

Appendix A

Biological Resources Report



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**NORTECH/ZANKER SERVICE LATERAL PROJECT
BIOLOGICAL RESOURCES REPORT**

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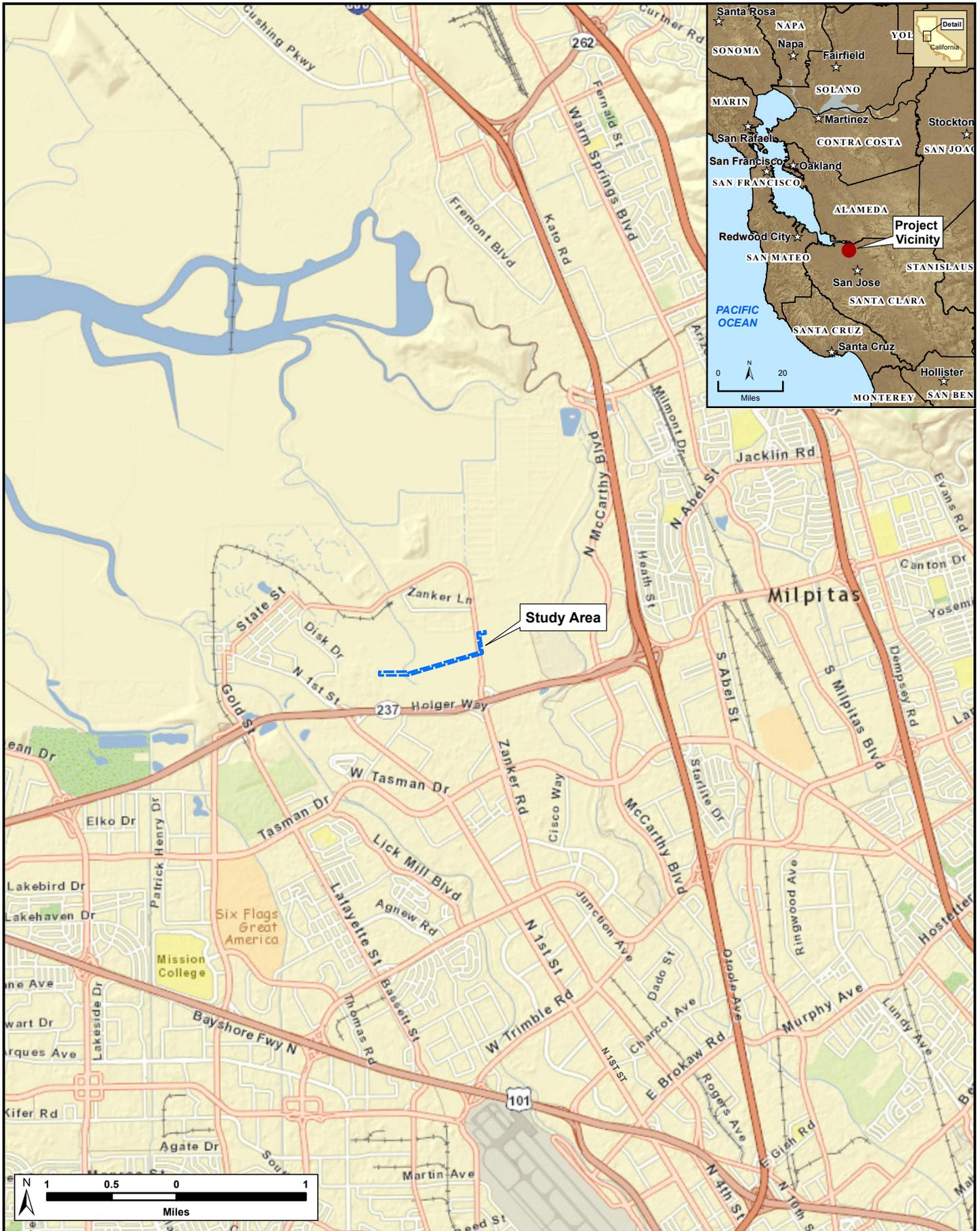
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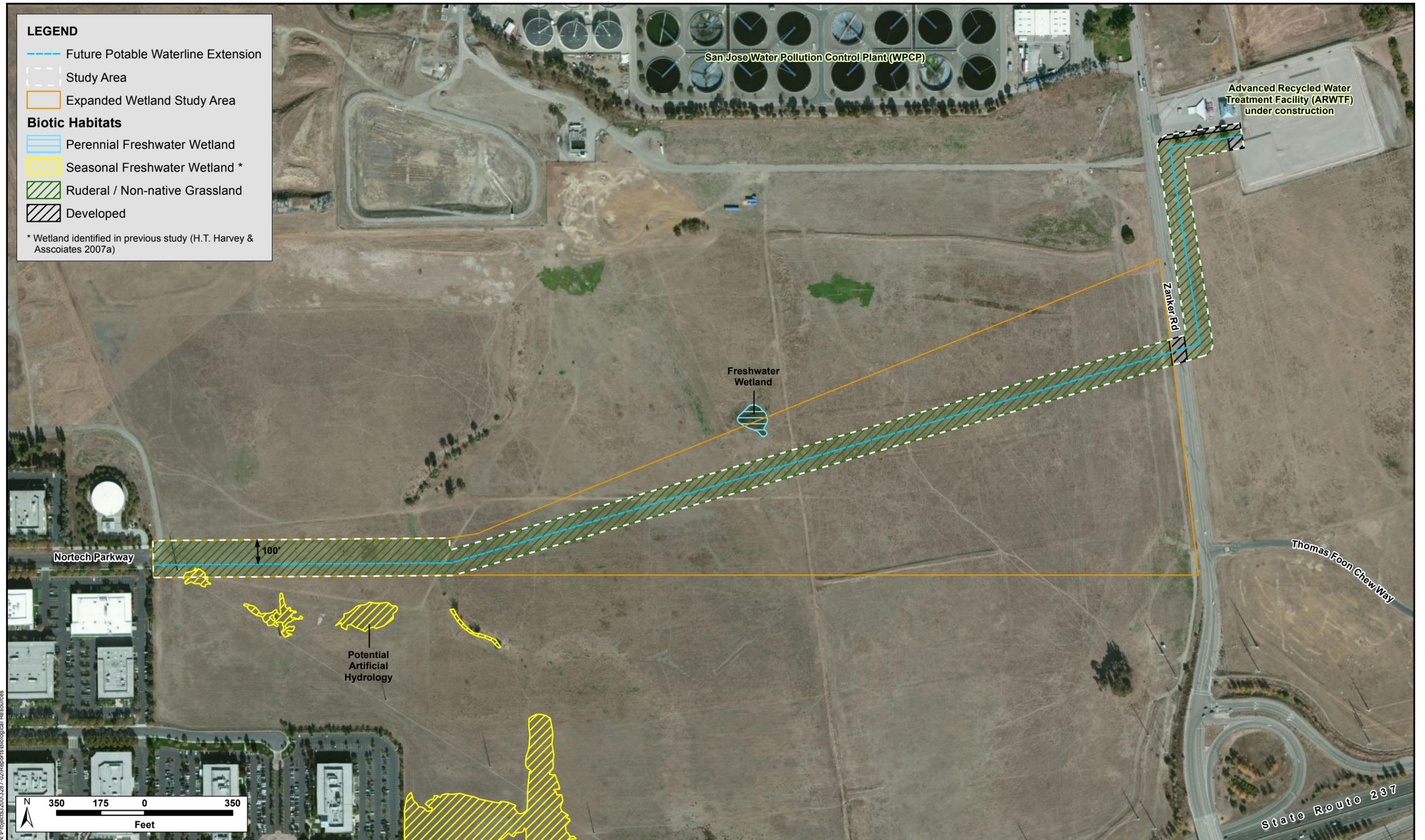
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PROJECT DESCRIPTION

The City of San José proposes to extend an existing potable service lateral across buffer lands of the San José-Santa Clara Water Pollution Control Plant (WPCP) in the Alviso area of northern San José (Figures 1 and 2). The proposed Nortech/Zanker Service Lateral Project (Project) would entail the installation of a new service lateral beginning at the eastern end of Nortech Parkway, extending approximately 0.8 miles (mi) eastward to Zanker Road, and then proceeding northward approximately 0.3 mi to the Santa Clara Valley Water District's (SCVWD) Advanced Recycled Water Treatment Facility (ARWTF), which is currently under construction (Figure 2). The 13.59-acre (ac) study area analyzed for this biological resources report consists of an area generally approximately 100 feet (ft) across (50 ft each side of the proposed waterline alignment); however, the boundary was expanded northward a further 50 ft to 150 ft in width in the western segment of the study area (see Figure 2) in order to allow flexibility in design, placement, and construction of the new waterline.



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ENVIRONMENTAL SETTING

GENERAL PROJECT AREA DESCRIPTION

The study area is located in northern San José, just southeast of the town of Alviso. It is situated on the southern fringe of the South San Francisco Bay. As such, the undeveloped lands in the study area vicinity are flat, low-lying, and poorly drained. Historically, the Project site likely comprised tidal wetlands and/or seasonal wetlands occurring just upslope of the zone of regular tidal influence (San Francisco Estuary Institute 1999). Much of the study area was previously farmed and during that time period, disking occurred 2-3 times per year, depending on the type of crop and weed growth between spring and summer. Currently, the majority of the surrounding lands are undeveloped, consisting of non-native grasslands that are maintained by grazing herds of sheep and goats. As a result, the vegetation, soils, and hydrology of the majority of the study area has been extensively disturbed and are now dominated by non-native upland grassland species adapted to a high level of disturbance (ruderal).

Although the waterline alignment crosses currently undeveloped lands, west and southwest of the study area, several businesses are located along Nortech Parkway, Baytech Drive, and Fortran Drive and Court. Along the eastern part of the study area, the proposed waterline crosses Zanker Road, which supports high volumes of vehicle traffic. The ARWTF at the northern terminus of the study area is currently under construction.

The Project site is located in the Milpitas, California 7.5-minute U.S. Geological Survey (USGS) quadrangle, Township 6 South, Range 1 West, Section 11. It is situated at an elevation of 7-14 ft above mean sea level. Coyote Creek is located approximately 0.6 mi east of the study area. Average annual precipitation in the study area is approximately 16 inches and the average annual temperature is 59 degrees Fahrenheit (Natural Resource Conservation Service 2011a).

Soils in the study area are comprised of three general types: (1) Clear Lake silty clay 0-2 percent (%) slopes, drained; (2) Campbell silt loam, 0-2% slopes, protected; and (3) urbanland 0-2% slopes, basins. Clear Lake silty clay 0-2% slopes, drained, is a poorly drained, low saline, soil derived from alluvium composed of metamorphic and sedimentary rock and/or alluvium derived from meta-volcanics. It is primarily composed of silty clay for the top 66 inches of the soil profile, with minor components of Halgerone, drained, and Campbell soils. Campbell silt loam, 0-2% slopes is a moderately well drained soil, with low salinity, that is composed of Alluvium derived from metamorphic and sedimentary rock and/or alluvium derived from meta-volcanics. The typical soil profile is silt loam, to silty clay loam to silty clay in the top 79 inches, and contains minor components of Clear Lake and Newpark soils. Urbanland 0-2% slopes, basins, is composed of disturbed and human transported soil, with minor components of xerorthents (well-drained soils), anthropogenic fill (Natural Resource Conservation Service 2011b).

BIOTIC SURVEYS

H. T. Harvey & Associates wildlife biologist R. Carle, M.S., and plant ecologist C. Roy, M.S., conducted reconnaissance-level field surveys of the original alignment's study area on 4 June

2011, and they conducted reconnaissance-level surveys of the revised alignment on 29 (C. Roy) and 31 August (R. Carle). The purpose of our surveys was to describe existing biological conditions of the survey area and provide a project-specific impact assessment for the site. Specifically, surveys were conducted to: (1) assess existing biotic habitats and general wildlife communities in the study area, (2) assess the study area for its potential to support special-status species and their habitats, and (3) identify potential jurisdictional habitats, such as Waters of the U.S. and riparian habitat. The entire study area was surveyed on foot while the ecologists assessed habitat conditions and looked for special-status species and evidence of their presence. For wildlife surveys, all areas within 250 ft of the study area were also surveyed. In addition to these surveys, senior plant ecologist B. Cleary, M.S. conducted a wetland assessment to identify potential jurisdictional wetlands in an expanded wetland study area (Figure 2) around a revised alignment on 15 August 2011 to allow for planning of the alignment revision while avoiding wetlands.

Portions of the current study area were previously investigated for separate projects. One study involved the preparation of a biological resources report and mapping potential jurisdictional waters on the western half of the currently proposed service lateral segment between Nortech Parkway and Zanker Road (H. T. Harvey & Associates 2007a, 2007b). The prior survey was conducted in September 2006 and January, February, and March 2007 using methodologies approved by the U.S. Army Corps of Engineers (USACE). During the reconnaissance-level field surveys for the service lateral project on 4 June 2011, the persistence of wetlands delineated in 2006/2007 within the current study area was confirmed.

In addition, we reviewed the results of several other studies that we have recently performed on portions of the study area, including a biological resources report and wetland delineation for the San Jose Municipal Water Line (which included the western end of the current service lateral study area; H. T. Harvey & Associates 2009a, 2009b) and intensive bird surveys on the ARWTF site (H. T. Harvey & Associates 2010).

BIOTIC HABITATS

The following section provides a description of the biotic habitats and land use types found within the survey area along with a brief overview of their functions and values. The habitat descriptions are primarily based upon the California Department of Fish and Game's (CDFG) *List of California Vegetation Alliances and Associations* (CDFG 2010). Three biotic habitats/land use types were found within the study area: ruderal/non-native grassland, seasonal wetlands, and developed. These habitats are described in detail below.

Ruderal/Non-Native Grassland

Vegetation. The study area includes ruderal/non-native grassland habitat that has been intensively disturbed as a result of many years of agricultural land use practices. At the time of the 2011 site visits, much of the ruderal vegetation within and around the proposed waterline alignment had been recently grazed by sheep and goats, leaving patches of bare ground and plants with short, stunted growth. The heavy clay soils on the west side of the study area support a variety of common, non-native herbaceous species such as Italian ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), alkali mallow

(*Malvella leprosa*), and bristly ox-tongue (*Picris echioides*), that are known to occur on both upland and mesic soils. As the soils become more well-drained toward the eastern end of the study area, the dominant non-native grassland species change toward more drought tolerant species that typically inhabit uplands. This includes species such as Italian thistle (*Carduus tenuiflorus*), slender wild oats (*Avena barbata*), and field bindweed (*Convolvulus arvensis*). Due to heavy grazing, the vegetation on the east side of Zanker Road within the proposed alignment of the north-south section of the waterline is very sparse, being composed of short (2-3 inch) Mediterranean barley, and grazed Italian thistle.

Wildlife. Annual grasslands can provide foraging and breeding habitat for numerous wildlife species. The grasslands in the study area have historically been disturbed regularly by disking or mowing, and are currently grazed or mown at least once each year as a fire suppression tactic. Several common reptiles that can be expected to inhabit the study area include western fence lizards (*Sceloporus occidentalis*), western terrestrial garter snakes (*Thamnophis elegans*), and gopher snakes (*Pituophis catenifer*). Bird species observed using the grasslands in the study area during the reconnaissance survey include American kestrels (*Falco sparverius*), black phoebes (*Sayornis nigricans*), house finches (*Carpodacus mexicanus*), red-winged blackbirds (*Agelaius phoeniceus*), and lesser goldfinches (*Carduelis psaltria*). Other grassland-associated bird species known to occur in the area, based on previous wildlife surveys, include white-tailed kites (*Elanus leucurus*), red-tailed hawks (*Buteo jamaicensis*), mourning doves (*Zenaidura macroura*), barn swallows (*Hirundo rustica*), tree swallows (*Tachycineta bicolor*), northern mockingbirds (*Mimus polyglottos*), loggerhead shrikes (*Lanius ludovicianus*), white-crowned sparrows (*Zonotrichia leucophrys*), western meadowlarks (*Sturnella neglecta*), and Brewer's blackbirds (*Euphagus cyanocephalus*).

No burrowing owls (*Athene cunicularia*) were seen during the reconnaissance survey, and a thorough survey of the study area revealed no burrows of California ground squirrels (*Spermophilus beecheyi*) within the study area and a surrounding 250-ft buffer. Therefore, no nesting or roosting burrowing owls are currently present within the study area. However, burrowing owls have been observed in close proximity to the study area in the recent past (Albion Environmental 2008), and suitable foraging habitat is present throughout the grasslands in the study area. As a result, burrowing owls are expected to forage in the study area. Mounds resulting from burrowing by Botta's pocket gophers (*Thomomys bottae*) were observed during the reconnaissance survey. Other mammals that may use the grasslands in the study area include deer mice (*Peromyscus maniculatus*), western harvest mice (*Reithrodontomys megalotis*), California voles (*Microtus californicus*), striped skunks (*Mephitis mephitis*), black-tailed jackrabbits (*Lepus californicus*), and domestic cats (*Felis catus*). Bats such as the California myotis (*Myotis californicus*), hoary bat (*Lasiurus cinereus*), and big brown bat (*Eptesicus fuscus*) may forage over the grasslands.

Seasonal Wetlands

Vegetation. One relatively small patch of seasonal wetlands was identified within the boundaries of the study area (Figure 2). Additionally, although outside of the current study area boundaries, three additional seasonal wetlands were observed within approximately 50 to 100 ft south of the proposed alignment (see Figure 2). These wetlands were identified during our 2006/2007 surveys as noted above (H. T. Harvey & Associates 2007a) and all of them occur

within approximately 1500 ft of the terminus of Nortech Parkway. These wetlands appear to pond water within shallow topographic depressions that are saturated at a frequency and duration sufficient to support wetland vegetation (H. T. Harvey & Associates 2007a). The onsite seasonal wetlands support many of the same species that were identified in the more mesic areas of the ruderal annual grassland habitat such as bristly ox-tongue, Italian ryegrass, and alkali mallow. However, these wetlands also support more hydrophytic species such as annual beard grass (*Polypogon monspeliensis*), common spikerush (*Eleocharis macrostachya*), and curly dock (*Rumex crispus*).

Wildlife. Wetland habitats often serve as important foraging and breeding habitat for a wide variety of wildlife species. However, the wetland within the study area, and those nearby, are of marginal value to wildlife due to their small size, limited hydroperiod, and isolation from more extensive wetlands. No wetland-associated wildlife species were observed during the reconnaissance survey. Common species that might occur in these wetlands include the Pacific chorus frog (*Pseudacris regilla*) and western toad (*Anaxyrus boreas*), as well as the common bird and mammal species associated with the adjacent ruderal/non-native grassland habitat. Grassland-associated bird species likely forage in and over these wetlands and obtain drinking water when pools are formed. Bats and other small mammals foraging in the study area will also exploit these wetlands for foraging and drinking opportunities.

Developed

Vegetation. A segment of the proposed waterline alignment follows or crosses through developed habitat (e.g., Zanker Road) or areas that are currently being developed (e.g., the ARWTF site) on the eastern end of the study area. At the time of the 2011 reconnaissance survey, the ARWTF was actively being constructed in the northernmost portion of the study area. The majority of this construction area was covered bare, graded soils with heavy construction equipment operating throughout the area. The only vegetation present in this habitat was small patches of ruderal weeds along fence lines where it had not been graded.

Wildlife. Because the developed habitats within the study area consist of an active construction site and a heavily trafficked roadway, no wildlife species are expected to make substantial use of these habitats. Species that occur in nearby grassland, wetland, and developed habitats (described above) may make occasional use of these areas during transit or foraging during periods of light traffic and when construction is inactive.

SPECIAL-STATUS PLANT AND ANIMAL SPECIES

Information concerning threatened, endangered, and other special-status species that may occur in the study area and surrounding vicinity (within approximately 2 mi) was collected from several sources and reviewed by H. T. Harvey & Associates biologists. These sources included the California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDDB 2011), the *Online Inventory of Rare and Endangered Vascular Plants of California* (California Native Plant Society [CNPS] 2009), and *The Jepson Manual, Higher Plants of California* (Hickman 1993). Such information was also obtained from studies prepared for other projects in the vicinity, particularly the City of San José Public Safety Driver Training Center (H. T. Harvey & Associates 2007a, 2007b), Municipal Water Line (H. T. Harvey & Associates

2009a, 2009b), and ARWTF (H. T. Harvey & Associates 2010) projects. The specific habitat requirements and the locations of known occurrences of each special-status species were the principal criteria used for inclusion in the list of species potentially occurring in the study area.

Special-status Species Regulations Overview

Federal and state endangered species legislation gives special status to several plant and animal species known to occur in the vicinity of the study area. In addition, state resource agencies and professional organizations, whose lists are recognized by agencies when reviewing environmental documents, have identified as sensitive some species occurring in the vicinity of the study area. Such species are referred to collectively as “species of special status” and include plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA); animals listed as “fully protected” under the California Fish and Game Code; animals designated as “species of special concern” by the CDFG; and plants listed as rare or endangered by CNPS.

FESA provisions protect federally listed threatened and endangered species and their habitats from unlawful take. Under the FESA, “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” The USFWS regulations define harm to mean “an act which actually kills or injures wildlife.” Such an act “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR §17.3). Activities that may result in “take” of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species December 6, 2007 (50 CFR Part 17). Candidate species are not afforded any legal protection under FESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

Provisions of CESA protect state-listed threatened and endangered species. CDFG regulates activities that may result in “take” of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game Code. Additionally, the California Fish and Game Code contains lists of vertebrate species designated as “fully protected” (California Fish and Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

The CDFG maintains three lists of “species of special concern” that serve as “watch lists.” Species on these lists either are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review, but do not have statutory protection under CESA although many of these species are protected under other state and federal laws. California Species of Concern receive no legal protection as a result of their designation as Species of Special Concern, and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species. However, most, if not all, of these species are currently protected by state and federal laws.

Raptors (*e.g.*, eagles, hawks, and owls) and their nests are protected under both federal and state regulations. The federal Migratory Bird Treaty Act¹ (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under the State Fish and Game Code. Section 3503.5 states it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFG.

Vascular plants listed as rare or endangered by the CNPS, but which may have no designated status under state endangered species legislation, are defined as follows:

- List 1A. Plants presumed to be extirpated or extinct.
- List 1B. Plants rare, threatened, or endangered in California and elsewhere.
- List 2. Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3. Plants about which we need more information – a review list.
- List 4. Plants of limited distribution – a watch list.

These CNPS listings are further described by the following threat code extensions:

- .1—seriously endangered in California.
- .2—fairly endangered in California.
- .3—not very endangered in California.

Impacts to plants on List 1 and 2 are typically assumed to meet the California Environmental Quality Act’s (CEQA) threshold of significance. CNPS considers it to be mandatory that these species are fully considered during the preparation of environmental documentation relating to CEQA. Very few List 3 and 4 plants meet the definitions of Section 1901 Chapter 10 Native Plant Protection Act or Sections 2062 and 2067 of the CDFG Code and are eligible for state listing. However, CNPS strongly recommends that these species be fully considered during the preparation of environmental documentation relating to CEQA. This may be particularly appropriate for the type locality of a List 4 plant, for populations at the periphery of a species range or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology or occurring on unusual substrates.

¹ 16 U.S.C., Sec. 703, Supp. I, 1989.

Special-status Plant Species

For purposes of this report, “special-status” plants are considered plant species that are:

- Listed under the FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the CESA as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as rare or endangered on List 1A, 1B, or 2.
- Listed by the CNPS on List 3 or 4, but only (1) if the known populations of these species occurred in the vicinity of Santa Clara County; (2) if the species is recorded from fewer than two counties in California (*i.e.*, very limited distribution); (3) for populations at the periphery of a species’ range or in areas where the taxon is especially uncommon or has sustained heavy losses; (4) for the type locality of a plant; or (5) for populations exhibiting unusual morphology or occurring on unusual substrates.

Prior to the field survey, a query of special-status plants in the CNDDDB (2011) was performed for the USGS Milpitas topographical quadrangle, in which the study area occurs, and the surrounding eight quadrangles. Special-status plants occurring within a 5-mi radius of the study area are shown in Figure 3 (CNDDDB 2011). The CNPS Inventory (CNPS 2011) was then queried to produce a similar list for Santa Clara County. The habitat requirements of each special-status plant species were the principal criteria used for inclusion in the list of species potentially occurring in the study area. Many of the special-status plant species that occur in Santa Clara County are associated with habitat or soil types that did not occur in the study area historically or no longer occur in the study area due to the extensive land disturbance associated with past agricultural practices; such habitats and soil types that are absent from the study area include serpentine soils, strongly alkaline soils, clay soils, vernal pool habitat, and cismontane woodland habitat. As part of our assessment, a reconnaissance-level botanical survey was conducted on 6 June 2011 for the original alignment and 29 August 2011 for the revised alignment by plant ecologist C. Roy, M.S. for habitats capable of supporting special-status plant species. The survey method involved walking the entire study area looking for special-status plants and suitable habitat for these species.

The CNDDDB (2011) records list six special-status plant species as occurring within 2 mi of the study area (Figure 3), with four more within 5 mi: brittlescale (*Atriplex depressa*), Congdon’s tarplant (*Centromadia parryi* ssp. *congdonii*), Contra Costa goldfields (*Lasthenia conjugens*), alkali milk-vetch (*Astragalus tener* var. *tener*), prostrate navarretia (*Navarretia prostrata*), Hoover’s button-celery (*Eryngium aristulatum* var. *hooveri*), California seablight (*Suaeda californica*), Hall’s bush mallow (*Malacothamnus hallii*), robust spineflower (*Chorizanthe robusta*), and Point Reyes bird’s-beak (*Cordylanthus maritimus* ssp. *palustris*). Nine of these special-status species were rejected from consideration for occurrence due to the degraded nature of habitat in the study area, the lack of associated native species, and/or the absence of specific microhabitat variables such as soil type or hydrology (Appendix A). We determined that only one species, Congdon’s tarplant, could potentially occur in the study area in its present condition. Due to the proximity of CNDDDB records of this species to the study area, a detailed account of the species is provided below.

Congdon's Tarplant (*Centromadia parryi* ssp. *congdonii*). **Federal Listing Status: None; State Listing Status: None; CNPS List 1B.** Congdon's tarplant is an annual herb in the family Asteraceae that is known to occur in valley and foothill grassland habitats, particularly with alkaline substrates. The blooming period for the species extends from June through November. The range of this species has been reduced to remaining alkaline grasslands in Alameda, Contra Costa, San Mateo, Monterey, San Luis Obispo, and Santa Clara counties, and it is presumed to be extirpated from its historical range in Solano and Santa Cruz counties (CNPS 2011). There are two CNDDDB occurrences of Congdon's tarplant within 2 mi of the study area. One of these occurrences is less than 0.5 mi northwest of the study area in a field bounded by Grand Avenue, Wilson Way, Nortech Parkway, and Disk Drive.

Marginally suitable habitat for Congdon's tarplant is present in the disturbed non-native grassland habitat in the study area. However, C. Roy specifically searched for Congdon's tarplant during our 6 June and 29 August surveys of the alignments, which were conducted at a time of year appropriate for detecting the species if it was present. Congdon's tarplant was not detected in the study area during either survey. Thus, Congdon's tarplant was determined to be absent from the study area, and no additional surveys for this plant or other potential special-status plant species are warranted.

Special-status Animal Species

For purposes of this report, "special-status" animals are considered animal species that are:

- Listed under the FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFG as a California Species of Special Concern.
- Listed in the California Fish and Game Code as a fully protected species (birds at §3511, mammals at §4700, reptiles and amphibians at §5050, and fish at §5515).

Prior to our site visit, a query of special-status animals in the CNDDDB (2011) was performed for the USGS Milpitas topographical quadrangle in which the study area occurs. Special-status animals occurring within a 5-mi radius of the study area are shown in Figure 3 (CNDDDB 2011). A reconnaissance-level survey of the study area was conducted by wildlife ecologist R. Carle, M.S., on 6 June 2011 for the original alignment and 31 August 2011 for the revised alignment. The entire study area, plus areas within 250 ft of the study area (for purposes of reconnaissance-level burrowing owl surveys), were walked while the observer searched for evidence of special-status species and suitable habitat for such species. The special-status animal species that occur in the vicinity in habitats similar to those found in the study area are described below. The legal status and likelihood of occurrence of these species is presented in Table 1.

Table 1. Special-status Animal Species, Their Status, and Potential Occurrence at the Nortech/Zanker Service Lateral Study Area.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON-SITE
Federal or State Endangered or Threatened Species			
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	Vernal pools and swales containing clear to highly turbid water.	<u>Absent</u> : No suitable habitat is present; the only known population in the Bay Area is in the Warm Springs Seasonal Wetland in the Don Edwards San Francisco Bay National Wildlife Refuge.
California Central Coast Steelhead (<i>Oncorhynchus mykiss</i>)	FT	An anadromous form of rainbow trout that migrates upstream from the Pacific or the S.F. Bay to spawn. Prefers streams with dense canopy and pools with cold-water temperatures.	<u>Absent</u> : No suitable stream habitat in the study area; determined to be absent.
California red-legged frog (<i>Rana draytonii</i>)	FT, CSSC	Streams, freshwater pools, and ponds with overhanging vegetation.	<u>Absent</u> : No suitable habitat in the study area; considered extirpated from floor of Santa Clara Valley.
California tiger salamander (<i>Ambystoma californiense</i>)	FT, ST, CSSC	Vernal or temporary pools in annual grasslands or open stages of woodlands.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
California clapper rail (<i>Rallus longirostris obsoletus</i>)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed and cordgrass.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	ST, SP	Breeds in a variety of wetland types; in San Francisco Bay area, pickleweed marshes.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT, CSSC* (*nesting)	Sandy beaches on marine and estuarine shores.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
California least tern (<i>Sterna antillarum browni</i>)	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
Willow flycatcher (<i>Empidonax traillii</i>)	SE FE (<i>extimus</i>)	Breeds in riparian habitats in mountains and southern deserts.	<u>Absent</u> : Although willow flycatchers are occasional migrants through the Project vicinity, those occurring on-site would likely be from populations breeding outside of California, and would thus not considered special-status species.
Bank swallow (<i>Riparia riparia</i>)	ST	Colonial nester on vertical banks or cliffs with fine-textured soils near water.	<u>Potential</u> : Rare migrant in Santa Clara County. Could forage on or over the study area on occasion, but no breeding habitat is present.
Salt marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
California Species of Special Concern			
Central Valley fall-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	CSSC	Cool streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
Foothill yellow-legged frog (<i>Rana boylei</i>)	CSSC	Rocky streams in a variety of habitats. Found in coast ranges.	<u>Absent</u> : No suitable habitat in the study area; considered extirpated from floor of Santa Clara Valley.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON-SITE
Western pond turtle (<i>Actinemys marmorata</i>)	CSSC	Permanent or nearly permanent water in a variety of habitats.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
Northern harrier (<i>Circus cyaneus</i>)	CSSC (nesting)	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes, wet fields, and grasslands.	<u>Potential</u> : Suitable foraging habitat present in the study area; nests in wetlands in Alviso area, but no nesting habitat occurs in the study area.
Vaux's swift (<i>Chaetura vauxi</i>)	CSSC (nesting)	Nests in snags in coastal coniferous forests or occasionally in chimneys; forages aerially.	<u>Absent as Breeder</u> : No suitable nesting habitat occurs in the study area, but nonbreeders may forage over study area.
Long-eared owl (<i>Asio otus</i>)	CSSC (nesting)	Riparian habitats dominated by dense willows, cottonwoods, or live oaks; forages in open areas.	<u>Absent as Breeder</u> : No suitable nesting habitat occurs in the study area, but nonbreeders may forage in the study area on rare occasions.
Short-eared owl (<i>Asio flammeus</i>)	CSSC (nesting)	Nests on ground in tall emergent vegetation or grasses; forages over a variety of open habitats.	<u>Absent as Breeder</u> : No suitable nesting habitat occurs in the study area, but nonbreeders may forage in the study area on rare occasions.
Burrowing owl (<i>Athene cunicularia</i>)	CSSC	Grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	<u>Potential</u> : Known to have bred in site vicinity in the past, but no burrows suitable for use by nesting or roosting owls were observed on or within 250 ft of the site during June and August 2011 surveys. Suitable foraging habitat present throughout the study area, and birds nesting or roosting in nearby areas may forage on the site.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC (nesting)	Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats.	<u>Potential</u> : Suitable foraging habitat exists within the study area, and suitable nesting habitat is present in trees immediately adjacent to the study area.
Yellow warbler (<i>Dendroica petechia</i>)	CSSC (nesting)	Nests in riparian woodlands, particularly those dominated by willows and cottonwoods.	<u>Absent as Breeder</u> : No suitable nesting habitat occurs in the study area, but individual migrants may occasionally forage in the cottonwood, eucalyptus, and other trees adjacent to the study area.
San Francisco common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	CSSC	Found in fresh to salt water marshes and associated upland areas in the Bay Area.	<u>Potential</u> : No suitable nesting habitat occurs in the study area, but nonbreeding dispersants may occasionally forage in vegetation on or adjacent to the study area.
Yellow-breasted chat (<i>Icteria virens</i>)	CSSC (nesting)	Nests in riparian habitats having dense understory vegetation, such as willow and blackberry.	<u>Absent as Breeder</u> : No suitable nesting habitat occurs in the study area, but individual migrants may occasionally forage in the pines, eucalyptus, and other trees adjacent to the study area.
Bryant's savannah sparrow (<i>Passerculus sandwichensis alaudinus</i>)	CSSC	Nests in pickleweed dominant salt marsh and adjacent ruderal habitat.	<u>Potential</u> : No suitable nesting habitat occurs in the study area, but nonbreeding individuals may occasionally forage in the open habitat within or adjacent to the study area.
Tricolored blackbird (<i>Agelaius tricolor</i>)	CSSC (nesting colony)	Nests near fresh water in dense emergent vegetation.	<u>Absent as Breeder</u> : No suitable nesting habitat occurs on or adjacent to the study area, but nonbreeders may occasionally forage in the study area.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	CSSC	Roosts in caves and mine tunnels in a variety of habitats.	<u>Absent</u> : No roosting habitat in the study area. Occasional individuals may roost in trees in adjacent areas and forage in the study area.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON-SITE
Western mastiff bat (<i>Eumops perotis</i>)	CSSC	Found in central and south coastal California. Roosts primarily in cliffs or high buildings.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Forages over many habitats; roosts in buildings, rocky outcrops and crevices, trees, and mines and caves.	<u>Potential</u> : No roosting habitat in the study area; may forage in the study area.
Salt marsh wandering shrew (<i>Sorex vagrans halicoetes</i>)	CSSC	Medium high marsh 6-8 ft above sea level with abundant driftwood and pickleweed.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	CSSC	Found in a variety of woodland and brushland habitats and is associated with hardwoods.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
American badger (<i>Taxidea taxus</i>)	CSSC	Found in a variety of grassland habitats, usually in association with burrowing mammals, their primary prey.	<u>Absent</u> : No dens observed in the study area; no records known from the vicinity, which is isolated from extant populations by development. Determined to be absent.
State Protected Species			
Golden eagle (<i>Aquila chrysaetos</i>)	SP	Breeds on cliffs or in large trees or electrical towers; forages in large open areas.	<u>Potential</u> : May forage on or over the study area on occasion, but no nesting habitat is present.
White-tailed kite (<i>Elanus leucurus</i>)	SP	Nests in tall shrubs and trees; forages in grasslands, marshes, and ruderal habitats.	<u>Potential</u> : Suitable foraging habitat exists within the study area, and suitable breeding habitat is present in trees immediately adjacent to the study area.
Bald eagle (<i>Haliaeetus leucocephalus</i>)	SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or in cliffs. Feeds mostly on fish.	<u>Absent</u> : No suitable habitat in the study area; determined to be absent.
American peregrine falcon (<i>Falco peregrinus anatum</i>)	SP	Breeds on cliffs; forages in virtually any habitat.	<u>Potential</u> : Could forage on or over the study area on occasion, but no nesting habitat is present.

SPECIAL STATUS SPECIES CODE DESIGNATIONS

FE = Federally listed Endangered
 FT = Federally listed Threatened
 SE = State listed Endangered
 ST = State listed Threatened
 CSSC = California Species of Special Concern
 SP = State Fully Protected Species

Species whose range does not include the study area, for which habitat in the study area is not suitable, or for which the lack of recent records in the study area vicinity indicates absence include the vernal pool tadpole shrimp (*Lepidurus packardii*), Central California Coast steelhead (*Oncorhynchus mykiss*), Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), western pond turtle (*Actinemys marmorata*), bald eagle (*Haliaeetus leucocephalus*), California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*), California least tern (*Sterna antillarum browni*), western snowy plover (*Charadrius alexandrinus nivosus*), willow flycatcher (*Empidonax traillii*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), salt marsh harvest mouse (*Reithrodontomys raviventris*), salt marsh wandering shrew (*Sorex vagrans halicoetes*), American badger (*Taxidea taxus*), western mastiff bat (*Eumops perotis*), and Townsend's big-eared bat (*Corynorhinus townsendii*).

Several special-status species may occur in the study area rarely, or only as occasional foragers, but are not expected to breed on or near the study area, and would not be affected by Project implementation. These species include the American peregrine falcon (*Falco peregrinus anatum*), golden eagle (*Aquila chrysaetos*), Vaux's swift (*Chaetura vauxi*), long-eared owl (*Asio otus*), short-eared owl (*Asio flammeus*), bank swallow (*Riparia riparia*), yellow warbler (*Dendroica petechia*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), yellow-breasted chat (*Icteria virens*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), tricolored blackbird (*Agelaius tricolor*), and pallid bat (*Antrozous pallidus*).

Expanded discussions are provided below for the special-status animal species that could breed in or very near the study area and that could thus potentially be affected by the Project more than through the temporary loss of or disturbance to a small amount of foraging habitat.

California Species of Special Concern

Northern Harrier (*Circus cyaneus*). **Federal Listing Status: None; State Listing Status: Species of Special Concern.** The California distribution of this widespread raptor includes the Central Valley, most of the immediate coast, northeastern California, and the eastern slope of the Sierra Nevada. While the distribution of harriers in California has remained stable over time, overall abundance has declined, probably largely due to loss, fragmentation, and degradation of nesting habitat, as well as disturbance at nest sites (Davis and Niemela 2008). Harriers occur year-round in California, in open wetlands, marshes, meadows, grasslands, pastures, croplands, and riparian woodlands. Ideal habitat features large tracts of undisturbed habitat dominated by thick vegetation suitable for nest construction and concealment (Macwhirter and Bildstein 1996), with ample lookout and plucking perches (Davis and Niemela 2008). Harriers breed from March through mid-September, constructing their nests on the ground in dense, tall vegetation. They forage on small birds, mammals, and other small vertebrates. Northern harriers are fairly common foragers on WPCP lands, and the ruderal/non-native annual grassland throughout the study area provides suitable foraging habitat for the species. Although no suitable nesting habitat is present within the study area, the species breeds in wetlands elsewhere in the Alviso area, and harriers could thus forage in the study area year-round.

Burrowing Owl (*Athene cunicularia*). **Federal Listing Status: None; State Listing Status: Species of Special Concern.** Western burrowing owls can be found in grassland habitats throughout western and midwestern North America (Haug et al. 1993). In California burrowing owls are distributed throughout the state, with populations in the northeast; in the Central Valley, interior San Francisco Bay Area, and Salinas Valley; on the Carrizo Plain and in the Imperial Valley; and on several of the Channel Islands. Habitat loss has reduced the abundance of this species within its range and resulted in local extirpations, particularly along the central and southern coasts (Gervais et al. 2008). California hosts both migratory and sedentary populations of burrowing owls. These owls favor flat, open grassland or gentle slopes and sparse shrubland ecosystems for breeding, though they will also readily colonize agricultural fields and other developed areas (Conway et al. 2006). Mammal burrows, or other structures that mimic burrows, provide secure nesting locations and nonbreeding refuges and are a fundamental ecological requirement of burrowing owls; in California, owls are most often found in close association with California ground squirrel burrows (Rosenberg et al. 2007). Ideal habitat for burrowing owls is comprised of annual and perennial grasslands with low vegetation height, sparse or nonexistent tree or shrub cover, and an abundance of mammal burrows (Coulombe 1971, Haug and Oliphant 1990, Plumpton and Lutz 1993). The nesting season as recognized by the CDFG (1995) runs from 1 February through 31 August. After nesting is completed, adult owls may remain in their nesting burrows or in nearby burrows, or may migrate; young birds disperse across the landscape, from 0.1 mi to 33 mi from their natal burrows (Rosier et al. 2006, Rosenberg et al. 2007).

Burrowing owls have long been present in the vicinity of the study area. Protocol-level surveys for burrowing owls conducted for a separate project during early April 2008 on a larger portion of the WPCP lands that include the western portion of the study area detected burrowing owls in the grassland habitat immediately south of the study area and burrows with sign of burrowing owl use within the study area (H. T. Harvey & Associates 2007b). However, a pair of burrowing owls was found during 2008 breeding-season surveys conducted by Albion Environmental (2008) in the older Arzino Ranch portion of the WPCP lands not far northwest of the western end of the proposed service lateral. Surveys conducted by H. T. Harvey & Associates for the San Jose Municipal Water Line project at the western end of the service lateral study area in 2009, and for the ARWTF project at the service lateral's northeastern terminus in 2010, detected no burrowing owls.

Reconnaissance-level surveys of the service lateral study area and a surrounding 250-ft buffer area, conducted for the Project during the site visits in June and August 2011, did not detect any burrowing owls nor any sign of burrowing owls (i.e., whitewash, pellets, or feathers), on or within 250 ft of the study area. This survey also did not detect any active burrows of California ground squirrels within the study area or surrounding 250-ft buffer area. Suitable nesting and roosting habitat for burrowing owls is therefore currently absent from the study area; however, the habitat in the study area may be used by foraging burrowing owls that are nesting or roosting in the vicinity. In addition, burrows of California ground squirrels have been observed in the study area in previous years (H. T. Harvey & Associates 2007b), and ground squirrels may excavate burrows there again in the future. As a result, burrowing owls can currently use the study area for foraging, and could potentially use the study area for roosting or nesting if burrows occur there in the future.

Loggerhead Shrike (*Lanius ludovicianus*). **Federal Listing Status: None; State Listing Status: Species of Special Concern.** The loggerhead shrike is distributed throughout much of California, except in higher-elevation and heavily forested areas including the Coast Ranges, the Sierra Nevada, the southern Cascades, the Klamath and Siskiyou ranges, and the highest parts of the Transverse Ranges. While the species range in California has remained stable over time, populations have declined steadily (Cade and Woods 1997, Humple 2008). Loggerhead shrikes establish breeding territories in open habitats with relatively short vegetation that allows for visibility of prey; they can be found in grasslands, scrub habitats, riparian areas, other open woodlands, ruderal habitats, and developed areas including golf courses and agricultural fields (Yosef 1996). They require the presence of structures for impaling their prey; these most often take the form of thorny or sharp-stemmed shrubs, or barbed wire. Ideal breeding habitat for loggerhead shrikes is comprised of short grass habitat with many perches, shrubs or trees for nesting, and sharp branches or barbed wire fences for impaling prey. Shrikes nest earlier than most other passerines, especially in the west where populations are sedentary. The breeding season may begin as early as late February, and lasts through July. Nests are typically established in shrubs and low trees including sagebrush, willow, and mesquite, through brush piles may also be used when shrubs are not available (Yosef 1996, Humple 2008). Loss and degradation of breeding habitat, as well as possible negative impacts of pesticides, are considered to be the major contributors to the population declines exhibited by this species (Cade and Woods 1997, Humple 2008). The ruderal/non-native annual grassland habitat throughout the study area provides suitable foraging habitat for shrikes. Nesting habitat for loggerhead shrikes is present in the eucalyptus trees located within the northernmost portion of the study area, and within trees and shrubs immediately adjacent to the study area. Up to one to two pairs of shrikes could potentially nest in the study area vicinity.

State Protected Species

White-tailed Kite (*Elanus leucurus*). **Federal Listing Status: None; State Listing Status: Fully Protected.** In California, white-tailed kites can be found in the Central Valley and along the coast, in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Polite 1990, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents of the state, establishing breeding territories that encompass open areas with healthy prey populations, and snags, shrubs, trees, or other nesting substrates (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). White-tailed kites have been observed foraging on WPCP lands near the study area, and the ruderal/non-native annual grassland in the study area provides suitable foraging habitat for the species. Nesting habitat for white-tailed kites is present in the eucalyptus trees located within the northeastern most portion of the study area, and within trees immediately adjacent to the study area. Up to one pair of white-tailed kites could potentially nest in the study area vicinity.

IDENTIFICATION OF SENSITIVE AND REGULATED HABITATS

Sensitive Plant Communities and Vegetation Alliances

As part of our analysis, we also conducted a database search for CDFG-sensitive plant communities (as maintained by CNDDDB). The only such community within the region is Northern Coastal Salt Marsh (as shown on Figure 3). The Project site does not support Northern Coastal Salt Marsh. We also reviewed the CDFG's Vegetation Classification and Mapping Program's list of sensitive vegetation alliances and associations (CDFG 2010). None of the sensitive alliances or associations occur within the study area.

Waters of the United States/Waters of the State

Regulations Overview. Areas meeting the regulatory definition of "Waters of the U.S." (jurisdictional waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (USGS 1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise defined as "Waters of the U. S.," the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328).

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must be in compliance with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards [RWQCB]) charged with implementing water quality certification in California.

Survey Results. As described above, a wetland delineation performed by H. T. Harvey & Associates (2007a) for a separate project on the western half of the study area revealed one potential jurisdictional seasonal wetland, with approximately 1/2 of the wetland occurring within the study area and three additional seasonal wetlands within 100 ft of the proposed waterline alignment (Figure 2). The H. T. Harvey & Associates wetland assessment conducted in 2011 confirmed the presence of these seasonal wetlands and identified a perennial freshwater wetland approximately 75 ft north of the study area toward the middle of the alignment (Figure 2). All potentially jurisdictional wetlands within the expanded wetland study area are shown on Figure 2. The seasonal wetland within the study area is a minor topographic depression that was

observed in 2007 to pond rain water for sufficient duration to support hydrophytic vegetation. The prior delineation notes that one of the wetlands outside the study area (see Figure 2) appeared to have been created as a result of a leaking irrigation line and was thus considered a man-induced wetland not ordinarily regulated by the USACE, especially after the artificial hydrology is discontinued. One of the seasonal wetlands identified near the study area is a portion of a remnant slough that appears to have been filled many decades ago as a result of agricultural land use practices. No further potential jurisdictional wetlands were identified within the study area during the 2011 surveys.

As currently proposed, all wetlands including the seasonal wetland within the western terminus of the study area, and the freshwater wetland north of the study area will be entirely avoided (Figure 2), although the seasonal wetland is only 13 ft from the waterline alignment. Implementation of the following best management practices (BMPs) will ensure that any direct or indirect impacts from nearby construction activities to these wetlands will be avoided. These BMPs include: 1) all work will be conducted during the dry season, 2) before work begins, “environmental sensitive area” fencing and silt fencing will be installed at the outer limits of the wetlands along the side facing construction activities, 3) no vehicles or equipment will be operated in the wetlands, 4) no sidecast material will be placed in the wetlands, and 5) the preconstruction topography within the work area will be replaced. If these BMPs are not implemented, or impacts to these wetland features cannot be avoided, then a Clean Water Act Section 404 permit may be required from the USACE, and a Section 401 Water Quality Certification will be required from the RWQCB (see below).

State Water Resources Control Board Jurisdiction

The RWQCB is responsible for protecting surface, ground, and coastal waters within its boundaries, pursuant to the Porter-Cologne Water Quality Control Act of the California Water Code. The RWQCB has both federal and state jurisdiction under Section 401 of the Clean Water Act, for activities that could result in a discharge of dredged or fill material to a water body. Federal authority is exercised whenever a proposed project requires a Clean Water Act Section 404 permit from the USACE in the form of a Section 401 Water Quality Certification. State authority is exercised when a proposed project is not subject to federal authority, in the form of a Notice of Coverage, Waiver of Waste Discharge Requirements. Many wetlands fall into RWQCB jurisdiction, including some wetlands that are not subject to USACE jurisdiction. RWQCB jurisdiction of other waters, such as streams and lakes, extends below the ordinary high water mark.

The RWQCB has no formal technical manual or expanded regulations to help in identifying their jurisdiction. The only guidance can be found in Porter-Cologne Water Quality Control Act, Chapter 2 (Definitions), which states “‘waters of the State’ means any surface water or ground water, including saline waters, within the boundaries of the state.”

Survey Results. All potential jurisdictional wetland habitats described above, regardless of USACE jurisdiction (*i.e.*, even if disclaimed by the USACE), are considered waters of the State. In our opinion, there are no other areas that should be considered Waters of the State in the study area (subject to concurrence by the RWQCB) outside of the wetlands described above.

As mentioned above, BMPs to avoid any direct or indirect impacts to the seasonal wetland located in the study area and the freshwater wetland located north of the study area will be implemented. However, if these BMPs are not implemented, or impacts to these wetlands cannot be avoided, then a Section 401 Water Quality Certification will be required from the RWQCB.

Habitats Regulated Under Fish and Game Code Section 1600 *et seq.*

Activities that result in the diversion or obstruction of the natural flow of a stream, or substantially change its bed, channel or bank, or utilize any materials (including vegetation) from the streambed require that the applicant enter into a Streambed Alteration Agreement with CDFG, under sections 1600-1603 of the California Fish and Game Code. The CDFG potentially extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams mapped on USGS quads, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife” (CDFG 1994).

Survey Results. Based on past experience working with CDFG representatives in similar habitats to those encountered on-site, it is our determination that the CDFG is not likely to claim jurisdiction over any features in or near the study area.

BIOTIC RESOURCE IMPACTS AND MITIGATION

The proposed Project will affect the biological resources in the study area. CEQA and the CEQA Guidelines provide direction in evaluating Project impacts and determining which impacts will be significant (Remy et al. 1999). CEQA defines “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Under CEQA Guidelines section 15065 (Mandatory Findings of Significance), a project’s effects on biotic resources are deemed significant where the Project would:

- “substantially reduce the habitat of a fish or wildlife species”
- “cause a fish or wildlife population to drop below self-sustaining levels”
- “threaten to eliminate a plant or animal community”
- “reduce the number or restrict the range of an endangered, threatened, or rare species”

In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of Project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the Project would:

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

Our impact analysis is based on the following assumptions from our understanding of the proposed Project:

1. All impacts, including construction staging and access, will occur within the study area defined in Figure 2. However, the siting of the study area boundaries has not been finalized, and the Project may or may not impact the wetlands within the study area.
2. All areas disturbed by the installation of the water pipeline will be restored to preconstruction contours and will be allowed to revert back to ruderal/non-native annual grassland habitat (with the exception of developed areas), thus avoiding any permanent loss of habitat as a result of this Project.

The following section addresses potential impacts to biotic resources resulting from the proposed Project.

IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

Potential Temporary Impacts to Wetlands and Associated Species

During development of the conceptual improvement plans, the width of the western portion of the study area was expanded between Nortech Parkway and where the alignment angles northeast to allow the waterline alignment to be shifted slightly to avoid the wetland area within the study area (Figure 2). In addition, a wetland survey was conducted over an expanded study area (Figure 2) to ensure avoidance of any wetland during realigning the waterline. It is the intention of the Project proponent to entirely avoid all impacts to the sensitive wetland habitats within and near the study area alignment. In order to achieve this avoidance, BMPs will be implemented to avoid direct and indirect impacts to the wetland habitats identified near the study area (See *Identification of Sensitive and Regulated Habitats* section above). No sensitive wetland-associated species are associated with the wetlands within or near the study area, and thus any indirect disturbance of species using these wetlands (e.g., due to noise or movement of equipment and personnel) will be to common, regionally widespread species. These wetlands support at most a very small proportion of the regional populations of these species, and thus, the Project's impacts do not meet the CEQA standard of having a *substantial* adverse effect on populations of these species. Therefore, impacts to these wetlands will be avoided, and any disturbance of associated species will be a less than significant impact.

Temporary Impacts to Ruderal/Non-native Annual Grassland and Associated Species

The Project will result in temporary impacts to ruderal/non-native annual grassland during construction. This habitat type is regionally abundant, and restoration of the construction area to preconstruction contours will allow this habitat type to restore naturally following construction. As a result, there will be no permanent loss of this habitat. With the exception of the species noted in the impact sections below, the majority of wildlife species associated with this habitat are regionally abundant. The ruderal/non-native annual grassland habitats in the study area support at most a very small proportion of the regional populations of these species, and thus, the Project's impacts do not meet the CEQA standard of having a *substantial* adverse effect on populations of these species. Therefore, temporary impacts to ruderal/non-native grasslands and associated species are judged to be less than significant.

Potential Impacts to Nesting Special-status Birds

Up to one pair of white-tailed kites and two pairs of loggerhead shrikes could nest in trees within or near the study area. In addition, it is possible that the wetlands in the vicinity of the study area could support one pair of nesting northern harriers. Project construction will result in the temporary disturbance of potential nesting habitat for loggerhead shrikes and white-tailed kites and of potential foraging habitat for all three species. However, no nesting trees are proposed for removal, and given the ample nesting and foraging habitat available elsewhere in the vicinity (e.g., on other WPCP lands) and the expectation that the seasonal wetlands and ruderal/non-native annual grassland habitat will restore naturally following construction, such temporary habitat disturbance will not substantially affect these species.

Project activities could potentially cause abandonment of active nests of these species if noise, ground vibrations, and the movement of people and equipment in close proximity to nests (i.e., within 250 ft of a nest) occurs during the breeding season (roughly, 1 February through 31 August). Regional breeding populations of these species are relatively small; however, the proposed Project is not expected to disturb more than one pair of kites or harriers and two pairs of shrikes, which would not constitute a substantial negative effect on the regional populations of these species. Therefore, this impact is considered to be less than significant. However, these species are protected by federal and state regulations including the MBTA and the California Fish and Game Code (see section below entitled *Compliance with Additional Laws and Regulations*).

SIGNIFICANT IMPACTS THAT CAN BE MITIGATED TO A LESS-THAN-SIGNIFICANT LEVEL

Potential Impacts to Burrowing Owls

Our reconnaissance-level surveys did not detect any evidence of burrowing owls in the study area or within 250 ft of the study area. No ground squirrel burrows are currently present in the study area and surrounding 250-ft buffer to support nesting or roosting burrowing owls. However, burrowing owls are known to occur in the vicinity, and the study area currently provides suitable foraging habitat for owls roosting or nesting in nearby areas. In addition, burrows of California ground squirrels have been observed in the study area in previous years, and ground squirrels may excavate burrows there again in the future. As a result, burrowing owls can currently use the study area for foraging, and could potentially use the study area for roosting or nesting if burrows occur there when construction of the pipeline occurs.

A small amount of suitable foraging habitat for this species will be temporarily impacted by the Project. Because the area to be impacted is so limited in extent compared to habitat available elsewhere in the vicinity (e.g., on other WPCP lands), and because the ruderal/non-native annual grassland habitat will restore naturally following construction, such temporary habitat disturbance will not substantially affect this species.

If ground squirrels excavate burrows in the study area in the future and owls are present within the study area during construction, excavation or side-casting of soil and movement of heavy

equipment could potentially trap owls inside their burrows or crush owls in burrows, resulting in injury or mortality of individuals. Construction activity could also cause owls to abandon burrows that are adjacent to (i.e., within 250 ft of) the study area; abandonment of active nests during the breeding season (1 February to 31 August) could result in the loss of eggs or young. Because burrowing owl populations are declining throughout much of their range in the United States, and particularly within the South Bay region, any impacts from the Project that result in the injury or mortality of individual owls or active nests, such as excavation or grading, or Project-related disturbance that results in the abandonment of eggs or nestlings, would be considered significant. Implementation of Mitigation Measure 1a, in combination with Measures 1b and 1c if necessary, would reduce impacts to less-than-significant levels.

Mitigation Measure 1a. Pre-construction Surveys. Surveys for burrowing owls should be conducted in potential habitat in conformance with the CDFG protocol prior to the start of any ground-disturbing construction activity. These surveys should be initiated no more than 30 days prior to the start of construction, and the final site visit should take place no more than 2 days prior to the start of construction. If no burrowing owls are located during these surveys, no additional action would be warranted. If these surveys detect burrowing owls on or within 250 ft of the study area, then the following mitigation measures will be implemented.

Mitigation Measure 1b. Buffer Zones. If burrowing owls are present during the breeding season (generally 1 February to 31 August), a 250-ft buffer, within which no Project-related activity will be permissible, will be maintained between construction activities and occupied burrows. Owls present at burrows in the study area after 1 February will be assumed to be nesting on or adjacent to the study area unless evidence indicates otherwise. This protected area will remain in effect until 31 August or, based upon monitoring evidence, until the young owls are foraging independently. If burrowing owls are present adjacent to, but not within, the Project's disturbance footprint, then during the nonbreeding season a buffer of 150 ft is desirable; however, as long as the owl's burrow is located far enough from the construction area that the burrow occupied by the owl is not in danger of being destroyed or caved-in, then a lesser buffer is acceptable during the nonbreeding season (1 September to 31 January).

Mitigation Measure 1c. Relocation. If ground-disturbing activities will occur close enough to an active burrow that the burrow is at risk of being destroyed, any owl(s) occupying the burrow will be relocated during the non-breeding season, in consultation with the CDFG, to avoid impacts to the bird(s). No burrowing owls should be evicted from burrows during the nesting season (1 February through 31 August) unless evidence indicates that nesting is not actively occurring (*e.g.*, because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season). As noted in Measure 1b above, owls will not be relocated during the nonbreeding season unless the occupied burrow is at imminent risk of being destroyed.

COMPLIANCE WITH ADDITIONAL LAWS AND REGULATIONS

REGULATORY OVERVIEW FOR BIRDS

The Migratory Bird Treaty Act

The MBTA (16 U.S.C., §703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, a violation of the MBTA.

California State Fish & Game Code

Migratory birds are also protected in and by the state of California. The State Fish and Game Code §3503 (and other sections and subsections) emulates the MBTA and protects birds' nests and eggs from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG and would constitute a significant impact.

Raptors (i.e., eagles, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Project Applicability

The vast majority of birds found in the study area are protected under the MBTA and State Fish and Game Code. Project construction during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests. This type of impact was determined to be less than significant under CEQA for all species potentially occurring in the study area except for the burrowing owl, due to their local and regional abundance and/or the low magnitude of the potential impact. Nevertheless, we recommend that the following measures be implemented to reduce the risk of a violation of the MBTA and the California Fish and Game Code.

Compliance Measures

Measure 1. Avoidance. Avoid nesting-season construction. Construction should be scheduled to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors, in the study area extends from 1 February through 31 August.

Measure 2. Pre-construction/Pre-disturbance Surveys. If it is not possible to schedule construction between 1 September and 31 January, then pre-construction surveys for nesting birds should be conducted by a qualified ornithologist to ensure that no nests will be disturbed

during Project implementation. This survey should be conducted no more than 7 days prior to the initiation of construction activities during the early part of the breeding season (February through May) and no more than 14 days prior to the initiation of these activities during the late part of the breeding season (June through August). During this survey, the ornithologist will inspect all potential nesting habitats in the study area for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 250 ft for raptors and 50-100 ft for other species), to ensure that no nests of species protected by the MBTA or State Code will be disturbed during Project implementation.

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**APPENDIX A.
SPECIAL-STATUS PLANT SPECIES
CONSIDERED BUT REJECTED FOR OCCURRENCE**

Appendix A. Special-status Plant Species Rejected for Occurrence in the Nortech/Zanker Service Lateral Project.

SCIENTIFIC NAME	COMMON NAME	Lack of Serpentine Soils	Lack of Suitable Habitat Type	Other Edaphic Requirements	Outside the Elevation Range	Extirpated/absent from County	Habitat on Site Too Degraded to Support Species.
<i>Acanthomintha lanceolata</i>	Santa Clara thorn-mint				X		
<i>Androsace elongata ssp. acuta</i>	California androsace				X		
<i>Arctostaphylos andersonii</i>	Anderson's manzanita				X		
<i>Astragalus tener var. tener</i>	alkali milk-vetch			X			X
<i>Atriplex depressa</i>	brittlescale			X			X
<i>Atriplex joaquiniana</i>	San Joaquin spearscale			X			X
<i>Azolla microphylla</i>	Mexican mosquito fern				X		
<i>Balsamorhiza macrolepis var. macrolepis</i>	big-scale balsamroot				X		
<i>Calandrinia breweri</i>	Brewer's calandrinia		X				
<i>California macrophylla</i>	round-leaved filaree				X		
<i>Calochortus umbellatus</i>	Oakland star-tulip				X		
<i>Calystegia collina ssp. venusta</i>	South Coast Range morning-glory				X		
<i>Campanula exigua</i>	chaparral harebell				X		
<i>Chloropyron maritimum ssp. palustre</i>	Point Reyes bird's-beak		X				
<i>Chorizanthe robusta var. robusta</i>	robust spineflower		X				
<i>Cirsium fontinale var. campylon</i>	Mt. Hamilton fountain thistle				X		
<i>Clarkia breweri</i>	Brewer's clarkia				X		
<i>Clarkia concinna ssp. automixa</i>	Santa Clara red ribbons				X		
<i>Collinsia multicolor</i>	San Francisco collinsia				X		
<i>Cordylanthus maritimus ssp. palustris</i>	Point Reyes bird's-beak		X				
<i>Cypripedium fasciculatum</i>	clustered lady's-slipper				X		
<i>Dirca occidentalis</i>	western leatherwood				X		
<i>Dudleya abramsii ssp. setchellii</i>	Santa Clara Valley dudleya				X		
<i>Eriogonum argillosum</i>	clay buckwheat				X		
<i>Eriogonum nudum var. decurrens</i>	Ben Lomond buckwheat				X		
<i>Eriogonum umbellatum var. bahiiforme</i>	bay buckwheat				X		
<i>Eriophyllum jepsonii</i>	Jepson's woolly sunflower				X		
<i>Eryngium aristulatum var. hooveri</i>	Hoover's button-celery		X				
<i>Erysimum franciscanum</i>	San Francisco wallflower			X			
<i>Fritillaria agrestis</i>	stinkbells						X
<i>Fritillaria liliacea</i>	fragrant fritillary	X					
<i>Galium andrewsii ssp. gatense</i>	phlox-leaf serpentine bedstraw	X			X		
<i>Helianthella castanea</i>	Diablo helianthella				X		
<i>Helianthus exilis</i>	serpentine sunflower	X			X		

Appendix A. Special-status Plant Species Rejected for Occurrence in the Nortech/Zanker Service Lateral Project.

SCIENTIFIC NAME	COMMON NAME	Lack of Serpentine Soils	Lack of Suitable Habitat Type	Other Edaphic Requirements	Outside the Elevation Range	Extirpated/absent from County	Habitat on Site Too Degraded to Support Species.
<i>Hoita strobilina</i>	Loma Prieta hoita				X		
<i>Iris longipetala</i>	coast iris		X				
<i>Isocoma menziesii</i> var. <i>diabolica</i>	Satan's goldenbush		X				
<i>Lasthenia conjugens</i>	Contra Costa goldfields			X			X
<i>Leptosiphon acicularis</i>	bristly leptosiphon				X		
<i>Leptosiphon ambiguus</i>	serpentine leptosiphon				X		
<i>Leptosiphon grandiflorus</i>	large-flowered leptosiphon			X			
<i>Lessingia hololeuca</i>	woolly-headed lessingia	X					
<i>Lessingia tenuis</i>	spring lessingia				X		
<i>Malacothamnus arcuatus</i>	arcuate bush-mallow		X				
<i>Malacothamnus hallii</i>	Hall's bush-mallow		X				
<i>Malacothrix phaeocarpa</i>	dusky-fruited malacothrix				X		
<i>Micropus amphibolus</i>	Mt. Diablo cottonweed				X		
<i>Microseris sylvatica</i>	sylvan microseris				X		
<i>Monardella antonina</i> ssp. <i>antonina</i>	San Antonio Hills monardella				X		
<i>Monardella villosa</i> ssp. <i>globosa</i>	robust monardella				X		
<i>Monolopia gracilens</i>	woodland woollythreads				X		
<i>Navarretia cotulifolia</i>	cotula navarretia						X
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia						X
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	Gairdner's yampah						X
<i>Piperia leptopetala</i>	narrow-petaled rein orchid				X		
<i>Piperia michaelii</i>	Michael's rein orchid		X				
<i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i>	Hickman's popcorn-flower		X				
<i>Plagiobothrys glaber</i>	hairless popcorn-flower		X				
<i>Plagiobothrys myosotoides</i>	forget-me-not popcorn-flower				X		
<i>Psilocarphus brevissimus</i> var. <i>multiflorus</i>	Delta woolly-marbles		X				
<i>Senecio aphanactis</i>	chaparral ragwort		X				
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom		X				
<i>Streptanthus albidus</i> ssp. <i>albidus</i>	Metcalf Canyon jewel-flower				X		
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel-flower				X		
<i>Stuckenia filiformis</i>	slender-leaved pondweed				X		
<i>Suaeda californica</i>	California seablite		X				
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum			X			X