INFORMATION HANDOUT

FOR CONTRACT NO.: 04-4C2001
At 04-SCL-152-PM R9.9, 21.9

ENVIRONMENTAL STUDY REPORT

NATURAL ENVIRONMENT STUDY SANTA CLARA STATE ROUTE 152 AC OVERLAY CAPM PROJECT

Natural Environment Study

Santa Clara State Route 152 AC Overlay CAPM Project

Caltrans District 04

Santa Clara County, California
State Route 152
PM 9.9/12.6; PM 13.0/13.8; PM 14.8/16.2; PM 16.5/18.5; and PM 20.3/21.9
EA 4C200

March 2014

Natural Environment Study

Santa Clara State Route 152 AC Overlay CAPM Project

Caltrans District 04

Santa Clara County, California
State Route 152
PM9.9/12.6; PM 13.0/13.8; PM 14.8/16.2; PM 16.5/18.5; and PM 20.3/21.9
EA 4C200

January 2013

Prepared By: _____ Date: 1/13/2014
Diana Edwards, Biologist
415.365.3226
AECOM
300 California Street, Suite 400, San Francisco, CA 94104

Reviewed by: _____ Date: 2/27/2014
Robert Vogt, Associate Environmental Planner
Office of Biological Sciences and Permits
District 4, Oakland
California Department of Transportation

Reviewed by: _____ Date: 2/27/2014
Frances Malamud-Roam,
Senior Environmental Planner
Office of Biological Sciences and Permits
District 4, Oakland
California Department of Transportation

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Frances Malamud-Roam, District Branch Chief, Office of Biological Sciences and Permits, 111 Grand Avenue, Oakland, CA 94623; (510) 286-6216 Voice, or use the California Relay Service TTY number, 771.

Summary

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), is proposing the Santa Clara State Route 152 AC Overlay Capital Preventive Maintenance (CAPM) Project (proposed project) to preserve and extend the service life of the existing pavement and improve the ride quality of State Route (SR) 152. The proposed project includes improvements to five segments of roadway—totaling approximately 7.7 miles—located between U.S. 101 (post mile [PM] 9.9) in the City of Gilroy and SR 156 (PM 21.9) in unincorporated southern Santa Clara County. To improve the ride quality of SR 152, the proposed project includes:

- resurfacing the existing asphalt concrete (AC) roadway;
- upgrading an existing curb ramp located at the intersection of Cameron Boulevard and SR 152, near PM 10.8;
- applying a layer of fog sealant to preserve and extend the useful life of the existing road shoulder; and
- installing rumble strips along the centerline and outside roadway edges.

To avoid affecting special-status species, hydrologic resources, or other sensitive natural communities, all project-related activities will occur within the roadway and all equipment will be restricted from using the adjacent existing ground, with the exception of eight designated graveled or paved temporary staging areas that have been previously disturbed. The proposed project is divided among five distinct segments, including:

- Segment 1: PM 9.9 to PM 12.6, from approximately U.S. 101 in Gilroy to Furlong Avenue

- Segment 2: PM 13.0 to PM 13.8, from approximately 0.25 mile northeast of Canada Road to 0.52 mile northeast of Prunedale Avenue

- Segment 3: PM 14.64 to PM 16.2, from approximately 0.13 mile northeast of Bloomfield Avenue to Lake Road

- Segment 4: PM 16.5 to PM 18.5, from approximately 0.34 mile northwest of Lake Road to 0.28 mile west of Lovers Lane

- Segment 5: PM 20.3 to 21.9, from approximately 0.65 mile southeast of San Felipe Road to SR 156

The purpose of this *Natural Environment Study* (NES) is to provide the technical information needed to determine the extent to which the proposed project may affect special-status species, hydrologic resources, and other sensitive natural communities.

The Biological Study Area (BSA) for the proposed project is approximately 92.22 acres, which includes approximately 50.74 acres of the existing SR 152 paved roadway, and approximately 2.69 acres composing the eight previously disturbed temporary staging areas. The remaining 38.79 acres are comprised of a variety of disturbed and undisturbed land covert types. The BSA was defined as the existing paved area and 20 feet beyond the edge-of-pavement in either direction, in addition to the eight identified temporary staging areas. Five of the staging areas will be located on graveled, cleared, or otherwise previously disturbed dirt areas devoid of vegetation. The remaining three staging areas will be located within paved areas.

Impacts on Sensitive Habitats and Species

The following special-status species, hydrologic resources, and sensitive natural communities have the potential to occur in or near the BSA:

Special-Status Species

- San Joaquin kit fox (*Vulpes macrotis mutica*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- California red-legged frog (*Rana draytonii*)
- California tiger salamander (*Ambystoma californiese*)
- Pallid bat (*Antrozous pallidus*)
- American badger (*Taxidea taxus)*
- Burrowing owl (*Athene cunicularia*)
- White-tailed kite (*Elanus leucurus*)
- Western pond turtle (*Actinemys marmorata*)

Aquatic Resources

- Llagas Creek
- Ortega Creek
- San Felipe Lake

Critical Habitats

- Designated critical habitat for California tiger salamander
- Designated critical habitat for California red-legged frog

All construction activities will occur within the existing paved roadway or within the designated staging areas that have been previously disturbed, and all equipment will be restricted from using the adjacent areas. As such, no permanent, temporary, direct, indirect, or cumulative impacts on special-status species (including their habitats), wetlands and other aquatic resources, or sensitive natural communities are anticipated to occur. No impacts to Critical Habitat Primary Constituent Elements (PCEs) are anticipated. The proposed project will not result in impacts on any natural vegetation communities.

Permits and Consultation Required

Federally listed species have the potential to occur within the project BSA. Caltrans is pursuing concurrence from USFWS that the proposed project may affect, but is not likely to adversely affect, federally listed species.

Consultation with CDFW regarding state-listed species is not anticipated to be necessary.

The proposed project will not require work below the ordinary high water mark of any waterways and will not result in impacts on wetlands or riparian corridors. Therefore, no permits from federal and/or state regulatory agencies are anticipated to be necessary.

Avoidance and Minimization Efforts

Avoidance and minimization efforts will be implemented to reduce and avoid potential impacts to all natural communities and special-status species. These measures will include minimizing the project footprint, restricted work windows, environmental education for all construction personnel, pre-construction surveys, delineation of the work area and all environmentally sensitive areas with fencing, presence of an on-site biological monitor during activities that may impact sensitive biological resources, and other construction site best management practices.

Table of Contents

Chapter 1. Introduction 10
1.1. Project History 10
1.2. Project Description 10
1.3. Construction Activities 12
1.3.1. AC Paving Construction 12
1.3.2. Traffic Handling 15
1.3.3. Curb Ramp 16
1.4. Temporary Staging Areas 16
1.4.1. General Avoidance and Minimization Measures 16
Chapter 2. Study Methods 21
2.1. Regulatory Requirements 21
2.2. Biological Study Area 21
2.3. Studies Required 21
2.3.1. Database Searches 21
2.3.2. Literature Review 22
2.4. Personnel and Survey Dates 23
2.5. Agency Coordination and Professional Contacts 24
2.6. Limitations That May Influence Results 25
Chapter 3. Results: Environmental Setting 27
3.1. Project Setting 27
3.2. Biological Study Area 27
3.3. Physical Conditions 46
3.3.1. Topography 46
3.3.2. Soils 46
3.3.3. Climate 48
3.4. Biological Conditions 48
3.4.1. Vegetation and Aquatic Communities 48
3.4.2. Wildlife 48
3.4.3. Invasive Species 49
3.5. Regional Species and Habitats of Concern 49
Chapter 4. Results: Biological Resources, Discussion of Impacts, and Mitigation 59
4.1. Natural Communities 59
4.1.1. California Tiger Salamander Critical Habitat 60
4.1.2. Critical Habitat for the California Red-legged Frog 63
4.1.3. Aquatic Resources 66
4.2. Special-status Plant Species 67
4.2.1. Survey Results 67
4.2.2. Avoidance and Minimization Efforts 67
4.2.3. Project Impacts 67
4.2.4. Cumulative Effects 67
4.3. Special-status Wildlife Species 68
4.3.1. San Joaquin Kit Fox 68
4.3.2. Least Bell's Vireo 69
4.3.3. California Red-legged Frog 70
4.3.4. California Tiger Salamander 72
4.3.5. Pallid Bat 74
4.3.6. American Badger 76
4.3.7. Burrowing Owl 77

4.3.8. White-tailed Kite 78
4.3.9. Western Pond Turtle 79
Chapter 5. Results: Permits and Technical Studies for Special Laws and Conditions 81
5.1. Regulatory Requirements 81
5.2. Federal Natural Resource Laws, Regulations, and Policies 81
5.2.1. Federal Endangered Species Act Consultation Summary 81
5.2.2. Migratory Bird Treaty Act and Other Bird Protections 81
5.2.3. Executive Order 11988 81
5.3. State Laws and Regulations 82
5.3.1. California Endangered Species Act Consultation Summary 82
5.3.2. Native Plant Protection Act 82
5.3.3. California State Fish and Wildlife Code 82
Chapter 6. References 83

List of Figures

Figure 1: Project Vicinity and Footprint
Figure 2: Staging Area Overview
Figure 3: Biological Study Area
Figure 4: Vegetation Communities
Figure 5: Special-Status Species Occurrences and Critical Habitat
Figure 6: Soil Units Occurring Along the Project

List of Tables

Table 1: Surveys Conducted for the Project
Table 2: Special-status Species With the Potential to Occur Near the Project
Table 3: Land Cover Impacts

List of Abbreviated Terms

AC	asphalt concrete
BMP	best management practice
BSA	Biological Study Area
Cal IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CAPM	Capital Preventive Maintenance
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act of 1984
CMS	changeable message signs
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
CTS	California tiger salamander
DPS	distinct population segment
EO	Executive Order
ESA	Environmentally Sensitive Areas
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
HMA	hot mix asphalt

LBV	least Bell's vireo
MBTA	Migratory Bird Treaty Act of 1918
m	meter(s)
mi	mile(s)
NES	Natural Environmental Study
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act of 1977
PCE	primary constituent elements
PCS/PMS	Pavement Condition Survey/Pavement Management System
PM	post mile
RE	Resident Engineer
ROW	right-of-way
SJKF	San Joaquin kit fox
SR	State Route
sp	Species
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WEF	wildlife exclusion fencing
WPT	western pond turtle

Chapter 1. Introduction

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), is proposing the Santa Clara State Route 152 AC Overlay Capital Preventive Maintenance (CAPM) Project (proposed project) to preserve and extend the service life of the existing pavement and improve the ride quality of State Route (SR) 152. The proposed project includes improvements to five segments of roadway—totaling approximately 7.7 miles—located between U.S. 101 (post mile [PM] 9.9) in the City of Gilroy and SR 156 (PM 21.9) in unincorporated southern Santa Clara County (see Figure 1: Project Vicinity and Footprint).

1.1. Project History

The purpose of the proposed project is to preserve and extend the service life of the existing pavement and improve the ride quality along SR 152, as well as reduce cross-centerline traffic accidents. The pavement condition survey for this section of the highway has an overall Pavement Condition Survey/Pavement Management System (PCS/PMS) priority number 7, which characterizes the road as having major distress and poor ride quality.

1.2. Project Description

The proposed project is located in Santa Clara County along SR 152—locally known as Pacheco Pass Highway—between U.S. 101 at PM 9.9 and SR 156 at PM 21.9. SR 152 is a major highway that is travelled by heavy trucks connecting from U.S. 101 and SR 156 to Interstate 5. The existing alignment is a four-lane highway from U.S. 101 (PM 9.9) to PM 11.0 that reduces to a two-lane highway for the remainder of the project limits. The lanes are 12 feet wide in both directions, with shoulders ranging from 1 foot wide to the 8-foot standard width. This CAPM project proposes to resurface the existing asphalt concrete (AC) pavement and upgrade an existing curb ramp located at the intersection of Cameron Boulevard and SR 152, near PM 10.8. The project will also involve the application of a petroleum-based sealant (known as fog sealant) to preserve and extend the useful life of the existing road shoulder, as well as the addition of rumble strips along the centerline and outside roadway edges. The proposed project is divided among five distinct segments of the highway.

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 1: Project Vicinity and Footprint
February 28, 2014

Legend

Project Area

Source: Caltrans 2013
Base image: Provided by ESRI 2013

Miles
0 1.5 3

1 in = 3 mile 1:180,000

N

These segments are shown in Figure 1: Project Vicinity and Footprint, and include:

- Segment 1: PM 9.9 to PM 12.6, from approximately U.S. 101 in Gilroy to Furlong Avenue
- Segment 2: PM 13.0 to PM 13.8, from approximately 0.25 mile northeast of Canada Road to 0.52 mile northeast of Prunedale Avenue
- Segment 3: PM 14.64 to PM 16.2, from approximately 0.13 mile northeast of Bloomfield Avenue to Lake Road
- Segment 4: PM 16.5 to PM 18.5, from approximately 0.34 mile northwest of Lake Road to 0.28 mile west of Lovers Lane
- Segment 5: PM 20.3 to 21.9, from approximately 0.65 mile southeast of San Felipe Road to SR 156

To avoid affecting special-status species, wetlands and other aquatic resources, or other sensitive natural communities, all project-related activities will occur within the roadway and all equipment will be restricted from using adjacent existing unpaved ground, except at designated temporary staging areas that have been previously disturbed (see Figure 2: Staging Area Overview).

The proposed project is located in the Gilroy, Chittenden, Gilroy Hot Springs, and San Felipe U.S. Geological Survey 7.5-minute quadrangles.

1.3. Construction Activities

1.3.1. AC Paving Construction

The uppermost 3 inches of the existing pavement will be removed by a cold-planing machine, which grinds the existing pavement and transfers the grinds, via an attached conveyor, to an end-load dump truck. The pavement will then be replaced with a 3-inch-thick layer of Hot Mix Asphalt (HMA [Type A]). Bottom or end-dump trucks will deliver the new HMA, where it will be applied by a paving machine and compacted by a roller. Removal/cold-planing and placement of HMA will be extended across the entire travel lane, including 1 foot into the paved shoulders on either side of the road.

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200
Figure 2: Staging Area Overview (1 of 2)
February 28, 2014

Legend
Staging Area (SA)

Source: Caltrans 2013
Base image: Provided by ESRI 2013

Feet
0 125 250

1 in = 250 feet 1:3,000

N

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200
Figure 2: Staging Area Overview (2 of 2)
February 28, 2014

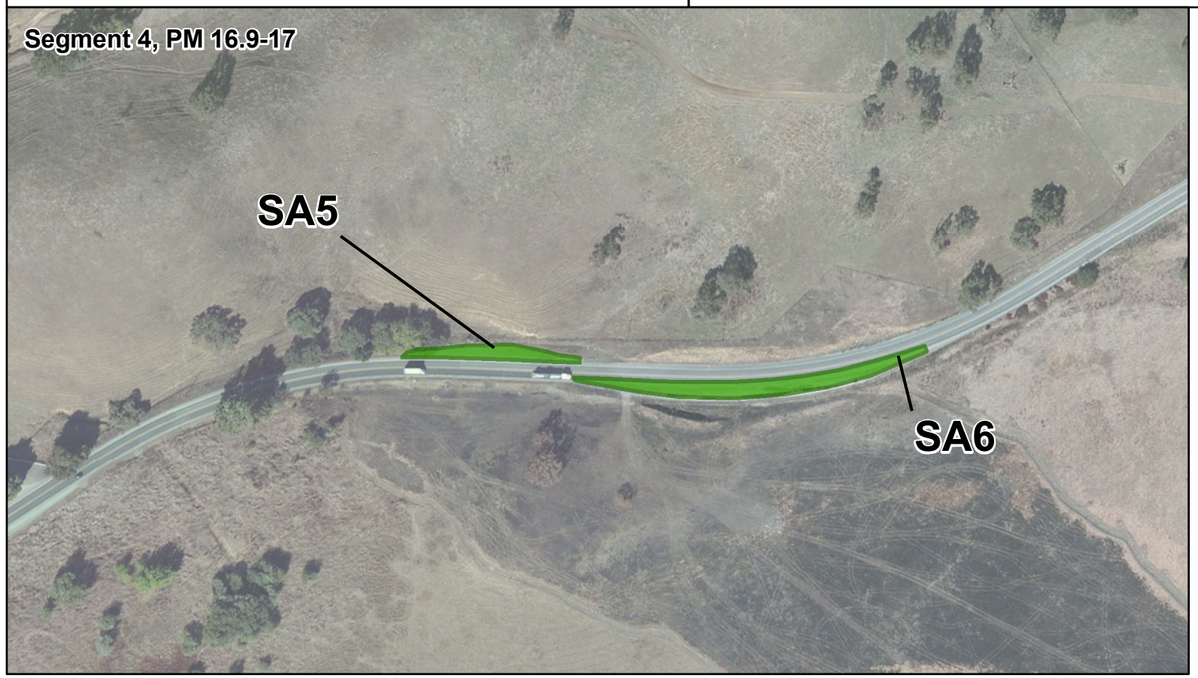
Legend
Staging Area (SA)

Source: Caltrans 2013
Base image: Provided by ESRI 2013

Feet
0 125 250

1 in = 250 feet 1:3,000

N



A fog sealant truck with an arm and nozzle will apply fog sealant[1] to portions of the shoulder area that are not covered by the paving operations. All paving activities will occur from within the roadway and all equipment will be restricted from using the adjacent existing areas outside of the roadway, except at designated previously disturbed temporary staging areas (see Figure 2).

All of the existing pavement delineation, including markers and markings, removed during the removal/cold-planing process and/or placement of HMA will be replaced in their original locations following the completion of the work. All new permanent pavement delineation markings applied after the resurfacing process will be composed of thermoplastic materials that contain high-performance glass beads. Roadside delineators, concrete barrier markers, bridge rail delineators, wall delineators, and object markers will be installed per Caltrans standard guidelines.

Rolled-edge line rumble strips will be added to alert drivers who have strayed outside of the defined lanes. These rumble strips will be 2 feet wide along the median and 1 foot wide along either outside lane edge. The anticipated equipment required to complete this work includes an AC cold-planing machine with a conveyor belt; end-dump trucks for off-hauling the existing AC grindings; a paving machine; bottom or end-dump trucks for placing new AC; rollers; and a fog sealant truck. Other vehicles may include pickup trucks for traffic control and miscellaneous items.

1.3.2. Traffic Handling

Paving operations can occur simultaneously for Segments 1 and 5. Due to their extended lengths, operations along Segments 2, 3, and 4 cannot occur concurrently. The AC resurfacing work will be limited to one direction at a time, and only for a portion of the roadway that can be removed and repaved in one night work shift. To minimize traffic-related impacts, work activities will only occur between 10:00 p.m. and 4:00 a.m. of the next day. During a lane closure, one-way reverse-control flagging will be used to handle traffic travelling in the opposite direction. Temporary signs will be placed along the roadway during paving operations and removed and stored at the end of the each shift. Construction is anticipated to occur over the course of 2 years, with work restricted to the dry season—April 15th to October 15th for Segments 1 and 2, and June 15th to October 15th for Segments 3, 4, and 5.

[1] Fog sealant is a petroleum-based fluid applied to the surface of the existing AC layer as a rehabilitation measure.

Construction area signs will be placed on wood posts along U.S. 101, SR 156, and on the cross-streets of SR 152. In order to alert drivers of construction and possible delays, portable changeable message signs (CMS) will be placed along U.S. 101, north and south of the interchange with SR 152 within the Caltrans right-of-way (ROW) and in previously disturbed areas that have compacted soils and are devoid of vegetation.

1.3.3. Curb Ramp

One existing curb ramp, located at the southeastern corner of Cameron Boulevard, will be removed and replaced with a new curb and gutter. The existing ramp will be removed by saw-cutting, breaking, and hauling away an approximately 4-inch-thick section of concrete totaling approximately 1 cubic yard; no further excavation is necessary. A new curb and gutter will be constructed in place of the previously removed portion of the curb ramp.

1.4. Temporary Staging Areas

Eight previously disturbed locations have been identified for use as temporary storage for materials and equipment (see Figure 2). The materials and equipment may include, but are not limited to, traffic control devices, paving equipment (i.e., cold-planing and paving machines), crew member vehicles, and light towers. Each of these previously disturbed temporary staging areas will be located within adjacent road shoulder areas that are approximately 15 feet from the edge of the roadway and within the state ROW. Five of the staging areas will be in graveled, cleared, or otherwise previously disturbed dirt areas, and three staging areas will be in paved areas. No staging areas are located outside of the ROW and no natural vegetation, aquatic features, or other sensitive resources are located within any staging areas. Environmentally Sensitive Area (ESA) flagging, and/or wildlife exclusion fencing (WEF) will be placed along the edge of the ROW at each staging area, at the direction of the RE and USFWS-approved biological monitor, and will extend approximately 100 feet in either direction, bordering natural vegetation. This exclusionary fencing will be placed at staging areas in Segments 3, 4, and 5, or other areas that are identified as sensitive by the USFWS-approved biologist. This fencing will be trenched into the ground to deter special-status species from entering the staging areas.

1.4.1. General Avoidance and Minimization Measures

To reduce potential impacts to sensitive biological resources, Caltrans proposes to incorporate construction best management practices (BMPs) and avoidance and minimization measures into the proposed project. These measures will be communicated to the contractor through the use of special provisions included in the contract bid solicitation package. These measures include the following:

- **Worker Environmental Awareness Training.** A USFWS -approved biologist will conduct an employee training session that includes the biology and ecology of sensitive species and habitats with the potential to occur in or near the BSA. The training will be provided to each crew member before they begin work at the project site. A log will be maintained to track which employees have received the training.

- **Pre-construction and Clearance Surveys.** Immediately prior to the initiation of any paving activities, the USFWS-approved biological monitor will conduct pre-construction surveys within and adjacent to the project footprint and in any sensitive areas. These surveys will be composed of walking transects while conducting visual encounter surveys within areas subject to paving, foot traffic, or staging. The biological monitor will thoroughly inspect all suitable aquatic and upland habitats, including refugia habitat such as dense vegetation, small woody debris, refuse, and burrows. The biological monitor will also inspect any open holes, pipes, and equipment in designated staging areas. Daily clearance surveys will occur prior to initial ground disturbance in any sensitive areas.

- **Biological Monitoring.** A USFWS-approved biological monitor will be on site during all paving activities in critical habitat areas. This includes all work occurring along Segments 3 through 5. If a listed species is encountered near where construction work is planned to occur, the biological monitor will immediately notify the Caltrans Biologist and/or RE, who will halt all construction activities.

- **Pre-designated Staging Areas.** All material stockpiling, vehicle parking, and equipment staging areas for this project will only be permitted in areas cleared by a USFWS-approved biologist. The limits of the eight designated staging areas will be clearly marked prior to the start of construction. These areas are located within the Caltrans ROW in non-sensitive locations at designated disturbed/developed areas outside of construction zones. No staging will be allowed outside of the designated staging areas. No equipment storage or staging may occur in or adjacent to designated critical habitat areas prior to the establishment of an ESA and/or installation of USFWS-approved WEF.

- **Best Management Practices.** In compliance with the requirements of the Central Coast Regional Water Quality Control Board, a Storm Water Pollution Prevention Plan (SWPPP) and erosion control BMPs will be developed and implemented to minimize any wind or water-related material discharges. The SWPPP will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas

and prevent and minimize stormwater and non-stormwater discharges. Protective measures will include, at a minimum:

- No discharge of pollutants from vehicle and equipment cleaning is allowed into any storm drains or water courses.

- Maintenance and refueling areas for equipment will be located a minimum of 100 feet from active stream channels in designated staging areas, except at an established commercial gas station or vehicle maintenance facility.

- Concrete wastes will be collected in washouts and water from curing operations will be collected and disposed. Neither will be allowed into watercourses.

- Spill containment kits will be maintained on site at all times during construction operations and/or staging or fueling of equipment.

- **Weather Restrictions.** The biological monitor will observe 48-hour weather forecasts and notify the RE of the potential for any storm events. No construction activities will be allowed to occur during predicted rain events where the chance of precipitation is greater than 40 percent. Following any precipitation event, work will not resume until runoff ceases and a 30 percent or lesser chance of precipitation exists for the following 24-hour period, according to the NOAA Weather Report for Gilroy (C4787).

- **Compliance with the Migratory Bird Treaty Act (MBTA):** The nesting season for migratory birds is anticipated to occur between February 15 through August 31. Migratory birds could nest and/or roost within the work area. Occupied nests and eggs of native migratory birds are protected by California Fish and Wildlife Code Sections 3503 and 3503.5 and the federal MBTA, as amended. Surveys for bird nesting would be done within the BSA throughout the nesting season and nesting prevention measures would be implemented. If occupied nests are observed in BSA, Caltrans will contact CDFG to report occurrences for the agency's database. If occupied nests—nests with birds or eggs—are present within or adjacent to the proposed project area, the approved biological monitor will immediately notify the Caltrans biologist and/or RE, work within 50 feet of a passerine nest or within 300 feet of a raptor nest will be halted and the USFWS and California Department of Fish and Wildlife (CDFW) will be notified. Caltrans will provide an appropriate buffer between any occupied nest and construction actions and implement any necessary avoidance and minimization measures.

- **Confined Work Areas.** All paving equipment will be restricted to operating within existing paved surfaces, except in the eight designated previously disturbed temporary staging areas. In areas where off-pavement foot traffic is necessary, the USFWS-approved biologist/monitor will conduct a pre-construction sweep survey to clear the area prior to construction.

- **Vegetation Removal.** No clearing and grubbing will be permitted beyond paved surfaces until the area has been cleared by the USFWS-approved biologist. To minimize impacts off of the existing paved surfaces, contractors will be required to follow Caltrans BMPs for all paving operations.

- **Trash Control.** To eliminate an attraction to predators of protected species, all food-related trash items—such as wrappers, cans, bottles, and food scraps—will be disposed of in solid, closed containers (trash cans) and will be removed from the entire construction site at the end of each working period.

- **Reduced speed limit.** Project-related vehicles will observe a 20 mile-per-hour speed limit in all staging areas. Crew members will follow posted speed limits when traveling on public roadways.

- **Firearm restriction**. No firearms will be permitted at the construction site at any time.

- **Pet restriction.** No pets will be allowed in the construction area at any time.

Chapter 2. Study Methods

This chapter describes the studies that were conducted to evaluate the potential presence of special-status wildlife and plant species, hydrologic features, and other sensitive biological resources in and around the project limits.

2.1. Regulatory Requirements

A review of state and federal natural resource laws, regulations, and policies was conducted to determine which apply to the proposed project. Information regarding applicable laws and policies are discussed further in Chapter 5.

2.2. Biological Study Area

The biological study area (BSA) is the area that has been evaluated in this document for potential project-related effects on natural resources. The BSA is defined as the existing paved area and 20 feet beyond the edge-of-pavement in either direction, and the eight identified previously disturbed temporary staging areas.

2.3. Studies Required

A combination of database searches and literature reviews were conducted. Because Caltrans has conducted multiple recent sensitive resource studies along this segment of SR 152 in support of other projects, and because of the low-impact nature of the proposed project, no project-specific protocol-level surveys were conducted.

2.3.1. Database Searches

In order to identify special-status species that have potential to occur in the proposed project area, several databases of known special-status species occurrences and habitats were reviewed, including:

- Sacramento USFWS Endangered Species Lists (USFWS 2013)
- California Natural Diversity Database (CNDDB) (CDFW 2013)
- California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2013).
- Natural Resources Conservation Service (NRCS) soils data
- Santa Clara Valley Water District: Santa Clara County Water Bodies Geospatial Data
- Environmental Protection Agency MyWATERS Mapper

Special status is defined as federally endangered or threatened (FE, FT), state endangered or threatened (SE, ST), fully protected (FP), CDFW species of special concern (SSC), and

California Rare Plant Rank 1 through 4 (CRPR 1, CRPR 2, CRPR 3, CRPR 4). Based on the results of these database queries, special-status species were individually evaluated for their potential to occur in the proposed project vicinity based on their specific habitat requirements.

2.3.2. Literature Review

The following reports—which were developed during the environmental assessment of other roadway projects along SR 152—were consulted. These reports included the proposed project area inside their respective BSAs, and therefore, were deemed applicable to the proposed project. Details regarding the more refined boundary of each study may be found in each respective report, included as appendices C, D, E, and F.

- *Focused Biological Assessment for the California Tiger Salamander* (Ambystoma californiense) (H.T. Harvey & Assoc. 2005a). (Appendix C)
- *Focused Biological Assessment for the California Red-legged Frog* (Rana aurora draytonii) (H.T. Harvey & Assoc. 2005b). (Appendix D)
- *A Specialized Study on the Status of the San Joaquin Kit Fox* (Vulpes macrotis mutica) along SR 152 (McGinnis 1993). (Appendix E)
- *Natural Environment Study for the State Route 152 Old Lake Road to Dunne Lane (Lover's Lane) Safety Improvement Project* (Caltrans 2009). (Appendix F)

Each technical study is described in more detail in the following subsections. These reports have also been included in Appendices C, D, E, and F, respectively.

2.3.2.1. California Tiger Salamander Focused Biological Assessment

In July 2005, H. T. Harvey & Associates prepared a focused biological assessment for California tiger salamander (*Ambystoma californiense*) (CTS) in the proposed project vicinity (Appendix C). The assessment drew upon multiple surveys that were conducted along SR 152 from 1999 to 2005 by Dr. Samuel McGinnis and H.T. Harvey & Associates biologists. In addition to field surveys, topographic maps from 1998, 2004, and 2005, and aerial photographs were examined to assess habitat suitability for CTS on private lands in the project vicinity. Many field observations were made from public access points along area roads. Field observations were supplemented by the examination of CNDDB records of known CTS breeding locations in the area.

2.3.2.2. California Red-Legged Frog Focused Biological Assessment

In November 2005, H.T. Harvey & Associates prepared a focused biological assessment for California red-legged frog (*Rana draytonii*) (CRLF) in the proposed project vicinity (Appendix D). The assessment drew upon multiple surveys that were conducted along SR

152 from 1999 to 2005 by Caltrans biologists, Dr. Samuel McGinnis, and H.T. Harvey & Associates biologists. In addition to field surveys, topographic maps from 1998, 2004, and 2005, and aerial photographs were examined to assess habitat suitability for CRLF on private lands in the project vicinity. Many field observations were made from public access points along area roads. Field observations were supplemented by the examination of CNDDB records of known CRLF breeding locations in the area.

2.3.2.3. SAN JOAQUIN KIT FOX HABITAT ASSESSMENT

In February 1993, Dr. Samuel McGinnis prepared a report on the status of the San Joaquin kit fox *(Vulpes macrotis mutica)* (SJKF) (Appendix E). The report was based on surveys conducted during the fall of 1990 by Dr. McGinnis and graduate assistants. The surveys included bait and track stations, den searches, and night spotlighting alongside roads connecting to SR 152 and adjacent accessible lands in the proposed project vicinity.

2.4. Personnel and Survey Dates

Surveys of the BSA were conducted on multiple occasions in order to appropriately classify the suitability of the area for special-status species. Table 1 includes a summary of these surveys and their findings.

Table 1: Surveys Conducted for the Project		
Date/Purpose	**Personnel**	**Observations**
Oct. 9, 2013: General Reconnaissance Survey	Robert Vogt (Associate Environmental Planner; Caltrans), Michael Baker (Associate Environmental Planner; Caltrans)	Caltrans biologists surveyed the project footprint for special-status plants and animals within the BSA. No special-status species or habitats were found within the proposed project footprint. Some sensitive habitats exist beyond the project footprint, e.g., wetland and riparian areas, but these will not be impacted by the proposed construction activities and will be protected through avoidance and minimization measures. Evidence of bat roosting was observed beneath the Llagas Creek Bridge.
Oct. 10, 2013: Caltrans/USFWS Technical Assistance/Field Review	Robert Vogt (Associate Environmental Planner; Caltrans), John Yeakel (Senior Environmental Planner; Caltrans)	No special-status species or habitats were identified within the proposed project footprint during this field review.
Oct. 11, 2013: Staging Area Identification	Robert Vogt (Associate Environmental Planner; Caltrans)	Previously disturbed areas suitable for equipment staging and laydowns were identified beyond the edge of pavement along the project footprint
Oct 16, 2013: Staging Area Reconnaissance Survey Feb 25, 2014: Burrowing Owl Habitat Assessment	Robert Vogt (Associate Environmental Planner, Caltrans) D.J. Allison, (Biologist; AECOM) Robert Vogt (Associate Environmental Planner, Caltrans); Rosalie Wilson (Associate Environmental Planner)	All staging areas consist of unvegetated soils/gravel with heavy compaction. No special status plants or animals were identified within proposed staging areas. Surveyed within the ROW along the eastern portion of Segment 5, inspecting for evidence of whitewash, fecal pellets, or feathers within an area suitable as habitat for burrowing owl. No evidence of burrowing owl was found. However, there are separate areas just beyond Caltrans ROW on private property (adjacent to the project limits on either side of the road) which have suitable habitat for burrowing owl and extensive ground squirrel burrowing activity which was not surveyed. This area should be inspected through pre-construction and clearance surveys.

2.5. Agency Coordination and Professional Contacts

On October 11, 2013, Caltrans biologist Robert Vogt conducted a site visit with USFWS biologist Jerry Roe to discuss the proposed project and potential effects on federally listed species. On November 8, 2013, Caltrans biologist Robert Vogt contacted USFWS biologist Jerry Roe via electronic mail to submit a preliminary project description and list of BMPs and avoidance and minimization measures.

On December 16, 2013, Caltrans transmitted to the USFWS a request for a letter of concurrence (LOC) that the project is Not Likely to Adversely Affect the federally listed species CTS, CRLF, LBV and SJKF.

On February 9, 2014, Caltrans issued a 30-day notice to USFWS to confirm that the informal consultation package was complete and request a status update on the request for a LOC.

2.6. Limitations That May Influence Results

Due to the low-impact nature of the proposed project, an appropriate level of analysis was applied to this NES, consisting of a reconnaissance-level habitat assessment of the BSA, literature review, and evaluation of habitat suitability using aerial photographs. Protocol-level surveys for the special-status wildlife species that have the potential to occur in the project vicinity were determined not to be warranted. Instead, available information from previous surveys was used, in addition to non-protocol level habitat assessments.

Chapter 3. Environmental Setting

This section describes the environmental setting of the proposed project area and presents the regional habitat and special-status species that have the potential to occur within or near the BSA. Representative photographs are presented in Appendix A.

3.1. Project Setting

The proposed project is located on SR 152 where it passes along the edge of the Santa Clara Valley at the base of the foothills of the Diablo Range (Figure 1). The proposed project is located in the Gilroy, Chittenden, Gilroy Hot Springs, and San Felipe U.S. Geological Survey 7.5-minute quadrangles, in Township 11 South, Ranges 4 and 5 East.

The northern side of SR 152 along the proposed project alignment is dominated by rolling hills of California annual grassland used for cattle grazing, with mixed oak woodland and the California sagebrush series running down the draws at higher elevations. The valley floor in the vicinity of the proposed project is predominantly agricultural, with land use divided between pasture and cropland. Scattered commercial enterprises and low-density residential development also appear near the proposed project. San Felipe Lake dominates the valley floor near Segments 3 and 4, in the central portion of the proposed project area. Various intermittent drainages flow from the Diablo Range, cross under SR 152, and drain into San Felipe Lake.

3.2. Biological Study Area

Due to the confined overall footprint of the project, the BSA was defined as the existing paved area, the eight identified previously disturbed temporary staging areas, and 20 feet beyond the edge-of-pavement in either direction. The BSA is primarily composed of paved, graveled, cleared, or otherwise previously disturbed dirt areas that are devoid of vegetation. The BSA will be confined to the paved road and staging areas because of the limited potential for the project to affect resources outside of these areas.

The BSA in Segment 1 is bordered by low-density residential and private agricultural areas within the City of Gilroy. The BSA in Segments 2 and 3 is bordered primarily by private agricultural lands. The BSA in Segment 4 traverses the edge of the San Felipe Lake floodplain to the south and pasturelands exist to the north. The lands adjacent to the BSA in Segment 5 are dominated primarily by pasture.

The entire BSA is approximately 92.80 acres, which includes approximately 50.74 acres of the existing SR 152 paved roadway, and approximately 2.69 acres composing the eight previously disturbed temporary staging areas (see Figures 3 and 4). The remaining 38.79 acres within the BSA will not be impacted by the project.Figure 3: Biological Study Area

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 1 of 16)
February 28, 2014

Legend

Habitat Type
Road
Disturbed
Ruderal
Riverine
Riparian
Remnant Mixed Oak Woodland
Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

0 100 200 Feet

1 in = 0 mile 1:2,400

N

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 2 of 16)
February 28, 2014

Legend

Habitat Type

- Road
- Disturbed
- Ruderal
- Riverine
- Riparian
- Remnant Mixed Oak Woodland
- Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 3 of 16)
February 28, 2014

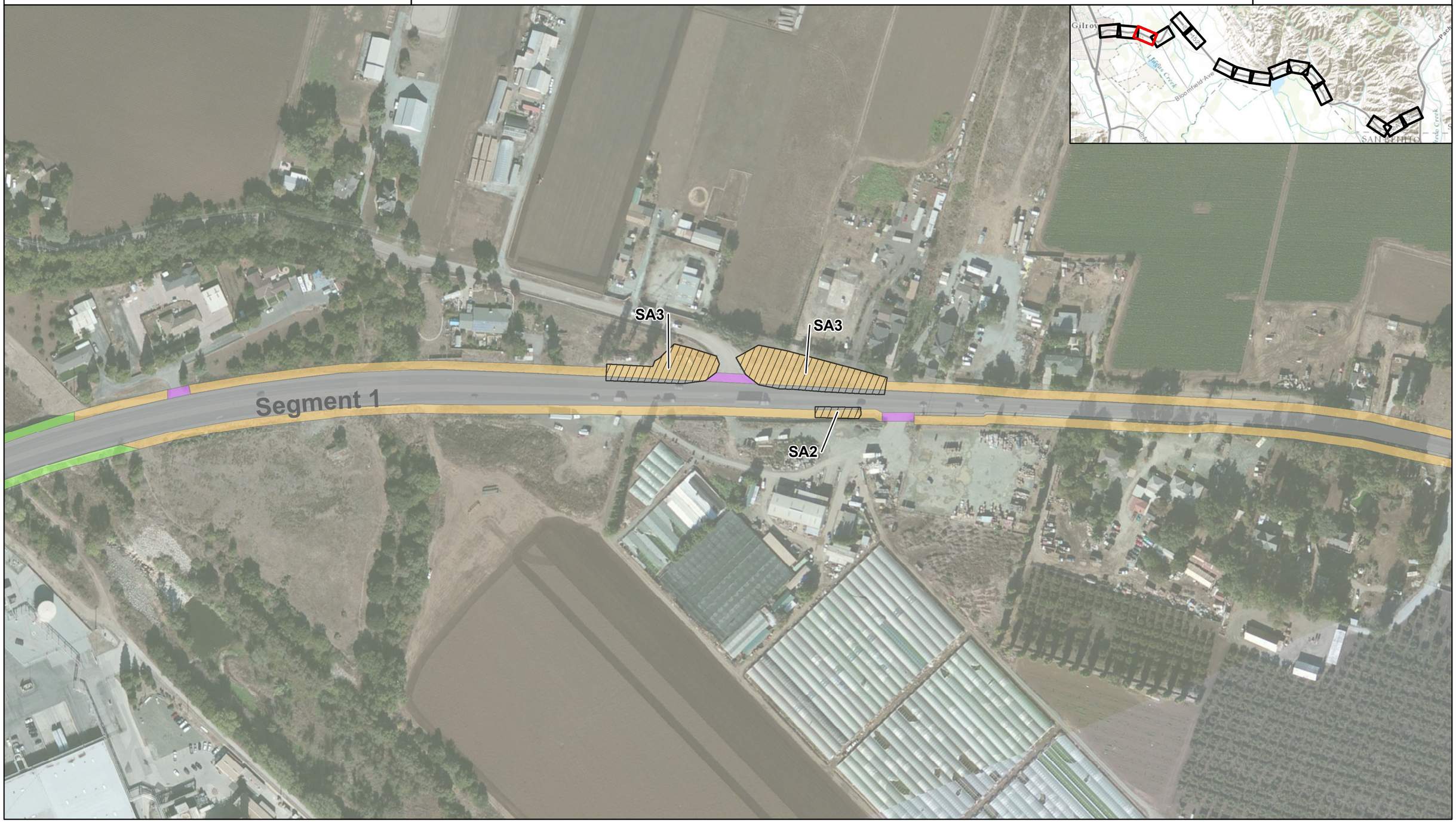
Legend

Habitat Type
- Road
- Disturbed
- Ruderal
- Riparian
- Riverine
- Remnant Mixed Oak Woodland
- Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400



Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 4 of 16)
February 28, 2014

Legend

Habitat Type
- Road
- Disturbed
- Ruderal
- Riverine
- Riparian
- Remnant Mixed Oak Woodland
- Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 5 of 16)
February 28, 2014

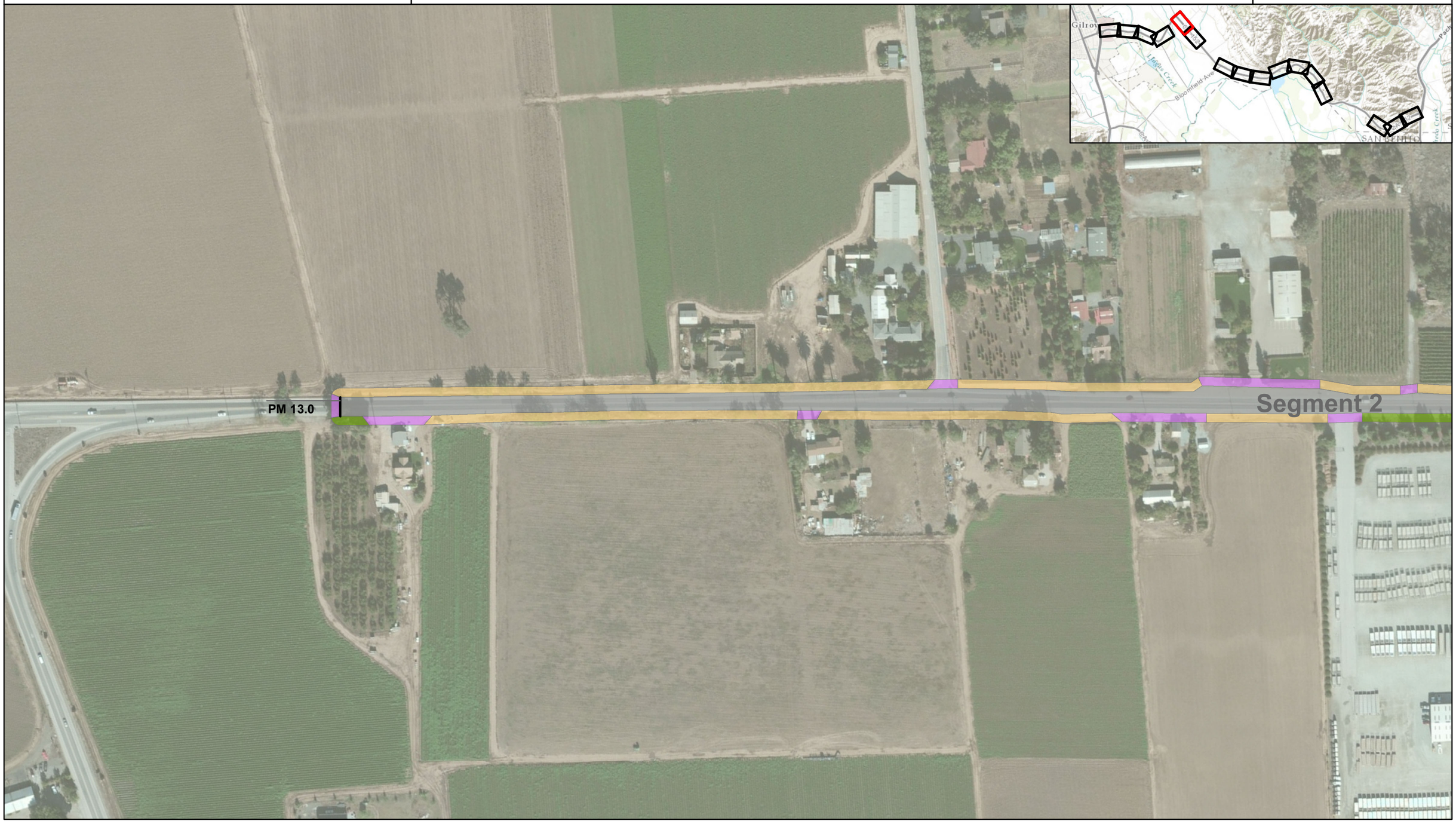
Legend

Habitat Type
- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400



Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 6 of 16)
February 28, 2014

Legend

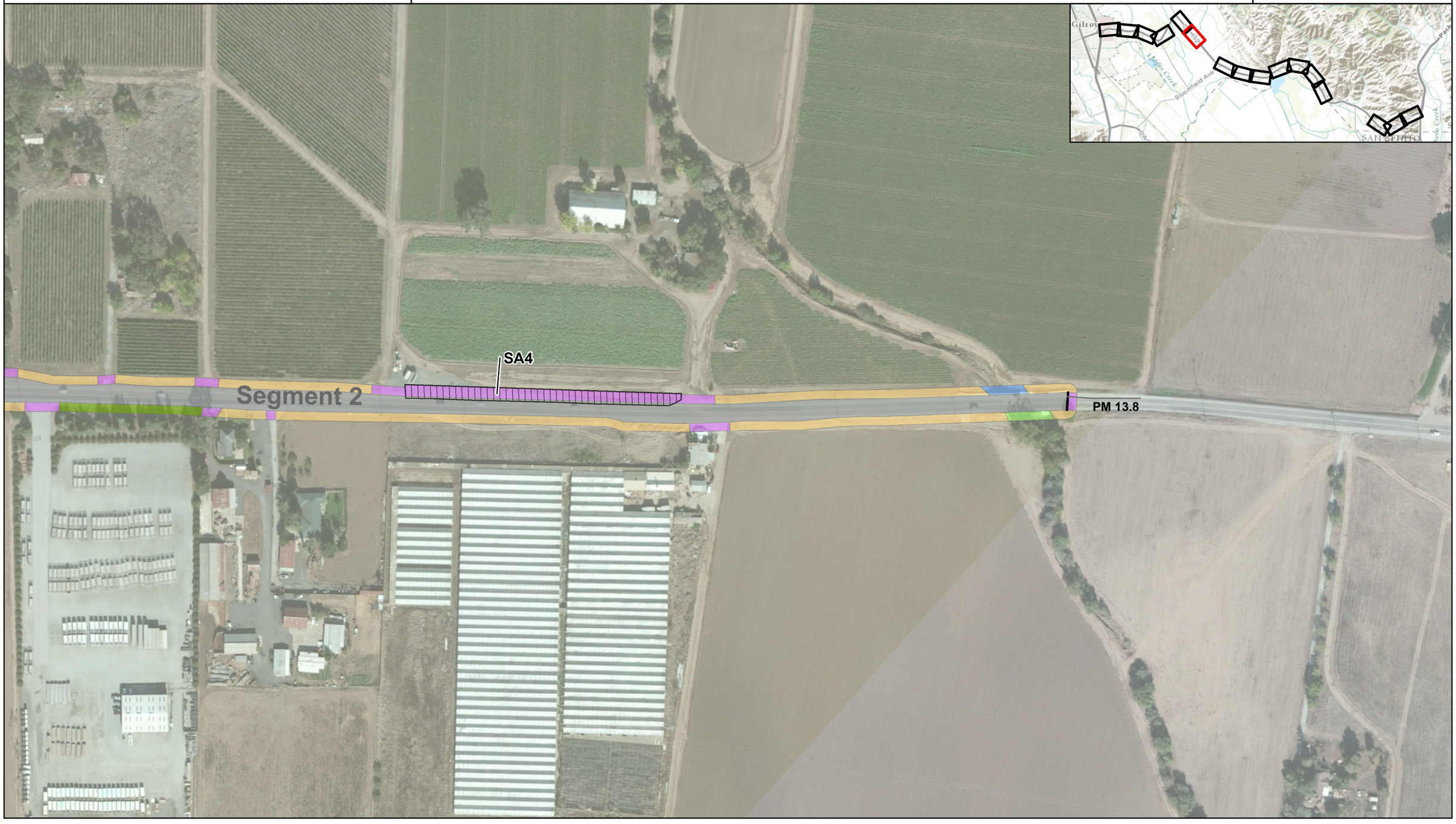
Habitat Type

- Road
- Disturbed
- Ruderal
- Riverine
- Riparian
- Remnant Mixed Oak Woodland
- Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400



Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 7 of 16)
February 28, 2014

Legend

Habitat Type

- Road
- Disturbed
- Ruderal
- Riverine
- Riparian
- Remnant Mixed Oak Woodland
- Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 8 of 16)
February 28, 2014

Legend

Habitat Type

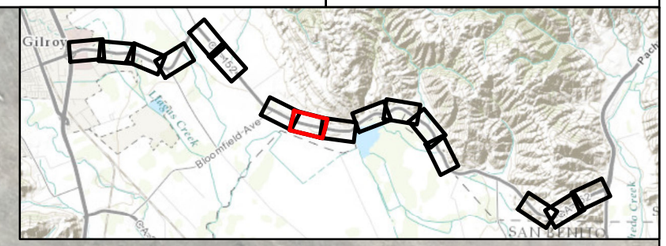
- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

N

1 in = 0 mile 1:2,400



Segment 3

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 9 of 16)
February 28, 2014

Legend

Habitat Type

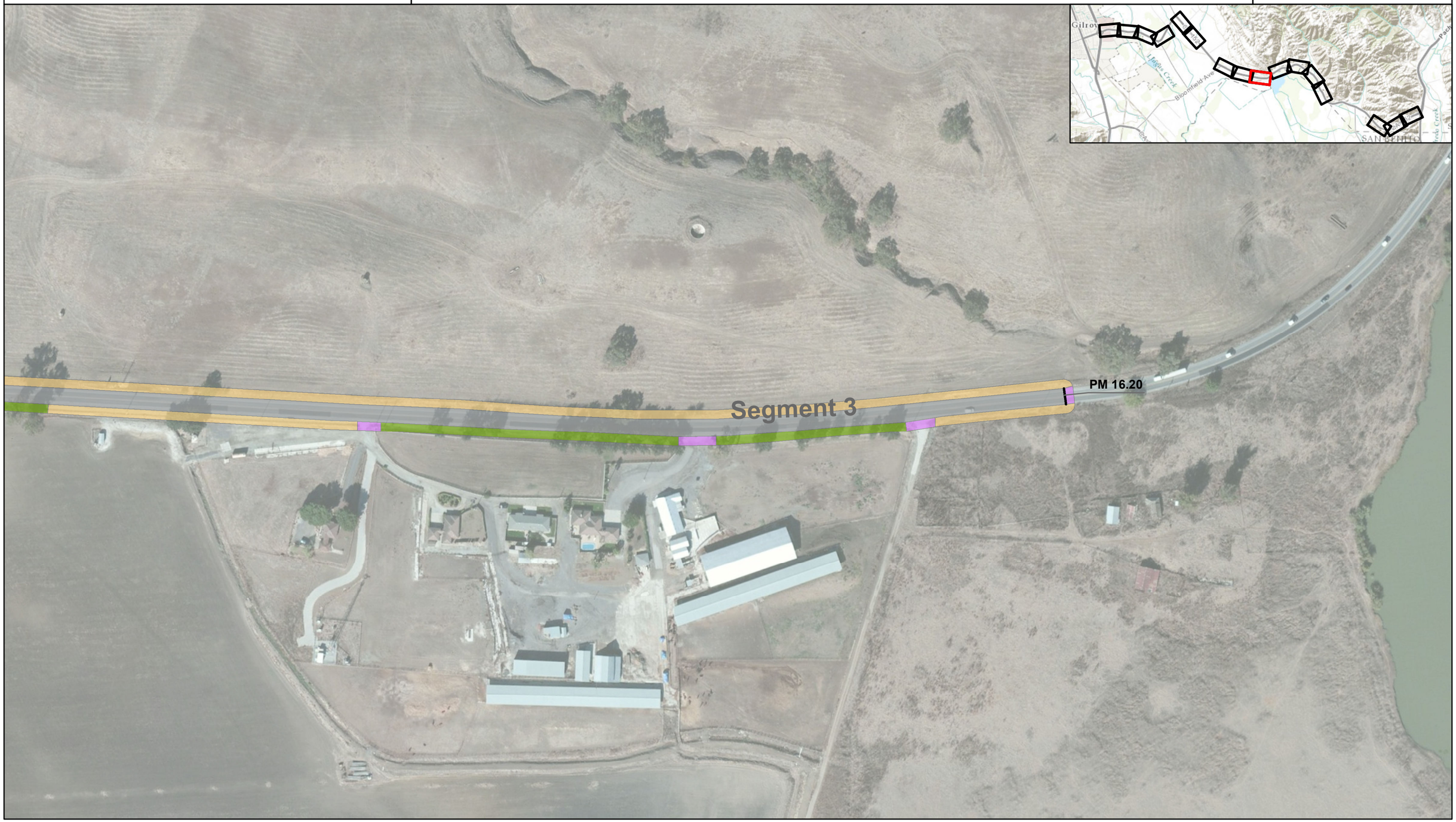
- Road
- Disturbed
- Ruderal
- Riverine
- Riparian
- Remnant Mixed Oak Woodland
- Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

0 100 200 Feet

1 in = 0 mile 1:2,400

N



Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 10 of 16)
February 28, 2014

Legend

Habitat Type

- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 11 of 16)
February 28, 2014

Legend

Habitat Type
- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 12 of 16)
February 28, 2014

Legend

Habitat Type
- Road
- Disturbed
- Ruderal
- Riverine
- Riparian
- Remnant Mixed Oak Woodland
- Staging Area (SA)

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 13 of 16)
February 28, 2014

Legend

Habitat Type

- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 14 of 16)
February 28, 2014

Legend

Habitat Type

- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 15 of 16)
February 28, 2014

Legend

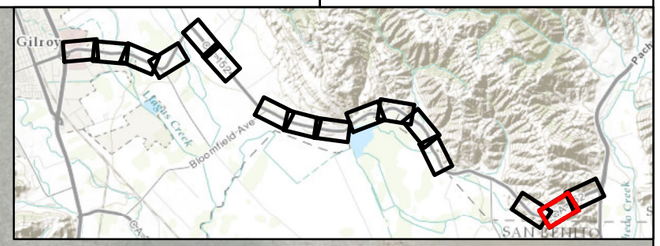
Habitat Type

- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400



Segment 5

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200

Figure 4: Vegetation Communities (Map 16 of 16)
February 28, 2014

Legend

Habitat Type

- Ruderal
- Riparian
- Staging Area (SA)
- Road
- Riverine
- Remnant Mixed Oak Woodland
- Disturbed

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Feet
0 100 200

1 in = 0 mile 1:2,400

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200
Figure 5: Special-Status Species Occurrences and Critical Habitat
February 28, 2014

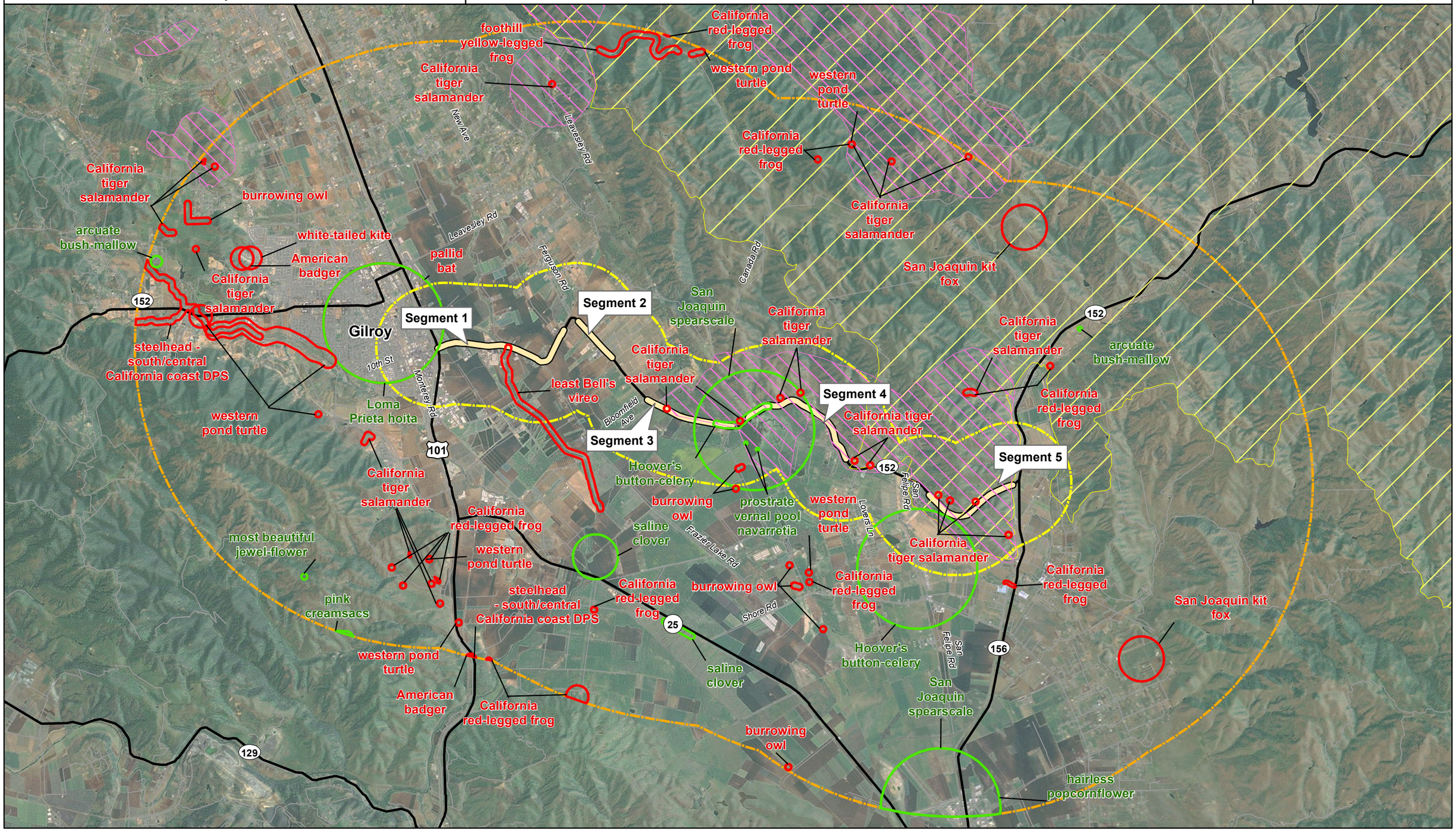
Legend
Segment
1-Mile Buffer
5-Mile Buffer

CNDDB Records
Plant
Animal

Critical Habitat
California tiger Salamander
California red-legged frog

Source: Caltrans 2013; CNDDB 2012
Base image: Provided by ESRI 2013

Miles
0 1 2
1 in = 1 mile 1:95,000



3.3. Physical Conditions

The physical setting and climate of the BSA are typical of the valley bottom environments that border the Central Coast Range of California.

3.3.1. Topography

Elevations within the BSA range from between 160 feet near PM 14.7 and 480 feet near PM 20.5. The topography of the BSA consists of steep sedimentary ridges and slopes on the north side of SR 152, with broader alluvial valley bottoms on the lower slopes south of SR 152. This topography is typical of the Central Coast Range.

3.3.2. Soils

Based on data gathered from the NRCS, the main soil types within the BSA are Campbell silty clay loam, Campbell silty clay (muck substrate), Willows clay, Zamora clay loam, and Zamora loam, with small inclusions of Los Osos clay loam and Vallecitos rocky loam (see Figure 6). No soils derived from serpentine formations are present in the BSA. No soils tested was conducted; however, it is also likely that portions of the existing road base are comprised of foreign materials brought into the BSA as fill during construction of the road.

The Campbell series soils are composed of somewhat poorly drained soils that are associated with floodplains and alluvial fans (USDA 2013). These soils are composed of 27 percent to 35 percent clay and range in depth from 10 to 39 inches.

The Willows clay series is listed as a hydric soil in California (USDA 2013). Willows clay is a fine textured soil associated with alluvial features, such as floodplains and streambeds. These soils range from 33 to 48 inches deep and are composed of 40 percent to 60 percent clay. The Zamora series soils are fine silty soils that range in depth from 35 to 45 inches (USDA 2013). These soils are well drained and average around 35 percent total clay.

Vallecitos rocky loams are fine loamy soils that have high clay content, especially at depths below 10 inches (USDA 2013). These soils are typically 16 to 30 inches deep. This soil type has a high susceptibility to erosion and some steeper portions of the proposed project vicinity are noted as “eroded” in the soil series.

Los Osos soils are found on mountain slopes, and only at the highest elevations within the BSA. The Los Osos series soils are formed from weathered sandstone and shale and are well drained (USDA 2013). These soils are typically 20 to 40 inches deep and are composed of an average of 20 percent to 32 percent clay.

Santa Clara State Route 152 AC Overlay CAPM Project
EA 4C200
Figure 6: Soil Units Occurring Along the Project
February 28, 2014

Legend
0.125-Mile Buffer
County Boundary
Segment

Source: Caltrans 2013; AECOM 2013
** = Full soil classification descriptions described in Table 2.

Soil Classification**
AcE, AuD2, AuE, AuG, Ca, Ce, Cg, Ck, CrC, GbB, GcD2, GcE, LaF, LhG, LoE, LoF, LoG, LvF2sb, Pb, Pe, PpA, PpC, RaC2, SbG, Su, VaE2, VaG2, Wa, Wcsb, YaA, YaB, YeA, YeC, ZaA, ZbA, ZbC, LoEes, LvE, LvF2, Pd, VaE2es, VaF2, VrE2, W, Wc

Miles
0 0.25 0.5 1

N

Segment 1
Segment 2
Segment 3
Segment 4
Segment 5

Santa Clara
San Benito
Matchline

Dunlap Ave
Ferguson Rd
Susie Ln
Canada Rd
Furlong Ave
Gilman Rd
Holsclaw Rd
Prunedale Ave
Renz Ln
E 9th St
Chestnut St
Holloway Rd
Starr Ln
Frazier Lake Rd
Bloomfield Ave
Lake Rd
Dunne St
Barnheisel Rd

3.3.3. Climate

The climate of the Gilroy area is typified by cool, wet winters and warm, dry summers. The average annual rainfall near Gilroy is 20.83 inches, mostly falling from November to April. Average summer temperatures range from 53°F to 88°F, while average winter temperatures are between 35°F and 60°F (Western Regional Climate Center 2013).

3.4. Biological Conditions

The following sections describe the biological conditions in and near the BSA, including vegetation, aquatic communities, wildlife, invasive species, and regional habitats of concern.

3.4.1. Vegetation and Aquatic Communities

The majority of the BSA is devoid of natural vegetation, however, where vegetation is present, the vegetation communities in the BSA are is mainly composed of ruderal non-native grasslands, which are dominated by weedy non-native species such as black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*) and Italian rye grass (*Lolium multiflorum*). Additional vegetation communities found within the BSA include riverine, riparian, and remnant mixed oak woodland. Additional terrestrial and aquatic vegetation community types identified near the BSA include blue-gum eucalyptus, bulrush-cattail wetland, California annual grassland, mixed willow riparian forest, agricultural, and seasonal wetland. Segments of the BSA are also bordered by urban development (see Figure 4).

3.4.2. Wildlife

The habitats adjacent to the BSA provide habitat for many species of mammals, birds, reptiles, and amphibians. The most common wildlife associated with the nearby habitats include: black-tailed deer (*Odocoilus hemionus*), California ground squirrel (*Spermophilus beecheyi),* mourning dove (*Zenaida macroura*), chestnut-backed chickadee (*Parus rufescens*), Western scrub-jay (*Aphelocoma coerulescens*), red-tailed hawk (*Buteo jamaicensis*), Western fence lizard (*Sceloporus occidentalis*), and Pacific treefrog (*Pseudacris regilla*). Because the BSA is limited to a narrow area bordering the existing highway corridor, wildlife species typically do not reside within the BSA, but rather, simply use it during dispersal between each side of the highway.

The majority of the BSA is devoid of natural vegetation, and therefore does not support wildlife species. Additionally, much of the habitat in and near the BSA is ruderal non-native grasslands, and is not of high value to wildlife. The areas north of the BSA provide relatively undisturbed grassland and oak woodland habitat. Because of the continuity of this habitat to the north, this portion of land most likely provides an important north-south movement

corridor for wildlife north of SR 152. SR 152 itself may present a barrier to wildlife movement.

3.4.3. Invasive Species

Invasive plant species listed by the California Invasive Plant Council (Cal IPC) occur in the ruderal habitats in and adjacent to the BSA. The California annual grassland habitat is also very likely to be dominated by invasive plant species. Cal IPC defines high priority invasive species as those species that "have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure" (Cal IPC 2013). High priority invasive plant species that occur in or near the BSA include fennel *(Foeniculum vulgare),* foxtail chess (*Bromus madritens* ssp. *rubens*), bristly ox tongue (*Picris echioides*), wild oats (*Avena* sp.*),* Russian thistle (*Salsola* sp.*),* and yellow star thistle *(Centaurea solstitialis)* (Cal IPC 2013). Caltrans standard BMPs will be followed to limit the spread of invasive species.

3.5. Regional Species and Habitats of Concern

Because the proposed project footprint is confined to an existing paved roadway and previously disturbed temporary staging areas that are located on gravel or pavement, no species of special concern are expected to be present. However, a number of sensitive species could potentially occur in the surrounding area.

Based on the database and literature review, a list of special-status species that could potentially occur in the area was developed. Table 2 provides a summary of the federal and state candidate, proposed, listed, or otherwise special-status species and habitats that could potentially occur in or near the BSA. The table details the habitat requirements for each species and evaluates the likelihood that appropriate habitat occurs in or near the BSA. Only species that have at least a moderate likelihood to occur in or near the BSA are addressed further, in Chapter 4.

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Mammals					
Antrozous pallidus	Pallid bat	SSC	Rocky terrain in open areas in lowlands, foothills, and mountainous areas near water throughout California below 6,560 feet. Roosts in caves, rock crevices, mines, hollow trees, buildings, and bridges in low numbers (less than 200).	Present	Suitable habitat present near the BSA. An historic occurrence record exists approximately 5 miles from the BSA. The proposed project will not reduce the quality or availability of habitat. Some evidence of bat roosting was detected at Llagas Creek bridge. Pre-construction surveys will be required to investigate potential night roosting in the bridge structure. During active construction on the bridge deck, exclusion devices may need to be installed through coordination with CDFW.
Taxidea taxus	American badger	SSC	Open areas with friable soils within woodland, grassland, savannah, and desert habitats. Preys predominately on ground squirrels and pocket gophers.	Absent	Suitable grassland habitat present near the BSA. Suitable prey locally present. Two CNDDB records exist within 5 miles of the BSA. The proposed project footprint does not contain suitable habitat, therefore no impacts are expected. Additionally AMMs will reduce any potential adverse effects on the species if present.
Vulpes macrotis mutica	San Joaquin kit fox	FE, ST	Grazed grasslands, may live next to and forage in tilled or fallow fields and irrigated row crops (USFWS 1998a). Preys upon small mammals, including ground squirrels.	Present	Marginal dispersal grassland habitat present on the edge of the BSA. Suitable prey locally present. Two historic CNDDB records exist within 5 miles of the BSA. Nighttime project work will make the BSA temporarily less appealing to SJKF, as a result SJKF is not expected to be present in the work areas.
Birds					
Athene cunicularia	Burrowing owl	SSC	Valley bottoms and foothills with low vegetation and fossorial mammal activity. Dispersing juveniles winter in a wide variety of habitats.	Absent	Suitable grassland habitat present near the BSA particularly near the eastern end of the project footprint (Segment 5). Seven CNDDB records have been reported within 5 miles of the BSA. No burrowing owl individuals, or signs of burrowing owl use, were observed during reconnaissance field surveys. Nighttime project work will not overlap with the active time for BUOW.AMMs, including preconstruction surveys; will reduce potential impacts to the species.

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Brachyramphus marmoratus	Marbled murrelet	FT	Old-growth coastal redwood and Douglas-fir forests characterized by large trees, multiple canopy layers, and moderate to high canopy closure.	Absent	No potential to occur. Redwood or Douglas-fir forest not present near the BSA.
Elanus leucurus	White-tailed kite	FP	Nests in trees growing in isolation within open country, at forest edges, or within a forest, most often adjacent to open-country foraging areas such as agricultural fields or grasslands	Present	One occurrence was documented within 5 miles of the BSA. Suitable foraging habitat present near the BSA. Nesting habitat present near San Felipe Lake. Nighttime work does not overlap with the active time of day for this species, and no vegetation removal is required. Thus no impacts are expected to occur.
Sternula antillarum (=Sterna, =albifrons) browni	California least tern	FE, SE	Shallow-water estuaries or lagoons where small fish are abundant. Breeds along marine and estuarine shores on exposed sandy bluffs or riverbanks. May occur at coastal lakes after breeding.	Absent	No potential to occur. Suitable coastal habitats not present near BSA.
Vireo bellii pusillus	Least Bell's vireo	FE, SE	Rare summer resident below approximately 2,000 feet in willows and other low, dense valley foothill riparian habitat and lower portions of canyons; BSA outside current range, but there is evidence that the species may be expanding its range into southern Santa Clara County.	Present	Two occurrences are documented within 5 miles of the BSA. Marginal dispersal habitat present along Ortega Creek; suitable willow riparian foraging habitat present within the general vicinity, including the Llagas Creek corridor. No riparian vegetation removal will occur. No impacts are anticipated because there will be no impacts to habitat and AMMs will reduce any potential adverse effects.

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Amphibians					
Ambystoma californiense	California tiger salamander	FT, ST	Annual grasslands and grassy understory of valley foothill hardwood habitats with underground refuges and within dispersal distance of vernal pools, stock ponds, or other seasonal water sources for breeding.	Present	Fourteen occurrences are documented within 5 miles of the BSA. Suitable breeding, dispersal, and refugia habitat present in and near the BSA; Segments 3, 4 and 5 are inside or adjacent to designated Critical Habitat. No impacts to this species are expected to occur because all project activities will occur in paved or previously disturbed areas devoid of refugia, and construction will occur during the dry time of the year when the species is less active. Additionally AMMs will reduce to a level that is "insignificant or discountable" any adverse impacts to CTS.
Rana draytonii	California red-legged frog	FT, SSC	Dense, shrubby riparian vegetation (*Salix lasiolepis*; also *Typha* and *Scirpus* spp.) associated with deep (2.3 feet), still or slow moving water.	Present	Total of 25 CNDDB occurrences are documented within 5 miles of the BSA. Suitable habitat present within San Felipe Lake and stockponds in the surrounding area outside the BSA. Llagas and Ortega Creeks provide aquatic breeding and non-breeding aquatic habitat; Segment 5 is within Critical Habitat. No impacts to this species are expected to occur because all project activities will occur in paved or previously disturbed areas, and construction will occur during the dry time of the year when the species is unlikely to enter these areas. Additionally AMMs will reduce to a level that is "insignificant or discountable" any adverse effects to CRLF.
Rana boylii	Foothill yellow-legged frog	SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats; cobble-sized substrate required for egg-laying.	Absent	Suitable habitat not present near the BSA; Llagas and Ortega Creeks lack a rocky substrate and are intermittent.

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Reptiles					
Actinemys marmorata	Western pond turtle	SSC	Permanent or nearly permanent bodies of water and low gradient, slow moving streams below 6,000 feet elevation; presence of haul-out sites important.	Absent	Eight CNDDB occurrences are documented within 5 miles of the BSA. Suitable habitat present, especially near the BSA in San Felipe Lake near Segments 3 and 4; known occurrences recorded for the general area. The proposed project is not expected to impact this species due to lack of work within or adjacent to water courses and no ground disturbance, outside of already disturbed areas, is expected to occur.
Invertebrates					
Euphydryas editha bayensis	Bay checkerspot butterfly	FT	Prefers shallow, serpentine-derived or similar soils, which support the larval host plants (primarily *Plantago erecta*; also *Castilleja densiflora, C. exserta*).	Absent	No potential to occur. Serpentine soil habitat not present near the BSA.

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Fish					
Oncorhynchus mykiss	South central California steelhead DPS	FT	Pacific Ocean; spawns in coastal streams and rivers, over gravel beds; requires mostly gravel-sized material for spawning, but will also use mixtures of sand-gravel and gravel-cobble.	Absent	BSA within DPS; San Felipe Lake and the Pajaro River are within designated Critical Habitat; however, no suitable aquatic habitat is present near the BSA. Ortega Creek has seasonal flow and contains dense emergent cattail-bulrush vegetation, which indicates a flow regime not suitable for steelhead. In addition, it does not contain perennial flows of cool oxygenated waters.
Oncorhynchus mykiss	Central Valley steelhead DPS	FT	Pacific Ocean; spawns in coastal streams and rivers, over gravel beds. Requires mostly gravel-sized material for spawning, but will also use mixtures of sand-gravel and gravel-cobble Most will rear in freshwater for 2 years before emigrating to the ocean.	Absent	No potential to occur. The BSA area is not within the watersheds of this DPS.
Hypomesus transpacificus	Delta smelt	FT, ST	Euryhaline species, primarily living in brackish water; spawns in shallow, fresh, or slightly brackish water upstream of the mixing zone.	Absent	No potential to occur. The BSA is not within the Sacramento River delta where the species is known to occur.
Oncorhynchus tshawytscha	Central Valley fall/late fall-run chinook salmon DPS	FT, ST	Pacific Ocean; spawns in coastal streams and rivers; tend to use estuaries and coastal areas more extensively than other pacific salmonids for juvenile rearing.	Absent	No potential to occur. The BSA is not within the DPS.

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon DPS	FT, ST	Pacific Ocean; spawns in coastal streams and rivers; tend to use estuaries and coastal areas more extensively than other pacific salmonids for juvenile rearing.	Absent	No potential to occur. The BSA area is not within the DPS.
Oncorhynchus tshawytscha	Winter run chinook salmon DPS	FE, SE	Pacific Ocean; spawns in coastal streams and rivers; tend to use estuaries and coastal areas more extensively than other pacific salmonids for juvenile rearing.	Absent	No potential to occur. The BSA area is not within the DPS.
Plants					
Atriplex joaquiniana	San Joaquin spearscale	CNPS 1B.2	Alkali grassland and meadows or on the margins of alkali scrub. Elevation range: 0-1,055 feet.	Absent	Alkali habitat not present in or near the BSA, although species known historically (1800s) from San Felipe Lake. Project impacts on Segment 4 are confined to the existing paved surface and will not affect hydrophytic plants associated with the lake environment.
Balsamorhiza macrolepis var. *macrolepis*	Big scale balsamroot	CNPS 1B.2	Cismontane woodland, valley and foothill grassland/sometimes serpentine. Elevation range: 300-5,000 feet.	Absent	No potential to occur. Suitable habitat not present in or near the BSA,
Campanula exigua	Chaparral harebell	CNPS 1B.2	Chaparral (openings), cismontane woodland, meadows and seeps, valley and foothill grassland (serpentinite). Elevation range: 65-2,950 feet.	Absent	No potential to occur. Serpentine soil habitat not present in or near the BSA
Castilleja rubicundula ssp. *rubicundula*	Pink creamsacs	CNPS 1B.2	Serpentine soils in chaparral areas with clearings. Elevation range: 0-2,900 feet.	Absent	No potential to occur. Serpentine soil and chaparral habitat not present in or near the BSA surveys

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Dudleya setchellii	Santa Clara Valley dudleya	FE, CNPS 1B.1	Cismontane woodland, valley and foothill grasslands/serpentinite, rocky. Elevation range: 200-1,500 feet.	Absent	No potential to occur. Serpentine soil habitat not present in the BSA.
Eryngium aristulatum var. *hooveri*	Hoover's button celery	CNPS 1B.1	Occurs in freshwater wetlands and vernal pools. Elevation range: 0-150 feet.	Absent	Suitable habitat not present in or near the BSA, but known to occur in flats around San Felipe Lake. Project impacts are confined to the existing paved surface and will not affect hydrophytic plants associated with the lake environment.
Hoita strobilina	Loma Prieta hoita	CNPS 1B.1	Chaparral, cismontane woodland, riparian woodland/usually serpentinite, mesic. Elevation range: 100-2,820 feet.	Absent	No potential to occur. Serpentine soil habitat not present in or near the BSA.
Legenere limosa	Legenere	CNPS 1B.1	Vernal pools. Elevation range: 0-2,890 feet.	Absent	No potential to occur. Vernal pool habitat not present in or near the BSA.
Lessingia micradenia var. *glabrata*	Smooth lessingia	CNPS 1B.2	Chaparral, cismontane woodland/serpentinite, serpentinite grasslands, often roadsides. Elevation range: 394-1,380 feet.	Absent	No potential to occur. Serpentine soil habitat not present in or near the BSA.
Malacothamnus arcuatus	Arcuate bush-mallow	CNPS 1B.2	Chaparral, cismontane woodland. Elevation range: 50-1,100 feet.	Absent	No potential to occur. Chaparral habitat not present in or near the BSA
Navarretia prostrata	Prostrate vernal pool navarretia	CNPS 1B.1	Vernal pools. Elevation range: 60-2,100 feet.	Absent	No potential to occur. Vernal pool habitat not present in or near the BSA.
Plagiobothrys glaber	Hairless popcorn-flower	CNPS 1A	Alkaline meadows, seeps, coastal salt marshes. Elevation range: 50-530 feet.	Absent	No potential to occur. Suitable wet alkaline or coastal salt marsh habitat not present in or near the BSA.

Table 2: Special-status Species With the Potential to Occur In the BSA.

Scientific Name	Common Name	Status[1]	General Habitat Description	General Habitat Present/ Absent	Rationale
Streptanthus albidus ssp. *albidus*	Metcalf Canyon jewel flower	FE, CNPS 1B.2	Valley and foothill grassland (serpentinite). Elevation range: 45-800 feet.	Absent	No potential to occur. Serpentine soil habitat not present in or near the BSA.
Streptanthus albidus ssp. *peramoenus*	Most beautiful jewel flower	CNPS 1B.2	Relatively open dry areas in valley and foothill grasslands, often on serpentine soils. Elevations ranging from 150-800 feet.	Absent	No potential to occur. Suitable grassland and serpentine soil habitat not present in or near the BSA.
Trifolium amoenum	Showy rancheria clover	FE, CNPS 1B.1	Valley and foothill grassland, coastal bluff and scrub, sometimes found on serpentine soils in open, sunny areas. Elevations ranging from 15-1,800 feet.	Absent	No potential to occur. Habitat not present in or near BSA. Presumed extinct until 1996, when relocated in Marin County.
Trifolium depauperatum var. *hydrophilum*	Saline clover	CNPS 1B.2	Marshes and swamps, wet alkaline valley and foothill grassland, vernal pools. Elevation range: 0-985 feet.	Absent	No potential to occur. Suitable habitat not present in or near the BSA

Obtained from USFWS Species List Database, CNPS Rare Plant Database (USGS quadrangles searched include San Felipe, Chittenden, Gilroy Hot Springs, and Gilroy), and .**–** CNDDB (search includes a 5-mile buffer of the BSA).

[1] – Listing Status Definitions:

FE federal endangered
FT federal threatened
SE state endangered
ST state threatened
FP fully protected (CDFW)
1A plant species that are presumed extinct in California (CNPS)
SSC state species of concern
1B plant species that are rare, threatened, or endangered in California and elsewhere (CNPS)

Chapter 4. Results: Biological Resources, Discussion of Impacts, and Mitigation

This section describes the sensitive natural communities and special-status species that may occur in and near the BSA and the potential impacts that the project may have on them. The following sensitive habitats and species could occur near the BSA and are addressed in more detail in this section:

Natural Communities

- Designated critical habitat for California tiger salamander
- Designated critical habitat for California red-legged frog
- Aquatic Resources – Riverine and Riparian Habitats

Federally and State-listed Species

- San Joaquin kit fox
- Least Bell's vireo
- California red-legged frog
- California tiger salamander

State Species of Special Concern

- Pallid bat
- American badger
- Burrowing owl
- White-tailed kite
- Western pond turtle

4.1. Natural Communities

The project will result in temporary impacts to ruderal vegetation located within the proposed staging locations. No other impacts to vegetated areas will result from the project. A breakdown of vegetation and land cover types found in the BSA, as well as the permanent and temporary impacts to these types is provided in Table 3.

Table 3: Land Cover Impacts

Land Cover Type	Total within BSA	Project Footprint		Total Impact (acres)
		Permanent Impact (acres)	Temporary Impact (acres)	
Ruderal	31.75	0	1.76	1.76
Paved Hardscape	50.74	49.81	0.93	50.74
Remnant Mixed Oak Woodland	3.86	0.0	0.0	0.0
Riparian	0.89	0.0	0.0	0.0
Riverine	0.09	0.0	0.0	0.0
Development	5.47	0.0	0.0	0.0
Total	**92.80**	**49.81**	**2.69**	**52.50**

The three areas of special concern within the BSA—including CTS critical habitat, CRLF critical habitat, and aquatic resources—are discussed in detail in the following paragraphs.

4.1.1. California Tiger Salamander Critical Habitat

The USFWS published a final rule on August 23, 2005, designating 199,109 acres in California as critical habitat for the federally threatened CTS (USFWS 2005). When designating critical habitat, USFWS is required to list the known primary constituent elements (PCE) essential to the conservation of the species. These PCEs may require special management considerations and protection (10 CFR Section 424.12). The PCEs for the CTS include:

- Breeding habitat: Standing bodies of fresh water, including natural and manmade (e.g., stock) ponds, vernal pools, and other ephemeral or permanent fresh water bodies which typically support inundation during winter rains and hold water for a minimum of 12 weeks in a year of average rainfall.

- Refugia habitat: Upland habitats adjacent and accessible to and from breeding ponds, which contain small mammal burrows or other underground habitat that CTS depend on for food, shelter, and protection from predation.

- Dispersal habitat: Accessible upland dispersal habitat between occupied locations that allows for movement between such sites.

There are 19 critical habitat units defined for CTS. Segments 4 and 5 and a portion of Segment 3 are within the San Felipe Unit (Unit #12), which is composed of 6,642 acres of CTS critical habitat in Santa Clara and San Benito counties (USFWS 2005). Segments 1 and 2 are not within designated critical habitat.

According to the final rule, manmade structures and urban landscaped areas lack PCEs, and therefore, would not require Section 7 consultation:

> *… due to the limitations of our mapping scale, we were not able to exclude all areas that do not contain the PCEs. We have determined that existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas are not likely to contain one or more of the PCEs. Because activities in these areas are unlikely to affect PCEs (i.e., critical habitat for the species), a consultation under section 7 of the Act would not be required* (USFWS 2005, FR p. 49386).

4.1.1.1. SURVEY RESULTS

No breeding habitat or refugia habitat are present within the project footprint. Portions of the BSA outside of the project footprint have the potential to contain refugia habitat in the form of small mammal burrows; however, these areas will not be impacted during construction, and thus, no impacts to this PCE are anticipated. The BSA does contain dispersal habitat at creek/drainage crossings; however no work will occur in these features. Low-quality dispersal habitat is present within the roadway and adjacent vegetated areas; however, it is only expected that individuals would pass through this area while migrating between upland and aquatic habitat. As such, project-related activities in the BSA are unlikely to affect PCEs, and thus, no impacts on CTS critical habitat are expected to occur.

4.1.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

The fact that the proposed project lies within CTS critical habitat was communicated to Caltrans design engineers in the preliminary design stages of the proposed project. To avoid and minimize effects on critical habitat, the proposed project footprint was reduced to the maximum extent possible while still meeting the purpose and need of the project.

All general avoidance and minimization efforts discussed in Section 1.5.1 will serve to protect the value of the critical habitat within the BSA. In particular, measures pertaining to the confinement of work areas, restrictions on vegetation removal, and the establishment of will ensure that no impacts to PCEs occur as a result of the project. The following species-specific measures will be implemented.

- **Environmentally Sensitive Area and Wildlife Exclusion Fencing.** Areas identified as ESAs would be delineated on the project plans. The placement of ESA or exclusion fencing will be directed by the RE in consultation with the USFWS-approved biological monitor. Prior to the start of construction, an ESA will be established and/or WEF will be installed around the perimeter of the eight previously disturbed temporary staging areas

located near designated critical habitat for CTS and 100 feet beyond on each side of the staging areas. The use of exclusion fencing may limit the movement of CTS into designated staging areas. The ESA or WEF will remain in place throughout the duration of the project, while construction activities are ongoing. The final project plans will depict all locations where fencing will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and the construction-related activities—including vehicle operation, material and equipment storage, access roads, and other surface-disturbing activities—that are prohibited within or near ESAs. In addition, hydrologic features (i.e., topographic depressions, drainage ditches, culverts, etc.) will be properly identified during pre-construction surveys conducted by a USFWS-approved biologist, and will be adequately fenced using a combination of ESA establishment/WEF installation.

- **Seasonal Avoidance.** All paving operations for this project will be limited to the dry season to avoid working at times when CTS are most active. All work within critical habitat areas—Segments 3, 4, and 5—will be restricted to June 1 through October 15 to avoid working during most active dispersal times. Due to diminished adjacent habitat values, work within Segments 1 and 2 will only be restricted to between April 15 and October 15. Limiting work in critical habitat areas until late in the summer season when CTS are least active will minimize the chances that either species will be encountered during project activities.

4.1.1.3. PROJECT IMPACTS ON CALIFORNIA TIGER SALAMANDER CRITICAL HABITAT

All project-related activities will be confined to the existing paved roadway and previously disturbed temporary staging areas that occur on gravel or pavement. As such, the proposed project is not expected to affect essential refugia, dispersal, or breeding habitat. Therefore, no effects on the PCEs of the critical habitat are expected. As a result, the proposed project is not likely to adversely affect, modify, or destroy designated CTS critical habitat.

4.1.1.4. COMPENSATORY MITIGATION FOR IMPACTS ON CALIFORNIA TIGER SALAMANDER CRITICAL HABITAT

Compensatory mitigation is not proposed for impacts on CTS critical habitat.

4.1.1.5. CUMULATIVE EFFECTS TO CALIFORNIA TIGER SALAMANDER CRITICAL HABITAT

The proposed project is not expected to impact CTS critical habitat. For this reason, the proposed project will not contribute to cumulative effects on CTS critical habitat.

4.1.2. Critical Habitat for the California Red-legged Frog

The USFWS published a final rule on March 17, 2010, designating 1,636,609 acres as critical habitat for the federally threatened CLRF (USFWS 2010). The PCEs for CRLF include:

- Aquatic breeding habitat: "Standing bodies of fresh water… including: natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that… hold water for a minimum of 20 weeks in all but the driest of years."

- Aquatic Non-Breeding Habitat: Freshwater pond and stream habitats, as described previously, that may not hold water long enough for the species to complete its aquatic lifecycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal…".

- Upland habitat: "Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1 mile in most cases… and that provides the frog shelter, forage, and predator avoidance… Upland habitat should include… boulders, rocks, organic debris… as well as small mammal burrows and moist leaf litter."

- Dispersal habitat: Accessible upland or riparian habitat that CRLF can use to move between occupied sites within a minimum of 1 mile of each other. Dispersal habitat includes natural and altered lands, including crop and pastureland that do not have barriers to dispersal.

There are 48 critical habitat units defined for CRLF. Segment 5 is located within the Wilson Peak Unit (STC-2), which is composed of 204,718 acres in Santa Clara, San Benito, Merced, and Stanislaus counties (USFWS 2010). Segments 1, 2, 3, and 4 are not within designated critical habitat.

According to the final rule, developed areas and lands covered by pavement lack essential features, and therefore, do not require Section 7 consultation:

> *When determining critical habitat boundaries within this final rule, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack essential features for the California red- legged frog. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such structures and the land under them inadvertently left inside critical habitat boundaries shown on the maps of this final revised critical habitat are excluded by text in*

this final rule. Therefore, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no destruction or adverse modification, unless the specific action may affect adjacent critical habitat.(USFWS 2010 FR p. 12838)

4.1.2.1. SURVEY RESULTS

No aquatic breeding habitat is present within the BSA. Riverine and riparian areas of the BSA outside of the project footprint contain aquatic non-breeding aquatic habitat in the form of seasonal creeks; however, these areas will not be impacted during construction, and thus, no impacts to this PCE are anticipated. The BSA does contain upland and dispersal habitats near creek/drainage crossings; however no work will occur in these features. Low-quality, heavily disturbed dispersal habitat is present within the roadway and adjacent vegetated areas; however, it is only expected that individuals would pass through this area while migrating between aquatic habitats. In an effort to avoid impacting sensitive biological resources, all roadwork within the BSA will be confined to the existing paved roadway and previously disturbed temporary staging areas that occur on gravel or pavement. As such, activities in the BSA are unlikely to affect PCEs; thus, no impacts on CRLF critical habitat are expected to occur.

4.1.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

The fact that the proposed project lies within CRLF critical habitat was communicated to Caltrans design engineers in the preliminary design stages of the project. To avoid and minimize effects on critical habitat, the proposed project footprint was reduced to the maximum extent possible while still meeting the purpose and need of the project. All general avoidance and minimization efforts discussed in Section 1.5.1 will serve to protect the value of the CRLF critical habitat within the BSA. In particular, measures pertaining to the confinement of work areas, restrictions on vegetation removal, and the establishment of ESA and WEF areas will ensure that no impacts to PCEs occur as a result of the project. The following species-specific measures will be implemented.

- **Environmentally Sensitive Area and Wildlife Exclusion Fencing.** Areas identified as ESAs would be delineated on the project plans. The placement of ESA or exclusion fencing will be directed by the RE in consultation with the USFWS-approved biological monitor. Prior to the start of construction, an ESA will be established and/or WEF will be installed around the perimeter of the eight previously disturbed temporary staging areas located near designated critical habitat for CRLF and 100 feet beyond on each side of the staging areas. The use of exclusion fencing may limit the movement of CRLF into designated staging areas. The ESA or WEF will remain in place throughout the duration of the project, while construction activities are ongoing. The final project plans will

depict all locations where fencing will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and the construction-related activities—including vehicle operation, material and equipment storage, access roads, and other surface-disturbing activities—that are prohibited within or near ESAs. In addition, hydrologic features (i.e., topographic depressions, drainage ditches, culverts, etc.) will be properly identified during pre-construction surveys conducted by a USFWS-approved biologist, and will be adequately fenced using a combination of ESA establishment/WEF installation.

- **Seasonal Avoidance.** All paving operations for this project will be limited to the dry season to avoid working at times when CRLF are most active. All work within critical habitat areas—Segments 3, 4, and 5—will be restricted to June 1 through October 15 to avoid working during most active dispersal times. Due to diminished adjacent habitat values, work within Segments 1 and 2 will only be restricted to between April 15 and October 15. Limiting work in critical habitat areas until late in the summer season when CRLF are least active will minimize the chances that either species will be encountered during project activities.

4.1.2.3. PROJECT IMPACTS ON CALIFORNIA RED-LEGGED FROG CRITICAL HABITAT

All project-related activities will be confined to the existing paved roadway and previously disturbed temporary staging areas that occur on gravel or pavement. As such, the proposed project is not expected to impact upland, dispersal, or breeding habitat. Therefore, effects on critical habitat within the BSA are not expected to affect the survival or recovery of CRLF. As a result, the proposed project is not likely to adversely affect, modify, or destroy designated CRLF critical habitat.

4.1.2.4. COMPENSATORY MITIGATION FOR IMPACTS ON CALIFORNIA RED-LEGGED FROG CRITICAL HABITAT

Compensatory mitigation is not proposed for impacts on CRLF critical habitat.

4.1.2.5. CUMULATIVE EFFECTS ON CALIFORNIA RED-LEGGED FROG CRITICAL HABITAT

The proposed project is not expected to impact CRLF designated critical habitat. For this reason, the proposed project will not contribute to cumulative effects on CRLF critical habitat.

4.1.3. Aquatic Resources

The BSA is located within the Pajaro River Watershed, which drains portions of the Diablo and Gabilan ranges. The main aquatic features in and adjacent to the BSA include Llagas Creek, San Felipe Lake, and Ortega Creek.

4.1.3.1. SURVEY RESULTS

Llagas Creek originates northwest of the BSA, in the Santa Cruz Mountains, and flows south until it reaches the Pajaro River. The creek crosses under SR 152 at Llagas Creek Bridge, which is located in Segment 1.

The outlet of San Felipe Lake forms the headwaters of the Pajaro River, which passes west from the lake, across the valley floor, and through a divide in the Coast Ranges to flow into Monterey Bay near the City of Watsonville.

Ortega Creek originates south and east of Segment 4, on the south side of SR 152. Ortega Creek flows northwest and follows closely alongside SR 152 for approximately 0.30 mile of Segment 4. The creek then turns away from the highway in a westerly direction as it flows towards San Felipe Lake.

4.1.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

General avoidance and minimization efforts discussed in Section 1.5.1 will serve to protect the aquatic resources located near the BSA. In particular, the implementation of Best Management Practices will protect these resources from project-related run-off or other contaminants.

4.1.3.3. PROJECT IMPACTS ON AQUATIC RESOURCES

Segments 3 and 4 are near San Felipe Lake and Segment 4 is adjacent to Ortega Creek. However, in an effort to avoid impacting sensitive biological resources, all roadwork within the BSA will be confined to the existing paved roadway and previously disturbed temporary staging areas that are located on gravel or pavement and away from creeks. As such, the proposed project is not expected to impact any hydrologic resources.

4.1.3.4. COMPENSATORY MITIGATION FOR IMPACTS ON AQUATIC RESOURCES

Because no project-related impacts on aquatic resources are anticipated to occur, compensatory mitigation is not proposed.

4.1.3.5. CUMULATIVE EFFECTS ON AQUATIC RESOURCES

The proposed project is not expected to impact aquatic resources. For this reason, the proposed project will not contribute to cumulative effects on aquatic resources.

4.2. Special-status Plant Species

4.2.1. Survey Results

No federally or state-listed plant species are known to occur inside the BSA or within a 5-mile radius of the BSA (Figure 5). However, three of the CNPS list 1B species found in Table 2—Hoover's button celery (*Eryngium aristulatum* var. *hooveri*), San Joaquin spearscale (*Atriplex joaquiniana*), and prostrate vernal pool navarretia *(Navarretia prostrate)*—each have recorded occurrences in the flats next to San Felipe Lake. Hoover's button celery and prostrate vernal pool navarretia is confined to freshwater wetlands and vernal pools, and San Joaquin spearscale is found in alkali grasslands or the margins of alkali scrub. Based on reconnaissance surveys conducted for the project, it was determined that no suitable habitat was present for listed plants. The vegetated area within the BSA is highly disturbed and overgrown with non-native, landscaped, and ornamental vegetation. The BSA is not located in or near suitable habitats for these species, and no incidental observations were noted during reconnaissance surveys, and thus, no impacts on special-status plant species are expected to occur.

4.2.2. Avoidance and Minimization Efforts

All general avoidance and minimization efforts discussed in Section 1.5.1 will serve to protect special-status plant species by confining work areas to only locations that have been determined not to support special-status plant species.

4.2.3. Project Impacts

All roadwork will be confined to the existing paved roadway and previously disturbed temporary staging areas that are located on gravel or pavement and would not support special-status plants known to occur in the surrounding area. Neither freshwater wetland habitat nor the margins of any alkali habitat associated with San Felipe Lake where these species could occur will be directly or indirectly affected. Thus, the proposed project is not anticipated to impact special-status plants species.

4.2.4. Cumulative Effects

All roadwork will be confined to the existing paved roadway and previously disturbed temporary staging areas that are located on gravel or pavement, and no impacts are expected to occur. For this reason, the proposed project will not contribute to cumulative effects on special-status plant species.

4.3. Special-status Wildlife Species

This section describes the life history and ecology of special-status wildlife species that have the potential to occur in and near the BSA, along with potential impacts and proposed avoidance, minimization, and compensatory mitigation measures for these species.

Project-related activities do not have the potential to cause take of any species listed under the federal Endangered Species Act or the California Endangered Species Act.

Federally and State-Listed Species

4.3.1. San Joaquin Kit Fox

San Joaquin kit fox historically occupied valley and foothill grasslands, arid shrub habitats, and oak savanna communities in the greater San Joaquin and Salinas valleys in California. The kit fox is one of the smallest canid species in North America and SJKF is the largest subspecies of this species. The SJKF diet consists primarily of small mammals (rats, mice, squirrels, and rabbits), ground nesting birds, and insects. SJKF requires underground dens for temperature regulation, shelter, reproduction, and predator avoidance (Golightly and Ohmart 1984). SJKF requires a "home range," which is an area that an animal regularly frequents in its daily activities of foraging, roaming, resting, and caring for young.

4.3.1.1. SAN JOAQUIN KIT FOX SURVEY RESULTS

The BSA is within the northern portion of the historic range of SJKF. There are no presumed extant populations within southern Santa Clara County (USFWS 2007). No protocol-level surveys for SJKF have been conducted at the proposed project site, and no SJKF were observed during the field surveys related to the development of this document. Using the CNDDB (CDFW 2013), a 5-mile radius around the BSA was searched for SJKF occurrences; two SJKF occurrences were reported within this area. The first occurrence is located approximately 3.8 miles north of Segment 5, and was road kill observed before 1972. The second occurrence was observed approximately 3.2 miles southeast of Segment 5, sometime between 1972 and 1975. Marginally suitable habitat for SJKF occurs in and near the BSA in Segments 3, 4, and 5.

4.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Caltrans will implement the general avoidance and minimization measures outlined in Section 1.5.1 to reduce potential adverse effects on SJKF, including biological monitoring; however, because of their presumed absence, no effects to the species are anticipated.

4.3.1.3. PROJECT IMPACTS

The proposed project would not reduce the quality or availability of land in the BSA for dispersing SJKF. Construction-related activities will not result in a loss of SJKF dispersal habitat. It is extremely unlikely that SJKF currently make use of the BSA, given the paucity of historical records for this species in the proposed project vicinity. Additionally, nighttime work will make the BSA temporarily less appealing for foraging and dispersal. Moreover, the proposed project will not appreciably alter the ability of SJKF to cross SR 152, were they to occur in the area. As such, no impacts to this species will occur as a result of the project.

4.3.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed because the proposed project is not likely to have an adverse impact on SJKF.

4.3.1.5. CUMULATIVE EFFECTS

San Joaquin kit fox is not expected to occur in the BSA and the proposed project will not alter the current potential barrier to SJKF movement created by SR 152. For this reason, the proposed project will not contribute to cumulative effects on this species.

4.3.2. Least Bell's Vireo

Least Bell's vireo is a small migratory songbird that breeds in riparian habitats. It breeds in southern and central California and northern Baja Mexico from April through September, and migrates south to southern Baja during the non-breeding season. LBV is a summer resident of cottonwood-willow forest, oak woodland, shrubby thickets, and dry washes with willow thickets at the edges.

4.3.2.1. SURVEY RESULTS

The project is located on the northern edge of the historical range of the species, which included the southern edge of Santa Clara County. No protocol-level surveys for LBV have been conducted at the project site, and no LBV were observed during the field surveys related to the development of this document. Two LBV occurrences are recorded in the CNDDB (CDFW 2013) within 5 miles of the BSA (Figure 5). Each sighting was in the same location, and therefore, they are listed as one CNDDB occurrence (CDFW 2013). Both of these records were from lower Llagas Creek between SR 152 and the confluence with the Pajaro River, just east of Gilroy and just south of Segment 1.

Small, isolated patches of mixed willow riparian forest are located next to the BSA along two stretches of Ortega Creek in Segment 3, and one patch is located along a stretch of Llagas Creek next to the BSA in Segment 1. These patches provide only very marginally suitable LBV breeding and limited foraging habitat. In addition, the riparian corridor of Ortega Creek

is very narrow—approximately 40 feet wide—and is bordered by agricultural fields to the south and California annual grassland to the north, on the other side of SR 152, neither of which provide additional suitable foraging habitat for this species. Additionally, the stretch of Llagas Creek is located in a developed area in the City of Gilroy, and does not provide suitable habitat for this species. No evidence exists that Ortega Creek was ever historically occupied by LBV and this species is still extremely rare anywhere in central California. Therefore, it is extremely unlikely that LBV would occur within or adjacent to the BSA.

4.3.2.2. AVOIDANCE AND MITIGATION EFFORTS

Although LBV is not expected occur within or adjacent to the BSA, Caltrans will implement all general avoidance and minimization efforts, discussed in Section 1.5.1, to avoid and minimize potential project-related impacts on LBV. These measures will prevent impacts to potential LBV habitat along Ortega or Llagas Creek through the confinement of work space.

LBV Exclusionary Buffers. A 500-foot buffer will be established around the location of any LBV identified in or near the project area. Caltrans will not begin or continue work until the individual leaves the project area on its own volition. A 500-foot buffer will be imposed around any active Least Bell's vireo nests until all birds have fledged.

4.3.2.3. PROJECT IMPACTS

Because LBV is not expected to inhabit the BSA, no impacts to this species are anticipated.

4.3.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed because the project is not anticipated to impact LBV.

4.3.2.5. CUMULATIVE EFFECTS

Least Bell's vireo is not expected to occur in the BSA and no impacts on the mixed willow riparian corridor along Ortega or Llagas creeks are expected to occur. For this reason, the proposed project will not contribute to cumulative effects on this species.

4.3.3. California Red-legged Frog

California red-legged frog is the largest native frog in the western United States, ranging from 1.5 to 5.1 inches long. CRLF is generally found in or near small ponds, quiet pools along slow-moving streams, and marshes or other permanent and semi-perennial sources of water where dense scrubby vegetation such as willows, cattails, and bulrushes dominate, and water quality is good. Typical habitat for this species is a combination of dense, shrubby, or emergent riparian vegetation closely associated with deep water (more than 2.3 feet deep) that is devoid of predatory fish and bullfrogs (*Lithobates catesbeianus*).

4.3.3.1. SURVEY RESULTS

The BSA is within the historic and current range of CRLF and portions of the BSA are within designated critical habitat for CRLF (USFWS 2010). No protocol-level surveys for CRLF have been conducted at the project site and no CRLF were observed during the field surveys related to the development of this document. A review of the CNDDB (CDFW 2013) indicated that a total of 14 CRLF occurrences have been reported within 5 miles of the proposed project. No CNDDB occurrences have been reported within 1.5 miles of the BSA (Figure 5). One unreported occurrence was documented in the *Focused Biological Assessment for the California Red-legged Frog* (Appendix D) within a small stock pond near SR 152 outside of the BSA along Segment 5. This pond was last confirmed to contain CRLF in 1999. Due to its small size, it is likely to dry during drought years. Potential upland or dispersal habitat for CLRF is located near the BSA, particularly near Segments 3, 4, and 5.

Because this species is known to occur in the area, Caltrans is inferring presence of this species near the BSA because of its locally common distribution, the presence of suitable habitat in and near the BSA, and known occurrences within 2 miles in waterbodies that are hydrologically connected with Ortega and Llagas creeks.

4.3.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

General avoidance and minimization efforts discussed in Section 1.5.1 will serve to avoid and minimize potential project-related impacts on CRLF, including the implementation of worker environmental awareness trainings, presence of a biological monitor, and minimization of vegetation removal.

Species-specific measures designed to reduce impacts to CRLF include:

- **Environmentally Sensitive Area and Wildlife Exclusion Fencing.** Areas identified as ESAs would be delineated on the project plans. The placement of ESA or exclusion fencing will be directed by the RE in consultation with the USFWS-approved biological monitor. Prior to the start of construction, an ESA will be established and/or WEF will be installed around the perimeter of the eight previously disturbed temporary staging areas located near designated critical habitat for CRLF and 100 feet beyond on each side of the staging areas. The use of exclusion fencing may limit the movement of CRLF into designated staging areas. The ESA or WEF will remain in place throughout the duration of the project, while construction activities are ongoing. The final project plans will depict all locations where fencing will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and the construction-related activities—including vehicle operation, material and equipment storage, access roads, and other surface-disturbing activities—that are prohibited within or near ESAs. In

addition, hydrologic features (i.e., topographic depressions, drainage ditches, culverts, etc.) will be properly identified during pre-construction surveys conducted by a USFWS-approved biologist, and will be adequately fenced using a combination of ESA establishment/WEF installation.

- **Seasonal Avoidance.** All paving operations for this project will be limited to the dry season to avoid working at times when CRLF are most active. All work within critical habitat areas—Segments 3, 4, and 5—will be restricted to June 1 through October 15 to avoid working during most active dispersal times. Due to diminished adjacent habitat values, work within Segments 1 and 2 will only be restricted to between April 15 and October 15. Limiting work in critical habitat areas until late in the summer season when CRLF are least active will minimize the chances that either species will be encountered during project activities.

4.3.3.3. PROJECT IMPACTS

Potential impacts to CRLF could result from activities that destroy or temporarily impact suitable habitat for the species. There is no suitable aquatic habitat in the project footprint and no impacts to aquatic habitats will result. The project will temporarily occupy low-quality dispersal habitat, however this impact will be negligible. CRLF also have the potential to be crushed or injured by construction equipment or vehicles if dispersing across the roadway. Because construction will be limited to dry times of the year, it is highly unlikely that CRLF will be dispersing through the BSA, and thus, they are not expected to be encountered.

4.3.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed because the project is not likely to adversely affect CLRF.

4.3.3.5. CUMULATIVE EFFECTS

The proposed project is not expected to impact CLRF. For this reason, the proposed project will not contribute to cumulative effects on CRLF.

4.3.4. California Tiger Salamander

California tiger salamander inhabits grasslands and open oak woodlands in central and northern California. CTS breeds in temporarily ponded environments surrounded by uplands that support small mammal burrows. Vernal pools or seasonal human-made ponds provide ideal breeding habitat. Water must remain for at least 12 weeks or long enough for the aquatic larvae to complete development. After winter rains have begun to fill breeding sites

with water, the salamanders emerge from their refugia and migrate to breeding pools. After breeding, they migrate back up to upland refugia sites.

4.3.4.1. SURVEY RESULTS

Segments 3, 4, and 5 are located within designated CTS critical habitat. No protocol-level surveys for CTS have been conducted at the project site and no CTS were observed during the field surveys related to the development of this document. A review of the CNDDB (CDFW 2013) and the *Focused Biological Assessment for the California Tiger Salamander* (Appendix C) revealed that a total of 25 CTS occurrences have been reported within 5 miles of the BSA. Potential upland habitat is located in and near the BSA, particularly near Segments 3, 4 and 5, with aquatic breeding habitat located in the uplands surrounding the BSA. Potential breeding habitat—primarily consisting of stock ponds—is located on the north side SR 152, particularly near Segments 3, 4, and 5. Aquatic habitat south of SR 152 primarily consists of larger perennial waterbodies. Larger waterbodies are more likely to contain predatory non-native species, which deter use by CTS.

4.3.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

All general avoidance and minimization efforts discussed in Section 1.5.1 will serve to avoid and minimize potential project-related impacts on CTS. . In particular, measures pertaining to the confinement of work areas, restrictions on vegetation removal, and the establishment of will ensure that no impacts to PCEs occur as a result of the project. The following species-specific measures will be implemented.

- **Environmentally Sensitive Area and Wildlife Exclusion Fencing.** Areas identified as ESAs would be delineated on the project plans. The placement of ESA or exclusion fencing will be directed by the RE in consultation with the USFWS-approved biological monitor. Prior to the start of construction, an ESA will be established and/or WEF will be installed around the perimeter of the eight previously disturbed temporary staging areas located near designated critical habitat for CTS and 100 feet beyond on each side of the staging areas. The use of exclusion fencing may limit the movement of CTS into designated staging areas. The ESA or WEF will remain in place throughout the duration of the project, while construction activities are ongoing. The final project plans will depict all locations where fencing will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and the construction-related activities—including vehicle operation, material and equipment storage, access roads, and other surface-disturbing activities—that are prohibited within or near ESAs. In addition, hydrologic features (i.e., topographic depressions, drainage ditches, culverts, etc.) will be properly identified during pre-construction surveys conducted by a USFWS-

approved biologist, and will be adequately fenced using a combination of ESA establishment/WEF installation.

- **Seasonal Avoidance.** All paving operations for this project will be limited to the dry season to avoid working at times when CTS are most active. All work within critical habitat areas—Segments 3, 4, and 5—will be restricted to June 1 through October 15 to avoid working during most active dispersal times. Due to diminished adjacent habitat values, work within Segments 1 and 2 will only be restricted to between April 15 and October 15. Limiting work in critical habitat areas until late in the summer season when CTS are least active will minimize the chances that either species will be encountered during project activities.

4.3.4.3. PROJECT IMPACTS

The project has the potential to temporally impact upland dispersal habitat for CTS. The majority of the BSA is already disturbed and lacks burrows or refugia sites, and thus, impacts to CTS would likely only result to individuals migrating across the road or one of the staging locations. All culverts and bridges that provide potential roadway under-crossings will be retained, and thus, no impacts to more desirable migratory corridors will occur. Due to the localized nature of the project and the fact that no work will occur outside of the existing paved roadway and previously disturbed temporary staging areas, the proposed project is not expected to have any impact on CTS. Further, because construction will be limited to dry times of the year, it is highly unlikely that CTS will be dispersing through the BSA, and thus, they are not expected to be encountered.

4.3.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed because the project is not likely to adversely affect CTS.

4.3.4.5. CUMULATIVE EFFECTS

The proposed project is not likely to impact CTS. For this reason, the proposed project will not contribute to cumulative effects on CTS.

State Species of Special Concern

4.3.5. Pallid Bat

Pallid bat is a medium-sized bat that occurs throughout much of California. It is usually found in open areas where it preys upon flightless insects. This bat prefers foraging on terrestrial arthropods in dry open grasslands near water and rocky outcroppings or old structures. It may also occur in oak woodlands and at the edge of redwood forests along the

coast. It is a "structure roosting" species, with caves and mine tunnels providing preferred roosting habitat; buildings and trees may also be used. Pallid bats may travel up to several miles for water or foraging sites, if roosting sites are limited. This species is sensitive to human disturbances at roost sites.

4.3.5.1. SURVEY RESULTS

A review of the CNDDB (CDFW 2013) revealed a single historical occurrence located within 5 miles of the proposed project (Figure 5). This historical observation was in 1938, and no detailed description of the location is available (CDFW 2013). Preferred roosting sites (caves, bridges and old, decaying trees) are largely absent from the project area; however, decaying trees and large trees near the BSA may provide marginally suitable roosting habitat. Llagas Creek Bridge—located in Segment 2—could also provide roosting habitat. Evidence of bat roosting was observed beneath this bridge during surveys conducted in 2013. If the species is present, it most likely uses the areas within and around the BSA for foraging or temporary occupancy.

4.3.5.2. AVOIDANCE AND MINIMIZATION EFFORTS

Caltrans will implement the following species-specific measure in order to minimize impacts to pallid bat.

- **Avoidance of Impacts on Bats**. A Caltrans biologist will conduct preconstruction surveys for bats in the project area. If any maternity roosts of special-status bats are discovered within the project area, these areas will be identified as ESAs and appropriate buffers and work windows will be applied during construction. To avoid impacts to bats during work over creek crossings in the project area, exclusion devices may be installed through consultation with CDFW.

4.3.5.3. PROJECT IMPACTS

Construction of the proposed project has the potential to temporarily disrupt roosting or foraging activities occurring in or near the BSA. Within the BSA, the Llagas Creek Bridge is the only likely location where bats may be impacted. These impacts would occur during nighttime foraging periods when adult bats would have left the roost to feed. Because construction of the proposed project will be shifting each night to a new segment of the project, potential impacts to bats roosting beneath this bridge would be limited to only a few nights. Through implementation of avoidance and minimization measures, including preconstruction surveys and implementation of exclusion devices, will reduce project affects on bat species.

4.3.5.4. COMPENSATORY MITIGATION

No compensatory mitigation is proposed because the project is not likely to adversely affect pallid bat.

4.3.5.5. CUMULATIVE EFFECTS

The proposed project is not expected to have any impact on pallid bat. Thus, the proposed project will not contribute to cumulative effects on pallid bat.

4.3.6. American Badger

In California, badgers occupy a diversity of habitats supplying sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows near timberline are preferred. American badger preys primarily on burrowing rodents such as gophers, marmots, and kangaroo rats.

4.3.6.1. SURVEY RESULTS

A review of the CNDDB (CDFW 2013) found two recorded occurrences within 5 miles of the BSA; no recorded occurrences are located within 1.5 miles. No other pertinent information regarding American badgers was identified in supporting documentation. The uplands surrounding the BSA provide potentially suitable habitat for the badger, especially given the abundance of burrowing mammals. These small mammals likely provide a suitable prey base for American badger if it is present in the area. Due to the general lack of burrowing mammals and presence of vehicular traffic in the BSA, American badger likely does not den in the BSA, and only uses the area when traveling across the road.

4.3.6.2. AVOIDANCE AND MINIMIZATION EFFORTS

Caltrans will implement the general avoidance and minimization measures outlined in Section 1.5.1 to reduce potential adverse effects on American badger. These measures will include a preconstruction survey aimed at identifying individuals that may be present near the project footprint. The biological monitor on site will also assist monitoring for individuals moving through the area. The worker environmental training will help advise crew members to also monitor for the species.

4.3.6.3. PROJECT IMPACTS

American badger injury or mortality could occur from collisions with equipment in the project area. Because the work will be limited to paved or otherwise disturbed area, no loss of suitable or occupied denning habitat will occur.

4.3.6.4. COMPENSATORY MITIGATION

No permanent impacts on American badger are anticipated and no compensatory mitigation for this species is required.

4.3.6.5. CUMULATIVE EFFECTS

The proposed project is not expected to have any impact on American badger. Therefore, the proposed project will not contribute to cumulative effects on American badger.

4.3.7. Burrowing Owl

Burrowing owls typically occupy annual and perennial grasslands with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrel burrows, which provide them with year-round shelter and seasonal nesting habitat. Burrowing owls also use human-made structures such as culverts, debris piles, or openings beneath pavement as shelter and nesting habitat.

4.3.7.1. SURVEY RESULTS

A review of the CNDDB (CDFW 2013) found that seven burrowing owl (BUOW) occurrences have been reported within 5 miles of the BSA (Figure 5); only one recorded occurrence is located within 1.5 miles of the BSA. A reconnaissance-level survey was conducted at the project site within Segment 5 on February 25, 2014. No signs of BUOW use—such as pellets, whitewash, or feathers—were observed during this field survey. However, potentially suitable habitat beyond Caltrans ROW exists in Segment 5 near the 156 interchange which was not accessible during the survey.

4.3.7.2. AVOIDANCE AND MINIMIZATION EFFORTS

The avoidance and minimization measures provided in Section 1.5.1 will be implemented for BUOW. Avoidance and minimization measures for this species include pre-construction species and habitat surveys, daily surveys during active construction, and establishment of appropriate buffers.

- **Avoidance of Impacts on Burrowing Owl:** Areas that contain potential burrowing owl habitat will be identified and marked as ESAs on the plans. If work occurs during the breeding season (February 15 through August 1), protocol-level preconstruction surveys will be required. No disturbance will occur within approximately 164 feet (50 meters) of occupied burrowing owl burrows during non-breeding periods (October 16 through March 31), or within approximately 656 feet (200 meters) during the breeding/fledging period (April 1 through October 15). The limits of the exclusion zone in the project area will be marked with stakes, posts, or flagging. If construction activities must occur within these limits while burrows are active, a site-specific work plan will be prepared and work will take place only in the presence of a Caltrans-approved biological monitor.

4.3.7.3. PROJECT IMPACTS

Pre-construction surveys will be used to determine whether burrowing owls are present in the action area. Burrowing owl may use the California annual grassland in and near the BSA; however, nighttime project work will not overlap with the active time of day for burrowing owl, and AMMs will be implemented. As such, no impacts to BUOW are anticipated.

4.3.7.4. COMPENSATORY MITIGATION

No permanent impacts on burrowing owl are anticipated and no compensatory mitigation for this species is required.

4.3.7.5. CUMULATIVE EFFECTS

The proposed project is not expected to impact BUOW; therefore, the proposed project will not contribute to cumulative effects on BUOW.

4.3.8. White-tailed Kite

Kites are common to uncommon residents in coastal and valley lowlands throughout California. In Coastal and Central California, they are year-round residents. White-tailed kite nests in woodlands and isolated trees and forages in adjacent grasslands, shrublands, and agricultural fields, where they prey mostly on small mammals. This species is sensitive to human disturbances.

4.3.8.1. SURVEY RESULTS

A review of the CNDDB (CDFW 2013) found one recorded occurrence located within 5 miles of the BSA (Figure 5). The recorded occurrence is from 1994 and is located approximately 3.2 miles northwest of Segment 1.

Marginally suitable white-tailed kite nesting habitat is located in and next to the BSA, within the willow riparian corridor of Ortega and Llagas creeks. Marginally suitable nesting habitat for white-tailed kite may also be present in the remnant mixed-oak woodland and blue gum eucalyptus habitats in and near the BSA. Marginally suitable foraging habitat—composed of grasslands and agricultural fields—is located in and near the BSA. Because this species is sensitive to human disturbance, it is highly unlikely that white-tailed kite will be present, given the proximity to Hwy 152. Additionally, the nighttime work activities of the project will not overlap with the active time of day of white-tailed kite, if any were to occur in the BSA.

4.3.8.2. AVOIDANCE AND MINIMIZATION EFFORTS

Caltrans will implement the general avoidance and minimization measures outlined in Section 1.5.1 to reduce potential adverse effects on white-tailed kite. Avoidance and

minimization measures for this species include pre-construction species and habitat surveys, daily surveys during active construction, and establishment of appropriate buffers.

4.3.8.3. PROJECT IMPACTS

White-tailed kite may use the riparian habitat in and near the BSA for roosting and the adjacent agricultural land for foraging. However, the proposed project footprint does not contain suitable habitat for this species, and the proposed project will not result in impacts on white-tailed kite or its habitat.

4.3.8.4. COMPENSATORY MITIGATION

No permanent impacts on white-tailed kite are anticipated and no compensatory mitigation for this species is required.

4.3.8.5. CUMULATIVE EFFECTS

The proposed project is not likely to have any impact on white-tailed kite. Therefore, the proposed project will not contribute to cumulative effects on white-tailed kite.

4.3.9. Western Pond Turtle

Western pond turtle (WPT) occurs in a variety of permanent and intermittent aquatic habitats, such as ponds, marshes, rivers, streams, and ephemeral pools. They require slack or slow-moving water for feeding as well as suitable dry habitat for basking and hauling-out. Their activity is water-temperature dependent; along the central and southern coasts of California, WPT may be active year-round. They use emergent rocks and floating logs to thermoregulate throughout the day. They also require refugia habitat, including deep waters, undercut banks, and woody debris.

4.3.9.1. SURVEY RESULTS

A review of the CNDDB (CDFW 2013) found eight recorded occurrences within 5 miles of the BSA; no recorded occurrences are located within 1.5 miles (Figure 5). The main aquatic feature along SR 152 is San Felipe Lake, which provides suitable habitat for WPT. The BSA does not contain suitable perennial waters with refugia for this species, nor is it within suitable nesting or over-wintering habitat. In general, the BSA lacks cover or build-up of leaf litter and canopy cover that is common in WPT nesting sites. The lack of suitable aquatic and nesting habitat in the BSA reduces the potential that the species will be present. Nonetheless, if WPT are present in San Felipe Lake, it is possible, though unlikely, that they disperse near Segment 3 of the proposed project.

4.3.9.2. AVOIDANCE AND MINIMIZATION EFFORTS

Caltrans will implement the general avoidance and minimization measures outlined in Section 1.5.1 to reduce potential adverse effects on WPT. Avoidance and minimization

measures for this species include pre-construction species and habitat surveys, daily surveys during active construction, delineation of the project boundary, and establishment of appropriate buffers.

4.3.9.3. PROJECT IMPACTS

Suitable aquatic and nesting habitat for WPT does not occur within the proposed project footprint. WPT may find their way onto SR 152 when seeking nest sites, especially along Segment 3, which runs next to San Felipe Lake. The distance from San Felipe Lake to the edge of the pavement varies seasonally from about 15 feet to 100 feet from the edge of pavement. Pre-construction surveys and the avoidance and minimization measures provided in Section 1.5.1 will ensure that impacts to WPT are minimal. Additionally, the project will not increase the difficulty that WPT have crossing SR 152, should they enter the project area. No project-related impacts on WPT are expected to occur.

4.3.9.4. COMPENSATORY MITIGATION

No impacts on WPT are anticipated to occur, and thus, no compensatory mitigation is required.

4.3.9.5. CUMULATIVE EFFECTS

No temporary or permanent impacts on WPT are anticipated; therefore, the proposed project will not contribute to cumulative effects on this species.

Chapter 5. Results: Permits and Technical Studies for Special Laws and Conditions

5.1. Regulatory Requirements

The federal natural resource laws, regulations, and policies that apply to the proposed project include:

- Federal Endangered Species Act (FESA)
- Migratory Bird Treaty Act
- Executive Order 11988 (Floodplains)

The state laws and regulations that apply to the proposed project include:

- California Endangered Species Act (CESA)
- Native Plant Protection Act (NPPA)

5.2. Federal Natural Resource Laws, Regulations, and Policies

5.2.1. Federal Endangered Species Act Consultation Summary

Endangered species consultation with the USFWS is necessary when a project has the potential to affect a federally listed species and/or destroy or adversely modify designated critical habitat. Four federally listed species—including SJKF, LBV, CTS, and CLRF—have the potential to be located near the proposed project. Additionally, portions of the proposed project are located within designated critical habitat for CTS and CLRF. Caltrans has initiated informal consultation with the USFWS to receive concurrence from USFWS that the project may affect, but is not likely to adversely affect federally-listed species.

5.2.2. Migratory Bird Treaty Act and Other Bird Protections

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All nesting birds protected under this law will need to be avoided during construction of the proposed project. Avoidance can be accomplished by adhering to the general avoidance and minimization measures outlined in Section 1.5.1.

5.2.3. Executive Order 11988

Executive Order 11988 was designed to avoid adverse impacts associated with the occupancy and modification of floodplains. Although the area around San Felipe Lake is a floodplain,

work in Segment 3 will be confined to the existing pavement and will not result in any new modification of the floodplain area. Thus, the project is in compliance with Executive Order 11988.

5.3. State Laws and Regulations

5.3.1. California Endangered Species Act Consultation Summary

The CESA protects species listed as threatened or endangered from take unless authorized through an incidental take permit. Through the implementation of avoidance and minimization measures, take of any state-listed species is not anticipated. Caltrans has made an initial determination that a consistency determination will not be required for the project.

5.3.2. Native Plant Protection Act

California's Native Plant Protection Act (NPPA) requires all state agencies to conserve endangered and rare native plants (Fish and Wildlife Code Sections 1900–1913). Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days prior to any change of land use that may affect protected plants. The proposed project is not anticipated to impact endangered or rare native plants.

5.3.3. California State Fish and Wildlife Code

The vast majority of birds found in or near the BSA are protected under the state Fish and Wildlife Code. With implementation of the proposed avoidance, minimization, and mitigation measures, no take of migratory birds or any part thereof is anticipated, and the risk of a code violation is very low.

American badger and pallid bat are special-status mammals that may occur in or near the BSA. These species are also protected by Fish and Wildlife Code Section 4150. Take of individuals of these and other mammal species is prohibited by this code. With the implementation of the proposed avoidance, minimization, and mitigation measures, no take of special-status mammals or any part thereof is anticipated.

Chapter 6. **References**

California Department of Fish and Wildlife (CDFW) - Natural Heritage Division. 2013. California Natural Diversity Database (CNDDB).

California Department of Transportation (Caltrans). 2009. Old Lake Road to Dunne Lane (Lover's Lane) Safety Operational Improvements Project.

California Invasive Plant Council (Cal IPC). 2013. California Invasive Plant Inventory Database. Accessed November 22, 2013 at: http://www.cal-ipc.org/paf/

California Native Plant Society (CNPS). 2013. Inventory of rare and endangered plants of California (Online edition, Version 7). Accessed November 22, 2013 at: http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi/Html?item=checkbox_9.htm#q9

Golightly, R.T. and R.D. Ohmart. 1984. Water economy of two desert canids: coyote and kit fox. Journal of Mammalogy 65:51-58.

H. T. Harvey and Associates. 2005a. Focused Biological Assessment on the California Red-legged Frog for the State Route 152 Safety Operational Improvements, Santa Clara County, California. KP: 04-SCL-152-KP 23.6/26.4 & 31.2/34.4; PM: 14.7/16.4 & 19.4/21.4). November.

H. T. Harvey and Associates. 2005b. Focused Biological Assessment on the California Tiger Salamander for the State Route 152 Safety Operational Improvements, Santa Clara County, California. KP: 04-SCL-152-KP 23.6/26.4 & 31.2/34.4; PM: 14.7/16.4 & 19.4/21.4. July.

McGinnis, Samuel. 1993. The Status of the San Joaquin kit fox (*Vulpes macrotis mutica*) Along the Proposed E-Line Route for the Highway 152 Realignment Project. California State University, Hayward. February.

Santa Clara Valley Water District. 2013. Santa Clara County Water Bodies. Accessed January 10, 2014 at: http://valleywater.org/services/GIS.aspxUnited States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS). Web Soil Survey. Accessed November 20, 13 at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS). Official Soil Series Descriptions (Online edition). Accessed November 20, 2013 at: http://soils.usda.gov/technical/classification/osd/index.html

U.S. Fish and Wildlife Service (USFWS). 2005. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule. Federal Register 70: 449379-49458. Available at: http://www.fws.gov/sacramento/es/critical-habitat/CA-Tiger-Salamander/Documents/M20_cts_eb9_10ab_11_12_fCH.pdf

U.S. Fish and Wildlife Service (USFWS). 2007. San Joaquin Kit Fox (*Vuples macrotis mutica*) 5-Year Review: Summary and Evaluation. Available at: http://ecos.fws.gov/docs/five_year_review/doc3222.pdf

U.S. Fish and Wildlife Service (USFWS). 2010. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the California Red-Legged Frog; Final Rule. Federal Register 75: 12816-12959. Available at: http://www.gpo.gov/fdsys/pkg/FR-2010-03-17/pdf/2010-4656.pdf

U.S. Fish and Wildlife Service (USFWS). 2013. Endangered Species Database List. Accessed November 1, 2013 at: http://www.fws.gov/sacramento/es_species/lists/es_species_lists-form.cfm

Western Regional Climate Center. 2013. Accessed on November 21, 2013 at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3417

Appendix A Representative Photographs

Appendix B USFWS Species List

Appendix C Focused Biological Assessment on the California Red-legged Frog for the State Route 152 Safety Operational Improvements, Santa Clara County, California

Appendix D Focused Biological Assessment on the California Tiger Salamander for the State Route 152 Safety Operational Improvements, Santa Clara County, California

Appendix E The Status of the San Joaquin kit fox (*Vulpes macrotis mutica*) Along the Proposed E-Line Route for the Highway 152 Realignment Project

Appendix F *Natural Environment Study for the State Route 152 Old Lake Road to Dunne Lane (Lover's Lane) Safety Improvement Project*