

5.2 Biological Resources

The purpose of this section is to describe sensitive biological resources in the Almond 2 Power Plant (A2PP) project area, potential impacts to those resources associated with construction and operation of the project, and measures identified to mitigate these impacts to a less-than-significant level. Section 5.2.1 discusses the affected environment, including a regional overview of biological resources, vegetation, sensitive plant communities, wetlands, wildlife, and special-status species. Section 5.2.1 also discusses methods and results of biological field surveys at the A2PP. Section 5.2.2 discusses the environmental consequences the A2PP project may have on special-status plant and animal species and sensitive habitats. Section 5.2.3 evaluates any potential cumulative effects to biological resources in the project vicinity, and Section 5.2.4 addresses proposed mitigation measures that would avoid, minimize, or compensate for adverse impacts. Section 5.2.5 presents applicable laws, ordinances, regulations and standards (LORS). Section 5.2.6 presents agency contacts and Section 5.2.7 presents permit requirements. Section 5.2.8 provides the references used to prepare this section.

5.2.1 Environmental Setting

Biological resources potentially affected by the proposed A2PP project include vegetation communities and associated wildlife habitats of the northern San Joaquin Valley. The following subsection provides a general overview of the region. Detailed information about biological resources in the immediate vicinity of the proposed project is provided in subsections 5.2.1.2 and 5.2.1.3.

5.2.1.1 Project Overview

The A2PP project site would occupy approximately 4.6 acres and is adjacent to Turlock Irrigation District's (TID) 48-megawatt Almond Power Plant to the south, a WinCo distribution warehouse to the west, a farm supply facility to the north, and various industrial facilities to the east. A single approximately 1.85-acre construction laydown area adjacent to the northern border of the proposed site will be used. The laydown area is within the WinCo property.

The A2PP will be interconnected to the TID system via two new 115-kilovolt (kV) lines (known as Corridor 1 and Corridor 2) to the proposed Grayson Substation¹ (see Figure 1.1-3.). TID will also reconductor an existing 69-kV sub-transmission line, as described in more detail in Section 3.0, Electric Transmission.

Natural gas will be provided via one of two routes: an approximately 9.1-mile-long gas line that runs south along Crows Landing Road (Alternate A), or an approximately 11.1-mile-long

¹ The proposed Grayson Substation is a component of the TID Hughson-Grayson 115-kV Transmission Line and Substation Project (the "Hughson-Grayson Project"). In addition to the substation, the Hughson-Grayson Project consists of an approximately 10-mile-long, 115-kV transmission line; a 0.5-mile-long, 69-kV transmission line from the existing TID Almond Power Plant; and a second 69-kV transmission line that extends 0.8 mile east from the proposed substation. An environmental impact report for the Hughson-Grayson Project (State Clearinghouse Number 2009012075) is currently being prepared. The Notice of Preparation was issued on January 26, 2009, and reissued February 10, 2009. The Draft Environmental Impact Report is anticipated to be issued in July 2009.

gas line that runs south along Carpenter Road (Alternate B).² More information regarding the natural gas supply can be found in Section 4.0, Natural Gas Supply.

Process water will be obtained by tying into the existing process water line for the Almond Power Plant from the City of Ceres Wastewater Treatment Plant (WWTP). Service water for the facility will be provided by an existing well at the southeast corner of the Almond Power Plant property. Potable water will be delivered to the A2PP by a commercial water service.

5.2.1.2 Regional Overview

The A2PP project site is located in the northern part of the San Joaquin Valley in Stanislaus County. The San Joaquin Valley occupies the southern half of California's Central Valley, between the Sierra and Coast ranges, extending from Stockton south to Bakersfield. The foothills that rise to the Sierra Nevada are approximately 55 miles east of the project. The Diablo Range portion of the Coast Range is approximately 20 miles to the west. The San Joaquin River drains the northern half of the valley and is approximately 7.5 miles southwest of the site. The San Joaquin River flows north and drains to the Sacramento-San Joaquin River delta, approximately 55 miles northwest of the site. The Tuolumne River is located approximately 3 miles northwest of the site and the Merced River is about 15 miles to the south.

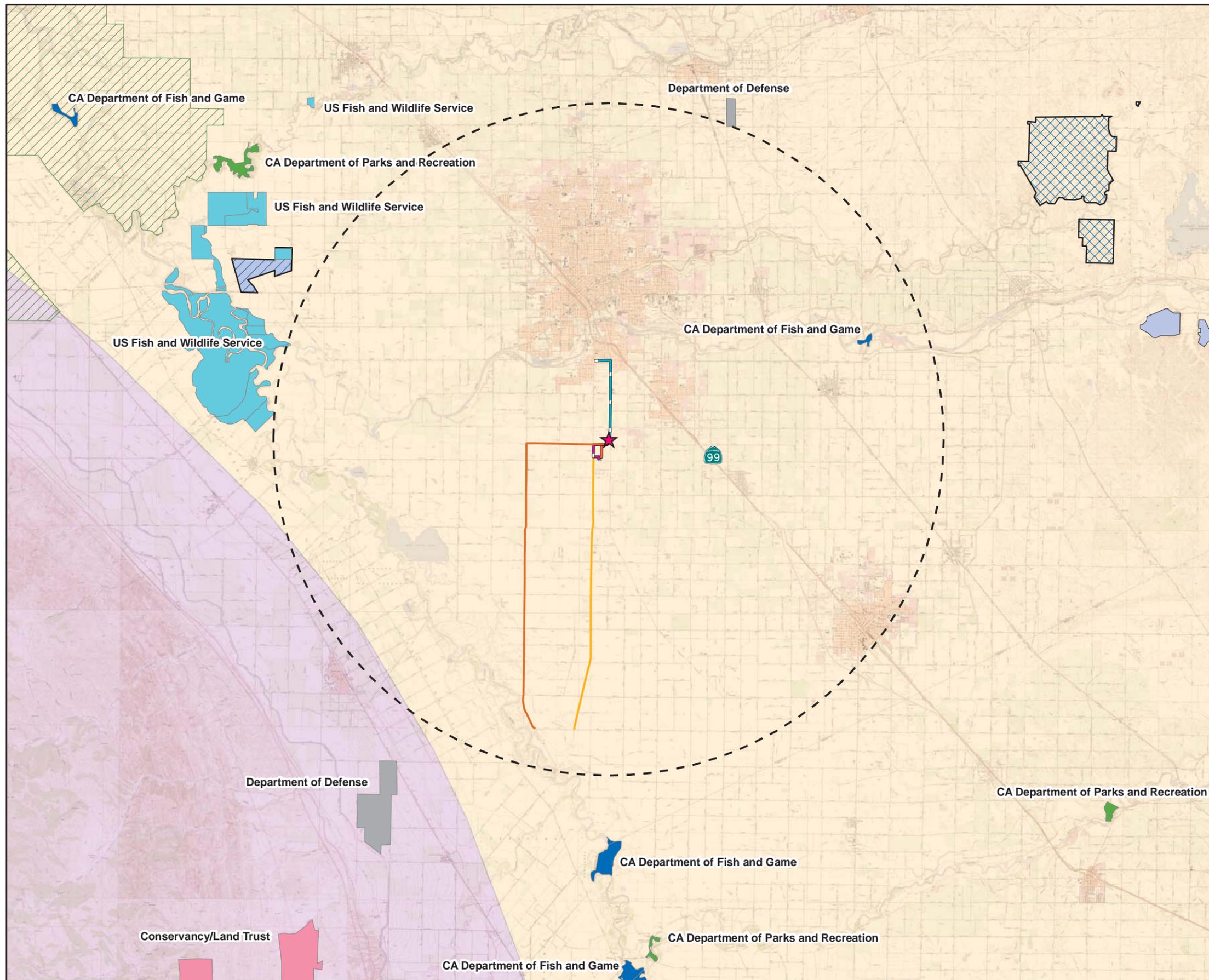
The A2PP site is located within the Manteca-Merced Alluvium subsection of the Great Valley Ecoregion (Miles and Goudey, 1998). This area consists of gently sloping floodplains and alluvial fans along and between streams (e.g., Tuolumne and Merced rivers) that cross from mountains of the Sierra to reach the San Joaquin River. Elevations range from 20 to 180 feet above mean sea level. The mean annual precipitation is approximately 10 to 14 inches. Mean annual temperatures range from a low of 59 degrees Fahrenheit (°F) to 62°F (National Resources Conservation Service [NRCS] Climate Analysis for Wetlands Database [WETS] 2002).

A regional overview of the area surrounding the site was conducted to describe the environmental features near the proposed project (see Figure 5.2-1). The study area is in the northern San Joaquin Valley and approximately 55 miles southeast of the Sacramento-San Joaquin Delta. Land use throughout these areas is predominantly agriculture with urban areas concentrated around the communities of Modesto and Stockton to the north of the project. Major roadways through the area include Interstate 5, State Highway 99, State Highway 33, and State Highway 132. The following sections describe the general regional setting.

5.2.1.2.1 San Joaquin Valley

The San Joaquin Valley extends from the Sacramento-San Joaquin Delta south to the Tehachapi Mountains. It is bordered to the west by the Coast Range and to the east by the Sierra Nevada foothills. Extensive areas of the valley have been converted to agriculture, including large parts of Stanislaus County. Principal crops include nuts, fruits, grain crops, alfalfa, and hay. Land not in active cultivation is used for dairy farming, cattle ranches, and sheep ranches.

² Pacific Gas & Electric Company (PG&E) is currently examining the relative strengths of the two alignments. In order to allow the AFC to proceed, the two possible alternatives are presented in this AFC with same level of detail to allow complete evaluation of both alternatives. TID anticipates that PG&E will select a preferred route in late spring or early summer 2009. At that time, the route not selected will provide information for the California Energy Commission's Alternatives analysis.



LEGEND

- ★ Project Site
- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconducted 69kV Sub-Transmission Line
- ⊞ 10-Mile Buffer

Public and Conservation Lands

- CA Department of Fish and Game
- CA Department of Parks and Recreation
- Conservancy/Land Trust
- Department of Defense
- US Fish and Wildlife Service

Critical Habitat

- ▨ Delta Smelt
- ▨ Vernal Pool Tadpole Shrimp
- ▨ Vernal Pool Fairy Shrimp
- ▨ Conservancy Fairy Shrimp

Ecoregions

- Central California Coast Ranges Section
- Great Valley Section

Notes:
 1. Source: U.S. Fish and Wildlife Service Critical Habitat Data, June 2003, Commission for Environmental Cooperation, 1997, U.S. Environmental Protection Agency, 2005.

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

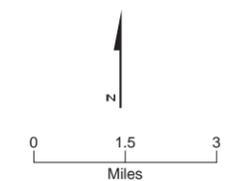


FIGURE 5.2-1
REGIONAL BIOLOGICAL RESOURCES
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

5.2.1.2.2 Wetlands and Water Resources

The A2PP project area is within the Middle San Joaquin-Lower Merced-Lower Stanislaus Hydrologic Unit (Hydrologic Unit Code 18040002), which encompasses approximately 433,300 acres. Major waterways include the Middle San Joaquin, Lower Tuolumne, Lower Merced, Mokelumne, Old, and Middle rivers, as well as Bear Creek. Drainage is generally to the west from the Sierra Nevada Foothills and then to the north into the Sacramento-San Joaquin Delta.

5.2.1.2.3 Significant Biological Resources in the Project Vicinity

There are no significant biological resource areas in the immediate project vicinity. Regionally significant areas include the San Joaquin River National Wildlife Refuge located approximately 10 miles west-northwest of the site and the California Department of Fish and Game's (CDFG) West Hilmar Wildlife Area located approximately 12 miles to the south (Figures 5.2-2a through 5.2-2d).

5.2.1.3 Habitats and Vegetation Communities

The project site was previously used by WinCo as a borrow pit during construction of the WinCo distribution warehouse; however, in 2008 the site was filled and graded to the current site elevation and is now devoid of vegetation.

The laydown area is a depressed area that is vegetated with a variety of weedy species that are common in highly disturbed sites including: Russian thistle (*Salsola tragus*), blue vervain (*Verbena hastata*), pampas grass (*Cortaderia jubata*), Johnsongrass (*Sorghum halepense*), wild radish (*Raphanus raphanistrum*), and cocklebur (*Xanthium spinosum*).

Both 115-kV transmission lines (Corridor 1 and Corridor 2) are within agricultural areas consisting of winter oats/wheat and alfalfa crops, as well as almond and walnut orchards, and a small area of vineyards. Most of the reconducted 69-kV sub-transmission line parallels a railroad line that is highly disturbed from maintenance as well as irregular access by motorized vehicles; the remainder of the line parallels a paved roadway (Hatch Road) that is similarly disturbed.

Both natural gas pipeline alignments are also sited adjacent to agricultural areas consisting of winter oats/wheat and alfalfa crops, orchards and some vineyards. Natural gas pipeline Alternate A would largely parallel Crows Landing Road. Natural gas pipeline Alternate B would follow the TID Lateral 2 west before turning south and following Carpenter Road. In addition to agricultural land, both alignments would be located near a few small residential areas, dairies, and/or poultry farms. Natural gas pipeline Alternate A crosses Lateral 5 shortly before the pipeline's southern terminus, whereas natural gas pipeline Alternate B crosses Harding Drain shortly before the pipeline's southern terminus. Irrigation canals in the project area supply water to agricultural fields and drain tailwater back to detention basins or to canals and drainages that lead to the Harding Drain, which then empties into the San Joaquin River. Water from the Harding Drain irrigation canal flows into the San Joaquin River by gravity flow through flap gates approximately 2 miles west of natural gas pipeline Alternate A and 0.1 mile west of Alternate B. Sacramento splittail, hardhead, and anadromous fish (e.g., salmon, steelhead, and sturgeon) could potentially enter the drain through the flap gates. The Harding Drain near natural gas pipeline Alternate A supports a narrow fringe (approximately 1 foot wide) of emergent vegetation (cattails [*Typha* sp.] and

rush [*Juncus* spp]). Where it is crossed by natural gas pipeline Alternate B, the Harding Drain supports riparian scrub and shrub vegetation on the banks. The Westport Drain, which is crossed by natural gas pipeline Alternate B at Taylor Road, supports a 1-foot-wide fringe of emergent vegetation (cattails). The Westport Drain flows from a standpipe on the east side of natural gas pipeline Alternate B into the greater TID system. Other drainage ditches in the proposed construction area vary in size from approximately 3 to 6 feet wide and do not support fish because they are seasonally dry. These ditches are primarily found along roadsides and are generally kept clear of aquatic and riparian vegetation. No natural habitats are present along the proposed natural gas pipeline alignments.

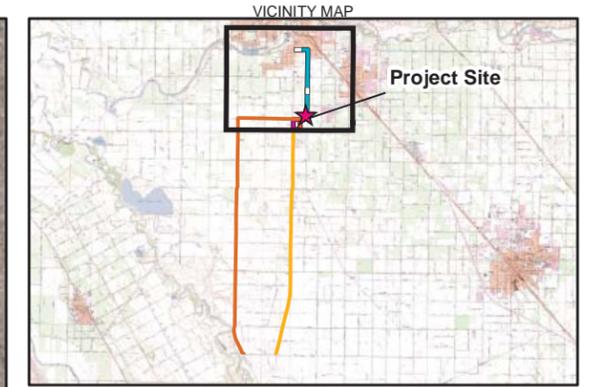
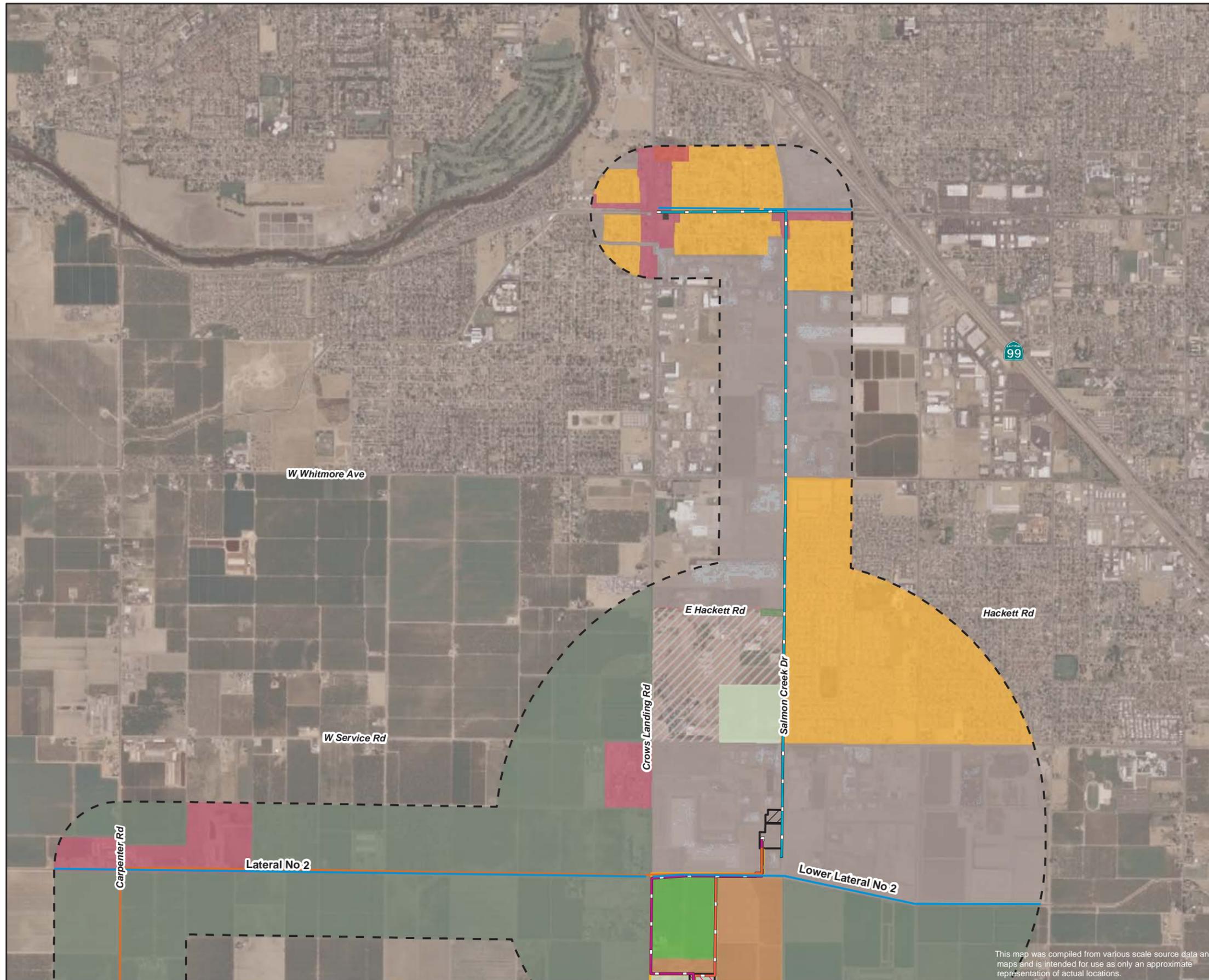
Wildlife that may use the narrow fringes of vegetation along the Harding Drain and Westport Drain include western pond turtle (*Emys marmorata*), giant garter snake (*Thamnophis gigas*), egrets, herons, song birds, raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), and coyotes (*Canis latrans*) that feed on crayfish, tadpoles, and mosquito fish. Ducks and other migratory waterfowl may use irrigation canals that have some remaining cover, and red-winged blackbirds (*Agelaius phoeniceus*) could use patches of vegetation in the Harding Drain or Westport Drain as nest sites. Western pond turtles and giant garter snakes may also use the aquatic habitat in the Harding Drain and Westport Drain; however, no special-status species were observed or are known to inhabit these drainages. None of the other canals in the project impact area contain suitable vegetation for special-status wildlife use and no special-status species were observed or are known or expected to inhabit these other drainages in the project impact area.

None of the farmer-maintained irrigation canals would be considered jurisdictional wetlands by the United States Army Corps of Engineers (USACE), since they were most likely excavated in upland soils (lack hydric characteristics), lack vegetation (no hydrophytic vegetation), and are maintained solely for manmade water supplies (i.e., no natural hydrology).

5.2.1.4 Special-status Species in the Region

This section presents a list of special-status species that could occur in the northern San Joaquin Valley region and a preliminary analysis of whether each could occur in the A2PP project impact areas. The designation of special-status includes all federal- and state-listed species under the federal and California Endangered Species Acts; species listed as candidates or proposed for federal or state listing; species protected under the federal Migratory Bird Treaty Act; California Species of Special Concern; California Fully Protected Species under the Fish and Game Code; and plant species designated as Rare, Threatened, or Endangered by the California Native Plant Society (CNPS).

Special-status species that could occur in the region were identified from lists provided by the U.S. Fish and Wildlife Service (USFWS) (USFWS, 2009), (Appendix 5.2A), CDFG's California Natural Diversity Data Base (CNDDB) (CDFG, 2008), (Appendix 5.2B), and the CNPS electronic inventory (CNPS, 2008) (Appendix 5.2C). The special-status species database searches included the Ceres, Turlock, Hatch, Brush Lake, Salida, Crows Landing, Denair, Waterford, and River Bank U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles. Reported CNDDB occurrences within 1 and 5 miles of the A2PP project site are shown in Figure 5.2-3.



LEGEND

- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconductored 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- ⬜ Buffer
- ▨ Laydown Area
- ⬜ Project Site
- ▨ Proposed Grayson Substation

Vegetation Communities

- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
- Grapes
- Grasses
- Industrial
- Pasture
- ▨ Prison
- Residential
- School
- Walnut Field

Notes:
 1. 1 mile around Project Site, 1/4 mile around NG Pipeline.
 2. The Grayson Substation is being developed as a separate Project

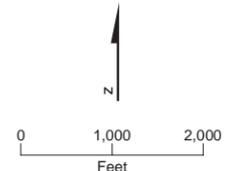
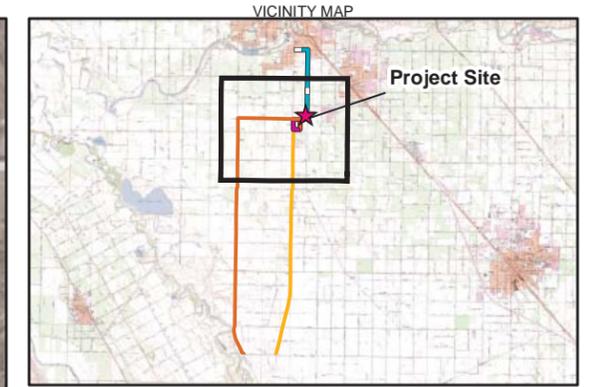
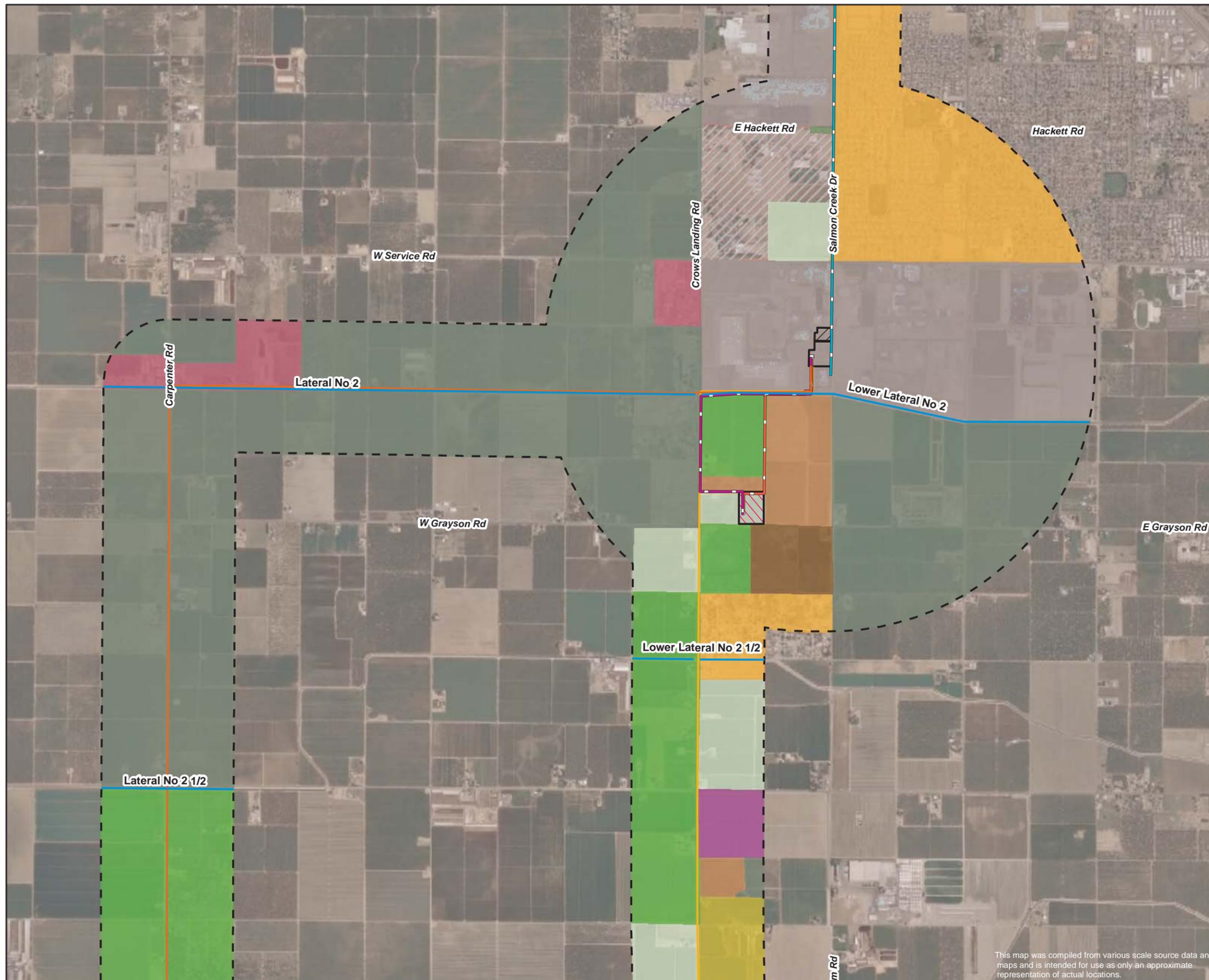


FIGURE 5.2-2A
VEGETATION COMMUNITIES AND
HABITAT TYPES WITHIN SURVEY AREA
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.



LEGEND

- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconductored 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- Buffer
- ▨ Laydown Area
- ▭ Project Site
- ▨ Proposed Grayson Substation

Vegetation Communities

- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
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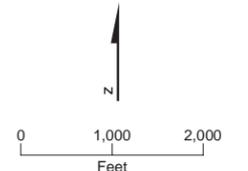
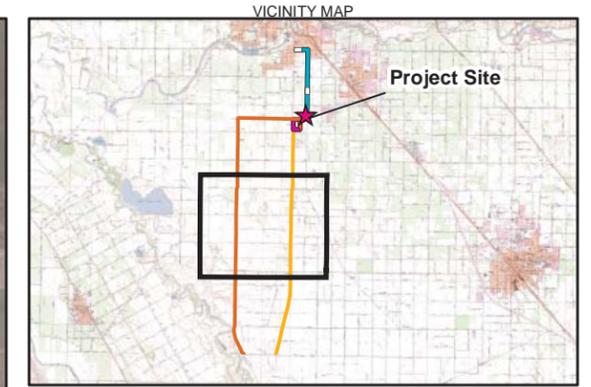
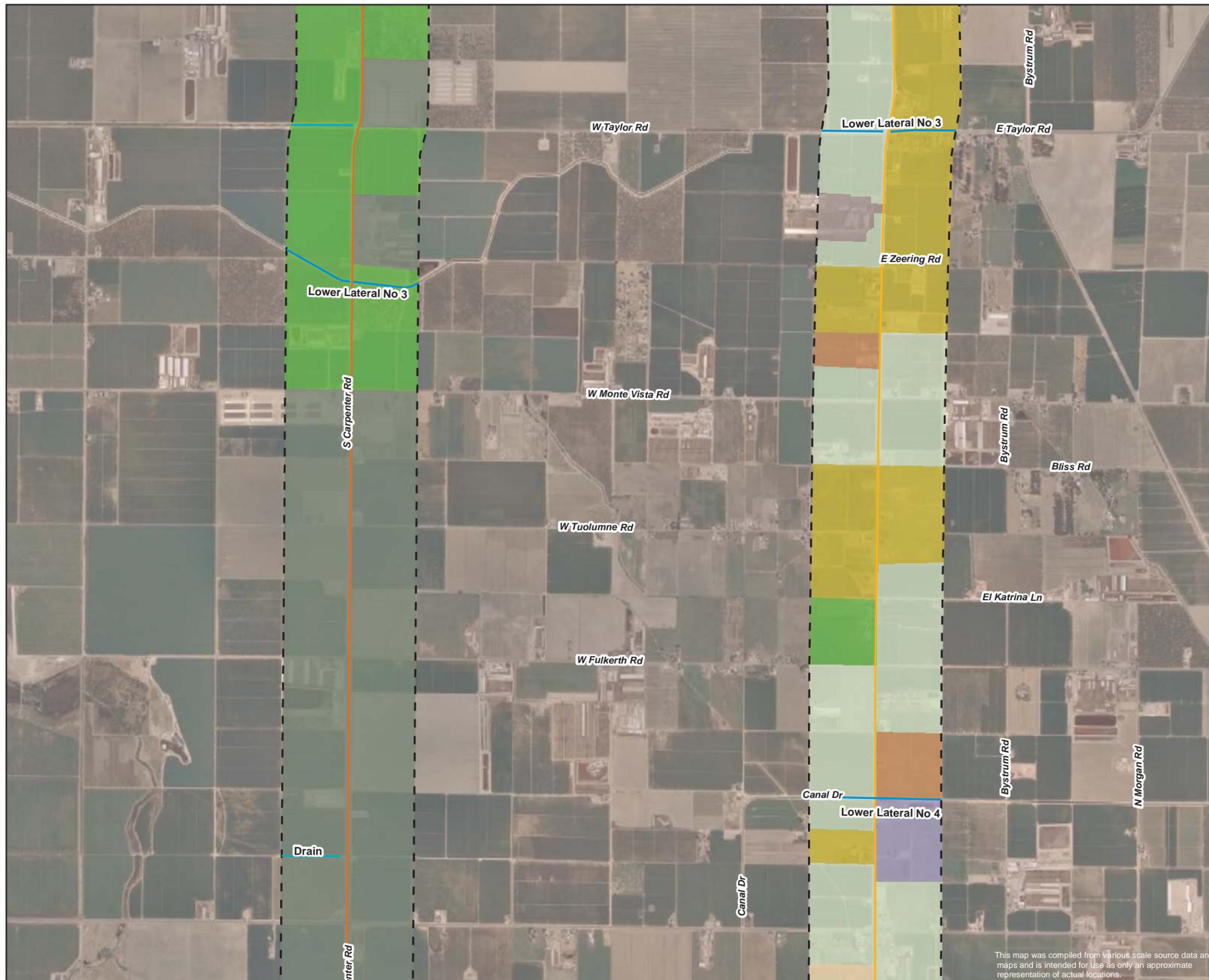


FIGURE 5.2-2B
VEGETATION COMMUNITIES AND
HABITAT TYPES WITHIN SURVEY AREA
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

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LEGEND

- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconductored 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- ⊞ Buffer
- ▨ Laydown Area
- ▭ Project Site
- ▭ Proposed Grayson Substation

Vegetation Communities

- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
- Grapes
- Grasses
- Industrial
- Pasture
- ▨ Prison
- Residential
- School
- Walnut Field

Notes:
 1. 1 mile around Project Site, 1/4 mile around NG Pipeline.
 2. The Grayson Substation is being developed as a separate Project

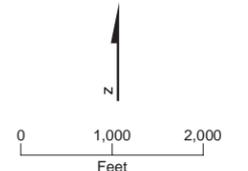
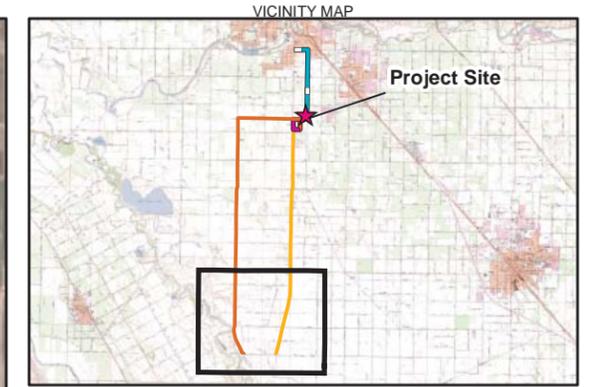
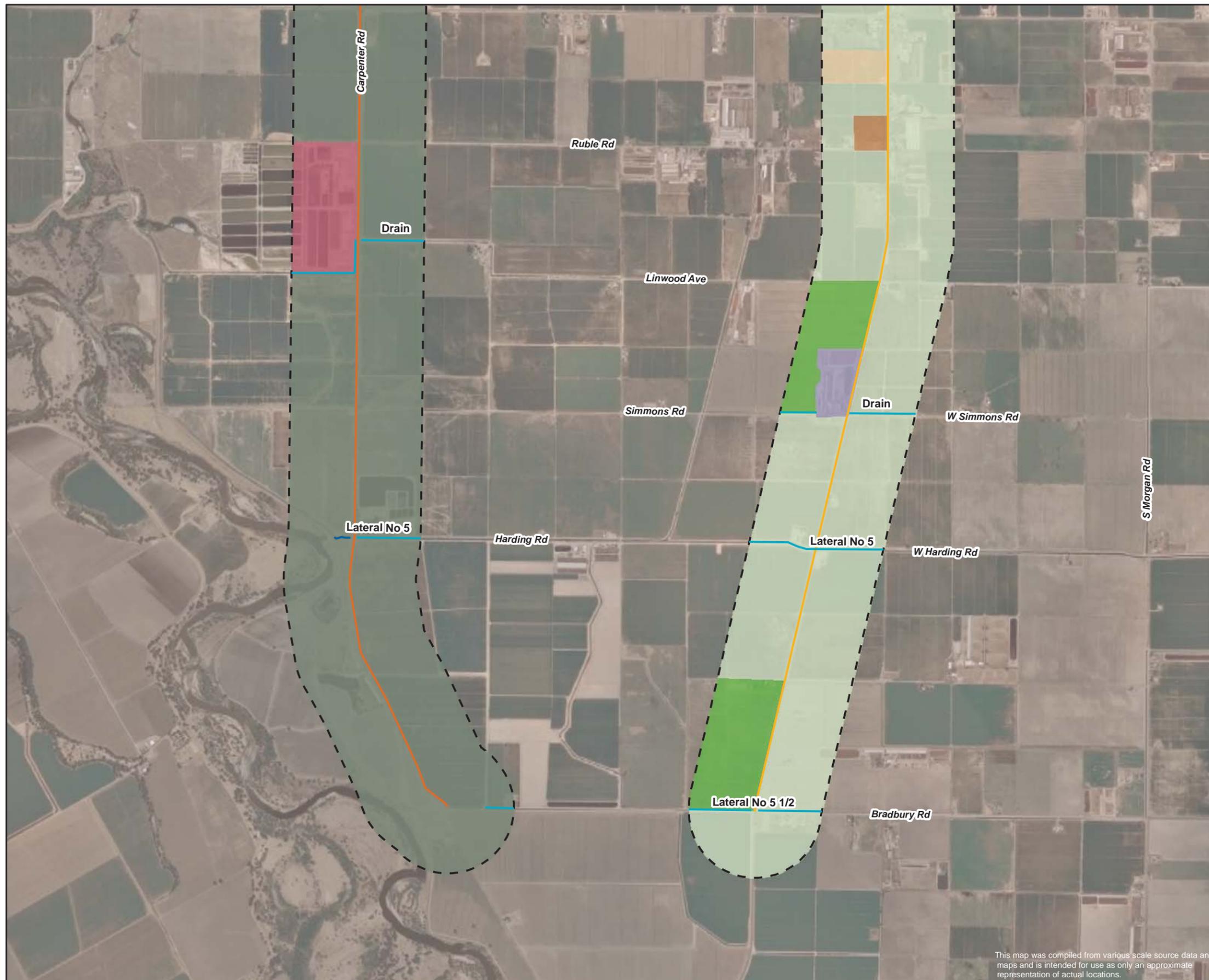


FIGURE 5.2-2C
VEGETATION COMMUNITIES AND
HABITAT TYPES WITHIN SURVEY AREA
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.



LEGEND

- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconductored 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- ⌈ Buffer
- ▨ Laydown Area
- ▭ Project Site
- ▨ Proposed Grayson Substation

Vegetation Communities

- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
- Grapes
- Grasses
- Industrial
- Pasture
- ▨ Prison
- Residential
- School
- Walnut Field

Notes:
 1. 1 mile around Project Site, 1/4 mile around NG Pipeline.
 2. The Grayson Substation is being developed as a separate Project

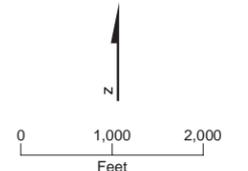
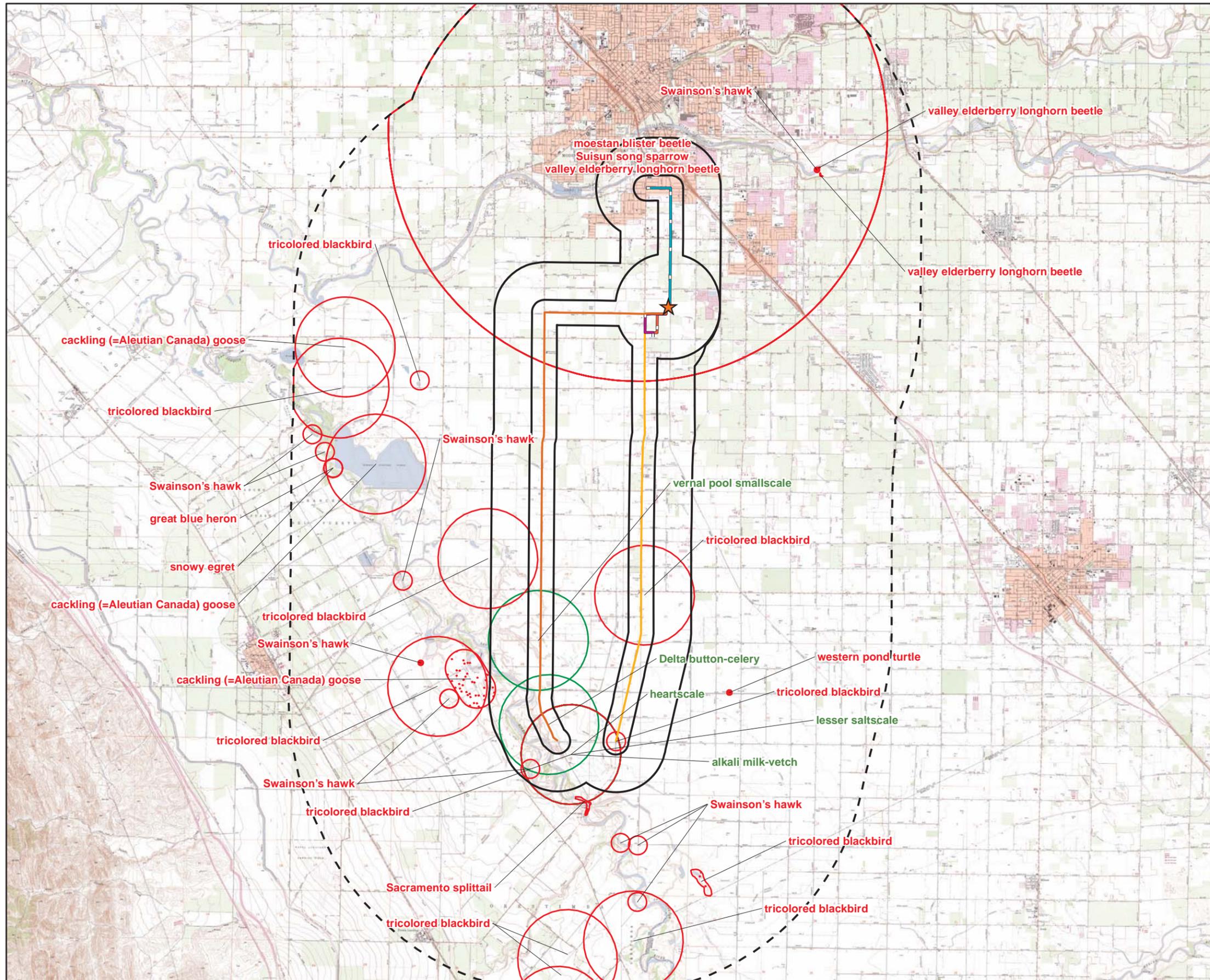


FIGURE 5.2-2D
VEGETATION COMMUNITIES AND
HABITAT TYPES WITHIN SURVEY AREA
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.



LEGEND

- ★ Project Site
- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconductored 69kV Sub-Transmission Line
- ▭ 1-Mile Buffer
- - - 5-Mile Buffer

CNDDDB January 2009

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)

Note:
 1. Source - California Dept. of Fish and Game, California Natural Diversity Database (CNDDDB) January, 2009.

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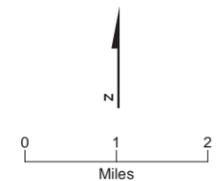


FIGURE 5.2-3
SPECIAL-STATUS SPECIES
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

Table 5.2-1 presents a list of the special-status species identified as potentially occurring in the project area from the above sources (Because of its size, Table 5.2-1 is provided at the end of this section). Table 5.2-1 also includes the habitat types that could support these species and the potential for occurrence in the project impact area. Any special-status species whose habitat(s) are present within the A2PP project area were evaluated for potential impacts from project construction and operation. Other special-status species that were included on the USFWS, CDFG, and CNPS lists whose habitats or known distribution do not occur within the project area, were included in Table 5.2-1 but were not evaluated further.

The A2PP is within a developed area surrounded by highly managed lands (agricultural fields) and would have minimal impacts to natural habitats and communities. Given the existing development and ongoing construction in the area, the potential for special-status species to occur on site is considered relatively low; however, some species are more tolerant to human disturbance and others may incidentally occur in the area as a result of suitable habitat in adjacent areas. Special-status species that are considered to have some potential to occur in the A2PP project area include: big tarplant (*Blepharizonia plumosa*), conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*B. longiantenna*), vernal pool fairy shrimp (*B. lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), western pond turtle, giant garter snake, cackling Canada goose (*Branta hutchinsii leucopareia*), western burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), and San Joaquin kit fox (*Vulpes macrotis mutica*). The following paragraphs describe the life histories of these species and their potential to occur in the project area.

5.2.1.4.1 Special-status Species Life Histories

Plants

Information acquired from the CNDDB, CNPS, and other sources resulted in a list of 15 special-status plants species that could occur in Stanislaus County (Table 5.2-1). Most of these species are associated with natural habitats that were once prevalent in the project vicinity but have since been lost to extensive agricultural development. Habitat modification, weed control, and irrigation practices have forced these species into remnant pockets of marginal habitat. These 15 special-status species are primarily associated with grassland, vernal pool, and wetland habitats. Recent records indicate no observations of special-status plant species in the proposed project impact area; however, five records of special-status plants were found in the project vicinity (see Figure 5.2-3). The five special-status plant occurrences are from habitats adjacent to or near the San Joaquin River. There was one occurrence each of: lesser saltscare (*Atriplex minuscula*), heartscale (*A. cordulata*), vernal pool smallscale (*A. persistens*), alkali milk-vetch (*Astragalus tener* var. *tener*) and Delta button celery (*Eryngium racemosum*). The near absence of historical records may be due to the lack of previous surveys performed in the area. Project-specific field surveys will be conducted in 2009 during the appropriate blooming periods for the special-status plants to determine if they occur in the project impact area and to further characterize the potential of available habitat in the vicinity. Potential habitat may be found along the ruderal margins of fields, roads, and railroad corridors where sandy soils and ponding areas (e.g., vernal pools) may persist. There may also be potential habitat for wetland plant species along agricultural ditches. Based on habitat types that potentially occur in the project impact areas, only one of the 15 special-status plant species, big tarplant (*Blepharizonia plumosa*), was considered to have any potential to occur in the existing project

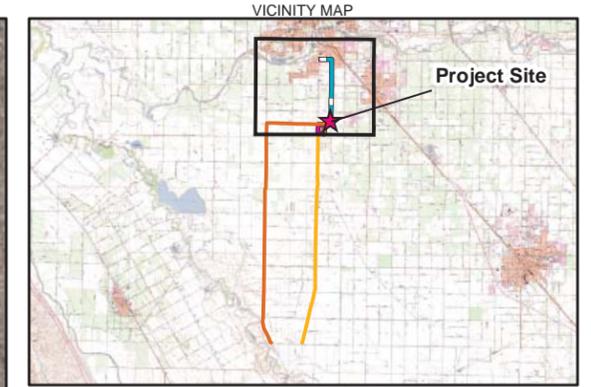
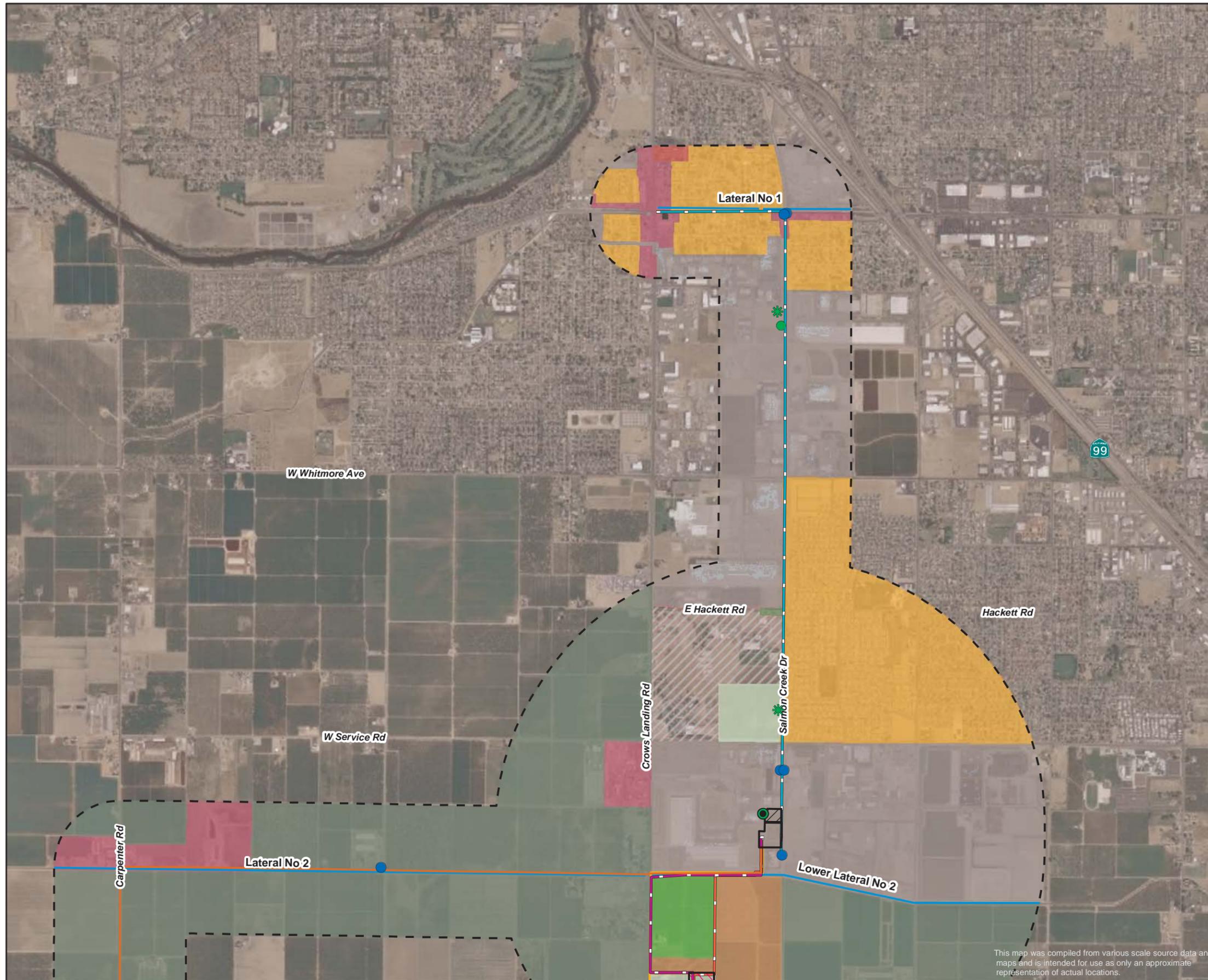
area (Table 5.2-1). This species is not state or federal listed, but is listed as 1B by the CNPS (considered rare, threatened or endangered in California and elsewhere).

Vernal Pool Crustaceans

Vernal pools provide habitat for four federal threatened or endangered vernal pool branchiopod species that have been recently recorded in Stanislaus County, including: vernal pool fairy shrimp (*Branchinecta lynchi*), Conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantenna*), and vernal pool tadpole shrimp (*Lepidurus packardii*). Vernal pools and seasonal wetlands can develop on soil surfaces where water ponds for at least 2 weeks during the wet season. Several small ponded areas (most less than 25 square feet in area) were noted during the January and March 2009 field surveys. Most of these areas, which were best described as turbid puddles, were inspected for the presence of branchiopods; however, their presence could not be confirmed (see Figures 5.2-4d through 5.2-4d). Most of the puddles were relatively small (approximately 25 square feet or less), shallow, and turbid. Nearly all were located in highly disturbed areas such as on or along dirt roads; several sites contained tire tracks in and around the pools. One larger pool (approximately 175 square feet in area and 8 to 10 inches deep) was noted near the southern terminus of natural gas pipeline Alternate B along the east side of Carpenter Road. This pool, which was located off the side of the paved roadway, was relatively less disturbed and clear. Wildlife in the pools at the time of the field surveys was limited to water boatmen, an insect common to a variety of freshwater habitats. No crustaceans were observed in the pools. Protocol surveys (conducted under USFWS guidelines) to identify listed vernal pool species will be conducted beginning in spring 2009. If listed vernal pool crustaceans are positively identified during the first season of dry sampling, a second season of sampling will not be required (USFWS 1996). Based on the results of vernal pool crustacean sampling at the nearby Walnut Energy Center (CH2M HILL, 2003), which has similar habitat and where no listed vernal pool crustaceans were documented during a two-season sampling survey, and the fact that the nearest vernal pool crustaceans have been documented more than 10 miles from the project, TID proposes to consult with USFWS about the possibility of avoiding further sampling if the initial dry season survey results are negative. The nearest mapped vernal pool is approximately 2.5 miles west of the pipeline near the San Joaquin River (Carboni, 2009) and outside of the project impact area. Critical habitat was proposed by USFWS on September 24, 2002, for listed vernal pool branchiopods and plants. The nearest vernal pool critical habitat unit is located north of Highway 132 and approximately 10.5 miles northwest of the project site (Federal Register 2002).

Moestan Blister Beetle

The moestan blister beetle (*Lytta moesta*) is tracked by the CNDDDB as species of interest. This beetle is known from the Central Valley. The moestan blister beetle occurs in annual grasslands, foothill woodlands, and saltbush (*Atriplex* spp.) scrub (SJCOG, 2000). This species reportedly feeds on flowers and other foliage. Females dig shallow burrows where they deposit their eggs. Larval moestan blister beetles feed on pollen parasitized from the nests of solitary bees (CDFG, n.d.).



LEGEND

- California ground squirrel complex
- Detention Pond
- Drainage Pipe
- Pool/Puddles
- Red Tail Hawk
- 2 - Red Tail Hawks
- 2 - Swainson's Hawk
- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconstructed 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- Buffer
- Proposed Grayson Substation
- Laydown Area
- Project Site

Vegetation Communities

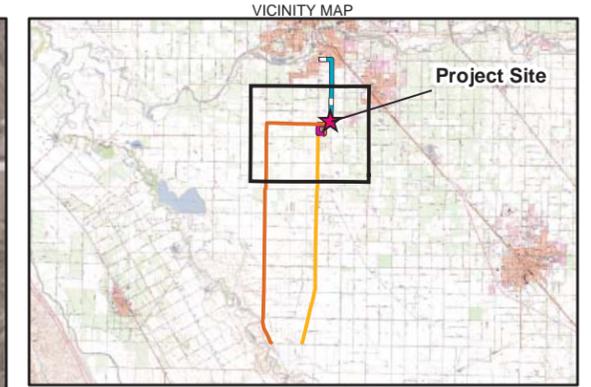
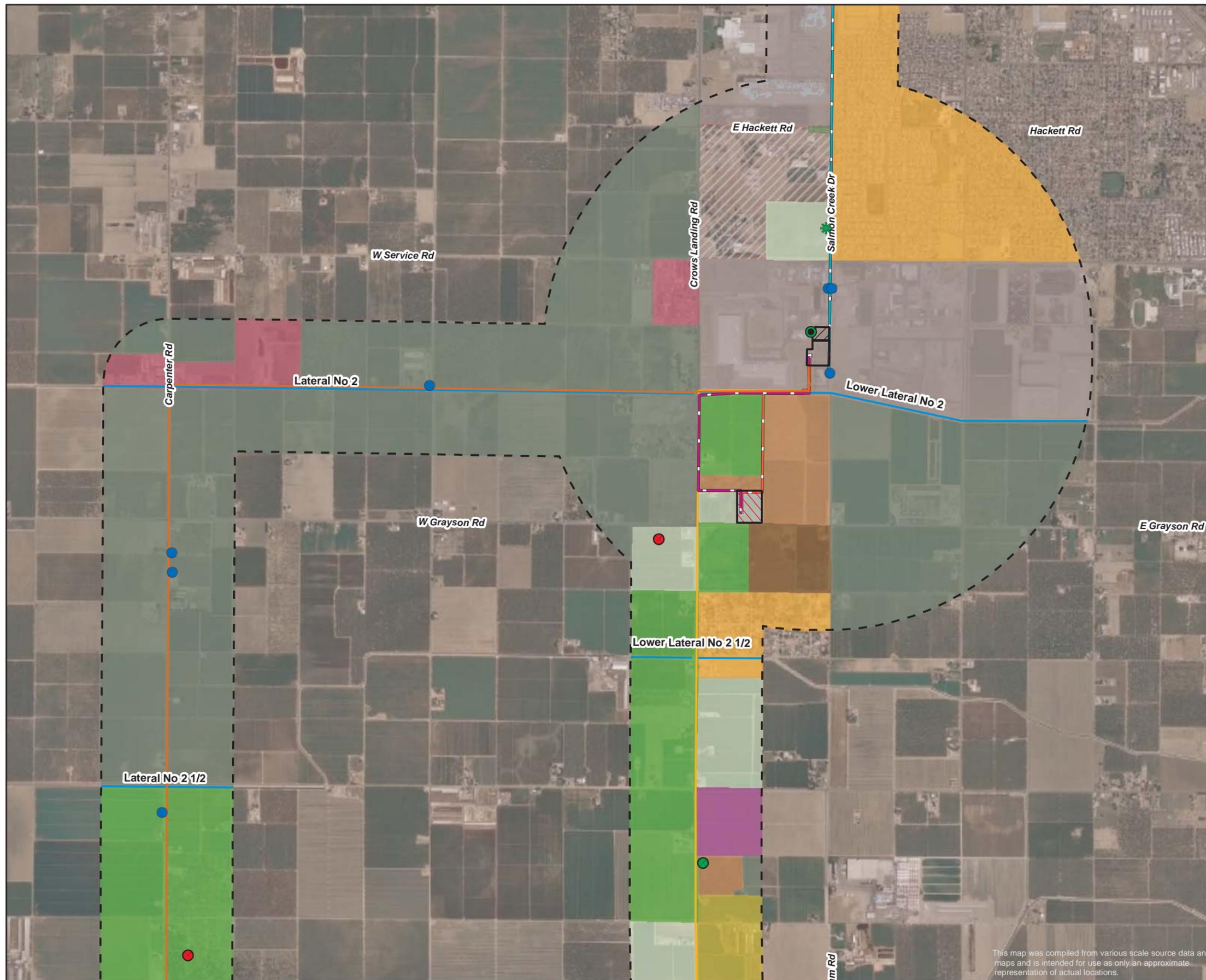
- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
- Grapes
- Grasses
- Industrial
- Pasture
- Prison
- Residential
- School
- Walnut Field

0 1,000 2,000 Feet

Note:
 1. Preliminary Field Survey done by Bridget Canty, February, 2009.
 2. 1 mile around Project Site, 1/4 mile around NG Pipeline.
 3. The Grayson Substation is being developed as a separate Project

FIGURE 5.2-4A
POTENTIAL BIOLOGICAL RESOURCES
IDENTIFIED DURING PRELIMINARY
FIELD SURVEY
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.



LEGEND

- California ground squirrel complex
- Detention Pond
- Drainage Pipe
- Pool/Puddles
- Red Tail Hawk
- 2 - Red Tail Hawks
- 2 - Swainson's Hawk
- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconstructed 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- Buffer
- Proposed Grayson Substation
- Laydown Area
- Project Site

Vegetation Communities

- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
- Grapes
- Grasses
- Industrial
- Pasture
- Prison
- Residential
- School
- Walnut Field

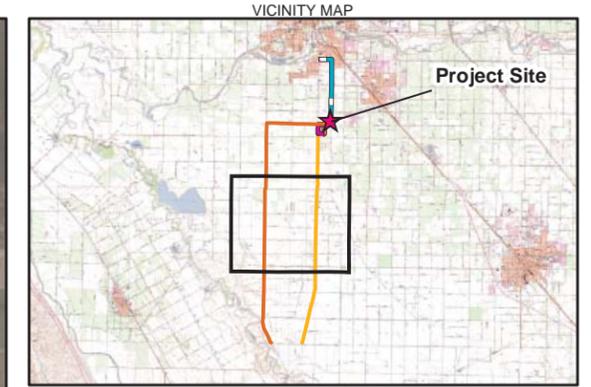
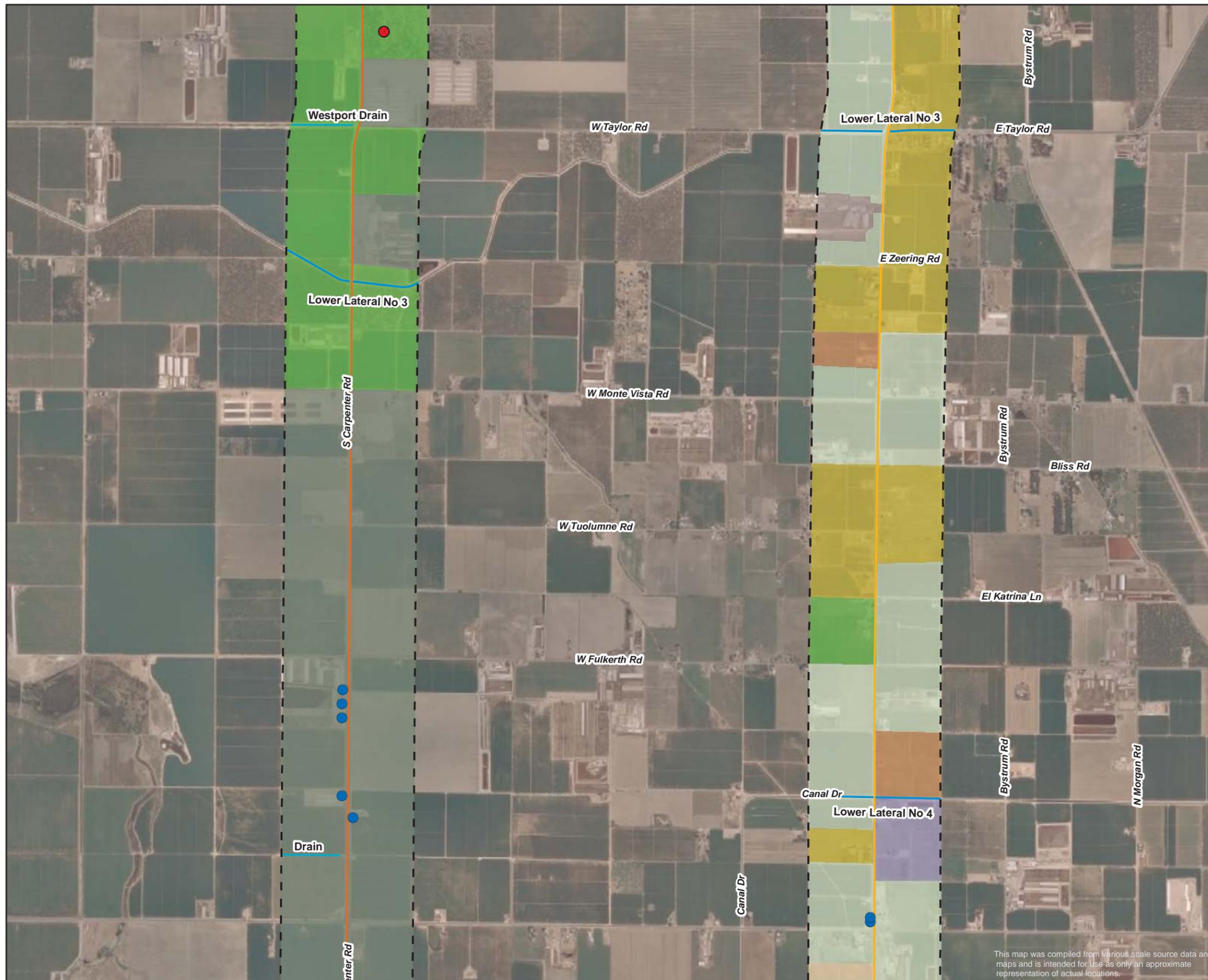
0 1,000 2,000 Feet

Note:

1. Preliminary Field Survey done by Bridget Canty, February, 2009.
2. 1 mile around Project Site, 1/4 mile around NG Pipeline.
3. The Grayson Substation is being developed as a separate Project

FIGURE 5.2-4B
POTENTIAL BIOLOGICAL RESOURCES
IDENTIFIED DURING PRELIMINARY
FIELD SURVEY
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.



LEGEND

- California ground squirrel complex
- Detention Pond
- Drainage Pipe
- Pool/Puddles
- Red Tail Hawk
- 2 - Red Tail Hawks
- 2 - Swainson's Hawk
- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconstructed 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- Buffer
- Proposed Grayson Substation
- Laydown Area
- Project Site

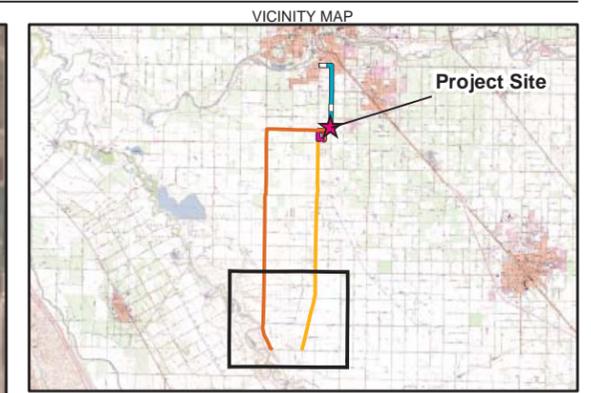
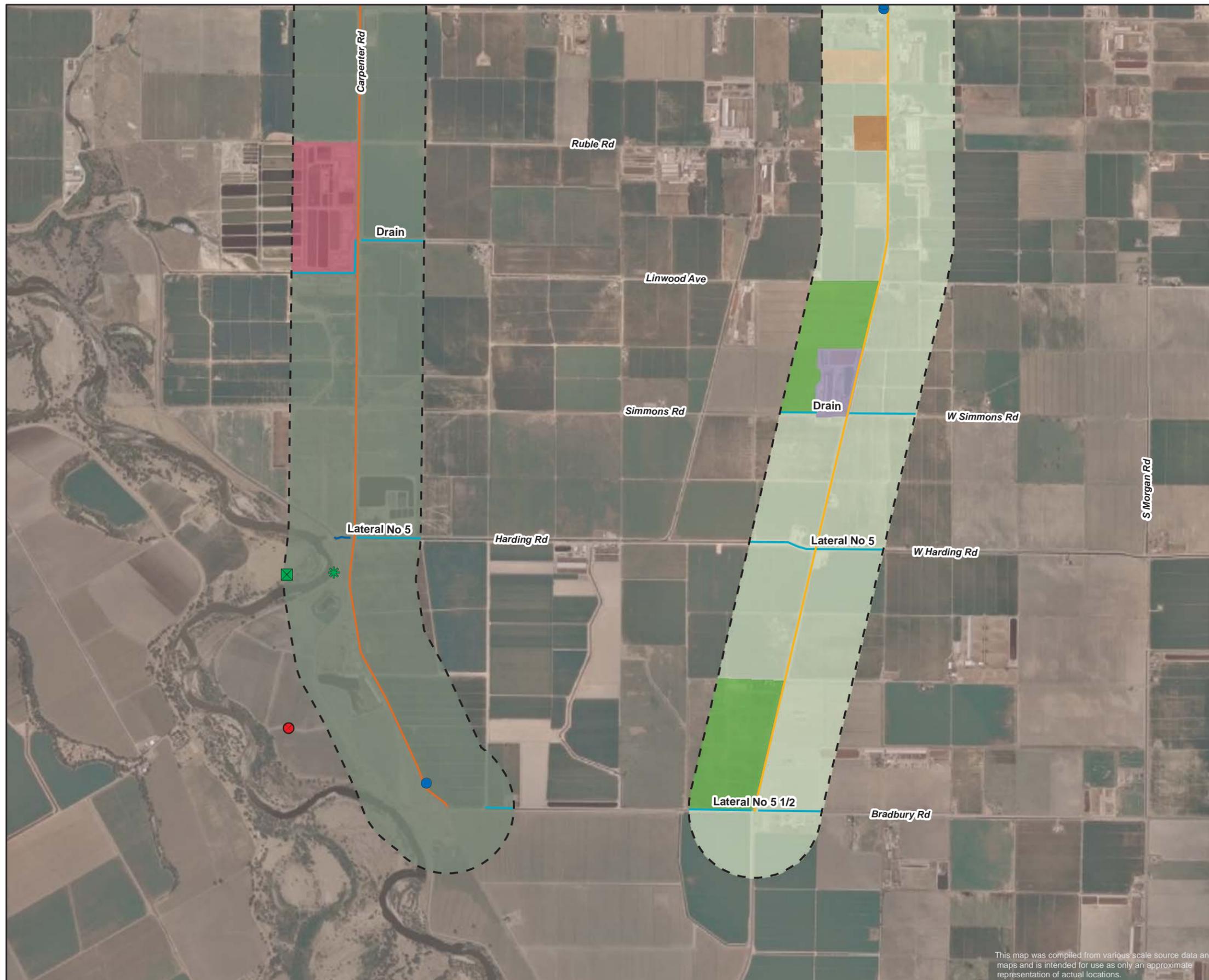
Vegetation Communities

- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
- Grapes
- Grasses
- Industrial
- Pasture
- Prison
- Residential
- School
- Walnut Field

Note:
 1. Preliminary Field Survey done by Bridget Canty, February, 2009.
 2. 1 mile around Project Site, 1/4 mile around NG Pipeline.
 3. The Grayson Substation is being developed as a separate Project

FIGURE 5.2-4C
POTENTIAL BIOLOGICAL RESOURCES
IDENTIFIED DURING PRELIMINARY
FIELD SURVEY
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.



LEGEND

- California ground squirrel complex
- Detention Pond
- Drainage Pipe
- Pool/Puddles
- Red Tail Hawk
- 2 - Red Tail Hawks
- 2 - Swainson's Hawk
- Natural Gas Pipeline (Alternate A)
- Natural Gas Pipeline (Alternate B)
- 115-kV Circuit 1 Line (Corridor 1)
- 115-kV Circuit 2 Line (Corridor 2)
- Reconstructed 69kV Sub-Transmission Line
- Canal
- Concrete Canal
- Dirt Canal
- Buffer
- Proposed Grayson Substation
- Laydown Area
- Project Site

Vegetation Communities

- Agriculture
- Alfalfa
- Almond Field
- Commercial
- Crows Landing Substation
- Dairy Farm
- Eucalyptus Trees
- Fallow
- Grapes
- Grasses
- Industrial
- Pasture
- Prison
- Residential
- School
- Walnut Field

0 1,000 2,000 Feet

Note:
 1. Preliminary Field Survey done by Bridget Canty, February, 2009.
 2. 1 mile around Project Site, 1/4 mile around NG Pipeline.
 3. The Grayson Substation is being developed as a separate Project

**FIGURE 5.2-4D
 POTENTIAL BIOLOGICAL RESOURCES
 IDENTIFIED DURING PRELIMINARY
 FIELD SURVEY**
 ALMOND 2 POWER PLANT
 CERES, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

Fish Species

Natural gas pipeline Alternate B is located within 0.15 mile of the San Joaquin River. This river provides habitat for the Federal Threatened Sacramento splittail (*Pogonichthys macrolepidotus*), Central Valley steelhead (*Oncorhynchus mykiss*), a Federal Threatened evolutionarily significant unit (ESU), and Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), a Federal Threatened species. Central Valley steelhead and spring-run Chinook salmon migrate from the Pacific Ocean to fresh water spawning grounds in the Sacramento, San Joaquin, and Stanislaus rivers. California's Central Valley contains habitat for four runs (races) of Chinook salmon: spring-run, fall-run, late-fall run, and winter-run. The river system supports all freshwater life stages of Chinook salmon during all months of the year. Fish in the San Joaquin River could be affected by changes in water quality and sedimentation related to construction activities.

Agricultural irrigation and drainage water in the project area flows to the San Joaquin River through the Harding Drain. The Harding Drain empties into the San Joaquin River approximately 2 miles west of the terminus of the gas line. Water drains to the river by gravity flow through flap gates. Although the Harding Drain is not considered habitat for spawning fish, fish can enter through the flap gates (Ford, 2002). Fish that enter the drain most likely do not thrive due to unfavorable water temperatures and lack of spawning substrate in the drain. Water for agricultural activities in the project area is diverted from the Tuolumne River and used for irrigation prior to being discharged through a series of canals and ditches into the Harding Drain (Baysinger, 2002). The confluence of the Tuolumne River with the San Joaquin River is downstream of Harding Drain. Stray fish in the Harding Drain could be vulnerable to sedimentation and changes in water quality from construction activities.

Giant Garter Snake

The giant garter snake (*Thamnophis gigas*) is a Federal and State Threatened species. There are no CNRDB records of this species within 5 miles of the project. The closest occurrence was recorded in 1987 from the Kesterson Wildlife Refuge, approximately 14 miles southeast of the project area. There is no evidence that this species uses the Harding Drain or Westport Drain (Owens, 2009). This highly aquatic snake can be found in artificial water features that support emergent vegetation used for cover (e.g., cattails and bulrushes) and prey species (e.g., small fish, frogs, and tadpoles). They are actively foraging in warm months from May through September, hibernate in underground burrows (hibernacula) from October through April, and are highly susceptible to earthmoving equipment during this time. Critical habitat has not been designated for this species. It is unlikely that giant garter snakes would occupy the concrete-lined and primarily vegetation-free irrigation canals in the project vicinity. However, potential giant garter snake habitat may occur in the Westport Drain at Taylor Road and in the Harding Drain near the terminus of natural gas pipeline Alternate B where this is a narrow fringe of emergent vegetation along the canal banks. Both of these canals would be crossed using the jack and bore construction method, therefore, it is extremely unlikely that any sediment would enter the water.

Western Pond Turtle

The western pond turtle (*Emys marmorata*) is a California Species of Special Concern. This species is found in permanent or nearly permanent water, such as ponds, lakes, streams, or irrigation canals. They overwinter under water or on land when water temperatures are

below 59°F, from October or November until spring. Mating begins in April or May, but can occur year-round. CNDDDB provided a 1999 record of a western pond turtle from a location 2 miles east of the proposed natural gas pipeline Alternate A, and 3.5 miles east of natural gas pipeline Alternate B in Lateral 5 (Figure 5.2-3). Within the project impact area, suitable aquatic habitat for the western pond turtle is limited to the Westport Drain at Taylor Road and the Harding Drain near the terminus of both gas pipeline where this is a small amount of emergent vegetation along the canal banks. While this species is highly aquatic, it lays its eggs in upland areas. Agriculture activities, including plowing and disking extend to the canal banks; therefore, it is unlikely that construction activities adjacent to these artificial habitats would significantly impact turtles or other aquatic wildlife. In addition, both the Westport Drain and the Harding Drain would be crossed using jack and bore; therefore, it is extremely unlikely that any sediment would enter the water.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a State Threatened Species. Suitable nesting habitat for the Swainson's hawk consists of scattered trees near or along riparian corridors adjacent to potential foraging habitat dominated by grasslands, meadows, or agricultural lands. Nesting begins in the summer with approximately 80 percent of breeding pairs observed in the southern Sacramento and northern San Joaquin valleys. Swainson's hawks are mainly insectivorous predators selecting grasshoppers, crickets, and other insects found in open grasslands or agricultural fields. During the nesting period, breeding pairs bring small vertebrate prey to their nestlings including young ground squirrels, young cottontails, pocket gophers, and mice. The species is migratory, wintering in South America and nesting in northwestern Canada, western U.S., and Mexico, with a round trip that can exceed 14,000 miles. Swainson's hawk typically returns to California between late February and early April. Potentially suitable nesting and foraging habitat is present near transmission Corridors 1 and 2, and the reconducted 69-kV sub-transmission line, as well as the proposed natural gas pipeline routes. Nesting may occur in mature trees that are scattered throughout the study area. Suitable foraging habitat may include agricultural fields that support invertebrates. CNDDDB had several records of this species nesting within 5 miles of the project site; these are all associated with the riparian areas along the San Joaquin and Tuolumne rivers or their side channels (Figure 5.2-3). The nearest nest is located approximately 1.75 miles southwest of natural gas pipeline Alternate A, and 1.6 miles west of natural gas pipeline Alternate B along the San Joaquin River. Potential nests corresponding with those documented by CNDDDB and two individuals of this species were identified during the March 2009 field survey.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia*) is a California Species of Special Concern and a year-long resident of the Central Valley. Optimum burrowing owl habitat consists of open grassland or prairie with short vegetation and an abundance of mammal burrows. Burrowing owls prey on small mammals, insects, crayfish, and can feed on carrion. Short vegetation may increase visibility, hence prey availability, enhance predator detection by the owls, and attract burrowing mammals that provide nest sites for burrowing owls. The CNDDDB had no occurrence records of this species within 5 miles of the project area. While no burrowing owls were observed during the wildlife surveys, California ground squirrel colonies were noted in at least two areas within the project area (see Figures 5.2-4a through 5.2-4d). One California ground squirrel complex was also noted along the levee of the San

Joaquin River and west of natural gas pipeline Alternate B. These complexes of burrows may provide suitable nesting habitat for burrowing owls. No burrowing owls were observed during the January or March 2009 field surveys.

Resident and Migratory Birds

Tricolored blackbirds (*Agelaius tricolor*) and cackling (Aleutian) Canada geese (*Branta hutchinsii leucopareia*) could potentially forage over the agricultural fields in the project area. Tricolored blackbird nesting colonies are associated with densely vegetated wetland areas, including stock ponds and other artificial wet areas in the Central Valley. There are no wetland habitats in the project area; however, the adjacent agricultural fields provide potential forage for tricolored blackbirds. The CNDDDB identified 10 occurrences of the tricolored blackbird within 5 miles of the project site. The nearest of these is located within 0.5 mile of natural gas pipeline Alternate A and overlaps natural gas pipeline Alternate B. No tricolored blackbirds were observed during the January or March 2009 field surveys.

The cackling (Aleutian) Canada goose was delisted in 2001. At present, it has no special status. Cackling Canada geese nest in Alaska's Aleutian Islands, but most migrate south to winter in California's Central Valley. The San Joaquin River National Wildlife Refuge, approximately 10 miles west-northwest of the project, is an important wintering area for this species. Potentially suitable wintering habitat (e.g., agricultural fields) for this species is present throughout the project area. The nearest CNDDDB occurrence of this species overlaps the natural gas pipeline Alternate B. No cackling (Aleutian) Canada geese were observed during the January and March 2009 field surveys.

San Joaquin Kit Fox

The San Joaquin kit fox (*Vulpes macrotis mutica*), a State and Federal Threatened species, occurs primarily in open grasslands and farm land in the Central Valley. This species requires deep soils or manmade structures (e.g., culverts and pipes) for denning as well as a suitable prey base. The current range of the San Joaquin kit fox includes western Stanislaus County on the west side of the San Joaquin River and extreme southeastern Stanislaus County near La Grange (USFWS, 1998). This species has not been documented to occur in central Stanislaus County in the project vicinity, but the lack of records may be due to the fact that comprehensive kit fox surveys have not been conducted here (Owens, 2009). There are no known records of this species within 5 miles of the project features. The potential for resident San Joaquin kit fox to occur in the project area is low due to the limited availability of den site opportunities. However, no San Joaquin kit fox were observed during the January and March 2009 surveys.

5.2.1.5 Methods of Analysis

Biological resources evaluated for project impacts include vegetation communities, wetlands, wildlife, and wildlife habitats within all the temporary and permanent impact locations associated with the proposed A2PP project. The surveyed areas include the proposed 4.6-acre A2PP plant site, the 1.85-acre construction laydown and parking area, along the 2.9-mile-long reconducted 69-kV sub-transmission line route, and along the two new electric transmission line routes (Corridor 1, 0.9 miles long and Corridor 2, 1.2 miles long), and the 9.1-mile natural gas pipeline Alternate A and 11.1-mile natural gas pipeline Alternate B. A more general analysis was conducted for the areas within a 1-mile radius of the site. The field surveys focused on the proposed project site, the construction

laydown and parking area, and a 150-foot wide construction zone along the electric transmission and natural gas pipeline routes. The presence or potential presence of sensitive biological resources was determined from information gathered during field surveys conducted for the project, published and unpublished literature, and natural resource agency databases. Field surveys to identify biological resources within the A2PP project area focused on special-status plant and animal species and their habitats. An initial field survey was conducted by CH2M HILL biologists on January 15, 2009. A second field survey was conducted on March 10, 2009. Additional surveys will be conducted for specific species during the appropriate seasons.

5.2.1.5.1 Wildlife Survey

Surveys for wildlife species and their habitats in the A2PP project area were conducted by CH2M HILL biologists on January 15 and March 10, 2009 (qualifications provided in Appendix 5.2D). Pedestrian and driving surveys included the proposed A2PP site, adjacent laydown areas and linear corridors. During the surveys, a pair of loggerhead shrikes (*Lanius ludovicianus*) was observed on an existing utility line along the reconducted 69-kV sub-transmission line. In addition, more than 20 long-billed curlews (*Numenius americanus*) were observed resting or foraging in an alfalfa field at the corner of the Almond Power Plant access road and Crows Landing Road. The only raptor nests observed coincided with Swainson's hawks nests reported by the CNDDDB. These nest sites were located more than 1.5 miles from the proposed natural gas pipeline alignments. Wildlife species observed during the field surveys are presented in Table 5.2-2.

TABLE 5.2-2
Wildlife Species Observed during Field Surveys

Birds	
Canada goose	<i>Branta canadensis</i>
American white pelican	<i>Pelecanus erythrorhynchos</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
American coot	<i>Fulica americana</i>
Great egret	<i>Ardea alba</i>
Great blue heron	<i>Ardea herodias</i>
Green heron	<i>Butorides virescens</i>
White-faced ibis	<i>Plegadis chihi</i>
Long-billed curlew	<i>Numenius americanus</i>
Barn owl	<i>Tyto alba</i>
Killdeer	<i>Charadrius vociferus</i>
Ring-billed gull	<i>Larus delawarensis</i>
Northern harrier	<i>Circus cyaneus</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Turkey vulture	<i>Cathartes aura</i>
American kestrel	<i>Falco sparverius</i>

TABLE 5.2-2
Wildlife Species Observed during Field Surveys

Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Black phoebe	<i>Sayornis nigricans</i>
Say's phoebe	<i>Sayornis saya</i>
Horned lark	<i>Eremophila alpestris</i>
Western scrub jay	<i>Aphelocoma californica</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
American crow	<i>Corvus brachyrhynchos</i>
Violet green swallow	<i>Tachycineta thalassina</i>
Western bluebird	<i>Sialia mexicana</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Northern mockingbird	<i>Mimus polyglottos</i>
American pipit	<i>Anthus rubescens</i>
European starling	<i>Sturnus vulgaris</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Yellow-rumped warbler (Audubon's)	<i>Dendroica coronata</i>
House sparrow	<i>Passer domesticus</i>
Song sparrow	<i>Melospiza melodia</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
White-crowned sparrow	<i>Zonotrichia albicollis</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
American goldfinch	<i>Carduelis tristis</i>
House finch	<i>Carpodacus mexicanus</i>
Western meadowlark	<i>Sturnella neglecta</i>
Brewers blackbird	<i>Euphagus cyanocephalus</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Mammals	
Botta's pocket gopher	<i>Thomomys bottae</i>
California ground squirrel	<i>Spermophilus beecheyi</i>
Raccoon	<i>Procyon lotor</i>
Striped skunk	<i>Mephitis mephitis</i>

5.2.1.5.2 Botanical Survey

Additional surveys are scheduled for the spring of 2009 when special-status plant species with the potential to occur in the A2PP project area would be most identifiable. Based on the information review and the initial field survey, only one species, big tarplant, is considered

to have potential to occur. This species may be present in the project area if remnant areas of native grassland habitat are present, though this type of habitat was not observed during the initial field survey. Presence of grassland habitat will be confirmed during botanical surveys. Surveys will be conducted by a qualified botanist and consist of walking transects throughout the proposed A2PP project site, associated laydown areas, transmission Corridors 1 and 2, the reconducted 69-kV sub-transmission line route, and the proposed natural gas pipeline routes. Floristic surveys will follow the nomenclature of plant species from the Jepson Manual (Hickman, 1993) and updated taxonomy from the Jepson Interchange (UC Berkeley, 2008). Botanical surveys along the linear corridors will focus on open areas along roadsides, railroad tracks, and edges of farm fields. Cultivated fields, developed areas and residential parcels within the proposed corridor will be excluded from the detailed survey. The majority of the land use surrounding the project area and proposed natural gas line routes is agriculture, with the exception of small areas of annual grassland. No natural habitats were identified in the project vicinity.

5.2.1.5.3 Wetland Survey

The determination of the presence and extent of wetlands and other waters within the A2PP project site, laydown area, and the linear corridors was based on the technical criteria and procedures described in USACE's 1987 Wetland Delineation Manual (Environmental Laboratory, 1987) and the Arid West Regional Supplement (USACE, 2006). USACE defines wetlands as areas that are "inundated by surface water or groundwater with 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" (Title 40 Code of Federal Regulations [CFR] Section 230.3 and Title 33 CFR Section 238). USACE and the State Regional Water Quality Control Board both use the three-parameter approach (wetland vegetation, hydric soils, and hydrology) to determine the presence of wetlands. As a general rule, under this method, evidence of a minimum of one positive indicator for each parameter must be found (under normal circumstances and in non-problem areas) in order to make a positive wetland determination.

No natural wetlands or other special aquatic sites were observed in the A2PP project site, laydown area, or the linear corridors.

5.2.2 Environmental Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects resulting from the construction, operation, and maintenance of the proposed A2PP project. The project would be located within a disturbed industrial area adjacent to the existing Almond Power Plant and the WinCo distribution warehouse, and would have minimal impacts to biological resources. A summary of potential project impacts is presented in Table 5.2-3.

TABLE 5.2-3
Summary of Potential A2PP Impacts on Biological Resources during Construction

Location	Project Work	Construction Zone Size	Habitat Type	Sensitive Biological Resources	Impacts to Biological Resources	
					Temporary	Permanent
A2PP power plant site	None	4.6 total acres	Disturbed/developed—previously used as a borrow pit	None	None	None
Construction laydown area	Grading and leveling	1.85 acres	Disturbed/developed—previously cleared and graded area used as a borrow pit	None	None	None
Natural gas pipeline alternate A	Install 9.1-mile pipeline	56 acres	Disturbed/developed, agricultural, residential	Ruderal margins may provide nesting opportunities for burrowing owl. Scattered trees may provide nesting habitat for Swainson's hawk. Areas of ponding may provide habitat for vernal pool species	Temporary disturbance of 55.2 acres of ruderal habitat	None. Will be restored to original condition following project completion.
Natural gas pipeline alternate B	Install 11.1-mile pipeline	67 acres	Disturbed/developed, agricultural, residential	Ruderal margins may provide nesting opportunities for burrowing owl. Scattered trees may provide nesting habitat for Swainson's hawk. Areas of ponding may provide habitat for vernal pool species.	Temporary disturbance of 67.64 acres of ruderal habitat	None. Will be restored to original condition following project completion.

TABLE 5.2-3
Summary of Potential A2PP Impacts on Biological Resources during Construction

Location	Project Work	Construction Zone Size	Habitat Type	Sensitive Biological Resources	Impacts to Biological Resources	
					Temporary	Permanent
2.9-mile 69-kV sub-transmission line	Reconductor	6.8 acres	Disturbed/developed	Fallow fields may provide nesting/burrowing opportunities for burrowing owl or San Joaquin kit fox. Scattered trees may provide nesting habitat for Swainson's hawk. Areas of ponding may provide habitat for vernal pool species	Temporary disturbance of areas between towers for stringing wire	None
Corridor 1 – 0.9-mile long new two-circuit 115-kV transmission system	Construction of transmission line from the A2PP site to the proposed Grayson Substation	1.5 acres	Disturbed/developed and agricultural	Ruderal margins may provide nesting opportunities for burrowing owl. Scattered trees may provide nesting habitat for Swainson's hawk. Areas of ponding may provide habitat for vernal pool species. Nearby trees may provide nesting habitat for Swainson's hawk	Temporary disturbance of areas between towers for stringing wire	Conversion of 0.0017 acre for transmission tower footings. Remainder will be restored to original condition following project completion. New transmission lines may increase the potential for bird collisions with wires. However, the t-lines will lack grounding wires.

TABLE 5.2-3
Summary of Potential A2PP Impacts on Biological Resources during Construction

Location	Project Work	Construction Zone Size	Habitat Type	Sensitive Biological Resources	Impacts to Biological Resources	
					Temporary	Permanent
Corridor 2 – 1.2-mile long new two-circuit 115-kV transmission system	Construction of transmission line from the A2PP site to the proposed Grayson Substation	3.0 acres	Disturbed/ developed and agricultural	Ruderal margins may provide nesting opportunities for burrowing owl. Nearby trees may provide nesting habitat for Swainson's hawk	Temporary disturbance of areas between towers for stringing wire	Conversion of 0.0023 acre for transmission tower footings. Remainder will be restored to original condition following project completion. New transmission lines may increase the potential for bird collisions with wires. However, the t-lines will lack grounding wires.

5.2.2.1 Significance Criteria

Conditions that result in significant impacts to biological resources were evaluated based on the significance criteria described in the California Energy Commission (CEC) Staff's paper on how the Staff analyzes biological resources for energy facilities under CEC jurisdiction. The paper identifies the appendixes to the California Environmental Quality Act (CEQA) Guidelines, Title 14, California Code of Regulations, Section 15000 and the *Guidelines for Consulting With the Department of Fish and Game on Projects Subject to CEQA that may Affect Endangered and Threatened Species* as guidance on determining significant impacts to sensitive biological resources from projects.

The following are several conditions under CEQA Appendix G that normally result in significant impacts to the environment:

- Subsection (c); substantially affect a rare or endangered species of animal or plant or the habitat of the species,
- Subsection (d); interfere substantially with the movement of any resident or migratory fish or wildlife species, or
- Subsection (t); substantially diminish habitat for fish, wildlife, or plants.

CEQA Appendix I is an environmental checklist that helps agencies determine if a project may have a significant impact on the environment. Under the heading "Biological Resources," the checklist poses questions as to whether a project will result in impacts to:

- Endangered, threatened, or rare species or their habitats
- Locally designated species (e.g., heritage trees)
- Locally designated natural communities
- Wetland habitat
- Wildlife dispersal or migration corridors

Under the heading "Mandatory Findings of Significance," Appendix I asks if a project has the potential to do the following:

- Degrade the quality of the environment that substantially reduces 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 a rare or endangered plant or animal

In the discussion of "Jeopardy" under the "Guidelines for Consulting with the Department of Fish and Game on Projects Subject to CEQA that may Affect Endangered and Threatened Species," CDFG describes a "yes" answer to any of the following questions as a basis for an initial presumption that a threatened or endangered species would be jeopardized by a proposed project.

- Would a viable or recoverable population be eliminated, or would a significant proportion of a population be adversely affected by the project or the project effects?

- Would the range of the species be significantly diminished by the project?
- Would habitat used by the species be reduced in quantity or quality by either the immediate or future effects of the project?
- Would a species' access to its habitat be reduced or rendered more hazardous as a result of the project?
- Would the project adversely affect current or future efforts at providing protection for the species?
- Would plans for recovery and eventual delisting of the threatened or endangered species be adversely affected by the project?
- Would the project interfere with reproductive or other behavior of the endangered or threatened species?
- Would the project cause extinction of the species?

5.2.2.2 Potential Construction and Operation Impacts of A2PP Project Site, Construction Laydown and Parking Area, and Reconductored 69-kV Sub-transmission Line

The 4.6-acre A2PP plant site would be permanently located due north of the existing Almond Power Plant. The proposed site has previously been leveled and graded and contains access roads. Temporary effects to approximately 1.85 acres of previously disturbed (ruderal) habitat would occur at the construction laydown area. The reconductored 69-kV sub-transmission line extends for 2.9 miles north of the A2PP site. Grading and clearing for construction of the A2PP facility, the construction laydown area, and reconductoring of the existing 69-kV sub-transmission line would not remove any trees or other mature woody vegetation.

5.2.2.2.1 Special-status Species

No threatened or endangered plants or wildlife were observed in the agricultural fields or developed and disturbed lands within or adjacent to the project area during the field surveys. In addition, no records of historical sightings were included in the CNDDDB for the area.

The site and laydown areas are dominated by industrial development and, although the area most likely does not support habitat for any special-status plant species, additional botanical surveys will be conducted during the spring 2009 blooming period to verify these results.

The A2PP site, construction laydown area, and the reconductored 69-kV sub-transmission line do not include preferred foraging habitat for Swainson's hawks; however, potential nest trees may occur in the scattered trees north of the site. No stick nests were observed in these trees during the January 2009 field survey; however, hawks could potentially nest in any large tree within 10 miles of suitable forage habitat in any given year. Tall trees along roads and field edges in association with residences and farms could also provide suitable nest sites. Preconstruction field surveys (conducted under CDFG guidelines) to identify active nest sites will be conducted in the spring (April, May, and June), before construction begins. If nest sites are found within 0.5 mile of a project activity, the designated biologist or appropriate representative identified by the designated biologist will monitor the behavior

of the nesting birds in relation to project activities. The designated biologist, in conjunction with the CDFG warden, will postpone work in that area if it appears the activities will impede reproductive success.

Although no burrowing owls or burrowing owl signs were observed during the field survey, fallow fields adjacent to the railroad berm that parallels the reconductored 69-kV sub-transmission line contained small mammal burrows that could provide suitable nesting sites for burrowing owls. The burrowing owl nesting season is typically from February 1 through August 15. Preconstruction field surveys (conducted under CDFG guidelines) to identify active nest sites will be conducted in the spring (February, March, April, May, and June) before construction begins (CBOC, 1993). If active nest sites are found, protection measures will be implemented (see Section 5.2.4).

One small area of ponding (less than 25 square feet in area), which is best described as a puddle, was observed on the east side of the existing Almond Power Plant between the perimeter fence and the railroad tracks. Two other similar small puddles were noted along either side of the railroad tracks along the reconductored 69-kV sub-transmission line just south of Hatch Road. All three pools were turbid and highly disturbed (e.g., located on dirt roads frequented by motorized vehicles) and had no evidence of crustaceans or other species associated with vernal pools. Other aquatic habitat in the project area is limited to cement-lined irrigation canals devoid of vegetation or other features that would potentially support aquatic wildlife. Protocol surveys (conducted under USFWS guidelines) to identify listed vernal pool species will be conducted beginning in spring 2009. If listed vernal pool crustaceans are positively identified during the first season of dry sampling, a second season of sampling will not be required (USFWS 1996). Based on the results of vernal pool crustacean sampling at the nearby Walnut Energy Center (CH2M HILL, 2003), which has similar habitat and where no listed vernal pool crustaceans were documented during a two-season sampling survey, and the fact that the nearest vernal pool crustaceans have been documented more than 10 miles from the project, TID proposes to consult with USFWS about the possibility of avoiding further sampling if the initial dry season survey results are negative.

Although the potential for resident San Joaquin kit fox is low, TID will conduct denning surveys on the project site and transmission line and gas pipeline corridors to identify if this species is present and/or the extent of its use in the project area. The potential for resident San Joaquin kit fox is low due to the limited availability of den site opportunities and the limited availability of small mammal prey. USFWS confirmed the low probability of kit fox occurring in the project area (Johnson, 2002; Zerrenner, 2002).

During the field survey, a pair of loggerhead shrikes (*Lanius ludovicianus*) was observed perched on a utility line adjacent to the reconductored 69-kV sub-transmission line. This species may nest in the project vicinity, though a nest site was not confirmed. Preconstruction surveys of the reconductored 69-kV sub-transmission line will be conducted to identify nests of any migratory birds. If nests are not active, they will be removed prior to the onset of the breeding season. If active nests are discovered within the disturbance area, measures will be taken (in cooperation with CDFG and USFWS) to avoid impacts.

Because of the current land use surrounding the proposed A2PP site, the construction laydown area, and the reconductored 69-kV sub-transmission line, and the highly disturbed

and degraded nature of the habitat, development of these project features are not expected to result in direct or indirect impacts to special-status plants or wildlife species.

5.2.2.2.2 Potential for Avian Collisions

Direct and indirect impacts to birds including potential for collision with structures (stacks and transmission lines) are expected to be minimal given the project location in an infill area between the existing Almond Power Plant and other industrial developments. It is expected that resident and migrating wildlife in the area would be accustomed to maneuvering around such features and the potential for avian collisions is expected to be minimal. As a precautionary measure, TID has developed an avian protection plan that is designed to avoid or minimize the risk of avian collision and electrocution to migratory birds including special-status species (Appendix 5.2E).

5.2.2.2.3 Construction and Operation Noise and Lighting

Noise impacts associated with the project are described in more detail in Section 5.7, Noise. The A2PP site, laydown area, and the reconducted 69-kV sub-transmission line are surrounded by industrial land and other uses that generate existing ambient noise and light levels. These facilities typically operate 24 hours per day, 7 days per week and have standard industrial lighting and significant noise. In addition, some ambient noise is generated from traffic on local thoroughfares. Therefore, existing conditions already include some noise associated with existing industrial uses and traffic. Noise and construction activities could temporarily prevent wildlife from foraging and nesting adjacent to the site. Generally, noise from construction and operation of these project features would not adversely impact wildlife, as wildlife can be expected to acclimate to routine background noise.

Bright night lighting could disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). Night lighting is also suspected to attract migratory birds to areas and, if the lights are on tall buildings or industrial stacks, collisions could occur. However, the expected stack height will be similar to the stack height of the existing Almond Power Plant and any lighting, if required, will be pointed down to reduce light pollution.

5.2.2.2.4 Wetlands and Waters of the U.S.

No jurisdictional wetlands or waters are present on the project site. The project would not cause loss or fill of any wetlands. Irrigation and drainage canals that support wetland or riparian vegetation (e.g., the dirt-lined Harding Drain) could be considered habitat for wildlife by CDFG and could require a Streambed Alteration Agreement, if affected. However, it is anticipated that a Streambed Alteration Agreement will not be required since one was not required for the TID Walnut Energy Center gas pipeline, which also crossed Lateral 5 using the same jack and bore construction method as proposed for the A2PP. CDFG determined in its Streambed Alteration Agreement Notification for the Walnut Energy Center that, "there is no existing fish or wildlife resource that will be substantially adversely affected by your project, if it is constructed in the manner described in your notification." (CDFG Streambed Alteration Notification No. 2004-0157-R4). However, as a precautionary measure, TID will file a Streambed Alteration Agreement Notification to obtain a determination from CDFG.

Non-reclaimable process wastewater will be disposed of via an existing 6-inch-diameter pipeline to the City of Ceres WWTP; therefore, no adverse impact to wetlands or water quality is expected to occur from this source.

Water will be applied to the site for dust control during construction. Erosion and sediment washed into surface waters would be potentially harmful to water quality of adjacent drainage canals and species that occupy them. TID would be required to have a Stormwater Pollution Prevention Plan (SWPPP) as part of compliance with a construction National Pollutant Discharge Elimination System (NPDES) permit. The permit specifies best management practices (BMPs) to avoid sediment runoff and erosion that would cause water quality degradation.

5.2.2.2.5 Impacts of Air Pollutant Emissions

Air pollutants in the form of particulate matter can physically damage leaf cells impairing the photosynthetic ability of the plant. Other effects include blocking the stomata (leaf pores) so that normal gas exchange is impaired, as well as affecting leaf adsorption and solar radiation reflectance. These effects can reduce productivity in crops, trees, and sensitive special-status plant species in a deposition area.

The maximum annual predicted concentration of particulate matter from the A2PP gas turbines is 0.15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Assuming a deposition velocity of 2 centimeters per second (worst-case deposition velocity, as recommended by the California Air Resources Board), this concentration converts to an annual deposition rate of 0.009 micrograms per square meter per year ($\mu\text{g}/\text{m}^2/\text{year}$), which is several orders of magnitude below the 365 $\mu\text{g}/\text{m}^2/\text{yr}$, which is expected to result in mechanical injury to vegetation (Lerman and Darley, 1975).

Potential impacts of air emissions of other pollutants are discussed in Section 5.1, Air Quality. Maximum modeled concentrations of NO_x , carbon monoxide and sulfur dioxide from the project are compared with screening criteria provided in U.S. Environmental Protection Agency guidance in Table 5.2-4. This comparison demonstrates that no adverse impacts on vegetation are expected as a result of the project.

TABLE 5.2-4
Project Impacts to Vegetation and Sensitive Species

Pollutant	Averaging Period	Modeled Project Impacts ($\mu\text{g}/\text{m}^3$)	Ambient Background ($\mu\text{g}/\text{m}^3$)	Total ($\mu\text{g}/\text{m}^3$)	Minimum Ambient Concentration for Effects on Sensitive Plants ($\mu\text{g}/\text{m}^3$)
NO ₂	4 hours ^a	5.7	118.4	124	3,760
	8 hours ^a	5.7	118.4	124	3,760
	1 month ^a	5.7	118.4	124	564
	Annual	0.3	24.5	25	94
SO ₂	1-hour	1.8	46.8	48.6	917
	3-hour	1.1	33.8	34.9	786
	Annual	0.1	5.3	5.4	18
CO	1 week ^b	6.1	4,144	4,150	1,800,000

^aMaximum modeled 1-hour average NO₂ concentrations used to conservatively represent impacts for averaging periods up to one month.

^bMaximum modeled 8-hour average CO concentration used to conservatively represent 1-week average impact.

5.2.2.3 Potential Construction and Operation Impacts of Two 115-kV Electric Transmission Lines (Corridor 1 and Corridor 2)

The proposed new 115-kV electric transmission lines (Corridor 1 and Corridor 2) would extend for 0.9 mile and 1.2 miles, respectively, to the south of the A2PP site to the proposed Grayson Substation.

The proposed route for each transmission line is located on both previously disturbed land (the existing Almond Power Plant site and paved and unpaved roadways), and actively farmed fields. Portions of each corridor are located within agricultural fields that are being actively farmed. Construction of the two new transmission line corridors would temporarily impact 4.5 acres of previously disturbed land. No trees or other mature woody vegetation would be removed to accommodate the transmission lines. The poles and footings to support the transmission lines would permanently impact approximately 0.004 acre of land.

5.2.2.3.1 Special-status Species

No threatened or endangered plants or wildlife were observed in the agricultural fields or developed and disturbed lands along Corridors 1 and 2 during the field surveys. No records of historical sightings were included in the CNDDDB for the area. The following paragraphs describe the field observations as well as potential for some species to occur.

Although no burrowing owls or burrowing owl signs were observed along the new transmission line routes during the field survey, uncultivated corners and edges of agricultural fields within the corridors may support burrowing mammals, and thus could support burrowing owls. As described above, preconstruction field surveys (conducted under CDFG guidelines) to identify active nest sites will be conducted in the spring (April, May, and June) before construction begins. If active nest sites are found, protection measures will be implemented (see Section 5.2.4.1).

No evidence of vernal pools was observed during the January field survey of the transmission line corridors; however, one small puddle that was noted on the east side of the existing Almond Power Plant between the perimeter fence and the railroad tracks near the junction of the transmission lines with the A2PP will be investigated in the dry season. Similar to those described above, this pool was highly disturbed and had no evidence of vernal pool crustaceans. Other aquatic habitat in the vicinity of the new transmission line corridors is limited to a cement-lined irrigation canal devoid of vegetation or other features that would potentially support aquatic wildlife. Protocol (dry) surveys (conducted under USFWS guidelines) to identify listed vernal pool species will be conducted beginning in spring 2009. If listed vernal pool crustaceans are positively identified during the first season of sampling, a second (wet) season of sampling will not be required (USFWS, 1996). Based on the results of vernal pool crustacean sampling at the nearby Walnut Energy Center (CH2M HILL, 2003), which has similar habitat and where no listed vernal pool crustaceans were documented during a two-season sampling survey, and the fact that the nearest vernal pool crustaceans have been documented more than 10 miles from the project, TID proposes to consult with USFWS about the possibility of avoiding further sampling if the initial dry season survey results are negative.

During the field survey, more than 20 long-billed curlews were observed resting or foraging in an alfalfa field along the transmission line route that borders the south side of the unnamed road leading to the Almond Power Plant. The long-billed curlew occurs locally as

a winter visitor and migrant. Only breeding populations of this species (restricted to northeastern California, specifically Modoc County) are of concern. This species does not breed in Stanislaus County.

The San Joaquin kit fox may den or forage at the edges of agricultural fields along the transmission line routes. Habitat surveys (conducted under USFWS guidelines) to identify if this species is present and/or the extent of its use of the project area will be conducted beginning in spring 2009. TID will coordinate with the USFWS on the survey results and appropriate avoidance measures, if necessary.

Because of the current land use surrounding the proposed transmission lines, and highly disturbed and degraded nature of the habitat, the new transmission lines are not expected to result in direct or indirect impacts to special-status wildlife species.

5.2.2.3.2 Potential for Avian Collisions

Direct and indirect impacts to birds including potential for collision with structures (stacks and transmission lines) are expected to be minimal given the project location in an infill area between the existing Almond Power Plant and other industrial developments. It is expected that resident and migrating wildlife in the area would be accustomed to maneuvering around such features and the potential for avian collisions is expected to be minimal. As a precautionary measure, TID has developed an avian protection plan that is designed to avoid or minimize the risk of avian collision and electrocution to migratory birds including special-status species (Appendix 5.2E).

5.2.2.3.3 Construction and Operation Noise and Lighting

Noise impacts associated with the project are described in more detail in Section 5.7, Noise. Existing conditions already include some noise associated with existing industrial uses and traffic. Noise and construction activities of Corridor 1 and 2 could temporarily prevent wildlife from foraging and nesting adjacent to the transmission line corridors. Generally, noise from construction of these project features would not adversely impact wildlife, as wildlife usually become accustomed to routine background noise.

Bright night lighting could disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). Night lighting is also suspected to attract migratory birds to areas and, if the lights are on tall buildings or industrial stacks, collisions could occur. Although it is anticipated that construction of Corridor 1 and 2 will occur during daylight hours, if construction of the transmission corridors is warranted during nighttime hours, lighting, if required, will be pointed down to reduce light pollution.

5.2.2.3.4 Wetlands and Waters of the U.S

No jurisdictional wetlands or waters are present within Corridors 1 and 2. Installation of the transmission lines would not cause loss or fill of any wetlands.

Water will be applied to the site for dust control during construction. Erosion and sediment washed into surface waters would be potentially harmful to water quality of adjacent drainage canals and species that occupy them. TID would be required to have a SWPPP as part of compliance with a construction NPDES permit. The permit specifies BMPs to avoid sediment runoff and erosion that would cause water quality degradation.

5.2.2.4 Potential Impacts of Natural Gas Pipeline Construction and Operation

The proposed natural gas pipeline Alternate A would extend from the A2PP site south for 9.1 miles. Nearly the entire pipeline route follows Crows Landing Road, a main thoroughfare between the communities of Ceres and Turlock. Natural gas pipeline Alternate B would extend west and south of the A2PP site for approximately 11.1 miles. Most of the Alternate B route follows Carpenter Road. The roadways are surrounded by agricultural fields, most of which are being actively farmed. Clearing and trenching for the proposed pipeline alignments would not remove any trees or other mature woody vegetation.

The primary method of construction includes excavation of an open trench approximately 4 feet deep and 3 to 7 feet wide, depending on site-specific soil type. A 250-foot pipeline construction corridor will be used to provide the flexibility to locate the pipeline on either side of Crows Landing Road or Carpenter Road. During construction, however, only an area 50 feet wide will be disturbed. The specific location of the pipeline will be determined based on the avoidance of any sensitive environmental resources, ability to obtain right-of-way, and the location of existing pipelines and other existing underground utilities. The temporary construction corridor will be used to store the excavated soil, provide access for equipment and vehicles, and space for welding the pipeline segments prior to installation and backfill.

The Westport Drain and the Harding Drain irrigation canal will be crossed via a trenchless construction method (such as jack-and-bore). Therefore, no impacts are expected to wildlife that may use this aquatic habitat.

Construction would result in temporary impacts to the alignments (e.g., vegetation clearing, trench excavation, compaction, dust generation, and restoration). There are no significant habitats present that would be adversely affected by temporary use. The temporary construction corridor would be restored to preconstruction conditions after construction and therefore would sustain no long-term adverse impacts.

The impacts from construction would be temporary and less than significant. No trees or other mature woody vegetation would be removed.

5.2.2.4.1 Special-status Species

The only special-status species observed during the field surveys were two Swainson's hawks, which were observed flying to the west of natural gas pipeline Alternate B in the vicinity of CNDDDB-documented nests of this species. No other special-status species were observed in agricultural fields or developed and disturbed lands along the pipeline alignments during the field surveys. No records of historical sightings were included in the CNDDDB for the area.

The proposed natural gas pipeline Alternate A may provide foraging habitat and a limited amount of nesting habitat for Swainson's hawks. No stick nests were observed in the scattered trees along the Alternate A route during the January 2009 field survey; however, hawks could potentially nest in any large tree within 10 miles of suitable forage habitat in any given year. Natural gas pipeline Alternate B likely provides foraging and nesting habitat for Swainson's hawks. Nests were observed west of Alternate B in the approximate areas where CNDD had documented nest sites. Preconstruction field surveys (conducted under CDFG guidelines) to identify active nest sites will be conducted in the spring

(April, May, and June), before construction begins. If nest sites are found within 0.5 mile of a project activity, the designated biologist or appropriate representative identified by the designated biologist will monitor the behavior of the nesting birds in relation to project activities. The designated biologist, in conjunction with the CDFG warden, will postpone work in that area if it appears the activities will obviously impede reproductive success.

Although no burrowing owls or burrowing owl signs were observed along the pipeline alignments during the field survey, fallow fields within the both alignments may support burrowing mammals, and thus could support burrowing owls. As described previously, preconstruction field surveys (conducted under CDFG guidelines) to identify active nest sites will be conducted in the spring (February, March, April, May, and June) before construction begins. If active nest sites are found, protection measures will be implemented (see Section 5.2.4).

No evidence of vernal pools was observed during the January field survey; however, two small puddles located along natural gas pipeline Alternates A and B will be investigated following winter and early spring rains to identify potential vernal pool crustacean habitat. Most of these pools were highly disturbed with visible signs of motor vehicle traffic (tire tracks) and none had evidence of vernal pool crustaceans. Protocol surveys (conducted under USFWS guidelines) to identify listed vernal pool species will be conducted beginning in spring 2009. If listed vernal pool crustaceans are positively identified during the first season of sampling, a second (wet) season of sampling will not be required (USFWS, 1996). Based on the results of vernal pool crustacean sampling at the nearby Walnut Energy Center (CH2M HILL, 2003), which has similar habitat and where no listed vernal pool crustaceans were documented during a two-season sampling survey, and the fact that the nearest vernal pool crustaceans have been documented more than 10 miles from the project, TID proposes to consult with USFWS about the possibility of avoiding further sampling if the initial dry season survey results are negative.

Within the project area, the Westport Drain and the Harding Drain are dirt-lined canals that support emergent vegetation. Both of these canals provide potentially suitable habitat for western pond turtles and giant garter snakes. No western pond turtles or giant garter snakes were observed in these areas during the field surveys. However, because both the Westport and Harding drains would be crossed by the jack-and-bore method, no effects are expected to these species.

The San Joaquin River is located 0.15 mile west of natural gas pipeline Alternate B. The river provides important fish habitat. Given that BMPs will be implemented during construction and the Harding Drain, which empties into the San Joaquin River, will be crossed by jack-and-bore, no impacts are expected to the San Joaquin River or fish.

As noted above (Section 5.2.1.4.2), several long-billed curlews, a California Species of Special Concern, were observed along the pipeline route in an alfalfa field that borders the unnamed road that leads to the Almond Power Plant on the north side and Crows Landing Road on the west side. The long-billed curlew occurs locally as a winter visitor and migrant. As only breeding populations of this species are of concern, and this species does not breed in Stanislaus County, no avoidance or mitigation measures are required.

Because of the current land use surrounding the proposed project and highly disturbed and degraded nature of the habitat, the pipeline is not expected to result in direct or indirect impacts to special-status wildlife species.

5.2.2.4.2 Construction and Operation Noise and Lighting

Noise impacts associated with the project are described in more detail in Section 5.7, Noise. Existing conditions already include some noise associated with existing industrial uses and traffic. Noise and construction activities of the gas pipeline could temporarily prevent wildlife from foraging and nesting adjacent to the gas pipeline corridor. Generally, noise from construction of these project features would not adversely impact wildlife, as wildlife usually become accustomed to routine background noise.

Bright night lighting could disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). Night lighting is also suspected to attract migratory birds to areas and, if the lights are on tall buildings or industrial stacks, collisions could occur. Although it is anticipated that construction of the gas pipeline will occur during daylight hours, if construction is warranted during nighttime hours, lighting, if required, will be pointed down to reduce light pollution.

5.2.2.4.3 Wetlands and Waters of the U.S.

No jurisdictional wetlands or waters are present along the pipeline route. Installation of the pipeline would not cause loss or fill of any wetlands. Irrigation and drainage canals that support wetland or riparian vegetation (e.g., in the dirt-lined Harding Drain or Westport Drain) could be considered habitat for wildlife by CDFG and could require a Streambed Alteration Agreement if affected. However, it is anticipated that a Streambed Alteration Agreement will not be required since one was not required for the TID Walnut Energy Center gas pipeline, which also crossed Lateral 5 using the same jack and bore construction method as proposed for the A2PP. CDFG determined in its Streambed Alteration Agreement Notification for the Walnut Energy Center that, "there is no existing fish or wildlife resource that will be substantially adversely affected by your project, if it is constructed in the manner described in your notification." (CDFG Streambed Alteration Notification No. 2004-0157-R4). However, as a precautionary measure, TID will file a Streambed Alteration Agreement Notification to obtain a determination from CDFG.

Water will be applied to the site for dust control during construction. Erosion and sediment washed into surface waters would be potentially harmful to water quality of adjacent drainage canals and species that occupy them. TID would be required to have a SWPPP as part of compliance with a construction NPDES permit. The permit specifies BMPs to avoid sediment runoff and erosion that would cause water quality degradation.

5.2.3 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code § 21083; California Code of Regulations, title 14, § 15064(h), 15065(c), 15130, and 15355).

For 2008–2009, the City of Ceres has 19 public works projects, five commercial/industrial projects, 10 city-related plans or programs either planned or currently under way. Of these

projects, three are within a 1-mile radius of the project site and/or transmission routes, and include:

- **Crows Landing (Flea Market) and Ceres Lions Park Wells** – Addition of a 650 to 725-gallon-per-minute (gpm) well at the Crows Landing Flea Market and second 650 gpm well at Ceres Lions Park. Design of the pumps is currently underway.
- **Lagoon Cleaning Project** – As part of the City’s effort to improve the treatment system, percolation ponds east of Morgan Avenue and south of E. Service Road are being dredged, with completion expected in early 2009.
- **Larger Stand-by Power at Blaker Reservoir** – The City plans to either replace the existing stand-by power unit currently capable of powering two of the six booster pumps, with a power unit capable of running four booster pumps, or add a second unit to power the two additional pumps. This project is currently in the planning phase.

In addition to these capital projects, the City has an additional 30 project applications approved and five pending within the Planning Department. Of the 30 approved projects, three are industrial and are within the Service Road Industrial Master Plan area, two are residential within the Brown Annexation Master Plan area, and one residential is within the Westpoint Master Plan area; these projects are within approximately 1 mile of the project site. The pending applications include one residential project (34 units) and three commercial projects (a total of 410,000 square feet). These projects range between 2.5 to 3 miles away from the A2PP.

In December 2008, 29 projects applications were under review within the Stanislaus County Planning Division including general plan amendments and rezonings, and applications to develop residential, office, commercial, and industrial uses as well as religious, educational, and health institutions; agricultural-related uses; and natural resource extraction (Stanislaus County, 2008 and 2009). These projects were located elsewhere in the County in the areas of Salida, Waterford, Oakdale, Patterson, Keyes, Knights Ferry, Denaire, Turlock, Empire, Hughson, Newman, and Modesto.

Additionally, TID is preparing an environmental impact report for the TID Hughson-Grayson 115-kV Transmission Line and Substation Project, which includes the proposed Grayson Substation (State Clearinghouse Number 2009012075). In addition to the substation, the project consists of an approximately 10-mile-long, 115-kV transmission line; a 0.5-mile-long, 69-kV transmission line from the existing TID Almond Power Plant; and a second 69-kV transmission line that extends 0.8 mile east from the proposed substation. The Notice of Preparation was issued on January 26, 2009, and reissued on February 10, 2009. The Draft Environmental Impact Report is anticipated to be issued in July 2009.

Because the A2PP is a permitted use at the proposed site and would not result in significant adverse impacts that cannot be mitigated, impacts from the A2PP would not likely combine with those from the projects being processed in the city limits to result in cumulative significant impacts. Similarly, because the A2PP site is in a primarily agricultural area of the county, it is unlikely the A2PP’s project impacts would combine with those of projects occurring elsewhere in the County to result in significant cumulative impacts.

As described previously, the A2PP will not cause any adverse impacts to biological resources, fill any wetlands, or affect biological resources habitat. The potential impact to nesting birds will be mitigated by conducting preconstruction surveys and either avoiding active nests during the nesting season or rescheduling construction activities outside of the nesting season. Existing projects have been considered as part of the project's ambient noise monitoring. New projects in this area are unlikely to be important sources of noise that could disturb wildlife. Any potentially significant adverse impacts to biological resources are considered and mitigated, if necessary. For these reasons, the A2PP will not cause any adverse cumulative impacts to biological resources.

5.2.4 Mitigation and Monitoring

The construction and operation of the A2PP is not expected to result in significant biological impacts. However, the following avoidance and mitigation measures will be incorporated to minimize impacts to special-status species.

5.2.4.1 Preconstruction Surveys

Prior to construction, surveys will be conducted for special-status species including Swainson's hawks, burrowing owls, other ground-nesting birds, and vernal pool crustaceans.

A preconstruction survey for nesting birds should be conducted prior to construction activities. The survey should be conducted no more than 2 weeks prior to construction activities and should be conducted by qualified biologists familiar with the identification of nesting bird species. The presence of any nesting birds in the vicinity of the site should be considered and addressed prior to the start of construction. CDFG typically imposes a 300-foot radius for protection of nesting raptors. However, this can be addressed on a case-by-case basis as some raptors have been observed to nest much closer to human activities without exhibiting any stress, and raptors in this location may be habituated to human activity. In the event a raptor nest is observed within 300 feet of the project site, a qualified biologist in coordination with CDFG will determine whether construction activities could potentially disturb nesting raptors, and implement appropriate measures as needed. Preconstruction surveys will also be conducted for the ground-nesting western burrowing owl. In the event that a special-status species is found on site during the surveys, the wildlife agencies will be contacted and the appropriate measures will be taken to avoid or relocate the species as needed.

Although the potential for resident San Joaquin kit fox is low, TID will conduct denning surveys on the project site and transmission line and gas pipeline corridors to identify if this species is present and/or the extent of its use in the project area.

Protocol surveys (conducted under USFWS guidelines) to identify listed vernal pool species will be conducted beginning in spring 2009. If listed vernal pool crustaceans are positively identified during the first season of sampling, a second season of sampling will not be required (USFWS, 1996). If vernal pool species are confirmed to use the project area, the pools would be surrounded with orange construction fencing and avoided. Therefore, no impacts would occur to the pools. Based on the results of vernal pool crustacean sampling at the nearby Walnut Energy Center (CH2M HILL, 2003), which has similar habitat and where no listed vernal pool crustaceans were documented during a two-season sampling survey,

and the fact that the nearest vernal pool crustaceans have been documented more than 10 miles from the project, TID proposes to consult with USFWS about the possibility of avoiding further sampling if the initial dry season survey results are negative. If vernal pool crustaceans are determined to be present, they will be avoided during construction.

5.2.5 Laws, Ordinances, Regulations, and Standards

The following sections describe the primary LORS that apply to potential impacts on biological resources in the project area, and list the agencies responsible for enforcing the regulations. A summary of the LORS is provided in Table 5.2-5.

5.2.5.1 Federal LORS

Federal Endangered Species Act (16 United States Code [USC] 153 et seq.). Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS. Adverse impacts are defined as “take,” which is prohibited except through authorization of a Section 7 or Section 10 consultation and Incidental Take Authorization. “Take” under federal definition includes “such act as may include significant habitat modification or degradation” (50 CFR 17.3). Species that are not listed are not protected by federal Endangered Species Act, even if they are candidates for listing; however, USFWS advises that a candidate species (as well as species of concern) could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

Migratory Bird Treaty Act (16 USC 703 to 711) protects all migratory birds, including nests and eggs.

Bald and Golden Eagle Protection Act (16 USC 668) specifically protects bald and golden eagles from harm or trade in parts of these species.

5.2.5.2 State LORS

California Endangered Species Act (Fish and Game Code Section 2050 et seq.). Species listed under this act cannot be “taken” or harmed, except under specific permit. At present, “take” means to do or attempt to do the following: hunt, pursue, catch, capture, or kill.

Fish and Game Code Section 3511 describes bird species, primarily raptors, that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

Fish and Game Code Section 3503.5 protects all birds of prey and their eggs and nests.

Fish and Game Code Section 3513 makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

Fish and Game Code Sections 4700, 5050, and 5515 lists mammal, amphibian, and reptile species that are fully protected in California.

Fish and Game Code Sections 1900 et seq. The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.

Title 14, California Code of Regulations, Sections 670.2 and 670.5 lists animals designated as threatened or endangered in California. CSC is a category conferred by CDFG on those species that are indicators of regional habitat changes or are considered potential future protected species. CSC do not have any special legal status, but are intended by CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

California Fish and Game Code (Sections 1601 through 1607) prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. CDFG jurisdiction is limited to areas within the 100-year floodplain. Within this zone, CDFG jurisdiction is subject to the judgment of the department. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of a project.

California Environmental Quality Act (Public Resources Code Section 15380) defines “rare” in a broader sense than the definitions of threatened, endangered, or species of special concern. Under this definition, CDFG can request additional consideration of species not otherwise protected. CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.

Warren Alquist Act (Public Resources Code Section 25000, et seq.) is a CEQA-equivalent process implemented by the CEC. Preparation of this application will result in an assessment prepared by the CEC staff to fulfill the requirements of CEQA.

5.2.5.3 Local and Other Jurisdictions’ LORS

5.2.5.3.1 Applicable Habitat Conservation Plans and Critical Habitat Designations

The project is not located in an existing Habitat Conservation Plan. The project is in the broad area addressed by the *Recovery Plan for Upland Species of the San Joaquin Valley* (USFWS 1998). This plan was developed using the San Joaquin kit fox as an “umbrella species” and has the goal of preserving habitat for 11 threatened and endangered species in the Central Valley. After analyses of the project location and potential impacts from construction and operation, it is unlikely that the proposed project would significantly affect any of the species targeted in the plan.

Critical habitat has been designated under the federal Endangered Species Act in Stanislaus County for several listed species. Critical habitat was designated for the Central Valley steelhead (*Oncorhynchus mykiss*) ESU September 2, 2005 (Federal Register, 2005). The nearest Central Valley steelhead critical habitat is located in the San Joaquin River and its tributaries. Critical habitat was also designated in Stanislaus County for four vernal pool crustaceans and 11 vernal pool plants on August 6, 2003 (Federal Register, 2003). Of these, conservation units for the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), Hoover’s spurge (*Chamaesyce hooveri*), Colusa grass (*Neostapfia colusana*), hairy orcutt grass (*Orcuttia pilosa*), Greene’s tuctoria (*Tuctoria greenei*), and succulent owl’s clover (*Castilleja campestris* ssp. *succulenta*) are located in Stanislaus County; however, the nearest critical habitat unit for these vernal pool species is located 10.5 miles

northwest of the project. The proposed project area and associated linears do not fall in any designated or proposed critical habitat areas.

5.2.5.3.2 Stanislaus County General Plan

The Conservation/Open Space Element of the County General Plan (Stanislaus County, 2001) contains specific objectives to preserve water quality and open space that have benefits to biological resources. It also contains specific policies and goals for protecting areas of sensitive plant and wildlife habitat and for ensuring compatibility between natural areas and development. Conservation policies applicable to the project are summarized in Table 5.2-5.

5.2.5.3.3 City of Ceres General Plan

The General Plan states that no fish and wildlife habitat of major concern is located within the Planning Area, which includes the A2PP site, construction laydown and parking area, the reconducted 69-kV sub-transmission line, and parts of the proposed electric transmission and natural gas pipeline routes. The General Plan also indicates that development in the Urban Growth Area, which also includes A2PP site, construction laydown and parking area, the reconducted 69-kV sub-transmission route, and parts of the proposed electric transmission and natural gas pipeline routes, should not have significant effects on fish and wildlife habitat except for the area adjacent to the Tuolumne River (City of Ceres, 1997). Conservation policies applicable to the project are summarized in Table 5.2-5.

TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Federal		
Section 401 of Clean Water Act of 1977	Requires the applicant to conduct water quality impact analysis for the project when using 404 permits and for discharges to waterways.	The A2PP site does not include any federal jurisdictional wetlands or other waters of the U.S.
Federal Endangered Species Act (Federal ESA, 16 USC 153)	Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS.	The A2PP site does not include habitat for federally listed species or species that may potentially be listed in the near future. Construction and operation will avoid significant impacts to federally listed species and their habitat.
Migratory Bird Treaty Act (16 USC 703 to 711)	Protects all migratory birds, including nests and eggs.	Nesting bird species have been observed in the project study area. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to migratory birds.
Bald and Golden Eagle Protection Act (16 USC 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species.	The A2PP site does not include habitat or other features that would likely attract eagles. Stacks will be low in profile (80 ft) and are not likely to result in significant bird strikes. Transmission line will tie-in to the existing corridor.
State		
California Endangered Species Act (Fish and Game Code Section 2050 et seq.).	Species listed under this act cannot be “taken” or harmed, except under specific permit.	The site and vicinity was analyzed and it was determined that A2PP construction or operation will not affect listed species and, therefore, not result in “take.”
Fish and Game Code Section 3511	Describes bird species, primarily raptors that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.	No nesting raptors have been observed in the immediate vicinity of the A2PP site. However, preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to nesting raptors. In addition stacks will be low in profile (80 ft) and are not likely to result in significant bird strikes.
Fish and Game Code Section 3503	States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	Nesting bird species have been observed in the project study area. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to nesting birds.

TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Fish and Game Code Sections 3503.5 as 3514	Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.	No nesting raptors have been observed in the immediate vicinity of the A2PP site. However, preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to raptors and their nests.
Fish and Game Code Sections 4700, 5050, and 5515	Lists mammal, amphibian, and reptile species that are fully protected in California.	The A2PP site was analyzed and does not include likely habitat for fully protected mammal, amphibian, or reptile species.
Fish and Game Code Sections 1900 et seq.,	The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.	The A2PP site was analyzed and does not include likely habitat for protected plant species.
Title 14, California Code of Regulations, Sections 670.2 and 670.5	Lists animals designated as threatened or endangered in California.	Potentially suitable nest trees for Swainson's hawks (State Threatened) were observed in the A2PP project site vicinity. Preconstruction surveys and appropriate mitigation measures will be implemented to avoid adverse affects to the Swainson's hawk.
California Fish and Game Code (Sections 1601 through 1607)	Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG.	The A2PP site construction was analyzed and will not include alteration of any stream or channel.
CEQA (Public Resources Code Section 15380)	CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.	The Application for Certification (AFC) analysis and process is CEQA equivalent. All requirements under CEQA are met with the analysis in the A2PP AFC.
Warren Alquist Act (Public Resources Code Section 25000, et seq.)	Warren-Alquist Act is a CEQA-equivalent process implemented by the CEC.	The AFC analysis and process is CEQA-equivalent. All requirements under the Warren-Alquist Act are met with the analysis in the A2PP AFC.

TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Stanislaus County General Plan		
Conservation/Open Space	Policy 2 The County shall assure compatibility between natural areas and development. This is achieved by reviewing zoning regulations for compatibility between proposed development and natural areas. Furthermore, the County must review all development requests to ensure that sensitive areas are left undisturbed or that mitigation measures acceptable to appropriate state and federal agencies are included in the project.	The A2PP site is not in a sensitive natural area and protection and mitigation measures were developed to avoid and minimize impacts to sensitive areas.
Conservation/Open Space	Policy 3 Areas of sensitive wildlife habitat and plant life including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development. The County shall review all development requests to ensure that sensitive areas are left undisturbed or that mitigation measures acceptable to appropriate state and federal agencies are included in the project. In known sensitive areas, the state Department of Fish and Game shall be notified as required by the California Native Plant Protection Act. The U.S. Fish and Wildlife Service must also be notified. All discretionary projects that will potentially impact riparian habitat and/or vernal pools or other sensitive areas shall include mitigation measures for protecting that habitat. Implementation of this policy shall not be extended to the level of an unconstitutional "taking" of property.	The project will involve informal consultation with CDFG and USFWS. Protection and mitigation measures were developed to avoid and minimize impacts to sensitive areas.

TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Conservation/Open Space	Policy 4 The County will protect and enhance oak woodlands and other native hardwood habitat. This policy requires all projects that will potentially impact oak woodlands and other native hardwood habitat, including but not limited to hardwood rangelands identified in the General Plan, to include a management plan for the protection and enhancement of oak woodlands and other native hardwood habitat. The County will consider adoption of a tree ordinance to promote the conservation of native trees or trees with historical significance.	The project will avoid oak woodland and native hardwood habitat.
Conservation/Open Space	Policy 6 The County shall preserve vegetation to protect waterways from bank erosion and siltation. All development proposals including or in the vicinity of waterways and/or wetlands shall be closely reviewed to ensure that destruction of riparian habitat and vegetation is minimized. The County will continue to encourage best management practices for agriculture and coordinate with soil and water conservation efforts of Stanislaus County Farm Bureau, Resource Conservation Districts, the U.S. Soil Conservation Service, and local irrigation districts.	The project will avoid removal of vegetation in riparian areas, wetlands, and waterways.
Conservation/Open Space	Policy 29 The County shall maintain adequate water flows to allow salmon migration.	The project will not affect flows to local waterways.
Conservation/Open Space	Policy 30 The County shall insure that habitats of rare and endangered fish and wildlife species shall be protected. The County shall utilize the CEQA process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species. The County shall protect sensitive wildlife habitat and plant life through strategies identified in Policy 3.	The analysis of biological resources in the AFC process is equivalent to CEQA. The project has been located to avoid habitats of special-status species. Mitigation and protection measures were developed to avoid impacts to sensitive areas.

TABLE 5.2-5
Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
City of Ceres General Plan		
Fish and Wildlife Habitat	Policy 6.c.1. City shall require developments in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the reasonable value of the habitat for wildlife is maintained.	Project will avoid important wildlife habitats by siting plant and linears in previously disturbed areas;
Fish and Wildlife Habitat	Policy 6.c.3. Prior approval of discretionary development permits involving parcels within a significant ecological resource area, the City shall require, as part of the environmental review process, a biotic resources evaluation of the site by a wildlife biologist	Field survey conducted in January 2009 by two wildlife biologists.
Vegetation	Policy 6.D.5. The City shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.	Any non-native species that are removed during development of the project, with the exception of agricultural crops, will be replaced with native trees, shrubs, and grasses, as appropriate.

Sources: Stanislaus County General Plan, 2001; City of Ceres General Plan, 1997.

5.2.6 Agencies and Agency Contacts

Table 5.2-6 provides a list of agency contacts for the A2PP project.

TABLE 5.2-6
Agency Contacts for Biological Resources

Issue	Agency	Contact
Federal threatened or endangered species	U.S. Fish and Wildlife Service	Maryanne Owens ESA Coordinator 2800 Cottage Way Room W-2605 Sacramento, CA 95825 (916) 414-6600 Maryann.owens@fws.gov
California special status species	California Department of Fish and Game	Julie Vance Senior Environmental Scientist 1234 E. Shaw Avenue Fresno, CA 93710 (559) 243-4014 x222 jvance@dfg.ca.gov
Streambed Alteration Agreement	California Department of Fish and Game	Annette Tanneboe Warden 1234 E. Shaw Avenue Fresno, CA 93710 (559) 243-4014 x231 atanneboe@dfg.ca.gov

5.2.7 Permits and Permit Schedule

Required permits and permit schedule are listed in Table 5.2-7.

TABLE 5.2-7
Required Permits

Permit / Authorization	Required to Complete Consultations	Date Application Submitted
CDFG Streambed Alteration Agreement for putting pipelines under irrigation canals, if necessary	Notification to be submitted to CDFG to determine whether a Streambed Alteration Agreement is required.	Before construction
Water Quality Certification	Project description information is being provided to the RWQCB to determine if a permit is required. If needed, prepare application that describes monitoring plan for water quality during construction, requires completed endangered species consultations and CDFG Streambed Alteration Agreement.	Before construction

5.2.8 References

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- Ford, T. 2002. Personal communication with Debra Crowe, October 31. Tim Ford is a Turlock Irrigation District Fisheries Biologist.
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TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Plants					
Lesser saltscare	<i>Atriplex minuscula</i>	--/--/CNPS 1B	Sandy soils in alkaline areas at elevations of less than 100 m, often in association with slough systems and river floodplains. However, it is found only in microhabitats that are not inundated year-round.	May – October	None – no suitable habitat in the study area. Nearest suitable habitat (and CNDDDB record of occurrence) is located adjacent to the San Joaquin River and approximately 1.5 miles west of the natural gas pipeline alignment A and appears to overlap natural gas pipeline alignment B. However, the accuracy of this occurrence is 1 mile and the record dates from 1965, therefore, it is unlikely this species is present within the project impact area.
Heartscare	<i>Atriplex cordulata</i>	--/--/CNPS1B	Sandy, saline or alkaline flats or scalds, in chenopod scrub, meadows, and valley and foothill grassland.	April – October	None – believed extirpated from Stanislaus County. Nearest suitable habitat (and CNDDDB record of occurrence) is located adjacent to the San Joaquin River and approximately 1.5 miles west of the natural gas pipeline alignment A and appears to overlap natural gas pipeline alignment B. However, the accuracy of this occurrence is 1 mile and the record dates from 1965, therefore, it is unlikely this species is present within the project impact area.
Vernal pool smallscale	<i>Atriplex persistens</i>	--/--/CNPS1B	Vernal pools.	June – October	None – no suitable habitat in the study area.
Alkali milk-vetch	<i>Astragalus tener</i> <i>var. tener</i>	--/--/CNPS 1B	Vernal pools and playas, edges of salt marshes, alkali meadows, and moist grassy flats.	March – June	None – no suitable habitat in the study area. Nearest suitable habitat (and CNDDDB record of occurrence) is located adjacent to the San Joaquin River and approximately 1.5 miles west of the natural gas pipeline alignment A and appears to overlap natural gas pipeline alignment B. However, the accuracy of this occurrence is within 1 mile and the record dates from 1940; according to the CNDDDB the occurrence is assumed to be extirpated from the area.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Big tarplant	<i>Blepharizonia plumosa</i>	--/--/CNPS 1B	Valley and foothill grasslands.	July – October	Low – no native habitat observed in the study area.
Succulent (fleshy) owl's clover	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	FT/CE/ CNPS 1B	Vernal pools.	April – May	None – no suitable habitat in the study area.
Hoover's spurge	<i>Chamaesyce hooveri</i>	FT/--/CNPS 1B	Vernal pools.	July – September	None – no suitable habitat in the study area. Nearest critical habitat 18 miles east of the project.
Beaked clarkia	<i>Clarkia rostrata</i>	--/--/CNPS 1B	Cismontane woodlands; Valley and foothill grasslands at higher elevations.	April – May	None – no suitable habitat in the study area.
Delta button celery	<i>Eryngium racemosum</i>	--/CT/CNPS 1B	Riparian scrub; 3 – 30 meters elevation.	June – September	None – no suitable habitat in the study area.
Merced monardella	<i>Monardella leucocephala</i>	--/--/CNPS 1A	Extremely sandy, subalkaline soils in low-lying areas bordering rivers.	May – August	None – no suitable habitat in the study area.
Colusa grass	<i>Neostapfia colusana</i>	FT/CE/ CNPS 1B	Vernal pools.	May – August	None – no suitable habitat in the study area. Nearest critical habitat is 14 miles northeast of the project.
San Joaquin Valley orcutt grass	<i>Orcuttia inaequalis</i>	FT/CE/CNPS 1B	Vernal pools	April – September	None – no suitable habitat in the study area. Nearest critical habitat is 24 miles southeast of project.
Hairy orcutt grass	<i>Orcuttia pilosa</i>	FE/CE/ CNPS 1B	Vernal pools.	May – September	None – no suitable habitat in the study area. Nearest critical habitat is 21 miles east of the project.
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	FE/CE/CNPS 1B	Open grasslands and grasslands at the margins of blue oak woodland, primarily on shallow, well-drained, fine-textured soils, nearly always on the north or northeast facing of Mima mounds.	March – April	None – no suitable habitat in the study area.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Greene's tuctoria	<i>Tuctoria greenei</i>	FE/ CNPS 1B	Vernal pools.	May – July	None – The species has been extirpated from Fresno, Madera, San Joaquin, Stanislaus and Tulare counties. Nearest critical habitat is 15 miles northeast of the project.
Invertebrates					
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE/--	Occurs in large, generally playa-like vernal pools with highly turbid water.	October – May	Low – no suitable habitat observed in the study area. Nearest critical habitat is 10.5 miles northwest of the project.
Longhorn fairy shrimp	<i>B. longiantenna</i>	FE/--	Associated with ephemeral swales and clear to turbid vernal pools in grassland communities.	December – April	Low – no suitable habitat observed in the study area. Nearest critical habitat is 13 miles southeast of the project.
Vernal pool fairy shrimp	<i>B. lynchi</i>	FT/--	Found in vernal pools (seasonal wetlands).	October – May	Low – no suitable habitat observed in the study area. Nearest critical habitat is 18 miles east of the project.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE/--	Inhabits vernal pools and swales in the Sacramento Valley and San Joaquin Valley containing clear to highly turbid water. Commonly found in grass-bottomed swales of unplowed grasslands. Some inhabit mud-bottomed and highly turbid pools.	October – May	Low – no suitable habitat observed in the study area. Nearest critical habitat units located 13 miles northeast and southeast of the project.
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT/--	Host plant elderberry (<i>Sambucus mexicana</i>). Generally found in riparian stands of clustered host plant.	April – June	None – no suitable host plant in the study area. The nearest CNDDDB record is from the riparian area along the Tuolumne River approximately 3 miles west of Corridor 3. Nearest critical habitat is 70 miles north of project.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Moestan blister beetle	<i>Lytta moesta</i>	--/--	Annual grassland, foothill woodland and saltbush scrub.	Collected from March – September	Low – no suitable habitat observed in the study area. However, remnant annual grassland habitat may be present in the project vicinity.
Fish					
Green sturgeon	<i>Acipenser medirostris</i>	FT/CSC	Freshwater and saltwater habitats including deep pools in freshwater rivers, oceanic waters, bays, and estuaries	Adults typically migrate into fresh water beginning in late February; spawning occurs from March-July, with peak activity from April-June	None – no suitable habitat in the study area.
Delta smelt	<i>Hypomesus transpacificus</i>	FT/CT	The historic range of the delta smelt extended from Suisun Bay upstream to at least the City of Sacramento on the Sacramento River and Mossdale on the San Joaquin River	May	None – no suitable habitat in the study area.
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	FT/--	Found in tributaries to the San Francisco Bay, including the South Bay. Pass through the San Francisco Estuary during migration to streams for spawning, and during outmigration to the ocean. Spawns in small streams and tributaries with cold, clean water flowing over graveled bottoms and deep pools.	Migrates July – May; spawns December – April	None – no suitable habitat in the study area. The San Joaquin River, within 1.5 miles of natural gas pipeline alignment A and 0.15 mile of natural gas pipeline alignment B contains critical habitat for this species.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Central Valley spring-run Chinook salmon	<i>O. tshawytscha</i>	FT/--	Found in tributaries to the San Francisco Bay including the Sacramento River watersheds. Passes through the San Francisco Estuary during migration to streams for spawning, and during outmigration to the ocean. Spawns in well-oxygenated water in swift, shallow riffles, or at edges of fast runs with loose gravel.	Migrates during spring months; holds in headwaters areas, and spawns during late summer and early fall	None – no suitable habitat in the study area. Nearest occurrence is the San Joaquin River approximately 1.5 miles west of the natural gas pipeline alignment A and 0.15 mile west of natural gas pipeline alignment B.
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	--/CSC	Primarily in San Francisco Bay Delta and lower Sacramento River. Historic range includes Sacramento River to Redding and San Joaquin River to Friant Dam. Associated with river backwaters, pools, sloughs, shallow bays, and slow moving shallow water with aquatic vegetation.	Peak spawning period March through May.	None – no suitable habitat in the study area. Nearest CNDDDB record is from the San Joaquin River approximately 1.5 miles southwest of natural gas pipeline alignment A and 0.15 mile west of natural gas pipeline alignment B.
Hardhead	<i>Mylopharodon conocephalus</i>	--/CSC	Deep pools in well-oxygenated undisturbed mid-to low-elevation streams in the Sacramento-San Joaquin watershed and the Russian River. Closely associated with Sacramento sucker and Sacramento pikeminnow.	Resident	None – no suitable habitat in the study area.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Amphibians					
California tiger salamander	<i>Ambystoma californiense</i>	FT/CSC	Vernal pools, seasonal ponds in annual grasslands and foothill hardwoods		None – no suitable habitat in the study area. Nearest designated critical habitat is 15 miles northeast of project.
California red-legged frog	<i>Rana aurora draytonii</i>	FT/CSC	Marshes, slow moving water; prefers areas with good plant cover		None – no suitable habitat in the study area. Nearest proposed critical habitat is 25 miles west of project.
Reptiles					
Western pond turtle	<i>Emys</i> (= <i>Clemmys</i>) <i>marmorata</i>	--/CSC	Require some slack- or slow-water aquatic habitat. Often reach higher densities where many aerial and aquatic basking sites are available. Hatchlings require shallow-water habitat with relatively dense submergent or short emergent vegetation in which to forage. Also require an upland oviposition site (high clay or silt fraction soil, on an unshaded slope) near the aquatic site.	April – May	Low – Very limited basking or breeding habitat in the study area. Species may occasionally use irrigation canals within the project area as a means of migration and dispersal. Nearest occurrence documented 2 miles east of natural gas pipeline alignment A and 3.5 miles east of natural gas pipeline alignment B in the Harding Drain irrigation canal.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Giant garter snake	<i>Thamnophis gigas</i>	FT/CT	Low gradient streams, small ponds, and drainage canals to provide food and cover along with emergent, herbaceous wetland vegetation, such as cattails and bulrushes; grassy banks and openings in waterside vegetation for basking and higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter; avoids large rivers.	Most vulnerable during hibernation underground from October 1 to May 1. Active above ground May - September.	Low –Very limited breeding habitat in the project area. Species may occasionally use irrigation canals (lacking emergent vegetation) within the project area as a means of migration and dispersal. Nearest occurrence is from the Kesterson Wildlife Refuge located approximately 14 miles southeast of the project.
Birds					
Cackling (Aleutian) Canada goose	<i>Branta hutchinsii leucopareia</i>	MBTA/--	California winter range is associated with wetlands, agriculture fields, flooded fields, and open land.	Breeds in Aleutian islands and winters in the Central Valley.	Moderate – May forage in cropland in project area. Nearest CNDDDB record is from 5.5 miles west of the natural gas pipeline alignment A and overlapping the natural gas pipeline alignment B.
Western burrowing owl	<i>Athene cunicularia</i>	MBTA/CSC	Habitats includes open grassland habitat with fossorial mammal burrows, often associated with ground squirrels. Utilize small mammal burrows for cover and natal dens.	Year-round resident; Breeding season is typically from February through August.	High – Potentially suitable habitat (California ground squirrel complexes) observed in two locations. CNDDDB had no record of this species within 5 miles of the project.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Swainson's hawk	<i>Buteo swainsoni</i>	MBTA/CT	Nests primarily in riparian trees adjacent to grassland, and agricultural areas with scattered trees. Primarily associated with the Central Valley during the breeding season, migrating to Central and South America in the fall/winter.	The breeding season is from March through September. Migrating to Central or South America in fall/winter.	Moderate – Potentially suitable nesting/roosting habitat located in trees within the project area. CNDDDB has numerous records of species in project vicinity; nearest occurrence is 1.75 miles from the proposed natural gas alignment A and 1.6 miles west of natural gas pipeline alignment B.
Tricolored blackbird	<i>Agelaius tricolor</i>	MBTA/CSC	Breeds near fresh water, preferably in emergent wetlands, with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Feeds in grassland and cropland habitats.	February – June	Low – no suitable nesting habitat is in the project area; however suitable foraging habitat is present. CNDDDB has several records of this species within the project area and vicinity. The nearest record is within 0.5 mile of natural gas pipeline alignment A and overlaps natural gas pipeline alignment B.
Suisun song sparrow	<i>Melospiza melodia maxillaris</i>	MBTA/CSC	Intermixed stands of bulrush (<i>Scirpus</i> spp.), cattail (<i>Typha</i> spp.), and other emergent vegetation	March – May	None – endemic to Suisun Bay.

TABLE 5.2-1
Special-status Species with the Potential to Occur in the Vicinity of the Almond 2 Power Plant

Common Name	Scientific Name	Status	Habitat	Season	Potential to Occur
Mammals					
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE/CT	Scrub and grasslands with suitable denning structure (culverts, abandoned pipes, banks). Utilize underground or artificial burrows for cover and natal dens. Den locations are frequently moved.	Natal den preparation often begins in September. Mating typically takes place from late December to March. Pups are born in February to March. Young then disperse in August to September.	Low – Unlikely to occur along the railroad corridor and in fallow fields adjacent to the project linears. Limited den site opportunities and prey base.

Notes:

CE = State listed Endangered Species

CNPS 1A = Plants presumed extinct in California

CNPS 1B = Plant species considered rare, threatened or endangered in California and elsewhere

CNPS 2 = Plant species considered rare, threatened or endangered in California, but more common elsewhere

CT = State listed Threatened Species

CSC = Species of Special Concern

FT = Federally-listed Threatened Species

FE = Federally listed Endangered Species

MBTA = Migratory Bird Treaty Act