquin kit fox habitat in unincorporated San Benito County. Fees shall be collected in two stages; at the map stage and the building permit stage. Map stage fees are as follows: 1 acre or less- \$150.00, 1.1 acre to 5 acres- \$300.00, 5.1 acre or larger- \$600.00. Building permit stage fees are as follows: the fee for converting raw land to developed uses is \$550.00 per developed acre to alteration of the habitat, the fee for conversion of lands from agricultural use to other more intensive agricultural uses is \$10.00 per acre converted and \$0.02 per square foot for agriculturally related structures. The Ordinance does not address CEQA mitigation requirements.

4.5.5 IMPACT ANALYSIS

Thresholds of Significance

Criteria for determining the significance of impacts to biological resources have been developed based on the regulatory measures described in **Section 4.5.3**. As defined within the 2007 CEQA Guidelines (Guidelines): Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In addition, thresholds of significance to be adopted for general use as part of the lead agency’s environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. For the purposes of this SEIR, impacts to biological resources are considered significant if the proposed project:

The following significance criteria associated with biological resources have been adapted from Appendix G of the CEQA *Guidelines*. Impacts are considered significant if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified or listed in local or regional plans, policies, or regulations, or by CDFG, USFWS or NMFS;

- 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 CDFG or USFWS;
- 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, and coastal) 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; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Methods and Assumptions

The 2006 EIR identified 15 mitigation measures that are applicable to the pipeline and reclaimed water irrigation site development. These measures are described in detail in **Appendix C**. The 2006 assessment was conducted prior to the designation of specific site locations for the various proposed project components. Now that precise locations and attributes of the proposed reclaimed water irrigation areas and pipeline routes have been established, additional site-specific mitigation measures have been identified that are necessary to ensure less than significant impacts to those special-status species with potential to occur within the study areas. The mitigation measures presented in this SEIR supersede the mitigation measures within the 2006 EIR, as they are site and species specific for the current study areas.

Impact Statements and Mitigation Measures

IMPACT 4.5-1. Development of the proposed project has the potential to impact wetlands, other waters of the U.S., and riparian habitat.

Sites 1 The Hollister Municipal Airport site includes on-site wetland and drainage features that may be impacted from project development. On-site features are shown in **Figure 4.5-2** and consist of engineered swales designed to parallel the runways and taxiways of the airport. These wetland and drainage features are dominated by non-native plant species and are subject to a high frequency of human activity and thus do not provide suitable habitat for special-status species. The majority of the wetland and drainage features are included within the Runway Safety Area (RSA) that would be avoided completely during construction and operation of the project. However, several drainages located at the northern area of Site 1 are not within the RSA and could be impacted during the installation and operation of the proposed irrigation system. This is considered a potentially significant impact.

Implementation of the following mitigation measures will ensure that the proposed project has a less-than-significant impact on wetland habitats and other waters of the U. S. Riparian habitat mitigation is also included in this measure. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-1a: To prevent impacts to wetlands, waters of the U.S., and/or riparian corridors within the reclaimed water irrigation areas and vicinity (San Benito River), all irrigation applications shall occur at a minimum distance of 100 feet away from these wetland/aquatic/riparian features. Avoidance (buffer) zones of 100 feet will be established around each wetland/aquatic/riparian feature via the installation of high visibility fencing prior to any construction activities. Spray areas and irrigation devices will be installed and maintained in such a manner as to ensure that recycled water applications do not interfere and/or contact the 100 feet buffer zones surrounding each of the wetland/aquatic/riparian features.

Mitigation Measure 4.5-1b: To prevent pipeline construction from impacting any wetland/aquatic/riparian features within the pipeline routes, pipelines shall:

- Be diverted to avoid all wetland/aquatic/riparian features or
- Shall be installed under the wetland/aquatic/riparian features, or suspended over the features.
- If complete avoidance of all jurisdictional drainages and/or associated riparian habitat is not feasible, a 1600 streambed alteration agreement from CDFG and CWA and/or a Section 404 permit shall be obtained from the USACE and all permit conditions shall be implemented. Best Management Practices shall be implemented to ensure that no pollutants will be discharged into jurisdictional waters.

Site 2

The Brookhollow Ranch site is divided into two sub-areas (Site 2A and Site 2B), each containing wetland features that could be impacted from project development (Figure 4.5-3a). The two-sub areas are shown in Figures 4.5-3b and 4.5-3c respectively. Site 2A, located adjacent to wetlands in the northern portion of Site 2, includes ephemeral drainages. To the south, Site 2B is located alongside an on-site wetland and includes three water features. The wetland and drainage features in Sites 2A and 2B, except for an engineered stock pond and two reservoirs, are naturally occurring. These features include an alkaline playa, vernal pools, seasonal wetlands, wetland swales, and palustrine emergent wetlands. The playa, palustrine emergent wetlands, and the vernal pools would provide suitable habitat for several special-status species. Water features present on-site could be impacted from project development. This is considered as a potentially significant impact.

Implementation of the following mitigation measures will ensure that the proposed project has a less-than-significant impact on wetland habitats and other waters of the U. S. Riparian habitat mitigation is also included in this measure. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-1c: Implement Mitigation Measure 4.5-1a.

Mitigation Measure 4.5-1d: Implement Mitigation Measure 4.5-1b.

Site 3-4

No suitable wetlands, waters of the U.S., or riparian habitats were observed within these project sites and no impacts are expected. **No Impact.**

Site 5 As shown in Figure 4.5-6, the San Juan Oaks Golf Course includes several engineered ponds and drainage features that may be impacted from project development. The golf course habitat is routinely maintained and landscaped. The engineered ponds contain landscaped and ornamental plant species. The intermittent drainages support riparian species including willows and rushes. On-site water features located at the San Juan Oaks Golf Course could be impacted from project development. This is considered as a potentially significant impact.

Implementation of the following mitigation measures will ensure that the proposed project has a less-than-significant impact on wetland habitats and other waters of the U. S. Riparian habitat mitigation is also included in this measure. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-1e: Implement Mitigation Measure 4.5-1a.

Mitigation Measure 4.5-1f: Implement Mitigation Measure 4.5-1b.

IMPACT 4.5-2. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the California tiger salamander (CTS).

Site 1 A dead CTS was observed west of the western end of the short runway in the Hollister Airport study area. Based on the size of the specimen, it was believed to be a dispersing juvenile that desiccated prior to finding suitable aestivation habitat. It is unknown where the CTS dispersed from. The location where the CTS was found is in active grain crop production area. At the time of the survey, the area was being used to grow oats and wheat. All of the dryland grain crop areas around the airport are disked four times a year, as part of normal agricultural practices. Because the dryland grain crop areas are disked regularly, they do not provide suitable aestivation habitat for CTS. However, it is possible that other CTS could disperse into the dryland grain crop areas seeking aestivation habitat. Reclaimed water irrigation in the dryland grain crop areas will be via movable sprinklers, so minimal on-site trenching or other earthwork would be necessary to implement reclaimed water irrigation. However, CTS could be harassed or harmed by workers during the installation of recycled water transmission pipelines, or workers during operation of reclaimed water irrigation areas. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-2a: To prevent impacts to CTS during pipeline installation the following mitigation measures will be employed prior to and during pipeline construction:

- A CTS sensitivity training program will be established. This program will be designed to educate construction personnel about the mitigation measures required for the execution of the project and will outline the construction protocols for CTS mitigation. All construction personnel will attend the CTS sensitivity training. The training will provide instruction on CTS field identification and will include a detailed protocol of the actions personnel should take in the event that CTS is encountered on-site during construction activities.
- Any open pipeline trenches will be covered with thick utility plastic at the end of the working day.

- The plastic covering will be removed from the open trenches each morning and the trenches will be checked for CTS prior to the onset of construction activities.

Mitigation Measure 4.5-2b: To prevent impacts to CTS during operation of reclaimed water irrigation areas, a worker awareness program will be instituted, which will require all maintenance personnel working in reclaimed water irrigation areas to receive CTS training. The training will include how to identify CTS and specific measures that would be taken if CTS were observed.

Sites 2, 5 As discussed above, suitable breeding and aestivation habitat for CTS occurs in the pond, wetlands, and reservoirs within Site 2 and Site 5. A pond that provides suitable breeding habitat for CTS, and was historically known to be occupied by CTS, occurs approximately 0.20 miles east of Site 2A. The alkali playa adjacent to Site 2B and the vernal pools in Site 2B provide suitable breeding habitat for CTS. Because irrigation will be conducted using a wheel line system, minimal on-site trenching or other earthwork would be necessary to implement reclaimed water irrigation at Sites 2A and 2B. Additionally, at Site 5, the existing irrigation system would be utilized, and no increase in irrigated areas or application rates would occur. However, CTS could be harassed or harmed by workers during the installation of recycled water transmission pipelines, or workers during operation of reclaimed water irrigation areas. In addition, if treated wastewater entered the vernal pools or other surface waters, it could alter the hydrology or chemical composition of these habitats. Mitigation measures have been developed in consultation with FWS. Implementation of mitigation measures presented below will ensure that the proposed project would have a less than significant impact on CTS. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-2c: Implement Mitigation Measures 4.5-2a and 4.5-2b.

Mitigation Measure 4.5-2d: To prevent impacts to CTS, all irrigation applications shall occur at a minimum distance of 100 feet from any potential CTS breeding ponds. During construction, buffer zones of 100 feet will be established around each potential CTS breeding pond via the installation of high visibility fencing prior to any construction activities. Irrigation devices will be installed and maintained in such a manner as to ensure that recycled water applications do not interfere and/or contact the 100 feet buffer zones surrounding each of the potential CTS breeding ponds.

Sites 3-4 No suitable wetland habitats were observed within these project sites and no impacts to this species are expected. **No Impact.**

IMPACT 4.5-3. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the California red legged frog (CRLF).

Sites 1, 4 As discussed above, Sites 1 and 4 do not contain CRLF habitat. **No Impact.**

Sites 2, 5 No breeding habitat for CRLF occurs in Site 2A, Site 2B and Site 5, but ponds that provide suitable breeding habitat occur in the vicinity. These sites could potentially be used by CRLF for dispersal or upland refuge if they are breeding in ponds in the vicinity. Because irrigation at Sites 2A and 2B will be conducted using a wheel line system, minimal on-site trenching or other earthwork would be necessary to implement reclaimed water irrigation. Additionally, at Site 5, the existing irrigation system would be utilized, and no increase in irrigated areas or application rates would occur. However, CRLF could be harassed or harmed by workers during the installation of recycled water transmission pipelines. In addition, if treated wastewater entered the vernal pools or other surface waters, it could alter the hydrology or chemical composition of these habitats. These effects would be reduced to less than significant through implementation of Mitigation Measure 4.5-3a-b below. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-3a: To prevent impacts to CRLF during pipeline installation, the following mitigation measures will be employed prior to and during pipeline construction:

- A species sensitivity training program will be established. This program will be designed to educate construction personnel about the mitigation measures required for the execution of the project and will outline the construction protocols for species mitigation. All construction personnel will attend the sensitivity training. The training will provide instruction on field identification and will include a detailed protocol of the actions personnel should take in the event that the species is encountered on-site during construction activities.
- Any open pipeline trenches will be covered with thick utility plastic at the end of the working day.
- The plastic covering will be removed from the open trenches each morning and the trenches will be checked for the species prior to the onset of construction activities.

Mitigation Measure 4.5-3b: To prevent impacts to CRLF within reclaimed water irrigation areas, adjacent areas, all irrigation applications shall occur at a minimum distance of 100 feet away from any potential CRLF breeding sites. During construction, buffer zones of 100 feet will be established around each potential CRLF breeding pond via the installation of high visibility fencing prior to any construction activities. Irrigation devices will be installed and maintained in such a manner as to ensure that recycled water applications do not interfere and/or contact the 100 feet buffer zones surrounding each of the potential CRLF breeding ponds.

Site 3 CRLF are known to occur in the San Benito River 0.25 miles upstream of Site 3. Therefore, CRLF could occur in the segment of the San Benito River adjacent to Site 3. There is no breeding habitat for CRLF in Site 3, and it is highly unlikely that CRLF would use the site for aestivation because it is regularly disked and has a high level of human disturbance. However, if CRLF are present in the adjacent San Benito River, they could disperse into the site during construction and be harmed by construction equipment or personnel. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-3c: Implement Mitigation Measure 4.5-3a.

Mitigation Measure 4.5-3d: A biologist permitted by USFWS to handle CRLF will conduct a preconstruction survey prior to construction. Any CRLF observed will be moved to a suitable location outside of the construction area. Immediately after the preconstruction survey is completed, exclusionary fencing will be placed along the boundary of Site 3 that abuts the San Benito River to prevent CRLF from entering the site prior to construction. A biological monitor will be present during construction to ensure that no CRLF enter the construction area and are harmed. If CRLF are observed in the construction area, USFWS will be notified and construction will be halted until a permitted biologist can relocate the CRLF.

IMPACT 4.5-4. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the western spadefoot toad (WSFT).

Site 1, 3, 4 As discussed above, Sites 1, 3, and 4 do not contain WSFT habitat. **No Impact.**

Sites 2 As discussed above, Site 2 contains suitable habitat for this species. WSFT may use the wetlands and vernal pools within Site 2 for breeding as well as the pond, wetlands, and reservoirs adjacent to Site 2. The mitigation measure presented below will ensure that the proposed project will have a less than significant impact on WSFT. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-4a: Implement Mitigation Measure 4.5-3(a-b)

Site 5 As discussed above, Site 5 contains suitable habitat for this species. However, reclaimed water irrigation at this site would utilize the existing irrigation system and no change in irrigated areas or application rates would occur. Therefore, the only potential impacts to this species would occur during installation of the reclaimed water transmission pipeline that would extend from the DWTP. The mitigation measure presented below will ensure that the proposed project will have a less than significant impact on WSFT. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-4b: Implement Mitigation Measure 4.5-3(a)

IMPACT 4.5-5. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the Coast Range newt.

Site 1, 3, 4 As discussed above, Sites 1, 3, and 4 do not contain Coast Range newt habitat. **No Impact.**

Sites 2, 5 As discussed above, Site 2 contains suitable habitat for this species. The mitigation measure presented below will ensure that the proposed project will have a less than significant impact on California Range newt. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-5: Implement Mitigation Measure 4.5-3(a-b)

Site 5 As discussed above, Site 5 contains suitable habitat for this species. However, reclaimed water irrigation at this site would utilize the existing irrigation system and no change in irrigated areas or application rates would occur. Therefore, the only potential impacts to this species would occur during installation of the reclaimed water transmission pipeline that would extend from the DWTP. The mitigation measure presented below will ensure that the proposed project will have a less than significant impact on California Range newt. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-4: Implement Mitigation Measure 4.5-3(a)

IMPACT 4.5-6. Development of reclaimed water irrigation, pipeline installation, and other construction activities has the potential to impact the northwestern/western pond turtle.

Site 1, 3-5 As discussed above, Sites 1, and 3 - 5 do not contain northwestern/western pond turtle habitat. **No Impact.**

Sites 2 As discussed above, this species has the potential to occur in the pond, reservoir, and wetland features within Site 2. The mitigation measure presented below will ensure that the proposed project will have a less than significant impact on northwestern/western pond turtle. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-6: Implement Mitigation Measure 4.5-3(a-b)

IMPACT 4.5-7. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the San Joaquin whipsnake.

Site 4 As discussed above, Site 4 does not contain San Joaquin whipsnake habitat. **No Impact.**

Site 1-3, 5 As discussed above, this species has the potential to occur in Sites 1-3, and 5. Mitigation measures presented below will ensure that the proposed project will have a less than significant impact on San Joaquin whipsnake. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-7: Implement Mitigation Measure 4.5-3(a)

IMPACT 4.5-8. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact special-status bird species.

Site 4 As discussed above, Site 4 does not contain special-status bird species habitat. **No Impact.**

Site 1-3, 5 If construction activities occur during the nesting season (March through September), trenching and other earthwork that is proposed in the vicinity of potential breeding habitat for several bird species could result in forced fledging or nest abandonment. Implementation of mitigation measures presented below will ensure that the proposed project will have a less than significant impact on special-status bird species. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-8a: To prevent impacts to special-status bird species (i.e., tricolored blackbird, golden eagle, northern harrier, white-tailed kite, California horned lark, prairie falcon, and loggerhead shrike) a qualified biologist shall conduct pre-construction bird and/or rapture nest surveys within the study areas during the nesting season (March through September). These surveys will occur no more than twenty days prior to the on-set of construction within each of the study areas. If active nest are not detected within the study areas during the surveys, no additional mitigation is required.

Mitigation Measure 4.5-8b: If active nests are located within the study areas during the pre-construction surveys, a 100 feet buffer radius zone will be established around each nest via high visibility fencing. A qualified wildlife biologist will remain on-site during construction activities as a monitor, to make sure that no disturbance occurs within the buffer radius zone around each nest. The biological monitor will remain on-site during any construction that occurs within the study areas during the nesting season, until he or she determines the inhabitants of the nests have fledged.

IMPACT 4.5-9. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the burrowing owl.

Site 1-3 As discussed above, the burrowing owl is known to occur in several locations within five miles of the study areas. The implementation of mitigation measures presented below will ensure that the proposed project will have a less than significant impact on burrowing owl. These measures comply with the *Staff Report on Burrowing Owl Mitigation* (CDFG, 1995). **Less than Significant with Mitigation.**

Mitigation Measure 4.5-9a: To prevent impacts to burrowing owls pre-construction surveys shall be conducted in all suitable habitats that are within the study areas.

These surveys will occur no more than thirty days prior to the on-set of construction within the study areas and will be in accordance with CDFG's *Staff Report on Burrowing Owl Mitigation* (Staff Report) (CDFG, 1995). If no active burrows or burrowing owls are detected within the study areas during the surveys no additional mitigation is required.

Mitigation Measure 4.5-9b: If active burrows are found, the following measures shall be implemented:

- Active burrows shall be avoided. No disturbance should occur within 50 meters (approximately 160 feet) of occupied burrows during the non-breeding season (September 1 through January 31) or within 75 meters (approximately 250 feet) during the breeding season of (February 1 through August 31). The avoidance areas will be established around occupied burrows via high visibility fencing. Properly executed avoidance also requires that a minimum of 6.5 acres of foraging habitat be **permanently** preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependant young) or single unpaired resident bird.
- A burrowing owl sensitivity training program will be established. This program will be designed to educate construction personnel about the mitigation measures required for the execution of the project and will outline the construction protocols for burrowing owl mitigation. All construction personnel will attend the burrowing owl sensitivity training. The training will provide instruction on burrowing owl field identification and will include a detailed protocol of the actions personnel should take in the event that burrowing owl is encountered on-site during construction activities.
- If destruction of occupied burrows is unavoidable, existing unsuitable burrows should be enhanced (i.e., enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on the protected lands site.
- In addition, if burrowing owls must be relocated out of the disturbance area, passive location techniques (as outlined in the Staff Report) should be used. A minimum of one week will be necessary to accomplish the relocation and to allow the owls to acclimate to alternate burrows.
- If loss of foraging and burrow habitat on-site is unavoidable and suitable burrow creation and/or enhancement is not feasible within the site; a minimum of 6.5 acres of foraging habitat per pair or unpaired resident bird should be acquired and permanently protected. The protected lands should be adjacent to occupied burrowing owl habitat and at a location acceptable to CDFG. Consultation and approval is likely required for this measure. If off-site mitigation is necessary, the project sponsor must provide funding for long-term management and monitoring of the protected lands. The monitoring plan must include success criteria, remedial measures, and an annual report to CDFG.

- Site 4** As discussed above, Site 4 does not contain special-status bird species habitat. **No Impact.**
- Site 5** As discussed above, Site 5 contains suitable habitat for this species. However, reclaimed water irrigation at this site would utilize the existing irrigation system and no change in irrigated areas or application rates would occur. Therefore no impacts are expected. **No Impact.**

IMPACT 4.5-10. Pipeline installation and other construction activities have the potential to impact the Pallid bat.

- Sites 1-2** As Suitable roosting habitat occurs under the bridge located on Highway 156, near the current Hollister DWTP. This bridge falls within the proposed pipeline route between Sites 1 and 2. Installation of the proposed pipeline routes, which will be installed from the Hollister DWTP to the Sites 1 and 2 (**Figure 3-2**) have the potential to impact the Pallid bat. Implementation of the mitigation measures presented below will ensure that the proposed project will have a less than significant impact on Pallid bat. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-10a: To prevent impacts to Pallid bats pre-construction surveys shall be conducted by a qualified wildlife biologist along the suitable bridges within the pipeline routes. If Pallid bats are not detected during the surveys, no additional mitigation is required.

Mitigation Measure 4.5-10b: If Pallid bats are detected underneath the bridges within the study areas consultation will be initiated with CDFG. Exclusionary nets will be installed while the bats are away from their roosts. The exclusionary nets will be monitored by a qualified wildlife biologist to assure that all bats have left the roosts and that no bats re-enter. When construction activities are complete the exclusionary nets will be removed.

IMPACT 4.5-11. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the American badger.

- Site 1-3** As discussed above, this species has the potential to occur in the annual grassland habitat in Sites 1-3. Mitigation measures presented below will ensure that the proposed project will have a less than significant impact on the American badger. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-11a: A qualified wildlife biologist shall conduct pre-construction surveys for American badger within the study areas within twenty days prior to the onset of construction activities. If American badger is not detected within the study areas, no further mitigation is required.

Mitigation Measure 4.5-11b: If occupied dens are detected within the study areas, passive relocation techniques will be employed to remove the animal(s) from the site and transfer them to an off-site location. Prior approval of the off-site location must be acquired by CDFG before the animals are relocated.

Site 4 As discussed above, Site 4 does not contain American badger habitat. **No Impact.**

Site 5 As discussed above, Site 5 contains suitable habitat for this species. However, reclaimed water irrigation at this site would utilize the existing irrigation system and no change in irrigated areas or application rates would occur. Therefore no impacts are expected. **No Impact.**

IMPACT 4.5-12. Development of reclaimed water irrigation sites, pipeline installation, and other construction activities has the potential to impact the San Joaquin kit fox.

Sites 1 Suitable habitat for the San Joaquin kit fox does not occur on Site 1 for several reasons. The habitat within Site 1 is not suitable for San Joaquin kit fox because it is frequently mowed and maintained and because portions of this site are utilized for agriculture. The regions within Site 1 that are not ruderal/developed areas are dry-farmed fields. These regions of the site are disked and planted multiple times throughout the year. The dry-farm crop areas on Site 1 are not suitable habitat for San Joaquin kit fox because of the agricultural regimes practiced within them. In addition, the high level of noise from airplanes, mowers, and tractors on Site 1 further reduces the suitability of this site for San Joaquin kit fox habitat. Also, it should be noted that Site 1 falls within the Hollister City Limits, and is therefore not subject to the Fee Requirements of County Ordinance 541. **No impact.**

**Sites 2, 3,
and Pipelines Routes**

Sites 2 and 3 and the several of the proposed pipeline routes contain suitable habitat for San Joaquin kit fox. Trenching and construction activities at these sites could disturb active kit fox dens. This is considered a potentially significant impact. The implementation of mitigation measures presented below will ensure that the proposed project will have a less than significant impact on the San Joaquin kit fox. **Less than Significant with Mitigation.**

Mitigation Measure 4.5-12a: A qualified wildlife biologist shall conduct an early evaluation of Sites 2, 3, and the pipeline routes for San Joaquin kit fox and/or signs of San Joaquin kit fox with a representative from the Service within 14 to 30 days prior to the estimated onset of construction activities. The qualified wildlife biologist shall submit the results of the early evaluation in writing to the Service and the Service will then evaluate the information presented. The Service will then generate a written response within 30 days of receiving the early evaluation results as to whether or not the Sites and/or pipeline routes are suitable kit fox habitat. If the Service decides that the Sites and/or the pipeline routes are suitable kit fox habitat, protocol level surveys will be required within those sites. Kit fox surveys must adhere

to the USFWS's *San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS, 1999). Surveys shall be conducted in accordance with these promulgated guidelines in order to identify kit fox habitat features, evaluate use of those identified features, and assess potential impacts to the features. Survey results must be received and approved by USFWS and CDFG prior to the onset of construction activities. If San Joaquin kit fox and/or kit fox habitat is not detected within the study areas, no further mitigation is required.

Mitigation Measure 4.5-12b: Sites 2, 3, 4, and 5 are within the Fee Assessment Area of the San Benito County Ordinance 541. As such, two tiers of fees are required for these sites: the map stage fees and the building permit stage fees (as discussed in 4.5.4). Under the Ordinance, the installation of an irrigation system qualifies as the addition of an "agriculturally related structure" and is therefore subject to tier two fees for impacting San Joaquin kit fox habitat. Likewise, the conversion of pasture to irrigated pasture qualifies as "conversion of lands from an agricultural use to a more intensive agricultural use" and is also subject to tier two fees. All fee requirements must be paid prior to the onset of construction activities. Fees collected from development activities are for the purpose of financing the HCP and funding habitat acquisition and/or habitat enhancement for protected species (San Benito County Planning and Building, 1998)

Mitigation Measure 4.5-12c: If San Joaquin kit fox and/or its habitat are detected on-site during the protocol level surveys (if they are required) CDFG and USFWS consultation will be initiated to determine the appropriate actions to be taken.

Mitigation Measure 4.5-12d: The following are generalized measures that when implemented, will avoid and reduce impacts to kit fox (if detected during protocol level surveys) to an insignificant level. Additional specific mitigation measures may be required by either CDFG or USFWS once consultation has been initiated:

- Mitigate for the loss of kit fox habitat either by: 1) establishing a conservation easement on-site or off-site in a suitable San Benito County location and provide a non-wasting endowment for the monitoring and management of the property in perpetuity; 2) depositing funds into an approved in-lieu fee program; 3) purchasing credits in an approved conservation bank in San Benito County
- A San Joaquin kit fox sensitivity training program will be established. This program will be designed to educate construction personnel about the mitigation measures required for the execution of the project and will outline the construction protocols for kit fox mitigation. All construction personnel will attend the kit fox sensitivity training. The training will provide instruction on kit fox field identification and will include a detailed protocol of the actions personnel should take in the event that kit fox is encountered on-site during construction activities.
- Require a maximum 25 mph speed limit at the project site during construction activities.
- Stop all construction activities at dusk.

- Cover and excavations deeper than 2 feet at the end of each working day with thick utility plastic and provide escape ramps from excavations for kit fox.
- Inspect pipes, culverts, and similar structures for kit fox before burying, capping, or moving.
- Remove food-related trash from the project site each day.
- Pesticides, herbicides, or other chemicals are often used during construction. These applications must be used according to local, state, and federal regulations to prevent secondary poisoning from kit foxes.
- If a kit fox is discovered at any time in the project area, all construction activities must stop immediately and the USFWS and CDFG must be contacted. The appropriate state and federal permits must be obtained before the construction activities can proceed.

Site 4 As discussed above, Site 4 does not contain San Joaquin kit fox habitat. **No Impact.**

Site 5 As discussed above, suitable habitat for this species occurs within Site 5. However, reclaimed water irrigation at this site would utilize the existing irrigation system and no change in irrigated areas or application rates would occur. Therefore, impacts are considered less than significant. **Less than Significant.**