TRACY HILLS SPECIFIC PLAN
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT
VOLUME II
DECEMBER 2014

APPENDIX C

TRACY HILLS SPECIFIC PLAN HABITAT ASSESSMENT & SAN JOAQUIN COUNTY MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN (SJMSCP) CONSISTENCY ANALYSIS PREPARED BY RBF CONSULTING, DATED OCTOBER 2014

TRACY HILLS SPECIFIC PLAN

Tracy, California

Habitat Assessment & San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) Consistency Analysis

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October 2014
JN 135721

TRACY HILLS SPECIFIC PLAN

CITY OF TRACY, SAN JOAQUIN COUNTY, CALIFORNIA

Habitat Assessment & SJMSCP Consistency Analysis

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Travis J. McGill
Biologist
Natural Resources

Thomas J. McGill, Ph.D.
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October 2014

Executive Summary

This report contains the findings of RBF Consulting's (RBF) Habitat Assessment and San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) Consistency Analysis for the Tracy Hills Specific Plan (THSP) located in the City of Tracy, San Joaquin County, California. This habitat assessment was conducted to reconfirm baseline conditions and to identify sensitive habitats and/or species potentially occurring within the boundaries of the project site that could pose a constraint to development. Development within the THSP property is intended to be implemented in phases.

The City of Tracy is a signatory to the SJMSCP. Projects covered by the SJMSCP receive clearance under both the state and federal endangered species acts [Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA)] if they are consistent with the SJMSCP. Compliance with the SJMSCP ensures that the impacts are mitigated below a level of significance in compliance with the California Environmental Quality Act (CEQA).

After review of existing documentation for the THSP property and written communication from the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), it was determined that Area A and Area B of the THSP are covered under the SJMSCP. As a result, compensation for the development of Area A and Area B will be mitigated in the Southwest Zone as addressed in Section 6.5 of the SJMSCP. To mitigate for the potential adverse impacts on special-status species, and provide for the incidental take of state and/or federally listed species or SJMSCP Covered Species within Area A and Area B of the THSP the applicant will comply with all relevant Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP pertinent to the project site. This will include conducting pre-construction surveys and relocation measures as noted above (in Section 6.2 Measures to Minimize Impacts).

Area C is currently not covered under the SJMSCP and will need to apply independently for coverage and may require additional permitting under the ESA. Compliance with FESA and CESA may include a Major Amendment to the SJMSCP, a project specific Habitat Conservation Plan (HCP) in accordance with Section 10 of the FESA, Biological Opinion under Section 7 of the FESA, and/or Section 2081 of the CESA.

The THSP property is primarily undeveloped and has been utilized for livestock grazing and other agricultural purposes. Six (6) plant communities were observed within the boundaries of the THSP property during the habitat assessment: annual grassland, ruderal, agricultural, disturbed, developed, and California Aqueduct.

The literature search identified forty-five (45) sensitive plant species, thirty-six (36) sensitive wildlife species, and four (4) sensitive habitats as having the potential to occur within the general vicinity of the THSP property. Sensitive plant and wildlife species were evaluated for their potential to occur within the project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. It was determined through the course of conducting the 2013 habitat assessment that the project site does not provide suitable habitat for sensitive plant species known to occur within the general area. Existing livestock grazing and agricultural activities have eliminated undisturbed natural plant communities and greatly reduced, if not completely eliminated, suitable habitat needed to support the sensitive plant species that have the potential to occur in the general vicinity.

Additionally, it was determined that the project site has a high to moderate potential to support eighteen (18) sensitive wildlife species. These species include San Joaquin kit fox (*Vulpes macrotis mutica*), silvery legless lizard (*Anniella pulchra pulchra*), San Joaquin whipsnake (*Coluber flagellum ruddocki*), Alameda whipsnake (*Coluber lateralis euryxanthus*), coast horned lizard (*Phrynosoma blainvillii*), California red-Legged frog (*Rana draytonii*), western spadefoot toad (*Spea hammondii*), Cooper's hawk (*Accipiter cooperii*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), Ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Bueto swainsoni*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), American badger (*Taxidea taxus*), and California tiger salamander (*Ambystoma californiense*). Participation and compliance in the SJMSCP will provide the necessary mitigation for impacts to any of these aforementioned species.

Based on the 2013 U.S. Army Corps of Engineers (Corps) Jurisdictional Assessment prepared by Olberding Environmental, Inc., the project applicant will be required to obtain the following regulatory approvals: Jurisdictional Determination from the U.S. Army Corps of Engineers (Corps) documenting isolated conditions and lack of jurisdictional authority on the project site; a Regional Water Quality Control Board (RWQCB) Report of Waste Discharge (ROWD) pursuant to California Water Code Section 13260; and, CDFW Section 1602 Streambed Alteration Agreement (SAA).

A small portion of Area C of the THSP property is located within federally designated Critical Habitat for California red-legged frog. Since there is no federal nexus (i.e., a federal permit or federal funding) that would trigger a consultation with the USFWS under Section 7 of the FESA, a Section 7 consultation would not be required for loss or adverse modification to Critical habitat.

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EXHIBITS

TABLES

APPENDIX

LIST OF ACRONYMS

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corp of Engineers
CRLF	California Red-legged Frog
CWA	Clean Water Act
DOE	Department of Energy
EIR	Environmental Impact Report
FEIR	Final Environmental Impact Report
FESA	Federal Endangered Species Act
HCP	Habitat Conservation Plan
HMP	Habitat Management Plan
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Service
RBF	RBF Consulting
ROWD	Report of Waste Discharge
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SCH	State Clearinghouse
SJCOG	San Joaquin Council of Government
SJKF	San Joaquin Kit Fox
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
THSP	Tracy Hills Specific Plan
TNW	Traditional Navigable Water
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Section 1 Introduction

This report contains the findings of RBF Consulting's Habitat Assessment and SJMSCP Consistency Analysis for the THSP located in the City of Tracy, San Joaquin County, California. This habitat assessment was conducted by RBF biologist, Travis J. McGill, on October 26, 27, and 28, 2013 to reconfirm baseline conditions and to identify sensitive habitats and/or species potentially occurring within the boundaries of the project site that could pose a constraint to development. The original habitat assessment for the THSP was conducted in 1989, by LSA Associates, Inc. (LSA). Since 1989 numerous biological studies have been conducted for the THSP. Given that the original set of reports is over twenty years old and no one document provides a comprehensive review of the past efforts, an updated biological survey was needed to re-establish baseline conditions, allowing the City and the applicant to resume their negotiations with the wildlife agencies for clearing portions of the property for development.

The previously certified THSP Environmental Impact Report (EIR) identified sensitive or special status species within the project site and identified mitigation measures for San Joaquin kit fox (SJKF), burrowing owl, and California red-legged frog (CRLF). This updated habitat assessment will reevaluate the impacts of the proposed project and build-out of the Specific Plan to biological resources and will include clearance and mitigation measures provide by the SJMSCP. Special attention was given to the suitability of the habitat onsite to support SJKF, a federally and state endangered species, burrowing owl, a California Species of Special Concern, Alameda whipsnake, a federally and state threatened species, large-flowered fiddleneck (*Amsinckia grandiflora*), a federally and state endangered species, California red-legged frog, a federally threatened species, California tiger salamander (*Ambystoma californiense*), a federally and state threatened species, and various sensitive raptor species (i.e. Swansion's hawk, a state threatened species, ferruginous hawk, a state wait listed species, and golden eagle).

The overall THSP has been divided into three areas defined by the physical characteristics of the site: Area A; Area B; and Area C.

- Area A includes the northern portion of the THSP between the Delta-Mendota Canal and the California Aqueduct. This portion of the THSP was not part of the original THSP. As a result, Area A was included in the original SJMSCP boundary and is eligible for coverage by the SJMSCP and is shown on the SJMSCP compensation map for Tracy. This area was not included in previous HCP efforts.

- Area B includes the central portion of the THSP; north of I-580, south of the California Aqueduct, west of Corral Hollow Road and south of the Union Pacific Railroad. Area B of the THSP was originally included in the previously approved THSP and Tracy Hills

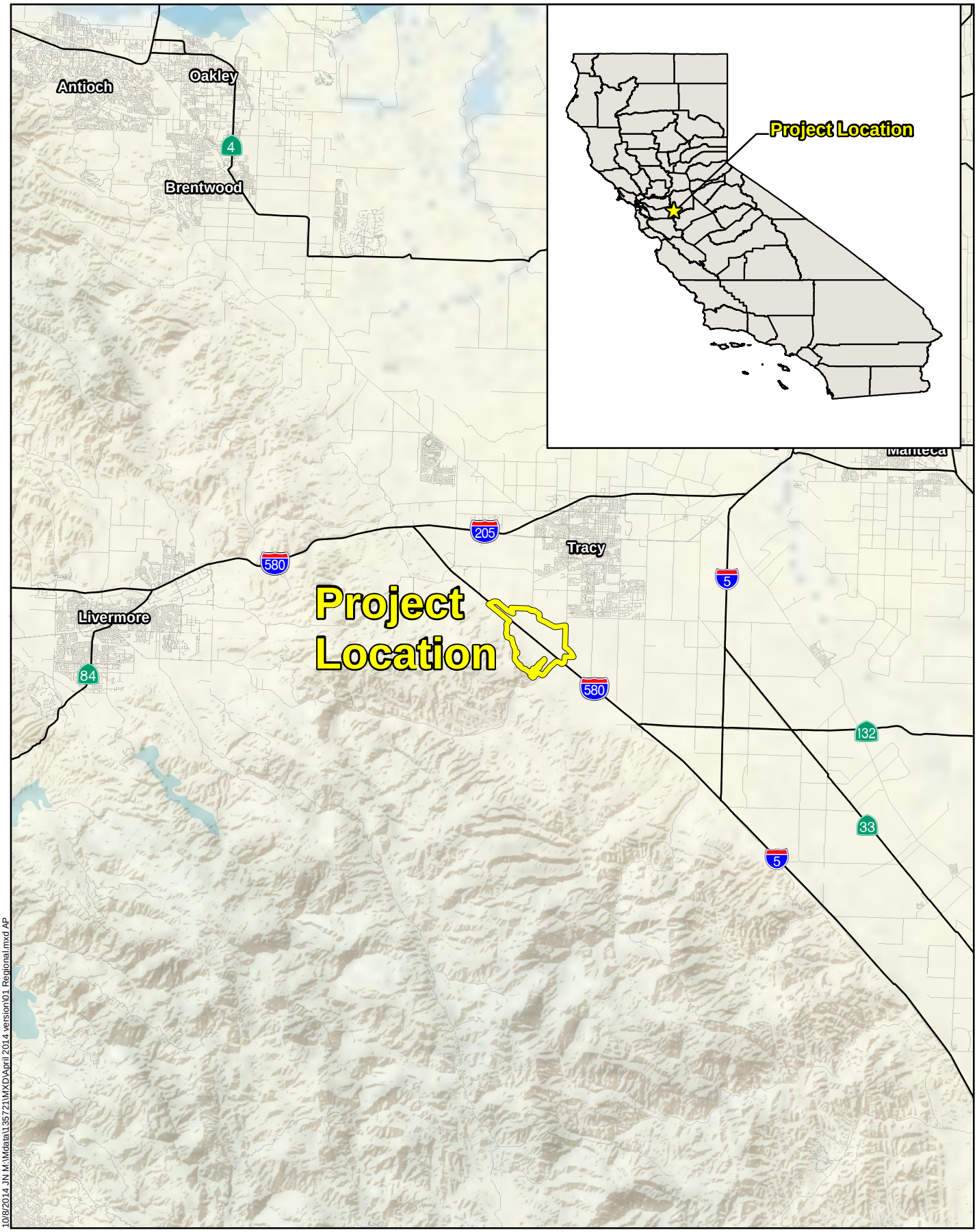
HCP. Prior to the development of the SJMSCP, and as a result was not originally covered by the SJMSCP. Since the adoption of the 1998 Specific Plan and certification of the corresponding EIR, and subsequently the dissolve of the previously approved THSP, the processing of the Tracy Hills HCP was abandoned and the San Joaquin Council of Government (SJCOG), Inc. staff put together a report requesting coverage of Area B (Phase 1) of the THSP as Minor Amendment to the SJMSCP. After approval by the USFWS, Area B (also referred to as the Tracy 580 Business Park) of the THSP was included as a Minor Amendment to participate in the SJMSCP[1]. The Minor Amendment included an in-lieu of fee payment of approximately 3,500-acres to be dedicated as habitat/open space via conservation easements. The 3,500-acres, located west of the THSP and south of I-580, will be recorded and deeded on behalf of SJCOG. As a result, Area B is eligible for coverage by the SJMSCP and is shown on the SJMSCP compensation map for Tracy.

- Area C includes the southern portion of the THSP, south of I-580 and northwest of Corral Hollow Road. Area C extends into the undeveloped hillside to the west and abuts the approximately 3,500-acre open space area under a conservation easement. Area C is currently not covered under the SJMSCP and will need to apply independently for coverage and may require additional permitting under the ESA. Compliance with FESA and CESA may include a Major Amendment to the SJMSCP, a project specific HCP in accordance with Section 10 of the FESA, Biological Opinion under Section 7 of the FESA, and/or Section 2081 of the CESA.

1.1 PROJECT LOCATION

The project site is generally located west of Interstate 5, south of Interstate 205, and north of State Route 132 at the eastern foothills of the Diablo Mountain Range in the southeastern portion of the City of Tracy, San Joaquin County, California (Exhibit 1, *Regional Vicinity*). Interstate 580 traverses the THSP property in a northwest to southeast direction. The THSP is depicted on the Tracy and Midway United States Geological Survey (USGS) 7.5-minute quadrangles (Exhibit 2, *Site Vicinity*). The project site includes portions of Sections 6, 7, 17, 18, and 19 of Township 3 south, Range 5 east of the Tracy quadrangle, and all or portions of Sections 2 and 11 of Township 3 south, Range 4 east of the USGS Midway quadrangle. The THSP is bordered by the Delta-Mendota Canal to the northeast, the Union Pacific Railroad to the northwest, undeveloped hillside to the west and southwest, Corral Hollow Road to the southeast, and the Tracy Municipal Airport and privately owned lands designated and zoned for aggregate extraction to the east (Exhibit 3, *Project Site*).

[1] Approved by the SJCOG Board in 2012 with recommendation from the SJCOG Habitat Advisory Committee. The SJCOG Habitat Advisory Committee includes representatives from the USFWS and CDFW.



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TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

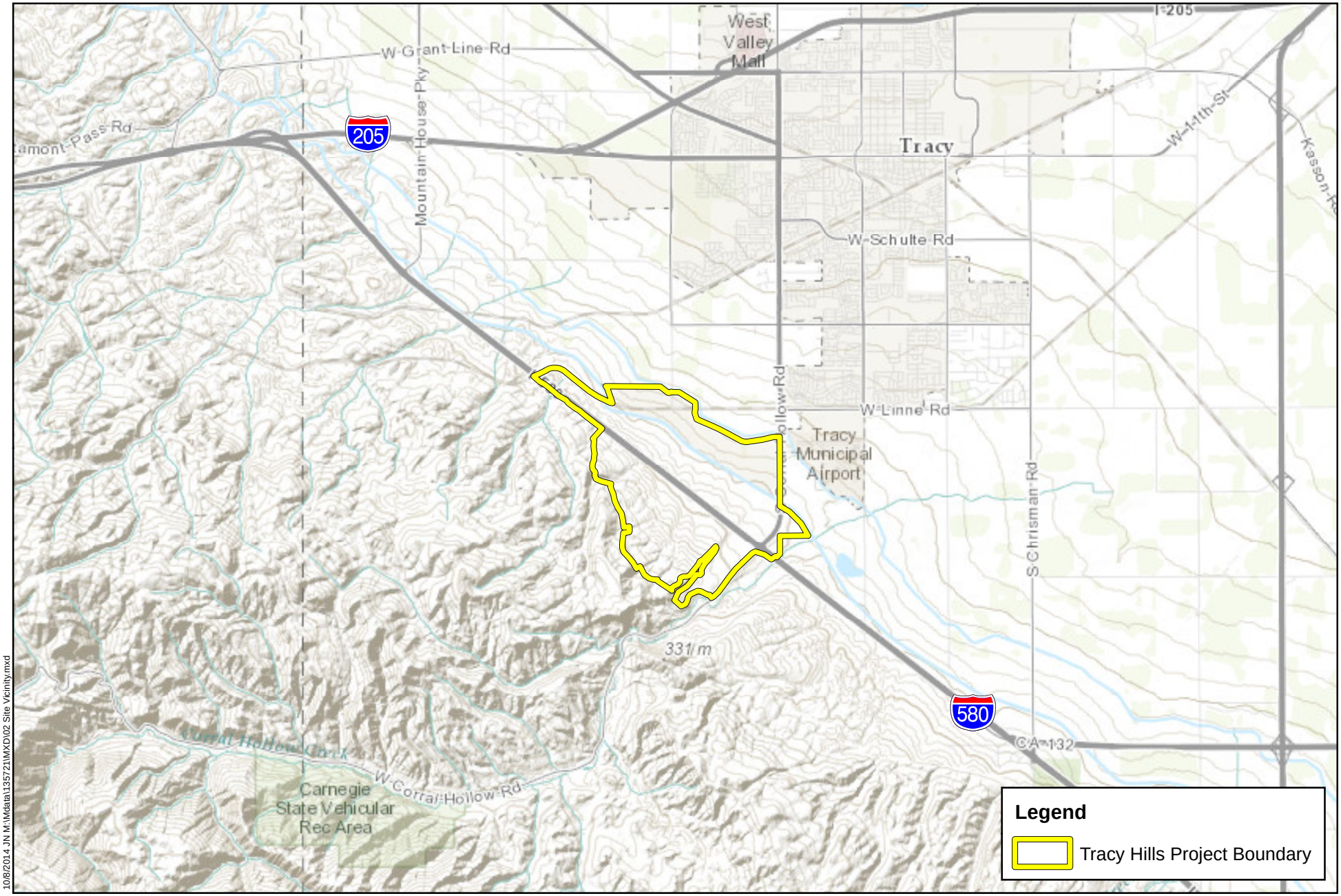
Michael Baker INTERNATIONAL

0 2.5 5 10 Miles

Source: ESRI Relief Map, National Highway Planning Network

Regional

Exhibit 1



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TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

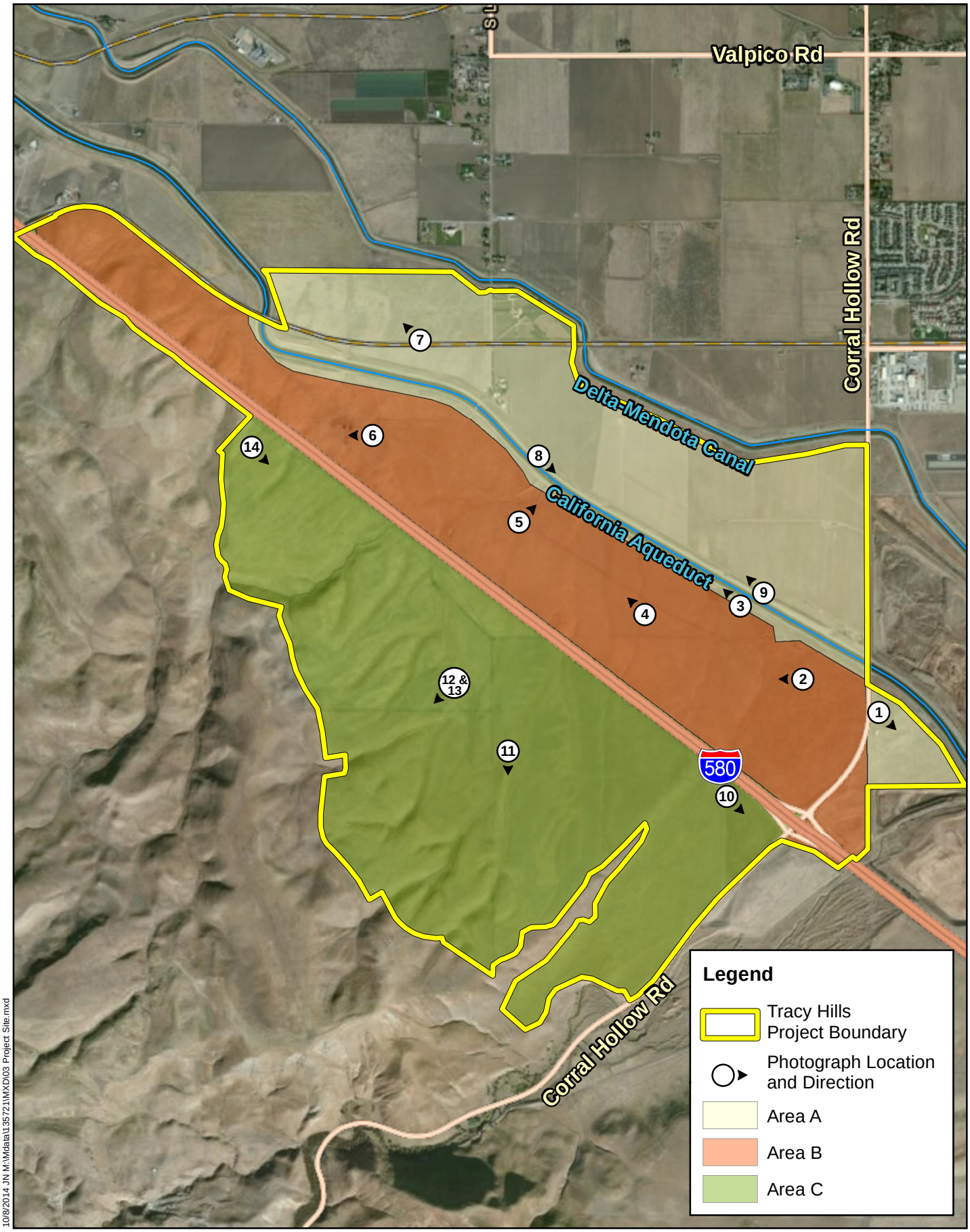
Site Vicinity

Michael Baker INTERNATIONAL

0 1 2 4 Miles

Source: ESRI World Topographic Map

Exhibit 2



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TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

Project Site

Michael Baker INTERNATIONAL

0 1,500 3,000 6,000 Feet

Source: INTEGRAL Communities, ESRI World Imagery Basemap

Exhibit 3

Area A is located on the northern portion of the THSP, north of I-580 between the California Aqueduct and the Delta Mendota Canal, west of Corral Hollow Road (refer to Exhibit 3). There is a small portion of Area A on found east of Corral Hollow Road, southwest of the California Aqueduct. Area B is located in the central portion of the THSP; north of I-580, south of the California Aqueduct, west of Corral Hollow Road and south of the Union Pacific Railroad (refer to Exhibit 3). Area C is located on the southern portion of the THSP, south of I-580 and northwest of Corral Hollow Road. Area C extends into the undeveloped hillside to the west and abuts an approximately 3,500-acre open space area under a conservation easement (refer to Exhibit 3).

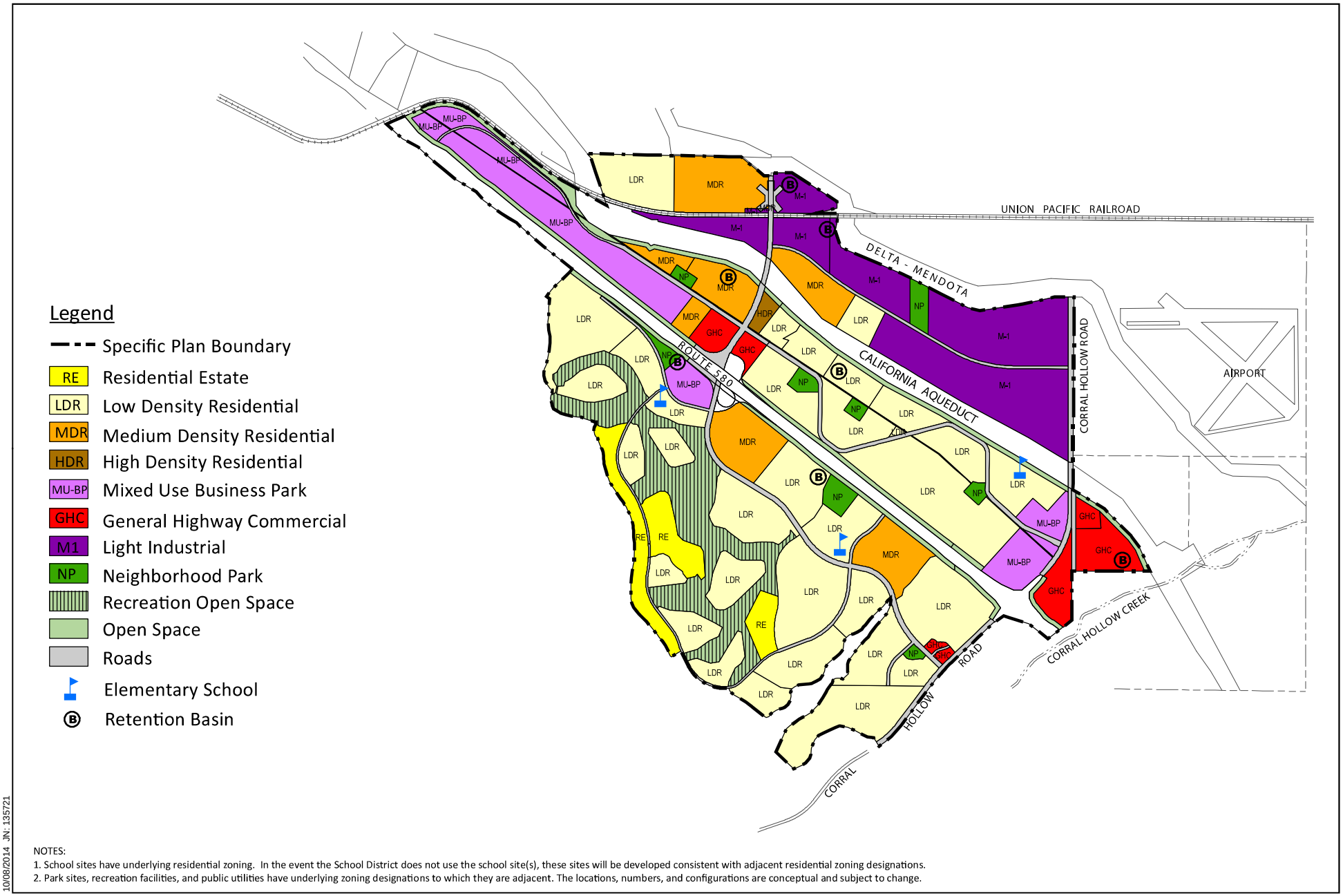
1.2 PROJECT BACKGROUND

The THSP was approved by the City Council in 1998. In addition to the approval of the THSP, the "Project" that was examined in the certified Tracy Hills Final EIR (FEIR) (State Clearinghouse (SCH) No. 95122045) also included corresponding amendments to the City's General Plan and Zoning Ordinance, and annexation into the City. The 1998 THSP study area included approximately 2,732 acres of developable area for development of up to 5,499 residential units in a mix of low, medium and high density neighborhoods, and over five million square feet of non-residential land uses including office, commercial, and light industrial uses, in addition to parks, schools, and additional open space (Exhibit 4, *Proposed Land Use*).

Following the 1998 Project approvals, the City updated its General Plan with a comprehensive update in 2011. The General Plan was the subject of a certified FEIR, *City of Tracy General Plan Final EIR*, SCH No. 2008092006 (the "General Plan EIR"), and established land use designations for the Project site.

As part of the 1998 Project approvals, Project specific infrastructure studies for the Specific Plan Area were required, including traffic, water, wastewater, and storm drainage. Since adoption of the General Plan in 2011, implementation of the General Plan has led to the preparation and adoption of the Citywide Infrastructure Master Plans. Each of the following plans include provisions to service the THSP Project:

- Citywide Parks Master Plan (adopted 2013) and Parks Master Plan, Citywide Public Facilities Master Plan, and Citywide Public Safety Master Plan Mitigated Negative Declaration (SCH 2013022031, adopted 2013)
- Citywide Public Facilities Master Plan (adopted 2013) and Parks Master Plan, Citywide Public Facilities Master Plan, and Citywide Public Safety Master Plan Mitigated Negative Declaration (SCH 2013022031, adopted 2013)



NOTES:
1. School sites have underlying residential zoning. In the event the School District does not use the school site(s), these sites will be developed consistent with adjacent residential zoning designations.
2. Park sites, recreation facilities, and public utilities have underlying zoning designations to which they are adjacent. The locations, numbers, and configurations are conceptual and subject to change.

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Michael Baker INTERNATIONAL

0 1,500 3,000 6,000 Feet

Source: INTEGRAL Communities

TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

Proposed Land Use

Exhibit 4

- Citywide Public Safety Master Plan (adopted 2013) Parks Master Plan, Citywide Public Facilities Master Plan, and Citywide Public Safety Master Plan Mitigated Negative Declaration (SCH 2013022031, adopted 2013)
- Citywide Wastewater Master Plan (adopted 2012) and Citywide Water System Master Plan/Tracy Wastewater Master Plan Mitigated Negative Declaration (SCH 2012122035, adopted 2013)
- Citywide Water System Master Plan (adopted 2012) and Citywide Water System Master Plan/Tracy Wastewater Master Plan Mitigated Negative Declaration (SCH 2012122035, adopted 2013)
- Citywide Roadways and Transportation Master Plan (adopted 2012) and Citywide Transportation Master Plan EIR (SCH 2012012032, certified 2012)

1.3 PROJECT DESCRIPTION

The comprehensive update to the THSP also makes necessary modifications to bring the 1998 THSP Plan into consistency and compliance with the City's updated Infrastructure Master Plans and the General Plan, referenced above. The Project would involve the adoption of a General Plan Amendment and the amendment of the 1998 Tracy Hills Specific Plan in the form of the comprehensive update to the 1998 THSP; the approval and implementation of a development agreement(s); approval of a vesting tentative map application for Phase 1a; approval of the Tracy Hills Storm Drainage Master Plan; subsequent implementation of the THSP including subdivision maps, improvement plans and building permits, and other development within the Specific Plan Area consistent with the standards specified within the THSP.

The goal of the THSP is to implement the City's General Plan and establish a contemporary comprehensive land use policy and regulatory document for the development of the THSP area (refer to Exhibit 4). Proposed objectives of the THSP include the following:

- Adopt a Specific Plan that is consistent with state law and is consistent with the City's General Plan Area of Special Consideration Number 8: Tracy Hills Specific Plan Area.
- Create a master planned community that has a unique character and quality with a commitment to exemplary living, working, and recreational environments.
- Protect and enhance environmental features and wildlife habitats within and near the Specific Plan Area through the preservation of large tracts of contiguous open space lands.
- Facilitate development of infrastructure needed to serve the Project through efficient and phased infrastructure design.
- Provide a range of housing opportunities to support a diverse population, lifestyles and family groups.
- Develop residential neighborhoods that respect natural landforms and scenic valley views with a commitment to quality site design, architecture, and landscape design.

- Provide public parks, open space, and an integrated trails network with pedestrian and bicycle amenities, to create passive and active recreational opportunities to serve its residents.
- Provide a comprehensive circulation network with integrated mobility options including pedestrian and bicycle amenities, with enhanced connectivity and safety, as alternatives to automobile use.
- Provide mixed use business park land uses for commercial retail, office, institutional and other services that meet local, community, and regional needs.
- Create opportunities for quality employment generating uses and economic development opportunities that meet local, community and regional needs.
- Establish flexible development standards and design guidelines that will advance and accommodate current and future real estate market and economic adjustments.
- Enhance the character and quality of I-580 freeway corridor and edge.

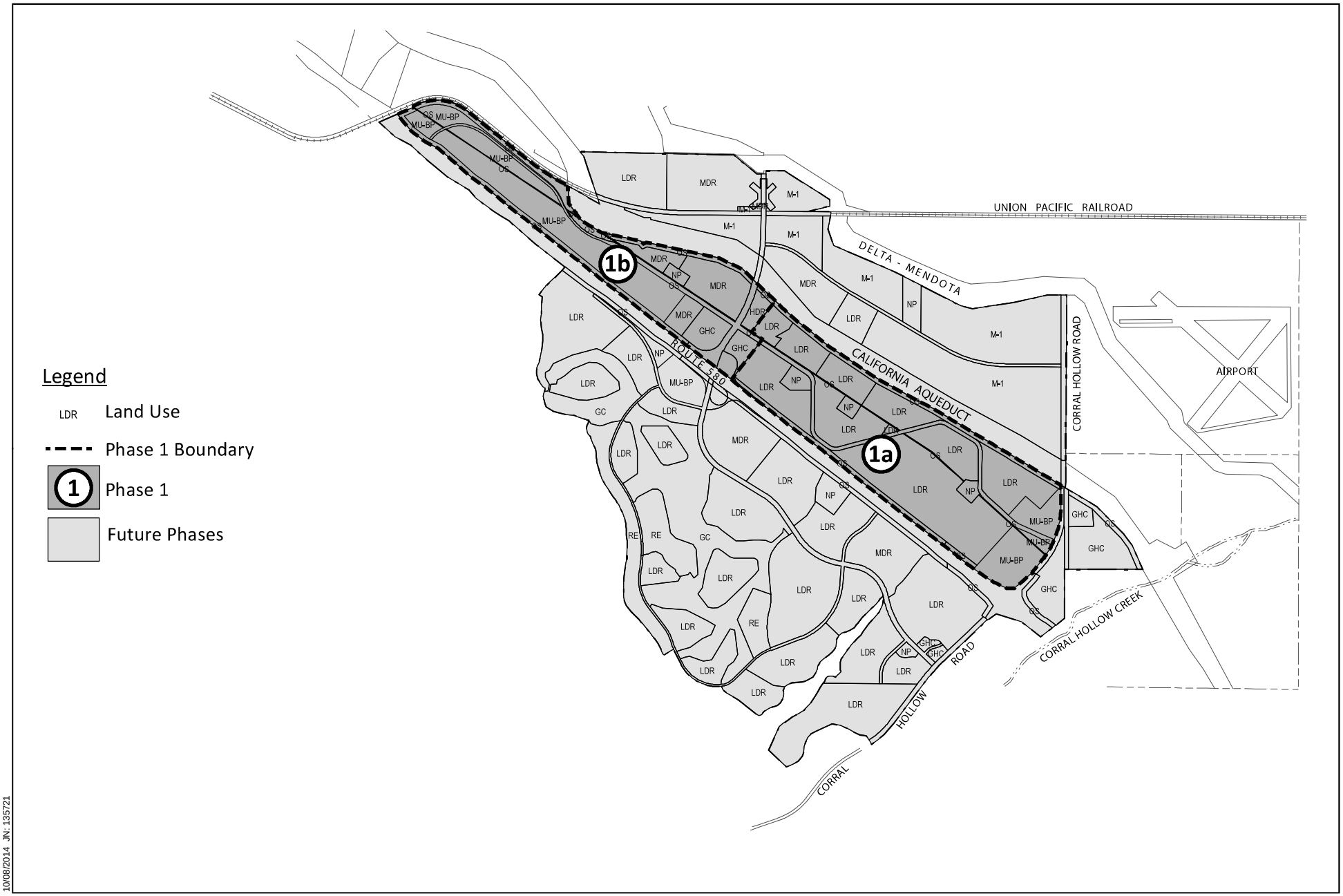
Specifically, development within the three areas will include:

- Area A will include a mix of low and medium density residential areas adjacent to light industrial uses.

- Area B is planned predominately for single-family homes, open space conservation corridors, mixed use business park, and commercial retail areas. These uses will provide employment opportunities and daily needs and services for residents. Multi-use trails will connect residential neighborhoods, integrated with public park amenities that are within walking distance. Additionally, an elementary school site is planned to serve the neighborhood residents of this area. Development of the central portion of the THSP will be divided into two phases: Phase 1a and Phase 1b (Exhibit 5, *Phasing Plan*).

- Area C will primarily consist of residential neighborhoods with parks and school sites. Consistent with the General Plan, 185 acres of open space, (originally shown as a golf course in the 1998 approved Specific Plan), will be integrated into the low density residential areas. A mixed use business park area will be located southwest of the planned Lammers interchange and a commercial retail area will be located along the southeasterly Project boundary at Corral Hollow Road. This area abuts approximately 3,500 acres of open space under a conservation easement.

There are no changes in Project boundaries or the overall development footprint of the THSP, and no proposed changes to the land plan south of I-580. The proposed amendment would not exceed the maximum dwelling units or non-residential square footage previously approved in 1998.



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Michael Baker INTERNATIONAL

0 1,500 3,000 6,000 Feet

Source: INTEGRAL Communities

TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

Phasing Plan

Exhibit 5

Development within the THSP property is intended to be implemented in phases. The first phase of development (Area B or Phase 1) has been identified as the area bordered by the Union Pacific Railroad to the northwest, the California Aqueduct to the north, Corral Hollow Road to the southeast, and I-580 to the south (refer to Exhibit 5). Phase 1 also includes two sub phases, Phase 1a and Phase 1b. The THSP amendment only proposes land use changes to the THSP Phase 1 area, and does not propose land use modifications within any other future phases of development. The THSP amendment also includes a Vesting Tentative Subdivision Map for Phase 1a to allow for the subdivision of the portion of Phase 1 depicted in Exhibit 5.

Section 2 Methodology

A literature review and records search was conducted to determine which sensitive biological resources have the potential to occur on the project site or within the general vicinity. In addition, a general habitat assessment of the project site was conducted. The field survey provided information of the existing conditions on the site and potential for sensitive biological resources to occur.

2.1 SJMSCP CONSISTENCY ANALYSIS

The THSP is located within the Southwest Zone and Central/Southwest Transition Zone designated by the SJMSCP. Specifically, Area B of the THSP is located in the Central/Southwest Transition Zone. The SJMSCP was adopted in 2001 and is intended to provide a strategy for conserving agricultural lands and wildlife habitat while accommodating a growing population and property rights of individual landowners. The SJMSCP has established an assessment process for conversion of land to non-open space uses when such conversion might affect the plant and wildlife species covered by the SJMSCP. The SJMSCP addresses 97 special-status plant, fish, and wildlife species in 52 vegetative communities. The ultimate goal of the SJMSCP is to provide 100,241 acres of habitat preserves over the projected 50-year lifetime of the SJMSCP. Most of the land for these preserves would be designated as conservation easements over existing agricultural lands in the areas covered by the SJMSCP.

The SJMSCP and subsequent communications with the USFWS and CDFW were reviewed for their implications on the proposed THSP. Specifically, these documents were reviewed for pertinent information pertaining to approval or Take Authority for Area B of the THSP under the SJMSCP.

2.2 LITERATURE REVIEW

Prior to conducting the field visit, a literature review and records search was conducted for sensitive biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special status plant and wildlife species and their proximity to the project site were determined through a query of the CDFW *California Natural Diversity Database* (CNDDB) Rarefind 5, the California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Plants of California*, Calflora Database, compendia of special-status species published by CDFW, and USFWS species listings.

Literature detailing biological resources previously observed in the vicinity of the project site and historical land uses were reviewed to understand the extent of disturbances to the habitats onsite. Standard field guides and texts on sensitive and non-sensitive biological resources were reviewed for habitat requirements, as well as the following resources:

- CDFW 2012 Staff Report on Burrowing Owl Mitigation
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey;
- USFWS Critical Habitat designations for Threatened and Endangered Species;
- USFWS Endangered Species Profile and Primary Constituent Elements for California Red-legged Frog, Alameda Whipsnake, and Large-flowered Fiddleneck ;
- San Joaquin County Multi-Species Habitat Conservation and Open Space Management Plan.

The literature review provided a baseline from which to inventory the biological resources potentially occurring on the project site. Additional recorded occurrences of these species found on or near the project site were derived from database queries. The CNDDB ArcGIS database was used, together with ArcGIS software, to locate the nearest occurrence and determine the distance from the project site.

2.3 HABITAT ASSESSMENT AND FIELD INVESTIGATION

Biologist, Travis J. McGill, inventoried and evaluated the extent and conditions of the plant communities found within the boundaries of the THSP on October 26, 27, and 28, 2013. Plant communities identified on aerial photographs during the literature review were ground-truthed by walking meandering transects through the plant communities and along boundaries between plant communities. The plant communities were evaluated for their potential to support sensitive plant and wildlife species as well as the identification of riparian/riverine habitat, and corridors and linkages that may support the movement of wildlife through the area.

Special attention was paid to sensitive habitats and/or undeveloped, natural areas having a higher potential to support sensitive flora and fauna species. Areas providing suitable habitat for burrowing owl were closely surveyed for suitable burrows during the habitat assessment, consisting of natural and non-natural substrates in areas with low, open vegetation. Methods to detect the presence of burrowing owl included direct observation, aural detection, and signs of presence including pellets, white wash, feathers, or prey remains. The location of remnant and occupied burrows/nests were documented, if found. In addition, the project site was closely examined for its potential to provide suitable habitat for the SJMSCP listed species.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Notes were taken during the survey of all plant and wildlife species observed and potential jurisdictional features were identified. Observations of wildlife species included scat, trails, tracks, burrows, nests, visual and aural observation. In addition, site characteristics such as soil condition, topography, presence of indicator species, condition of the plant communities, hydrology, and evidence of human use of the site were noted. The plant

communities were classified in accordance with CDFW (2003) and Holland (1986), delineated on an aerial photograph, and then digitized into ArcMap. The ArcMap application was used to compute the area of each plant community in acres.

2.4 SOIL SERIES ASSESSMENT

Onsite and adjoining soils were researched prior to the field visit using the USDA NRCS Soil Survey for San Joaquin County, California. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes the project site has undergone.

2.5 PLANT COMMUNITIES

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities within the project site were classified according to CDFW's List of Terrestrial Natural Communities (2003) and cross-referenced to descriptions provided in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986). The CDFW does not currently have a narrative description of the vegetation communities; therefore, the descriptions provided are according to Holland.

2.6 PLANTS

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field, and recorded in a field notebook. Unusual and less familiar plants were identified in the laboratory using taxonomical guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual. In this report, scientific names are provided immediately following common names of plant species (first reference only).

2.7 WILDLIFE

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of species during surveys and included the National Geographic Field Guide to the Birds of North America (2011) for birds and Burt and Grossenheider (1980) for mammals. Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names in this report (first reference only).

2.8 JURISDICTIONAL AREAS

Aerial photography was reviewed prior to conducting the habitat assessment. The aerials were used to locate and inspect any potential natural drainage features and water bodies that may fall under the jurisdiction of the Corps, RWQCB, or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit

evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory authorities.

Section 3 Biological Documentation

All biological resources reports previously prepared for the THSP were reviewed to better understand the extant of biological resources found on the THSP property and to review existing information to determine which biological studies are current and which studies need to be updated. Below is a summary of the biological resources reports that have been prepared as they pertain to each of the three areas of the THSP. Below is a summary of the biological resources reports that have been prepared as they pertain to each of the three areas of the THSP.

Table 1: Existing Biological Documentation Prepared for the THSP

Study/Analysis/Action	Area A	Area B	Area C	Entire SP Area
1988 and 1989 Habitat Assessment, LSA	✓	✓		
1988 and 1990 Sensitive Plant Survey, LSA	✓	✓	✓	✓
1991 Habitat Assessment, LSA	✓	✓	✓	✓
1993 Evaluation of a Proposed Corridor for SJKF in the Tracy Hills Development, Jones & Stokes	✓	✓	✓	✓
1996 Multi-Species Habitat Management Plan, LSA		✓	✓	
2003 Jurisdictional Delineation, Foothill Associates				✓
2004 Habitat Management Plan, Foothill Associates		✓	✓	
2006 Tracy Hills SJKF Analysis, Berryman Ecological	✓	✓	✓	✓
2009 Burrowing Owl Focused Survey, Berryman Ecological		✓		
2010 Biological Resources Report for the Tracy 580 Business Park, Berryman		✓		

Ecological				
2011, 2012, 2013 Scat Detection Dog Surveys for SJKF, Berryman Ecological	✓	✓	✓	✓
2011 Preserve Management Plan for the Tracy 580 Business Park Preserve, Berryman Ecological		✓		
2013 Jurisdictional Delineation, Olberding Environmental	✓	✓	✓	✓
2014 Habitat Assessment and SJMSCP Consistency Analysis, RBF Consulting	✓	✓	✓	✓

3.1 AREA A

Area A of the THSP is covered under the SJMSCP since it was not included in the stand alone Tracy Hills HCP. No focused plant or wildlife surveys have been conducted on Area A.

Habitat Assessment

The original habitat assessments for the Tracy Hills Specific Plan Project were conducted in 1988 and 1989[2] by LSA which covered Area A. Then in 2014 a habitat assessment (RBF) and in 2013 a jurisdictional delineation (Olberding Environmental, Inc.) were conducted.

3.2 AREA B

Area B has SJMSCP coverage through a Minor Amendment to the SJMSCP in 2012. The Minor Amendment included an in-lieu of fee payment of approximately 3,500-acres to be dedicated as habitat/open space via conservation easements. The 3,500-acres, located west of the and south of I-580 was dedicated by the Project Applicant as a conservation easement and accepted by SJCOG. As a result, Area B is eligible for coverage by the SJMSCP and is shown on the SJMSCP compensation map for Tracy.

[2] LSA. Biological Assessment Tracy Property: San Joaquin County, California. 1989

Habitat Assessment

The original habitat assessments for the previously approved THSP were conducted in 1988 and 1989 (LSA 1989), by LSA. Two reports were prepared for the THSP, one covering the Properties West of the California Aqueduct and the other covering Properties East of the California Aqueduct. Both of these reports focused on the portion of the THSP east of I-580. Then in 1991, LSA prepared a third report covering the entire THSP property, east and west of I-580. These three habitat assessment reports primarily focused on the presence/absence of SJKF within the THSP boundaries and assessed the suitability of the habitat for sensitive plant and wildlife species known to occur on the project site and within the general area.

In 2010, Berryman Ecological prepared a biological resources report for Area B. This report was prepared to provide information to SJCOG, Inc. staff to evaluate this area for inclusion in the SJMSCP. The 2010 report primarily focused on the suitability of the habitat for SJKF, burrowing owl, CRLF, California tiger salamander, and western spadefoot toad.

Jurisdictional Delineation

A delineation of state and federal jurisdictional waters and wetlands was conducted to delineate the limits of wetlands and jurisdictional waters subject to jurisdiction by the Corps under Section 404 of the Federal Clean Water Act (CWA), CDFW under Sections 1600 et seq. of the California Fish and Wildlife Code, and the RWQCB under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act by Foothill Associates in 2003. Then in 2013, Olberding Environmental, Inc. prepared a Corps Jurisdictional Assessment for the THSP property (this report is summarized in Section 5.6 below).

Focused Surveys

San Joaquin Kit Fox

In 1993 Jones & Stokes prepared a kit fox corridor analysis for the THSP (Evaluation of a Proposed Corridor for the SJKF in the previously approved THSP, Jones & Stokes 1993). This analysis was designed to evaluate the effectiveness of the proposed corridor in providing for residency and dispersal by kit foxes, and provide recommendations to maximize the value of the corridor. This analysis was succeeded by the 1996 Multi-Species Habitat Management Plan (HMP) prepared by LSA, and again in 2006 by the Tracy Hills SJKF Analysis prepared by Berryman Ecological.

Berryman Ecological and H.T. Harvey & Associates conducted a SJKF aerial survey by flying transects over the THSP and general area. The results of the aerial survey concluded that no potential kit fox dens were observed on the project site, but the survey did not rule out the potential for SJKF to occur on the THSP property.

Scat Detection Dog Surveys for SJKF were conducted for the THSP in 2011, 2012, and 2013 by Berryman Ecological. No kit fox scats, or other kit fox sign were observed during surveys. The negative findings of the three consecutive years of scat detection surveys provide evidence that the kit fox is not present on the THSP property.

Burrowing Owl

In accordance with CDFW protocol, Berryman Ecological conducted a focused survey for burrowing owl between June 28 and July 14, 2009 on Area B. Berryman Ecological subsequently prepared a report documenting the findings of the 2009 surveys dated April 22, 2010. No burrowing owls were observed within the boundaries of the Area B during the focused surveys conducted in 2009.

Sensitive Plant

Sensitive plant surveys were conducted in 1988 and 1990 by LSA and reviewed in 1996 by H.T. Harvey & Associates for the 1998 THSP, which included Area B of the THSP. Based on the results of the initial surveys and following review, it was determined the proposed THSP would not significantly affect sensitive status plant species. However, these surveys are over twenty years old and new sensitive plant species have been listed and/or changed status by USFWS, CDFW, and CNPS.

Since Area B is covered by the SJMSCP, compliance with Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP would reduce potential impacts of the development of Area B on special-status plant species to less than significant.

Preserve Management Plan for the Tracy 580 Business Park Preserve

Tracy 580 Business Park is the name of a development project proposed for land within Area B after approval of the 1998 THSP. The Tracy 580 Business Park project has since been abandoned and is no longer being pursued. In October of 2011, ICF International prepared the *Preserve Management Plan for the Tracy 580 Business Park*. This document presented a preserve management plan for the approximately 688-acre Tracy 580 Business Park Preserve (Area B or most of Phase 1 of the THSP). The preserve has become part of a larger contiguous block of conserved land (approximately 3,432-acres), currently utilized for livestock grazing, that may be added to the larger SJMSCP preserve in the future. SJCOG, Inc. is in the process of obtaining three conservation easements on “The Preserve” for inclusion in the preserve system primarily as a Grassland Preserve of the Southwest Index Zone. The three conservation easements are described in detail below:

1) Conservation Easement 1 (CE-1) is an approximately 790-acre area in the northern portion of the Preserve, adjacent to Interstate I-580. Included in the easement are an

approximately 41-acre corridor along the California Aqueduct and a 100-foot wide corridor along both sides of that portion of I-580 from the northern boundary of CE 1 to the intersection with Corral Hollow Road that do not count as mitigation and for which SJCOG, Inc., will not assume any management or monitoring responsibility. The 100-foot wide corridors have multiple gaps in the conservation easement for storm drainage, roadways, and other purposes. No grading or other development-related activity will be allowed on this conservation easement, except for temporary access on the California Aqueduct corridor associated with adjacent development.

2) Conservation Easement 2 (CE-2) is an approximately 2,429-acre area that includes the majority of the Preserve. This easement allows for limited future construction of a water tank and access road. These facilities may be necessary in association with future development to the east and within the THSP. Additional documentation may be required for this limited construction. Although SJCOG, Inc., will hold the easement, SJCOG, Inc., will not have management or monitoring responsibility on this easement.

3) Conservation Easement 3 (CE-3) is an approximately 316-acre area that occupies slopes adjacent to proposed development within the THSP. This easement allows for limited future grading, slope stabilization, road construction, and other temporary ground disturbance associated with the potential need to remediate the existence of landslide deposits that may be necessary if future adjacent development within the THSP occurs, SJCOG, Inc. will hold the easement but will not have management or monitoring responsibility on this easement.

The Preserve Management Plan for the Tracy 580 Business Park provided the Landowner, SJCOG Inc., and the Land Manager with specific guidelines regarding allowed and prohibited uses, land management, and monitoring in accordance with the requirements of the SJMSCP. Fences shall be installed around the established conservation easements to ensure that domestic animals and humans do not impact that areas being conserved.

Habitat Conservation Plan

After negotiations with the wildlife agencies, the Tracy Hills HCP was never finalized and the previously approved THSP dissolved relations with the proposed business park area and eventually sold the commercial development part of the project to a different group. The new development group contacted SJCOG, Inc. staff and the wildlife agencies and has now received coverage under the SJMSCP for Area B of the THSP.

Prior to the finalization of the SJMSCP, the Tracy Hills Specific Plan Project (under the 1998 THSP) opted to create a separate HCP rather than participate in the SJMSCP. As a result, the 1998 Tracy Hills Specific Plan Project was called out as a project specifically not covered by the

SJMSCP in Section 8.2.2.2 of the plan. However, the Tracy Hills HCP was never finalized and Area B was not covered under the SJMSCP or the stand alone Tracy Hills HCP. As a result, SJCOG, Inc. allowed Area B to be amended into the SJMSCP, under a minor amendment, for coverage under the SJMSCP (July 2013[3]). Area C of the THSP is not covered by the SJMSCP and would need to apply independently for coverage or otherwise obtain mitigation approval for impacts to federal and State listed species from CDFW and USFWS.

In 1996, H.T. Harvey & Associates conducted a review of all relevant background materials for the THSP. The primary objective of this review was to determine the adequacy of the biological reports prepared by LSA prior to the completion of the previously approved THSP EIR. The 1996 review concluded that the HMP provides adequate mitigation to THSP biotic resources, and sufficient information is available to prepare the biotic section of the EIR.

Habitat Management Plans

Multi-Species Habitat Management Plan

A Multi-Species Habitat Management Plan (HMP) was prepared in 1996 for a portion of the previously approved THSP. The HMP was prepared in coordination with USFWS and CDFW to establish a mitigation and management plan for development of 5,138.9-acres of the previously approved THSP property. The HMP was never formalized with the wildlife agencies and is not recognized as an enforceable plan.

Habitat Management Plan

In 2004, Foothill Associated prepared a Habitat Management Plan in coordination with the USFWS and CDFW to describe the management and monitoring measures to be implemented within the conservation areas for the THSP. Specifically, this Plan was prepared to manage habitat for SJKF, CRLF, and California tiger salamander. In addition to Endangered Species Act compliance, this habitat management plan was developed to satisfy requirements imposed by the City of Tracy (Policy OS 1.3.1 of the Urban Management Plan) and to implement certain project specific mitigation measures required by the THSP. This Plan was never formalized with the wildlife agencies and is not recognized as an enforceable plan.

3.3 AREA C

Area C of the THSP was included in the 1998 THSP and was not included in the SJMSCP since it was included in the separate HCP. As a result, Area C is not covered under the SJMSCP and

[3]USFWS. Determination of a Minor Amendment for Inclusion of the Tracy 580 Business Park Project under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, San Joaquin County. May 6, 2012

no amendments to the SJMSCP have been prepared to include Area C of the THSP into the SJMSCP.

Habitat Assessment

In 1991, LSA prepared a habitat assessment report covering the entire THSP property, east and west of I-580. This habitat assessment report primarily focused on the presence/absence of SJKF within the THSP boundaries and assessed the suitability of the habitat for sensitive plant and wildlife species known to occur on the Project site and within the general area.

Jurisdictional Delineation

A delineation of state and federal jurisdictional waters and wetlands was conducted by Foothill Associates in 2003, and updated in 2013 by Olberding Environmental, Inc. for the THSP property which included Areas C of the THSP.

Focused Surveys

San Joaquin Kit Fox

In 1993 Jones & Stokes prepared a kit fox corridor analysis for the THSP (Evaluation of a Proposed Corridor for the SJKF in the previously approved THSP, Jones & Stokes 1993). This analysis was designed to evaluate the effectiveness of the proposed corridor in providing for residency and dispersal by kit foxes, and provide recommendations to maximize the value of the corridor. This analysis was succeeded by the 1996 HMP prepared by LSA, and again in 2006 by the Tracy Hills SJKF Analysis prepared by Berryman Ecological.

Berryman Ecological and H.T. Harvey & Associates conducted a SJKF aerial survey by flying transects over the THSP and general area. The results of the aerial survey concluded that no potential kit fox dens were observed on the project site, but the survey did not rule out the potential for SJKF to occur on the THSP property.

Scat Detection Dog Surveys for SJKF were conducted for the THSP in 2011, 2012, and 2013 by Berryman Ecological. No kit fox scats, or other kit fox sign were observed during surveys. The negative findings of the three consecutive years of scat detection surveys do not support the presence of kit fox on the THSP property.

Burrowing Owl

No burrowing owl focused surveys have been conducted on the THSP property west of I-580 (Area C) to date. However, burrowing owls were observed in this area during the 2013 habitat assessment (RBF).

Sensitive Plant

Sensitive plant surveys were conducted in 1988 and 1990 by LSA and reviewed in 1996 by H.T. Harvey & Associates for the previously approved THSP, which included Area C of the THSP. Based on the results of the initial surveys and following review, it was determined the proposed THSP would not significantly affect sensitive status plant species. However, these surveys are over twenty years old and new sensitive plant species have been listed and/or changed status by USFWS, CDFW, and CNPS.

Since Area C of the THSP property is not currently covered by the SJMSCP, Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP to reduce potential impacts of the development of Area C on special-status plant species to less than significant do not apply. Prior to the development of Area C, compliance with the FESA and CESA will need to be demonstrated.

Habitat Conservation Plan

Area C of the THSP was part of the 1998 THSP that was called out as a project specifically not covered by the SJMSCP in Section 8.2.2.2 of the plan since the developer opted to create a separate HCP rather than participate in the SJMSCP. Since there are not enough grasslands within the SJMSCP for Area C to be covered, Area C is not covered under the SJMSCP and no amendments to the SJMSCP have been prepared to include Area C of the THSP into the SJMSCP. If Area C were to be amended to the SJMSCP it would have to do so under a major amendment.

Section 4 Existing Conditions

4.1 LOCAL CLIMATE

The region has a year-round “Inland” Mediterranean Climate or semi-arid climate with warm, sunny, dry summers and cool, rainy, mild winters. The climate is characterized by moderate temperatures and comfortable humidity with precipitation limited to a few storms during the winter season (November through April). Weather conditions during the surveys included temperatures in the mid to low 70s (degrees Fahrenheit) with clear skies. Winds were minimal and progressively became stronger on Sunday, October 27, 2013.

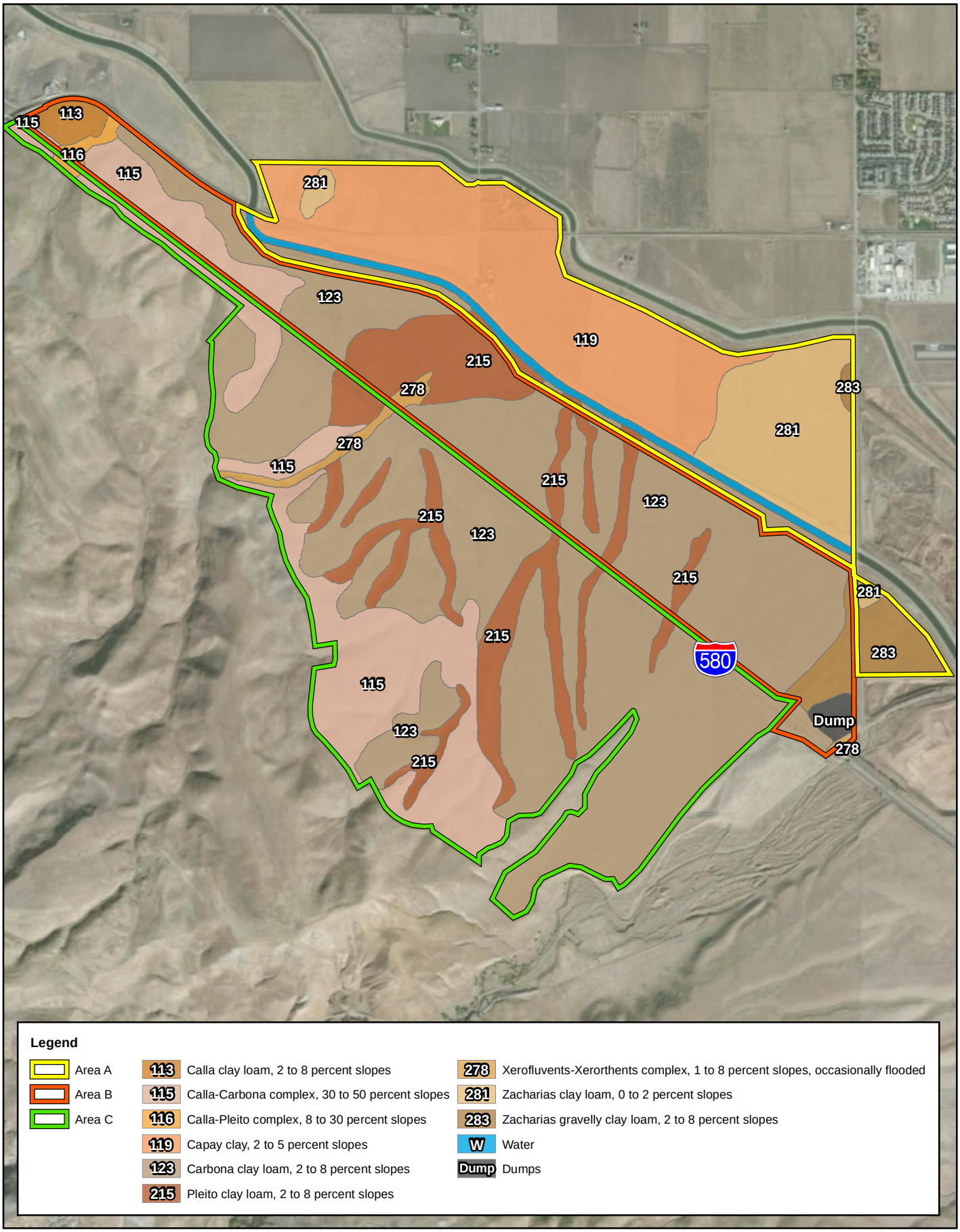
4.2 TOPOGRAPHY AND SOILS

The City of Tracy is located in San Joaquin County, which is within the Central Valley region of California. The City is approximately 60 miles east of San Francisco, which is separated from the Central Valley by the Coastal Range. The southwestern portion of San Joaquin County is located within the Diablo Range, and generally consists of rolling hills cut by drainage channels. The topography in the vicinity of the City of Tracy flattens into the “low alluvial plains and fans” geomorphic units.

Surface elevations range from approximately 200 to 1,200 feet above mean sea level (msl) with areas of greater topographic relief located along the western boundary (Area C) of the THSP boundary. Based on the USDA Soil Survey, the THSP area is underlain by the following soil units: Alo-Vaquero complex, Calla clay loam, Calla-Carbona complex, Calla-Pleito complex, Capay clay, Carbona clay loam, Carbona complex, Pleito clay loam, Vaquero-Carbona complex, Wisflat-Arburua-San Timoteo complex, Xerofluvents-Xerorthents complex, Zacharis clay loam, Zcharias gravelly clay loam, landfill, and water (Exhibit 6, *Soils*).

4.3 SURROUNDING LAND USES

The recently adopted Ellis Specific Plan and Urban Reserve 10 area of the San Joaquin County General Plan represent the majority of the land to the northeast of the Project, and if developed as anticipated, would become low density residential uses, with limited commercial and industrial components. The area northwest of the project site is characterized by sparse rural residential development. The Union Pacific Railroad and the Delta-Mendota Canal both serve as portions of the northern border of the project site, and the California Aqueduct traverses the property in a northwest to southeast direction. Currently most of the project to the north of the site is in agricultural production. The land to the west and south of the project site is designated as Open Space in the General Plan and is primarily utilized for agricultural and grazing purposes.



Legend

- Area A
- Area B
- Area C
- 113 Calla clay loam, 2 to 8 percent slopes
- 115 Calla-Carbona complex, 30 to 50 percent slopes
- 116 Calla-Pleito complex, 8 to 30 percent slopes
- 119 Capay clay, 2 to 5 percent slopes
- 123 Carbona clay loam, 2 to 8 percent slopes
- 215 Pleito clay loam, 2 to 8 percent slopes
- 278 Xerofluvents-Xerorthents complex, 1 to 8 percent slopes, occasionally flooded
- 281 Zacharias clay loam, 0 to 2 percent slopes
- 283 Zacharias gravelly clay loam, 2 to 8 percent slopes
- W Water
- Dump Dumps

10/8/2014 JN M:\Mdata\135721\MXD\06 Soils.mxd

Michael Baker INTERNATIONAL

0 1,500 3,000 6,000 Feet

Source: NRCS Soils Data Mart - ca077, ESRI World Imagery Basemap

TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

Soils

Exhibit 6

The United States Department of Energy (DOE) owns approximately 7,000 acres known as Site 300. Site 300, located approximately 1.5 to 2 miles to the southwest of the THSP Area along Corral Hollow Road, was established in 1955 as a non-nuclear explosives test facility to support Livermore Laboratory's national security mission. Today, work at site 300 supports the laboratory's nuclear weapons program by assessing the operation of non-nuclear weapon components using hydrodynamic testing and advanced diagnostics, such as high speed optics and x-ray radiography. A portion of Site 300 is adjacent to the 3,500 acre habitat conservation easement area which abuts planned residential development. The Corral Hollow Landfill, which closed in 1995, borders the southeast side of the site at the intersection of I-580 and Corral Hollow Road. A portion of the land to the east of the Project site is designated by the County of San Joaquin General Plan for Aggregate production. In addition, the Tracy Municipal Airport is located to the east of the THSP Area. A portion of the site is located within the airport Area of Influence which contains restrictions to ensure compatibility and safety between adjacent land uses.

Section 5 Discussion

5.1 SITE CONDITIONS

The THSP encompasses approximately 2,732-acres along I-580, between the Union Pacific Railroad and I-580 and Corral Hollow Road interchange and is primarily undeveloped and has been utilized for livestock grazing and other agricultural purposes. Interstate 580 is a four-lane, limited-access interstate highway that bisects the property on a north-to-south axis. Interstate 580 connects to I-205 and the western extension of I-580 on the north and to I-5 to the south. The freeway is also fronted by the 100-foot wide, open space habitat conservation easements. Existing roadways providing access to the THSP Area include I-580, Corral Hollow Road, and Lammers Road. Within approximately four miles from the Project site, I-580 connects I-205 and the western extension of I-580 to the north and with I-5 to the south.

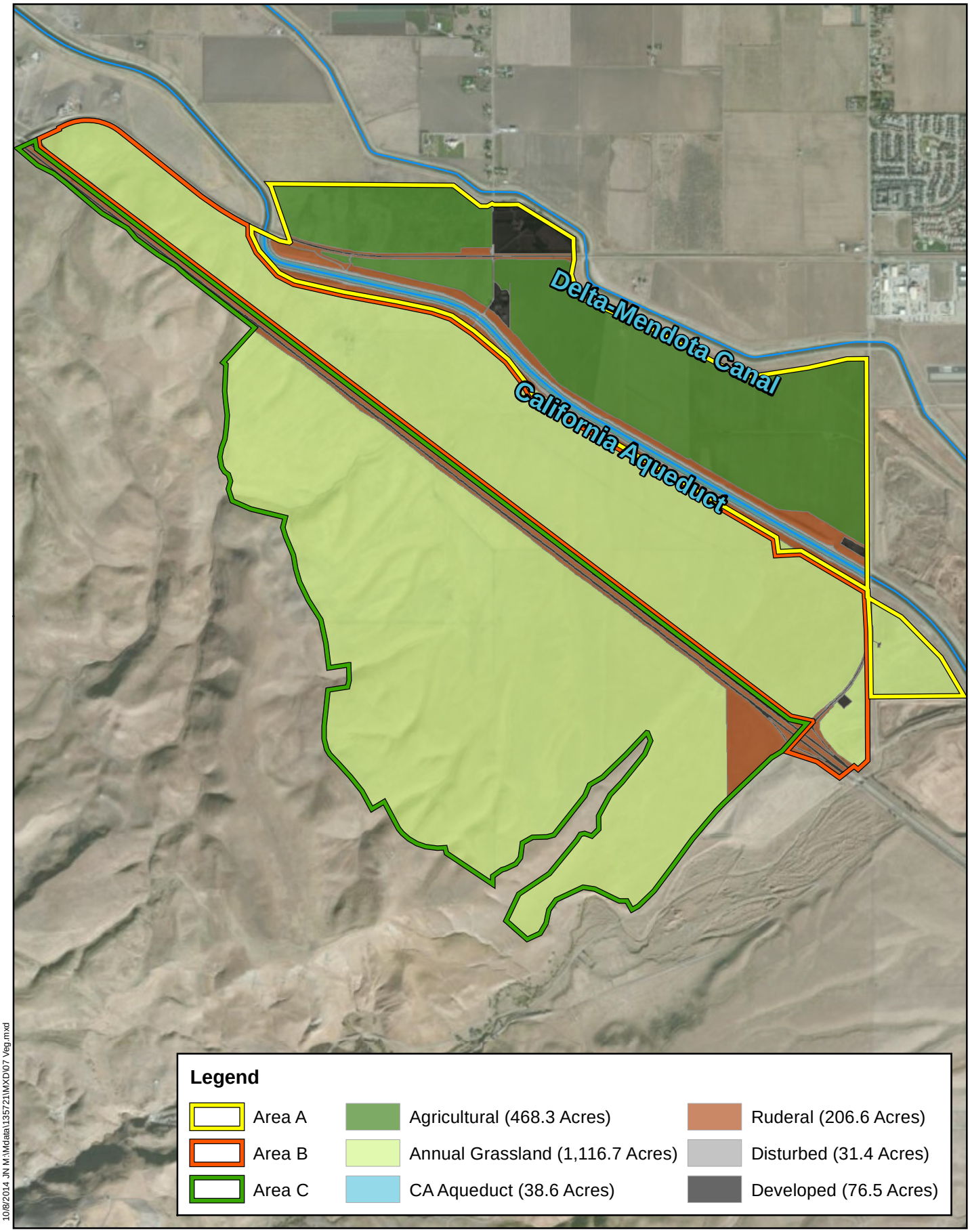
Area A of the THSP, bound by the California Aqueduct, Union Pacific Rail Road, Delta Mendota Canal and Corral Hollow Road is actively utilized for agricultural crops with three existing residences. The area east of Corral Hollow Road is vacant except for a cement foundation from an abandoned tuck stop.

Area B of the THSP, bound by I-580 to the south and the Union Pacific Railroad/California Aqueduct to the north is undeveloped and is also utilized for livestock grazing with an abandoned structure formerly used in relation with the livestock operation, as well as several abandoned storage containers on the southern portion of Area B. There is also a corral for livestock on the northern portion of Area B.

Area C of the THSP, south of I-580 and northwest of Corral Hollow Road is undeveloped and is primarily used for livestock grazing. Corral Hollow Creek is found immediately south of Area C and supports areas of riparian woodland that has been degraded by historical grazing activities.

5.2 VEGETATION

Six (6) plant communities were observed within the boundaries of the project site during the habitat assessment (Exhibit 7, *Vegetation*): annual grassland, ruderal, agricultural, disturbed, developed, and California Aqueduct. These plant communities are described in further detail below. Area A is composed of annual grassland, ruderal, agricultural, disturbed, developed, and California Aqueduct. Area B is composed of annual grassland, ruderal, disturbed, and developed. Area C is composed of annual grassland and ruderal.



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Michael Baker INTERNATIONAL

0 1,500 3,000 6,000 Feet

Source: ESRI World Imagery Basemap

TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

Vegetation Map

Exhibit 7

5.2.1 Annual Grassland

The project site primarily consists of an annual grassland plant community dominated by non-native grasses and forbs. The annual grassland plant community has been subject to routine grazing activities keeping vegetation open and sparse. This plant community is found on the undeveloped foothills of Area C on the southwestern portion of the project (south of I-580) and in Area B between the California Aqueduct and Delta-Mendota Canal (north of I-580). Plant species found in this plant community include wild barley (*Hordeum* ssp.), soft chess (*Bromus hordeaceus*), red brome (*Bromus rubens*), ripgut (*Bromus diandrus*), and wild oats (*Avena* ssp.).

5.2.2 Agricultural

The portion of the THSP property bound by the California Aqueduct to the southwest, the Union Pacific Railroad to the north, the Delta-Mendota Canal to the northeast, and Corral Hollow Road to the east is actively utilized for agricultural crops.

5.2.3 Ruderal

There are several areas on the THSP property that are composed of a ruderal plant community dominated by non-native and early successional plant species. These ruderal areas have not been subject to routine grazing activities allowing more early successional plant species to establish. These areas have vegetation that is approximately 2-3 feet tall and is dense with approximately 75-80% cover. This plant community is found on the western corner of the intersection of I-580 with Corral Hollow Road (Area C), on the southwestern side of Corral Hollow Road north of I-580 (Area B), and along the banks of the California Aqueduct, Delta-Mendota Canal, and I-580 (Area A and Area B). Plant species observed in this plant community include mustard (*Hirschfeldia incana*), gumweed (*Grindelia* ssp.), tarplant (*Holocarpha* ssp.) and non-native grasses.

5.2.4 Disturbed

Disturbed areas on the project site no longer support vegetation. These areas include dirt access roads and areas that have been heavily compacted from livestock grazing activities.

5.2.5 Developed

The project site includes developed areas primarily consisting of paved roads. The developed areas include I-580, Corral Hollow Road, California Aqueduct, Delta-Mendota Canal, and several existing homes.

5.2.6 California Aqueduct

The California Aqueduct is a concrete lined trapezoidal channel that flows in a northwest to southeast direction along the northern boundary of Area B and on the southern boundary of Area A. No plant species have established within this watercourse.

5.3 WILDLIFE

Plant communities provide food sources, along with foraging, nesting and denning sites, cover, and protection from adverse weather or predation. This section provides a discussion of those wildlife species observed, expected or not expected to occur onsite. The discussion encompasses all three areas of the THSP and is to be used as a general reference and is limited by the season, time of day, and weather condition in which the survey was conducted. Wildlife observations were based on calls, songs, scat, tracks, burrows and actual sightings of animals.

5.3.1 Amphibians

The majority of the project site is not expected to support amphibian species due to the lack of water and/or ponded areas. No amphibian species were observed during the 2013 habitat assessment. Amphibian species that could occur during heavy rainfall and subsequent ponding of water would include pacific chorus frogs (*Pseudacris sierra*) and western toad (*Anaxyrus boreas*). It should be noted that the majority of the drainages onsite only receive water following storm events. After storm events, Corral Hollow Creek, which is located south of the Project site, would provide the highest quality habitat for amphibian species. However, the infrequency of occurrence of water within onsite drainage features has precluded amphibian species from establishing population's onsite.

5.3.2 Reptiles

The project site has been subject to routine grazing and agricultural activities. Even though the plant communities on the project site have been heavily disturbed, the THSP property is primarily undeveloped and has the potential to support a number of reptiles adapted to these habitat conditions. No reptiles were observed on the project site during the 2013 habitat assessment.

As noted, the project site is primarily composed of vacant, undeveloped lands that have been subjected to impacts over the years and continues to be subjected to a heavy degree of impacts from ongoing livestock grazing activities. Disturbed areas in the region, such as those present on the project site, have the potential to support a number of reptilian species including gopher snakes (*Pituophis catenifer*), garter snakes (*Thamnophis* ssp.), California kingsnake *(Lampropeltis getula californiae*), pacific rattlesnake (*Crotalus oreganus oreganus*) western

fence lizard (*Sceloporus occidentalis*), alligator lizards (*Elgaria multicarinata*), and side-blotched lizards (*Uta stansburiana*).

5.3.3 Avian

The undeveloped annual grasslands provide foraging and cover habitat for a wide variety of avian species. Species observed and heard during the survey included mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), northern mockingbird (*Mimus polyglottos*), Say's phoebe (*Sayornis saya*), western meadowlark (*Sturnella neglecta*), turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), Savannah sparrow (*Passerculus sandwichensis*), European starling (*Sturnus vulgaris*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), horned lark (*Eremophila alpestris*), double-crested cormorant (*Phalacrocorax auritus*), loggerhead shrike (*Lanius ludovicianus*), rock wren (*Salpinctes obsoletus*), and burrowing owl.

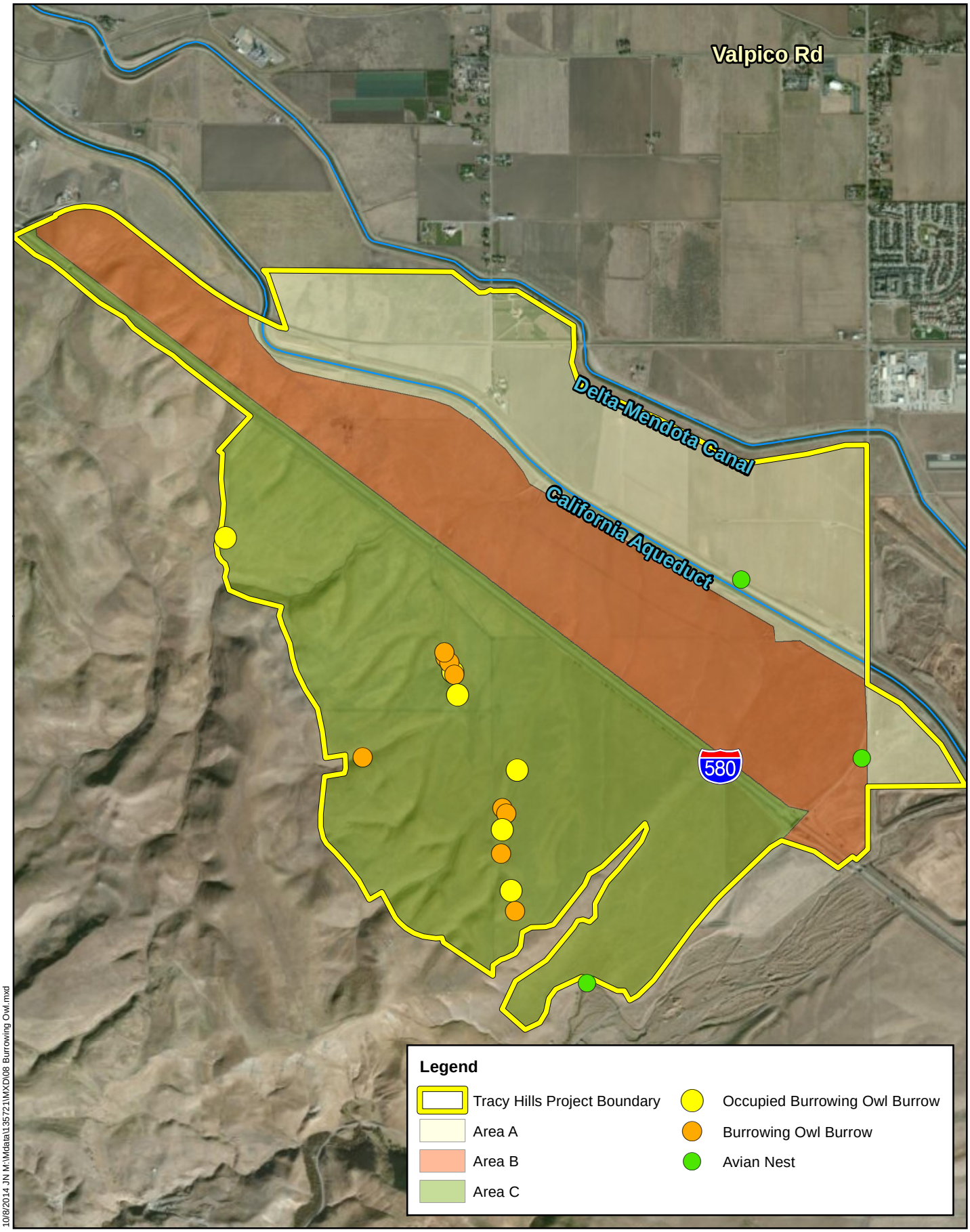
5.3.4 Mammals

The plant communities within the project site are anticipated to provide suitable habitat for a number of mammalian species acclimated to heavy disturbance. However, most mammal species are nocturnal and are difficult to observe during a diurnal field visit. Mammals and or sign detected during the field assessment included coyote (*Canis latrans*), ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), black-tailed jackrabbit (*Lepus californicus*), and cottontail rabbits (*Sylvilagus audubonii*). In addition, evidence of small mammal burrows were noted throughout the THSP property.

Common mammalian species expected to occur on the project site include California vole (*Microtis californicus*), deer mouse (*Peromyscus maniculatus*), western skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and opossum (*Didelphis virginiana*).

5.4 NESTING BIRDS

The plant communities within and adjacent to the THSP Project, have the potential to provide suitable nesting opportunities for raptors and passerines. The habitat assessment was conducted during the non-breeding season, and as a result no actively breeding bird species or birds displaying nesting behaviors were observed. During the 2013 habitat assessment several occupied and suitable burrowing owl burrows were observed within Area C, a couple of large stick nests were observed in the cottonwood trees in Corral Hollow Creek, adjacent to the southern boundary of Area C, a large stick nest was observed in one of the transmission line within Area B, and a small passerine nest was observed in a tree along the California Aqueduct in Area A (Exhibit 8, *Burrowing Owl and Avian Nest Locations*).



10/8/2014 JN M:\Mdata\135721\MXD\08 Burrowing Owl.mxd

Michael Baker INTERNATIONAL

0 1,500 3,000 Feet

Source: ESRI World Imagery Basemap

TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

Burrowing Owl and Avian Nest Locations

Exhibit 8

5.5 MIGRATORY CORRIDORS AND LINKAGES

Area C of the THSP property extends into the eastern foothills of the Diablo Mountain Range. This mountain range provides a natural corridor to the north and the south extending along the southern coastal mountain ranges of California.

Area C abuts the approximately 3,500-acre open space area under a conservation easement that has been set aside to protect the integrity of this migration corridor that provides connectivity to the north and south. Development Area C will be limited to the relatively flat grasslands south of I-580 and east of the foothills of the mountains. As a result, the migration corridor west of the Project site will not be obstructed or impacted.

Approximately 9 miles east of the THSP property the San Joaquin River traverses the agricultural fields on the valley floor of the Central Valley. The River was once dominated by riparian forest habitats and provided a major migration corridor through the middle of the State. This corridor was primarily used by migratory avian species (Pacific Flyway) but was also utilized by mammalian species. The San Joaquin River system is one of the most highly altered water systems in the state due to the diversion of water for agricultural purposes. A proposal has been prepared by the USFWS to restore a major migratory corridor through the center of California by expanding the San Joaquin River National Wildlife Refuge along the lower San Joaquin, Tuolumne, and Stanislaus Rivers to protect and restore riparian habitat. The THSP is separated by this regional migratory corridor by existing development and agricultural fields. There are no natural interconnecting habitats between the San Joaquin River and the proposed THSP property. As a result of this separation, the proposed development of the THSP will not affect this regional migratory corridor located to the east.

The California Aqueduct and Delta-Mendota Canal act as stepping stone refugia habitat for the dispersal of kit fox and other wildlife species in the region. These waterways provide unobstructed travel corridors for wildlife species to connect to habitats located to the north and south of the project site. Mitigation for the development of Area B of the THSP provides a 41-acre portion along the California Aqueduct to enable habitat connectivity for SJKF and other wildlife species that may travel along the canal corridors. Additionally, 100-foot wide wildlife corridors will be maintained along both sides of I-580 as mitigation for the development of Area B to provide an undeveloped area for wildlife to travel between the freeway and proposed development. However, the 100-foot wide corridors have multiple gaps in the conservation easement for storm drainage, roadways, and other purposes.

5.6 JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill

materials into "waters of the United States" pursuant to Section 404 of the Federal CWA and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and bank under Fish and Wildlife Code Sections 1600 et seq., and the RWQCB regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

A Corps jurisdictional assessment was prepared under separate cover by Olberding Environmental, Inc. in 2013 (Appendix D). The 2013 jurisdictional assessment documented approximately 2.33-acres of wetlands (observed wetland habitats include wetland swales, seasonal wetlands, and vegetated drainage channels), and approximately 2.68-acres (14,117 linear feet) of drainage channels. In total, 5.01-acres of wetlands/waters were identified within the boundary of the THSP.

Table 2: Jurisdictional Summary

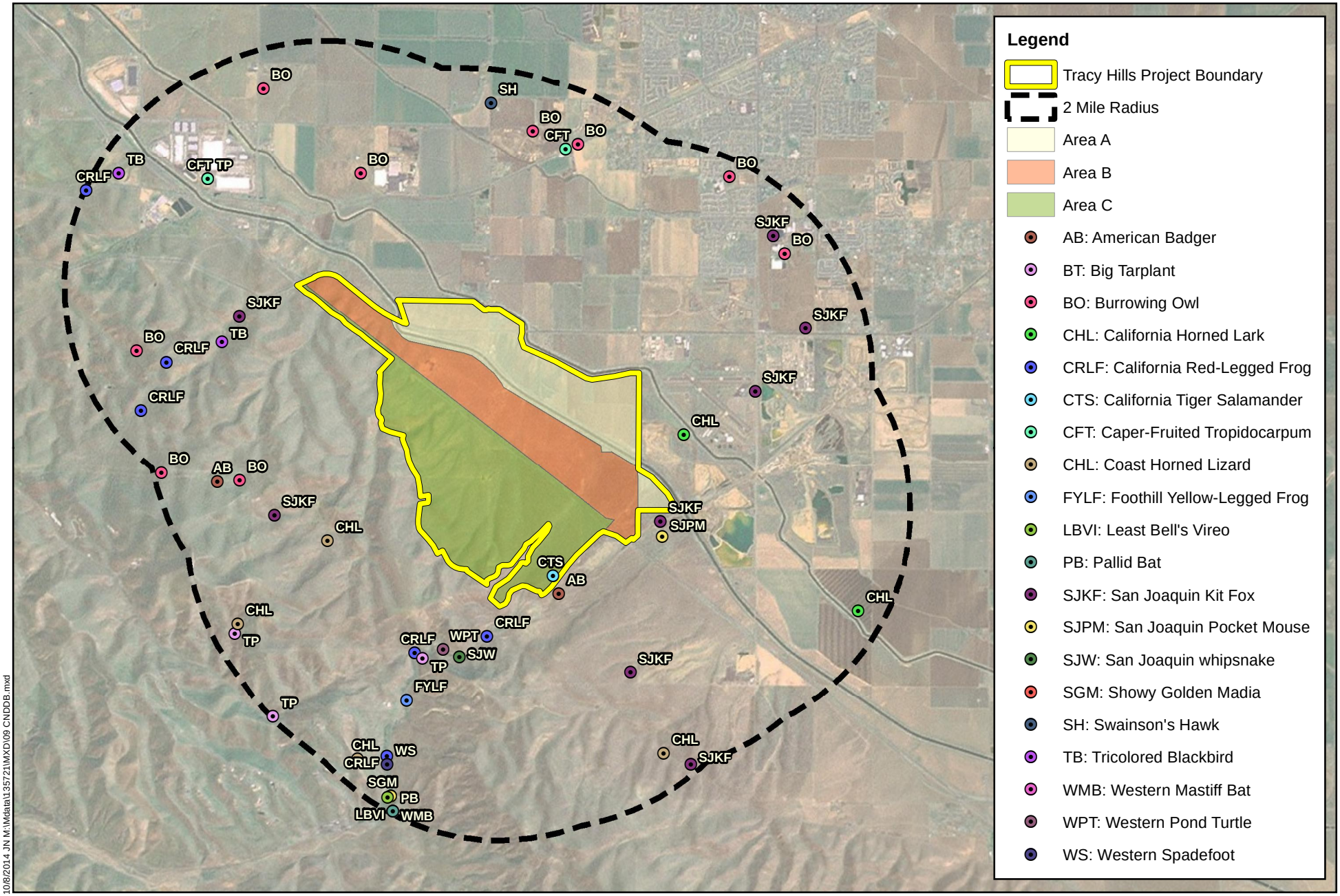
Agency	Total Jurisdiction On-Site (acres)		Totals
	Wetlands (acres)	Waters (acres/linear feet)	
Corps	-	-	-
RWQCB	2.33	2.68 (14,117)	5.01
CDFW	2.33	2.68 (14,117)	5.01

The 2013 jurisdictional assessment concluded that all wetland and water features occurring on the THSP property are considered isolated since surface flow does not have "significant nexus" or pathway to the ocean or any Traditional Navigable Water (TNW). Therefore, no Corps jurisdictional "waters of the United States" are located onsite. However, these wetlands and waters would continue to be regulated by the RWQCB and CDFW.

Based on the delineation findings and project impacts, the project applicant will be required to obtain the following regulatory approvals: Jurisdictional Determination from the Corps documenting isolated conditions and lack of jurisdictional authority on the project site; a RWQCB ROWD pursuant to California Water Code Section 13260; and, CDFW Section 1602 SAA. It should be noted that while an Approved Jurisdictional Determination/Concurrence from the Corps is required for the ROWD, it is also an important confirmation documenting that no federal jurisdictional "waters of the United States" are located within the boundaries of the project site.

5.7 SENSITIVE BIOLOGICAL RESOURCES

The CNDDB was queried for reported locations of listed and sensitive plant and wildlife species as well as sensitive natural plant communities on the Tracy, Midway, Clifton Court Forebay, Union Island, Lathrop, Vernalis, Solyo, Lone Tree Creek, and Cedar Mountain USGS 7.5-minute quadrangles (Exhibit 9, *CNDDB*). A search of published records of these species was



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Michael Baker INTERNATIONAL

0 3,000 6,000 12,000 Feet

Source: CNDDB, ESRI World Imagery Basemap

TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

CNDDB

Exhibit 9

conducted within these quadrangles using the CNDDB Rarefind 5 online software. The CNPS Inventory of Rare and Endangered Plants of California and SJMSCP supplied information regarding the distribution and habitats of vascular plants in the vicinity of the project site. The habitat assessment was used to assess the ability of the plant communities found onsite to provide suitable habitat for relevant special-status plant and wildlife species.

The literature search identified forty-five (45) sensitive plant species, thirty-eight (38) sensitive wildlife species, and four (4) sensitive habitats as having the potential to occur within the Tracy, Midway, Clifton Court Forebay, Union Island, Lathrop, Vernalis, Solyo, Lone Tree Creek, and Cedar Mountain quadrangles. The discussion encompasses all three areas of the THSP. Sensitive plant and wildlife species were evaluated for their potential to occur within the project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity are presented in Appendix B, Sensitive Habitats and Potentially Occurring Sensitive Plant and Wildlife Species. Appendix B summarizes conclusions from analysis and field surveys regarding the potential occurrence of listed and sensitive plant and wildlife species within the project site.

Numerous special status plant and wildlife species are known to occur or have the potential to occur on the project site or in the general vicinity of the project site. In particular, the hillside within Area C of the THSP property and Corral Hollow Creek on the southern boundary Area C has the potential to provide suitable habitat for sensitive plant species and suitable nesting/denning and foraging habitat for a variety of wildlife species.

5.7.1 Sensitive Plants

Forty-five (45) special status plant species are known to occur in Tracy, Midway, Clifton Court Forebay, Union Island, Lathrop, Vernalis, Solyo, Lone Tree Creek, and Cedar Mountain quadrangles. Based on habitat requirements for specific species, availability and quality of habitats needed by each sensitive plant species, it was determined that the project site does not provide suitable habitat for sensitive plant species known to occur within the general area. Existing livestock grazing and agricultural activities have eliminated undisturbed natural plant communities and greatly reduced suitable habitat needed to support the sensitive plant species that have the potential to occur in the general vicinity.

Sensitive plant surveys were conducted in 1988 and 1990 by LSA and reviewed in 1996 by H.T. Harvey and Associates for Area B and Area C of the THSP. Based on the results of the initial surveys and following review, it was determined that the conditions during previous sensitive plant surveys would have been sufficient to detect the sensitive plant species listed in the 1988 and 1990 sensitive plant survey reports. Subsequently, the 1996 HMP concluded that the proposed development of the THSP would not significantly affect any sensitive plant species, even though the 1996 HMP was not recognized as an enforceable document.

Since the original surveys conducted in 1988 and 1989, new protocols for surveying sensitive plants have been adopted by the wildlife agencies. In 1996 the USFWS released *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*, and more recently, in 2009, CDFW released *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Even though the conditions of the project site have not substantially changed since the sensitive plant surveys conducted in 1988 and 1990 and the plant communities have continued to be disturbed from livestock grazing and agricultural activities, the wildlife agencies may require an updated sensitive plant survey be conducted in accordance with the CDFW 2009 and USFWS 1996 protocols. This update will ensure none of the sensitive plants currently listed by USFWS, CDFW, and CNPS occur on the project site. Prior to commencement of ground disturbing activities, communication with USFWS and CDFW should be initiated to determine if sensitive plant surveys will be required.

Participation in the SJMSCP, for Area A and Area B, would address any potential impacts on special-status plant species, if one or more of these species are present in the THSP property. This would require compliance with Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP, which would include conducting pre-construction surveys and salvage measures in the unlikely event of occurrences of special-status plant species in the THSP property. For the above reasons, potential impacts of the Project on special-status plant species would be considered less than significant.

5.7.2 Sensitive Wildlife

Thirty-eight (38) special status wildlife species are known to occur in Tracy, Midway, Clifton Court Forebay, Union Island, Lathrop, Vernalis, Solyo, Lone Tree Creek, and Cedar Mountain quadrangles. Based on habitat requirements for specific species, availability and quality of habitats needed by sensitive wildlife species, it was determined that the project site has a high to moderate potential to provide suitable habitat for eighteen (18) sensitive wildlife species. These species are listed below.

5.7.2.1 Amphibian and Reptile Species

Based on the results of the 2013 habitat assessment, it was determined that the habitat on the THSP property has a moderate to high potential to provide suitable habitat for seven (7) sensitive amphibian and reptile species listed in the CNDDB as having the potential to occur on or within the general vicinity of the project site.

California Tiger Salamander (*Ambystoma californiense*)

The California tiger salamander is federally and stated listed as threatened. This species is most commonly found in annual grassland habitat, but also occurs in the grassy understory of valley-

foothill hardwood habitats, and uncommonly along stream courses in valley-foothill riparian habitats. Seasonal ponds or vernal pools are crucial to breeding and permanent ponds or reservoirs are sometimes used when predatory fish are absent.

The grassland plant community on the THSP property provides suitable habitat for the California tiger salamander, however, there is no suitable breeding habitat on the project site. Participation in the SJMSCP provide adequate protection for this species.

Silvery Legless Lizard (*Anniella pulchra pulchra*)

The silvery legless lizard is listed as a California Species of Special Concern. It occurs primarily in areas with sandy or loose loamy soils under sparse vegetation of beaches, chaparral, or pine-oak woodland; or near sycamores, oaks, or cottonwoods that grow on stream terraces. This species is often found under or in the close vicinity of logs, rocks, old boards, and the compacted debris of woodrat nests.

The moister sandy areas along Corral Hollow Creek, adjacent to the project site, have the potential to provide suitable habitat for this species. However, no habitat occurs onsite. Participation in the SJMSCP provides adequate protection for this species.

San Joaquin Whipsnake (*Coluber flagellum ruddocki*)

The San Joaquin whipsnake is listed as a California Species of Special Concern. This species is known to occupy a variety of habitats including grasslands, savanna, chaparral, and woodland. The San Joaquin whipsnake prefers open, dry, treeless areas, including grassland and saltbush scrub and takes refuge in rodent burrows, under shaded vegetation, and under surface objects.

The grassland plant community on the THSP property provides suitable habitat for the San Joaquin whipsnake and was determined to have a high potential to occur onsite. Participation in the SJMSCP provides adequate protection for this species.

Alameda Whipsnake (*Coulber lateralis euryxanthus*)

The Alameda whipsnake is federally and state listed as threatened. It primarily occurs in open areas in canyons, rocky hillsides, chaparral scrublands, open woodlands, pond edges, and stream courses.

The grassland plant community on the THSP property provides suitable habitat for the Alameda whipsnake and was determined to have a high potential to occur onsite. Participation in the SJMSCP provides adequate protection for this species.

Coast Horned Lizard (*Phrynosoma blainvillii*)

The coast horned lizard is listed as a California Species of Special Concern and is found in a variety of habitats. The coast horned lizard is found in coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest plant communities. The key element of these plant communities are loose, fine soils with a high sand fraction, an abundance of native ants or other insects, open areas with limited overstory for basking, and low, but relatively dense shrubs for refuge.

All of the plant communities on the THSP property provide suitable habitat for the cost horned lizard. This species was determined to have a high potential to occur onsite. Participation in the SJMSCP provide adequate protection for this species.

California Red-Legged Frog (*Rana draytonii*)

The CRLF is federally listed as threatened and is state listed as a California Species of Special Concern. The CRLF is primarily found near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamside's with plant cover and is most common in lowlands or foothills. The CRLF breeds in permanent or ephemeral waters sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps.

CRLF have been reported in Corral Hollow Creek upstream from the THSP property and have the potential to utilize Corral Hollow Creek within the THSP property during favorable water conditions. A small portion of Critical Habitat for CRLF extends into the Specific Plan area (Exhibit 10, *Critical Habitat*). Participation in the SJMSCP provides adequate protection for this species.

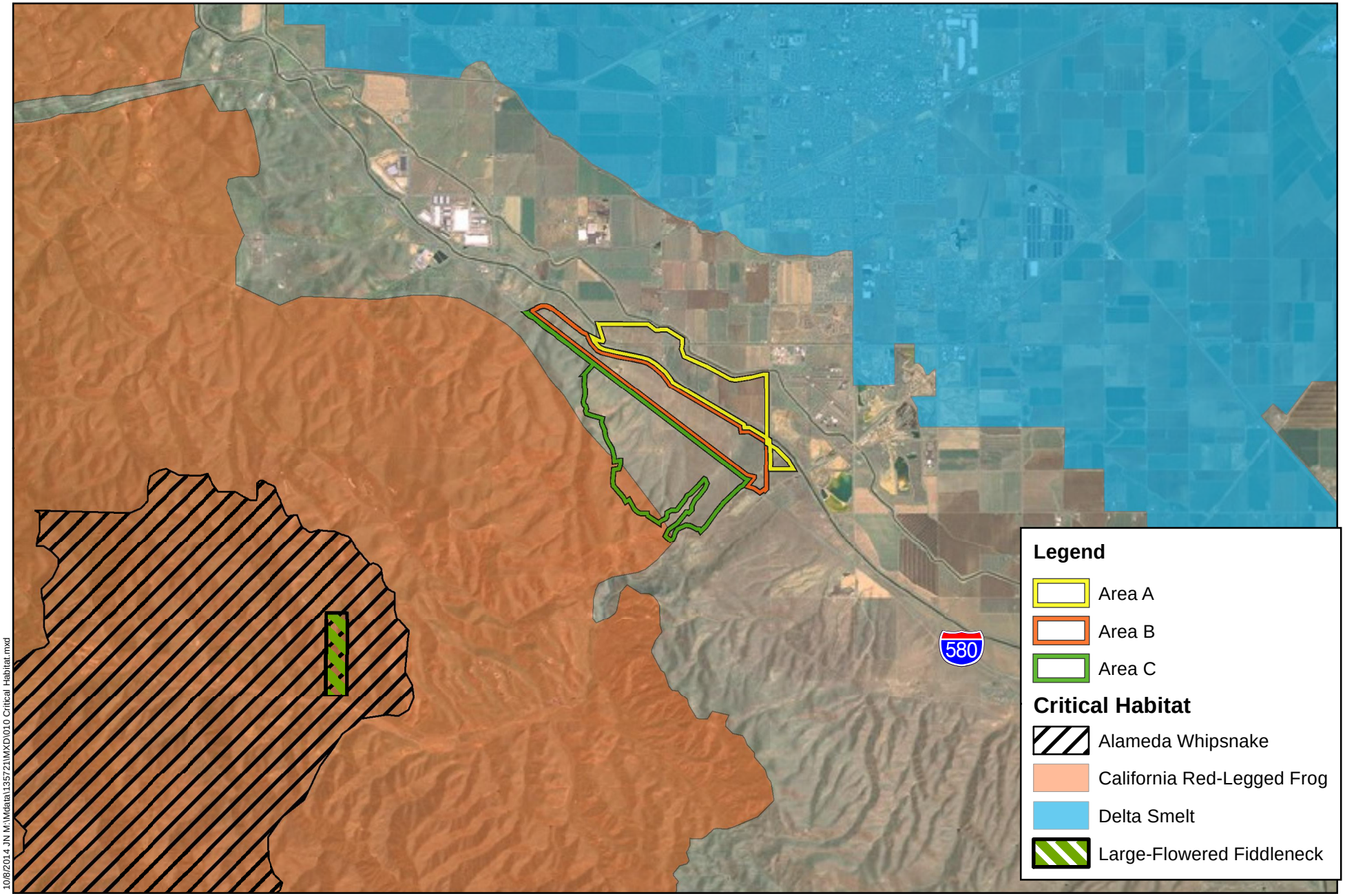
Western Spadefoot Toad (*Spea hammondii*)

The western spadefoot toad is listed as a California Species of Special Concert. This species prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rain pools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.

The grassland plant community on the THSP property provides suitable habitat for the western spadefoot toad, however, there is no suitable breeding habitat on the project site. Participation in the SJMSCP provides adequate protection for this species.

5.7.2.2 Avian Species

Based on the results of the 2013 habitat assessment, it was determined that the habitat on the THSP property has a moderate to high potential to provide suitable habitat for nine (9) sensitive



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Source: USFWS Critical Habitat Portal, ESRI World Topographic Map

TRACY HILLS SPECIFIC PLAN
HABITAT ASSESSMENT AND SJMSCP CONSISTENCY ANALYSIS

Critical Habitat

Exhibit 10

avian species listed in the CNDDB as having the potential to occur on or within the general vicinity of the project site.

Cooper's Hawk (*Accipiter cooperii*)

The Cooper's hawk is listed as a California Species of Special Concern and is on the CDFW watch list of sensitive species. The Cooper's hawk is generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. This species prefers hardwood stands and mature forests, but can be found in urban and suburban areas where there are tall trees for nesting. The Cooper's hawk is also relatively common in open areas during nesting season where it forages. The habitat on the THSP provides suitable foraging habitat for the Cooper's hawk, but does not provide suitable nesting habitat. Cooper's hawks have a high potential to forage of the THSP property, especially in the winter, but are presumed not to nest onsite. Participation in the SJMSCP provides adequate protection for this species.

Golden Eagle (*Aquila chrysaetos*)

The golden eagle is a fully protected species by the State of California and is on the CDFW watch list of sensitive species. Golden eagles occupy nearly all terrestrial habitats of the western states except densely forested areas. This species favors secluded cliffs with overhanging ledges and large trees for nesting and cover, and hilly or mountainous country where takeoff and soaring are supported by updrafts, which is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.

The THSP property provides suitable foraging habitat for golden eagle, and the area proposed for conservation on the western boundary of the THSP property has the potential to provide suitable nesting opportunities for golden eagle. Active golden eagle nests have been observed within the proposed conservation areas of the THSP property. Participation in the SJMSCP provides adequate protection for this species.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is currently listed as a California Species of Special Concern. It is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments with well-drained, level to gently-sloping areas characterized by sparse vegetation and bare ground. They require open vegetation allowing line-of-sight observation of the surrounding habitat to forage as well as watch for predators. Burrowing owls are dependent upon the presence of burrowing mammals whose burrows are used for roosting and nesting.

Burrowing owls were observed on the western portion of the project site within Area C, west of I-580, during the 2013 habitat assessment. The grasslands on the THSP property provide suitable foraging habitat for burrowing owls, and the large population of ground squirrel burrows found on the property provide numerous nesting opportunities for burrowing owl. However no burrowing owls were observed with Area A or Area B of the THSP (areas east of I-580) during the 2013 habitat assessment. Additionally, focused surveys conducted for burrowing owl between June 28 and July 14, 2009 on Area B of the THSP were negative. Participation in the SJMSCP provides adequate protection for this species.

Ferruginous Hawk (*Buteo regalis*)

The ferruginous hawk is listed as a California Species of Special Concern and is on the CDFW watch list of sensitive species. This species frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. It nests in foothills or prairies; on low cliffs, buttes, cut banks, shrubs, trees, or in other elevated structures, natural or human-made. This species requires large, open tracts of grasslands, sparse shrub, or desert habitats.

The ferruginous hawk has a high potential to forage over the THSP property during the winter months after migration. The THSP property provides little to no suitable habitat for nesting and is presumed not to nest on the THSP property. Participation in the SJMSCP provides adequate protection for this species.

Swainson's Hawk (*Bueto swainsoni*)

Swainson's hawk is state listed as threatened. The preferred habitat for Swainson's hawk is open desert, grassland, or cropland containing scattered, large trees or small groves. This species breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley while foraging in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.

The plant communities on the THSP property provide suitable foraging habitat for the Swainson's hawk. However, there is limited nesting habitat on the project site within the riparian woodland within Corral Hollow Creek. The THSP property has a low potential to provide suitable nesting opportunities. Participation in the SJMSCP provides adequate protection for this species.

Northern Harrier (*Circus cyaneus*)

The northern harrier is listed as a California Species of Special Concern. This avian species fequents meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. The northern harrier is usually found in flat, or hummocky, open areas of

tall, dense grasses moist or dry shrubs, and edges for nesting, cover, and feeding. This species is seldom found in wooded areas.

The northern harrier was observed forging over the THSP property during the 2013 habitat assessment. Corral Hollow Creek provides suitable nesting habitat for this species. Participation in the SJMSCP provides adequate protection for this species.

White-tailed Kite (*Elanus leucurus*)

The white-tailed kite is a fully protected species by the State of California. This species is found at low elevations in open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodland and uses trees with dense canopies for cover.

The plant communities on the THSP property provide suitable foraging habitat for the white-tailed kite. However, there is limited to no suitable nesting habitat on the project site. The riparian woodland within Corral Hollow Creek has a low potential to provide suitable nesting opportunities. Participation in the SJMSCP provides adequate protection for this species.

California Horned Lark (*Eremophila alpestris actia*)

The California horned lark is listed as a California Species of Special Concern and is on the CDFW watch list of sensitive species. The horned lark is a common to abundant resident in a variety of open habitats, usually where trees and large shrubs are absent. They breed in level or gently sloping shortgrass prairie, montane meadows, "bald" hills, open coastal plains, fallow grain fields, and alkali flats. In non-agricultural lands, this species typically inhabits areas of short vegetation or bare ground, including shortgrass prairie, deserts, brushy flats, and alpine habitat. In California, the horned larks breed primarily in open fields, (short) grasslands, and rangelands. Grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities provide cover.

The California horned lark was observed on the THSP property during the 2013 habitat assessment. The plant communities on the project site provide suitable nesting and foraging habitat for this species. Participation in the SJMSCP provides adequate protection for this species.

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is listed as a California Species of Special of Concern. It is often found in broken woodlands, shrublands, and other habitats, but prefers open country with scattered perches for hunting and fairly dense brush for nesting.

The loggerhead shrike was observed on the THSP property during the 2013 habitat assessment. The plant community on the project site provide little nesting habitat, and no nest have been observed onsite, but there is a limited potential for loggerhead shrike to nest onsite. Participation in the SJMSCP provides adequate protection for this species.

5.7.2.3 Mammalian Species

Based on the results of the 2013 habitat assessment, it was determined that the habitat on the THSP property has moderate to high potential to provide suitable habitat for two (2) sensitive mammal species listed in the CNDDB as having the potential to occur on or within the general vicinity of the project site.

American Badger (*Taxidea taxus*)

The American badger is listed as a California Species of Special Concern. This species primarily occupies grasslands, parklands, farms, tallgrass and shortgrass prairies, meadows, shrub-steppe communities and other treeless areas with sandy loam soils where it can dig more easily for its prey. Occasionally found in open chaparral (with less than 50% plant cover) and riparian zones.

All of the plant communities on the THSP property provide suitable habitat for the American badger. This species was determined to have a high potential to occur onsite. The proposed conservation areas on the western portion of the THSP property would provide ample habitat for to support this species. Participation in the SJMSCP provides adequate protection for this species.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

The SJKF is a federally and state listed endangered species. This species prefers open, level areas with loose-textured soils supporting scattered shrubby vegetation with little human disturbances. Several occurrences of this species have been reported from the west Tracy vicinity in past studies, although most are from west of I-580. Suitable grassland foraging habitat occurs in portions of the THSP property where ground squirrels are abundant. Participation in the SJMSCP provides adequate protection for this species.

5.7.3 Sensitive Habitats

The CNDDB lists four (4) sensitive habitats (Alkali Meadow, Great Valley Cottonwood Riparian Forest, Northern Claypan Vernal Pool, and Valley Sink Scrub) as having the potential to occur within the Tracy, Midway, Clifton Court Forebay, Union Island, Lathrop, Vernalis, Solyo, Lone Tree Creek, and Cedar Mountain quadrangles. None of the listed CNDDB sensitive habitats were observed within the boundaries of the THSP.

Section 6 SJMSCP Consistency Analysis

The SJMSCP provides a strategy for balancing the conversion of open space to non-open space uses with the need for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under FESA or CESA. The SJMSCP provides comprehensive compensation for impacts to threatened, endangered, rare and unlisted SJMSCP covered species and other wildlife, and compensation for some non-wildlife related impacts to recreation, agriculture, scenic values, and other beneficial open space uses (San Joaquin Council of Governments 2000).

The City of Tracy is a signatory to the SJMSCP. Projects covered by the SJMSCP receive clearance under both the state and federal endangered species acts (FESA and CESA) if they are consistent with the SJMSCP. Compliance with the Plan ensures that the impacts are mitigated below a level of significance in compliance with CEQA. The City of Tracy retains responsibility for ensuring that the appropriate Incidental Take Minimization Measure are properly implemented and monitored and that appropriate fees are paid in compliance with the SJMSCP.

Area B and Area C of the THSP were included in the 1998 THSP and Tracy Hills HCP application prior to the development of the SJMSCP. As a result, these areas were not covered by the SJMSCP since there was a separate HCP being processed through USFWS. As a result, under Section 8.2.2 of the SJMSCP (Projects Not Covered by the SJMSCP) and Subsection 8.2.2.2 (Specific Projects Not Covered by the SJMSCP), the previously approved THSP was listed as “not covered and not affected by the SJMSCP”.

However, since the dissolve of the 1998 THSP the processing of the Tracy Hills HCP was abandoned and SJCOG subsequently put together a report in 2010 for the wildlife agencies requesting coverage of Area B of the THSP as a minor amendment (following procedures listed in Section 8.8.4 and 8.8.5 of the SJMSCP) to the SJMSCP. The SJCOG staff report was reviewed and approved by the USFWS in 2012 (Appendix E). Area B (also referred to as the Tracy 580 Business Park) of the THSP was included as a minor amendment to participate in the SJMSCP. Area C is currently not covered under the SJMSCP and will need to apply independently for coverage and may require additional permitting under the ESA.

Area A was included in the 1998 THSP, but was not included in the Tracy Hills HCP application. As a result, Area A was included in the original SJMSCP boundary and is eligible for coverage by the SJMSCP.

6.1 SJMSCP INDEX ZONE

The overall strategy of the SJMSCP is built upon the division of the County into five distinct zones: Central Zone, Southwest Zone, Vernal Pool Zone, Primary Zone of the Delta, and Central/Southwest Transition Zone. These zones are distinguished by soil types, water regimes, elevation, topography, and vegetation type. The THSP is located within the Southwest Zone and Central/Southwest Transition Zone designated by the SJMSCP. Specifically, Area B of the THSP is located in the Central/Southwest Transition Zone and the area west of I-580 is located in the Southwest Zone.

6.1.1 Central/Southwest Transition Zone

The Central/Southwest Transition Zone was established by the SJMSCP primarily to allow a special exception to the Plan requirement that impacts to the Covered Species in any given SJMSCP Index Zone be compensated in the same Index Zone (See Section 5.1.2.6). Section 5.1.2.6 describes the basis for this exception. Primarily it involves the fact that the SJKF may sometimes occur outside the Southwest Zone in areas that are part of the Central/Southwest Transition Zone. This provision allows compensation for habitat conversions in the Central/Southwest Transition Zone to occur in either the Central Zone or the Southwest Zone. In addition, the exception placed a high priority on the establishment of stepping stone refugia for the SJKF within the Central/Southwest Transition Zone. Recent studies indicate that SJKF may travel along the canal corridors.

Area A and Area B of the THSP are located within the Central/Southwest Transition Zone of the SJMSCP. Based on recent written communication with the wildlife agencies (refer to Appendix E), Area B of the THSP is consistent with Permitted Activities (Section 8.2.1) of the SJMSCP, as proposed. However, if the site plans for Area B change, additional consultation will be required to address the new activities. No changes to the Area B are anticipated and the development is consistent with the SJMSCP and will need to comply with Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP.

6.1.2 Southwest Zone

The Southwest Zone encompasses approximately 70,000 acres of which approximately 95% provides habitat for SJMSCP Covered Species. The Southwest Zone is comprised almost exclusively of grazed grasslands varying in the presence of tree and shrub species. Corral Hollow Creek is recognized as the main drainage in the Southwest Zone that supports relatively undisturbed stretches of riparian forest habitats. There are four (4) primary habitats found within the Southwest Zone: valley grasslands; patches of diablan sage scrub; riparian (primarily within Corral Hollow Creek); and blue oak conifer vegetation.

SJMSCP Permitted Activities in the Southwest Zone primarily consist of aggregate mining, widening of the I-205 freeway corridor, and housing developments. Urban development impacts will be concentrated primarily within current urban growth boundaries and along the I-580 transportation corridor in the City of Tracy. However, the majority of the Southwest Zone will remain in natural grassland and will be used for livestock grazing.

Area C of the THSP, located south of I-580, is located within the Southwest Zone of the SJMSCP. However, Area C is not covered under the SJMSCP. Future development of Area C will need to apply for and be independently evaluated for coverage under the SJMSCP.

6.2 MEASURES TO MINIMIZE IMPACTS

The SJMSCP covers 97 species (Appendix H), including species listed under the California and Federal Endangered Species Acts, and describes best management practices and establishes testing protocols and mitigation procedures for the loss of habitat and associated incidental take of species resulting from the conversion of open space in the County over the next 50 years. All permanent impacts to habitats within San Joaquin County and associated species to which impacts could occur are covered by the SJMSCP. Prior to project implementation of the SJMSCP, there are four (4) categories of pre-construction surveys that need to be considered:

- Surveys to verify vegetation types proposed to be impacted to determine the suitability for SJMSCP Covered Species;
- Surveys prior to ground disturbing activities to determine success of relocated and/or implementation of Incidental Take Minimization Measures as specified in conditions of project approval;
- Surveys conducted in compliance with USFWS protocols to determine presence/absence of Conservancy and/or longhorn fairy shrimp within vernal pools or other wetlands in the Southwest Zone, unless no vernal pools or wetlands occur onsite or will be avoided; and
- Surveys conducted pursuant to the protocol established in Section 5.2.2.5(A-C) for specific sensitive plant species. Sensitive plant species that have the potential to occur within the Central/Southwest Transition Zone and/or Southwest Zone are larger-flowered fiddleneck, showy madia, Hospital canyon larkspur, diamond-petaled poppy, and slough thistle.

6.2.1 Area A and Area B

To mitigate for the potential adverse impacts on special-status species, and provide for the incidental take of state and/or federally listed species or SJMSCP Covered Species within Area A and Area B of the THSP, the applicant will comply with all relevant Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP pertinent to the project site. Part

of the Incidental Take Minimization Measures would include conducting pre-construction surveys and relocation measures as noted above.

6.2.2 Area C

Area C is currently not covered under the SJMSCP and will need to apply independently for coverage and may require additional permitting under the ESA. Compliance with FESA and CESA may include a Major Amendment to the SJMSCP, a project specific HCP in accordance with Section 10 of the FESA, Biological Opinion under Section 7 of the FESA, and/or Section 2081 of the CESA.

6.3 SJMSCP MITIGATION REQUIREMENTS

If a project applicant opts for coverage through participation in the SJMSCP, then the following options are available: pay the applicable fee (Section 7.4.1); dedicate, as conservation easements or fee title, or in-lieu dedications (Sections 5.3.2.2 and 5.3.2.3); purchase approved mitigation bank credits (Section 5.3.2.4); or, propose an alternative mitigation plan.

Mitigation of unavoidable impacts to species covered in the SJMSCP emphasizes compensation for habitat losses through the establishment, enhancement and management of habitat preserves. The preserves are normally located outside of designated existing and planned urban boundaries on agricultural lands throughout the County. Acquisition of preserve lands is accomplished primarily through the purchase of easements from landowners willing to sell urban development rights. In lieu of dedication of preserve land, the SJMSCP allows project proponents the option of providing mitigation through the payment of development fees on a per-acre basis, according to the type of habitat that is converted to non-open space uses.

6.3.1 Development of Area A and Area B

Compensation for the development of Area A and Area B is proposed to be mitigated in the Southwest Zone (mitigation measures are addressed in Section 6.5 of the SJMSCP). The SJMSCP's mitigation strategy for the Southwest Zone seeks to reduce the effects of habitat loss and fragmentation on Covered Species by protecting large blocks of four habitat types (Grassland Preserves, Diablan Sage Scrub Preserves, Riparian Preserves, and Blue Oak Conifer Preserves).

Development of Area B of the THSP would result in the conversion of an estimated 747.05-acre of existing grassland habitat to urban development, eliminating its suitability for numerous special-status wildlife species. This includes foraging habitat for Swainson’s hawk, burrowing owl and numerous other bird species, possible nesting habitat for burrowing owl, and possible foraging and dispersal habitat for SJKF.

In accordance with the 2011 *Preserve Management Plan for the Tracy 580 Business Park* (Appendix F), an approximately 688-acre portion of land, west of I-580, was set aside as land in lieu of fees pursuant to the SJMSCP to mitigate for impacts from implementation of the Tracy 580 Business Park Project (Area B of the THSP). In addition, the approximately 41-acre portion of land along the California Aqueduct was developed to enable habitat connectivity for SJKF and other Covered Species in the Transition Zone, as described in the SJMSCP.

6.3.2 Development of Area C

Area C is currently not covered under the SJMSCP and will need to apply independently for coverage and may require additional permitting under the ESA. Compliance with FESA and CESA may include a Major Amendment to the SJMSCP, a project specific HCP in accordance with Section 10 of the FESA, Biological Opinion under Section 7 of the FESA, and/or Section 2081 of the CESA.

Section 7 Conclusion and Recommendations

After review of existing documentation for the THSP property and written communication from the USFWS and CDFW, it was determined that Area A and Area B of the THSP are covered under the SJMSCP. As a result, compensation for the development of Area A and Area B will be mitigated in the Southwest Zone as addressed in Section 6.5 of the SJMSCP. To mitigate for the potential adverse impacts on special-status species, and provide for the incidental take of state and/or federally listed species or SJMSCP Covered Species within Area A and Area B of the THSP the applicant will comply with all relevant Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP pertinent to the project site. This will include conducting pre-construction surveys and relocation measures as noted above (in Section 6.2 Measures to Minimize Impacts).

Area C is currently not covered under the SJMSCP and will need to apply independently for coverage and may require additional permitting under the ESA. Compliance with FESA and CESA may include a Major Amendment to the SJMSCP, a project specific HCP in accordance with Section 10 of the FESA, Biological Opinion under Section 7 of the FESA, and/or Section 2081 of the CESA.

Separate from the SJMSCP, the project applicant will be required to obtain the following regulatory approvals: Jurisdictional Determination from the Corps documenting isolated conditions and lack of jurisdictional authority on the project site; a RWQCB ROWD pursuant to California Water Code Section 13260; and, CDFW Section 1602 SAA.

Migratory Bird Treaty Act and CDFW Code

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and CDFW Code (Sections 3503, 3503.3, 3511, and 3513 of the CDFW Code prohibit the take, possession, or destruction of birds, their nests or eggs). In order to protect migratory bird species, nesting bird clearance surveys need to be conducted prior to any vegetation removal or development that may disrupt the birds during the nesting season. Consequently, if avian nesting behaviors are disrupted, such as nest abandonment and/or loss of reproductive effort, it is considered “take” and is potentially punishable by fines and/or imprisonment.

If ground-disturbing activities or removal of any trees, shrubs, or any other potential nesting habitat are scheduled within the avian nesting season (nesting season generally extends from February 1 - August 31, but can vary from year to year based upon seasonal weather conditions), a pre-construction clearance survey for nesting birds, should be conducted within 10 days prior to any ground disturbing activities to ensure that no nesting birds will be disturbed during construction. As long as development does not cause direct take of a bird or egg(s) or disrupt nesting behaviors, immediate protections would not be required. The biologist

conducting the clearance survey should document a negative survey with a report indicating that no impacts to active avian nests will occur.

If an active avian nest is discovered during the pre-construction clearance survey, construction activities might have to be rerouted, a no-work buffer[4] might have to be established around the nest, or delayed until the young have fledged. It is recommended that a biological monitor be present to delineate the boundaries of the buffer area, if an active nest is observed, and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the qualified biologist has determined that young birds have successfully fledged, a monitoring report shall be prepared and submitted to the City of Tracy for review and approval prior to initiating construction activities within the buffer area. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds. Construction within the designated buffer area shall not proceed until the written authorization is received by the applicant from CDFW. The above provisions are in addition to the pre-construction surveys to confirm presence or absence of nesting Swainson's hawk, burrowing owl, and other special-status species as required under the Incidental Take Minimization Measures of the SJMSCP.

Burrowing Owl

Any avian species in the orders Falconiformes or Strigiformes (birds of prey or owls) are protected under CDFW Code 3503.5 which makes it unlawful to take, posses, or destroy their nest or eggs. Consultation with CDFW will be required prior to the removal of any raptor nest on the project site. Prior to development, the removal of the raptor nest found in the eucalyptus tree will need to be coordinated with CDFW.

Berryman Ecological conducted a focused survey for burrowing owl between June 28 and July 14, 2009 on the Tracy 580 Business Park (Area B). No burrowing owls were observed within Area B during the focused surveys conducted in 2009. No burrowing owl focused surveys have been conducted on the THSP property west of I-580 to date. However, burrowing owls were observed in this area (Area C) during the 2013 habitat assessment.

Prior to commencement of ground disturbing activities for development of Area B of the THSP, it is recommended that a pre-construction burrowing owl clearance survey be conducted in accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation. The pre-construction clearance survey will be required to document the continued absence of burrowing

[4] The size of the buffer shall be determined by the biologist in consultation with CDFW, and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. Typically these buffers range from 250 to 500 feet from the nest location.

owl from Area B of the THSP, ensuring that burrowing owl occurring in the area have established residence on Area B. The 2012 CDFW Staff Report requires that two pre-construction clearance surveys be conducted prior to development. The first clearance survey shall be conducted 14-30 days prior to ground disturbing activities and the second clearance survey shall be conducted 24 hours prior to ground disturbing activities to ensure burrowing owl continue to not occupy Area B of the THSP property.

If burrowing owls are found to occupy any part of the project site, a burrowing owl relocation plan will need to be developed and approved by the SJCOG staff and CDFW. The relocation plan will need to provide an effective but feasible strategy to avoid, minimize, and mitigate potential project related impacts to burrowing owls. This plan will also describe the methodology to passively relocate burrowing owl from the project site to the areas proposed for conservation within the THSP property boundaries. This plan will need to identify measures that would be implemented for the maintenance, monitoring and reporting to ensure compliance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation.

Sensitive Plants

Even though the conditions of the project site have not substantially changed since the sensitive plant surveys conducted in 1988 and 1990 and the plant communities have continued to be disturbed from livestock grazing and agricultural activities, the wildlife agencies may require an updated sensitive plant survey be conducted in accordance with the CDFW 2009 protocols and USFWS 1996 protocols. This update will assure CDFW that the surveys meet their 2009 protocol and document that none of the sensitive plants currently listed by USFWS, CDFW, and CNPS occur on the project site. Prior to commencement of ground disturbing activities, communication with USFWS and CDFW should be initiated to determine if sensitive plant surveys will be required.

Participation in the SJMSCP, for Area A and Area B, would address any potential impacts on special-status plant species, if one or more of these species are present in the THSP property. This would require compliance with Incidental Take Minimization Measures defined in Section 5.2 of the SJMSCP, which would include conducting pre-construction surveys and salvage measures in the unlikely event of occurrences of special-status plant species in the THSP property. For the above reasons, potential impacts of the Project on special-status plant species would be considered less than significant.

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Appendix A Sensitive Habitats and Potentially Occurring Sensitive Plant and Wildlife Species

Suitable Habitats and Potentially Occurring Sensitive Plant and Wildlife Species

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Wildlife Species				
Accipiter cooperii Cooper's hawk	Fed: None CA: WL	Generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests, but can be found in urban and suburban areas where there are tall trees for nesting. Common in open areas during nesting season.	No	**High:** The habitat on the THSP provides suitable foraging habitat for the Cooper's hawk, but does not provide suitable nesting habitat. Cooper's hawks have a high potential to forage of the THSP property, especially in the winter, but are presumed not to nest onsite. In accordance with eBird, the most recent recorded occurrence was documented in 2012 approximately 0.5 mile north of the project site. The closet recorded occurrence was documented in 2011 within Corral Hollow Creek on the southern boundary of the project site.
Agelaius tricolor Tricolored blackbird	Fed: None CA: CSC	Occurs near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Forages on ground in croplands, grassy fields, flooded land, and along edges of ponds.	No	**Low:** The California aqueduct, Delta-Mendota Canal, and agricultural crops provide limited habitat for this species. In accordance with the CNDDB, the closest recorded occurrence was documented on the THSP property in 2002 approximately 0.5 mile southwest of the project site. The most recent recorded occurrence was documented in 2003 approximately 8 miles north of the THSP property.
Ambystoma californiense California tiger salamander	Fed: THR CA: THR	Most commonly found in annual grassland habitat, but also occurs in the grassy understory of valley-foothill hardwood habitats, and uncommonly along stream courses in valley-foothill riparian habitats. Seasonal ponds or vernal pools are crucial to breeding. Permanent ponds or reservoirs are sometimes used when predatory fish are absent.	No	**Moderate:** The grassland plant community on the THSP property provides suitable habitat for the California tiger salamander, however, there is no suitable breeding habitat on the project site. In accordance with the CNDDB, the closest recorded occurrence was documented on the THSP property in 1992 along Corral Hollow Road in association with Corral Hollow Creek. In accordance with the

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				CNDDB, the most recent recorded occurrence was documented in 2008 approximately 2 miles south of the THSP property.
Anniella pulchra pulchra Silvery legless lizard	Fed: None CA: CSC	Occurs primarily in areas with sandy or loose loamy soils under sparse vegetation of beaches, chaparral, or pine-oak woodland; or near sycamores, oaks, or cottonwoods that grow on stream terraces. Often found under or in the close vicinity of logs, rocks, old boards, and the compacted debris of woodrat nests.	No	**High:** The moister sandy areas along Corral Hollow Creek have the potential to provide suitable habitat for this species. In accordance with the CNDDB, the most recent recorded occurrence was documented in 2004 approximately 3 miles west of the THSP property.
Anthicus sacramento Sacramento anthicid beetle	Fed: None CA: None	Interior sand dunes and sand bars; has also been found in dredge spoil heaps. Found in several locations alogn the Sacramento and San Joaquin Rivers.	No	**Presumed Absent:** No suitable habitat. There are no sand dunes or sand bars on the project site that would support this species. In accordance with the CNDDB, the closest recorded occurrence was documented in 1990 approximately 11 miles east of the project site.
Antrozous pallidus pallid bat	Fed: None CA: CSC	Mostly found in desert habitats. Favors rocky outcrops near a source of water for roosting. Also found roosting in caves, rock crevices, mines, hollow trees, and buildings.	No	**Low:** Minimal habitat within Corral Hollow Creek. In accordance with the CNDDB, the closest recorded occurrence was documented in 1941 approximately 2 miles south of the project site. The most recent documented occurrence was recorded in 1991 approximately 5 miles south of the project site.
Aquila chrysaetos golden eagle	Fed: None CA: FP | WL	Occupies nearly all terrestrial habitats of the western states except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	No	**High:** The THSP property provides suitable foraging habitat for golden eagle, and the area proposed for conservation on the western boundary of the THSP property has the potential to provide suitable nesting opportunities for golden eagle. Active golden eagle nests have been observed within the proposed conservation areas of the THSP property. In accordance with ebird.org, golden

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				eagle has been observed in December of 2013 approximately 3 miles north of the project site.
Athene cunicularia burrowing owl	Fed: None CA: CSC	Occurs in dry, open areas such as grasslands, prairies, savannas, deserts, farmlands, golf courses and other urban areas	Yes	**Present:** The grasslands on the THSP property provide suitable foraging habitat for burrowing owls, and the large population of ground squirrel burrows found on the property provide numerous nesting opportunities for burrowing owl. Burrowing owls were observed on the western portion of the project site, west of I-580, during the 2013 habitat assessment. No burrowing owls were observed within Phase 1 of the THSP (area east of I-580) during the 2013 habitat assessment. Additionally, focused surveys conducted for burrowing owl in 2010 on Phase 1 of the THSP were negative.
Branchinecta lynchi Vernal pool fairy shrimp	Fed: THR CA: None	Restricted to vernal pools and swales and other seasonal aquatic habitats. Inhabits tea-colored water, most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools onsite that could support this species. The varying stages of RSS and RAFSS habitats have the potential to support this species. In accordance with the CNDDB, the closest recorded occurrence was documented in 2009 approximately 11 miles northwest of the project.
Branchinecta mesovallensis Midvalley fairy shrimp	Fed: None CA: None	Restricted to vernal pools and swales and other seasonal aquatic habitats. Occurs in small to medium grassy or clay bottomed vernal pools, roadside ditches, and railroad toe-drains.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools onsite that could support this species. In accordance with the CNDDB, the closest recorded occurrence was documented in 2006 approximately 12 miles northwest of the project.
Buteo regalis Ferruginous hawk	Fed: None CA: WL	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Nests in foothills or prairies; on low cliffs, buttes,	No	**High:** This species has a high potential to forage over the THSP property during the winter months after migration. The THSP property provides little to no suitable

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
		cut banks, shrubs, trees, or in other elevated structures, natural or human-made. Requires large, open tracts of grasslands, sparse shrub, or desert habitats.		habitat for nesting and is presumed not to nest on the THSP property. In accordance with the CNDDB, the closest recorded occurrence was documented in 1993 approximately 0.4 mile west of the project site. In accordance with ebird.org, Ferruginous Hawk was documented in November on 2013 approximately 3 miles north of the project site.
Buteo swainsoni Swainson's hawk	Fed: None CA: THR	Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.	No	**High:** The plant communities on the THSP property provide suitable foraging habitat for the Swainson's hawk. However, there is limited nesting habitat on the project site within the riparian woodland within Corral Hollow Creek. In accordance with the eBird, the closest recorded occurrence was documented in 2012 in Patterson Pass approximately 4 miles west of the project site. In accordance with the CNDDB the most recent occurrence was documented in 2012 approximately 11 miles north of the project site.
Circus cyaneus Northern harrier	Fed: None CA: CSC	Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Mostly found in flat, or hummocky, open areas of tall, dense grasses moist or dry shrubs, and edges for nesting, cover, and feeding.	Yes	**Present:** The northern harrier was observed forging over the THSP property during the 2013 habitat assessment. Corral Hollow Creek provides suitable nesting habitat for this species.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	Fed: FCE CA: END	Obligate riparian species with a primary habitat association of willow-cottonwood riparian forest. Insect feeders in dense forest canopy found along major river systems.	No	**Presumed Absent:** The riparian forest plant community within Corral Hollow Creek has the potential to provide limited habitat for this species. The requisite dense forest canopy along a major water source does not occur onsite. In accordance with the eBird, the nearest recorded occurrence was documented in 2012 approximately 7.5 miles northeast of the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Coluber flagellum ruddocki San Joaquin whipsnake	Fed: None CA: CSC	Known from a variety of habitats including grasslands, savanna, chaparral, and woodland. Prefers open, dry, treeless areas, including grassland and saltbush scrub. Takes refuge in rodent burrows, under shaded vegetation, and under surface objects.	No	**High:** The grassland plant community on the THSP property provides suitable habitat for the San Joaquin whipsnake. In accordance with the CNDDB, the nearest recorded occurred was documented on the western portion of the THSP within the proposed conservation area in 2004.
Coluber lateralis euryxanthus Alameda whipsnake	Fed: THR CA: THR	Occurs in open areas in canyons, rocky hillsides, chaparral scrublands, open woodlands, pond edges, and stream courses.	No	**High:** The grassland plant community on the THSP property provides suitable habitat for the Alameda whipsnake. In accordance with the CNDDB, the cloesest recorded occurrence was documented within the Midway quadrangle. The Midway quadrangle is located on the western portion of the THSP property in the area proposed for conservation.
Corynorhinus townsendii Townsend's big-eared bat	Fed: None CA: CCE	Species is found in all but subalpine habitats, and may be found at any season throughout its range. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting.	No	**Low:** Minimal foraging habitat on the project site. No roosting opportunities are found on the project site. In accordance with the CNDDB, the closest recorded occurrence was documented in 1991 approximately 5 miles south of the project site.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	Fed: THR CA: None	Found in riparian habitat only in the vicinity of their host plant (*Sambucus nigra*).	No	**Low:** Has a low potential to occur within the riparian forest within Corral Hollow Creek. In accordance with the CNDDB, the closest recorded occurrence was documented in 2002 approximately 0.5 mile west of the project site.
Elanus leucurus White-tailed kite	Fed: None CA: FP	Occurs in low elevation, open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Uses trees with dense canopies for cover.	No	**High:** The plant communities on the THSP property provide suitable foraging habitat for the white-tailed kite. However, there is limited to no suitable nesting habitat on the project site. The riparian woodland within Corral Hollow Creek has a low potential to provide suitable nesting opportunities. In accordance with eBird

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				the closest recorded occurrence was documented in 2012 approximately 0.5 mile east of the project site.
Emys marmorata Western pond turtle	Fed: None CA: CSC	Requires basking sites such as partially submerged logs, rocks, matts of floating vegetation, or open mud banks. Normally associate with permanent ponds, lakes, streams, irrigations ditches or permanent pools along intermittent streams.	No	**Low:** Have been reported in Corral Hollow Creek on the southern boundary of the THSP property (documented in 1993 in accordance with the CNDDB) and have the potential to utilize Corral Hollow Creek within the THSP property during favorable water conditions. In accordance with the CNDDB, the closest recorded occurrence was documented in 1992 approximately 4.5 miles northwest of the project site. The most recent recorded occurrence was documented in 2006 approximately 6.5 miles north of the project site.
Eremophila alpestris actia California horned lark	Fed: None CA: WL	Common to abundant resident in a variety of open habitats, usually where trees and large shrubs are absent. Breed in level or gently sloping shortgrass prairie, montane meadows, "bald" hills, open coastal plains, fallow grain fields, and alkali flats. In non-agricultural lands, it typically inhabits areas of short vegetation or bare ground, including shortgrass prairie, deserts, brushy flats, and alpine habitat. Within southern California, California horned larks breed primarily in open fields, (short) grasslands, and rangelands. Grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities provide cover.	Yes	**Present:** The plant communities on the project site provide suitable nesting and foraging habitat for this species. The California horned lark was observed on the THSP property during the 2013 habitat assessment.
Eumops perotis californicus Western mastiff bat	Fed: None CA: CSC	Primarily a cliff-dwelling species, roost generally under exfoliating rock slabs. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3 meters below the entrance for flight. In California, it is most frequently encountered in broad	No	**Low:** Minimal foraging habitat on the project site. No roosting opportunities are found on the project site. In accordance with the CNDDB, the closest recorded occurrence was documented in 1991 approximately 2 miles south of the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
		open areas. Its foraging habitat includes dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas.		
Falco columbarius Merlin	Fed: None CA: WL	Frequents coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages. Ranges from annual grasslands to ponderosa pine and montane hardwood-conifer habitats.	No	**Low:** The California aqueduct, Delta-Mendota Canal, and grasslands provide limited habitat for this species. No suitable nesting opportunities occur onsite. In accordance with the eBird, the most recent recorded occurred was documented in 2013 approximately 10.5 miles north of the project site in association with the Clifton Court Forebay. The closest recorded occurrence was documented in 2010 approximatley 2 miles east of the project site
Hygrotus curvipes Curved-foot diving beetle	Fed: None CA: None	Restricted to vernal pools and swales and other seasonal aquatic habitats.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools on the project site that could support this species. In accordance with the CNDDB, closet recorded occurrence was documented in 1989 approximately 8 miles northwest of the project site.
Hypomesus transpacificus Delta smelt	Fed: THR CA: END	Endemic to the upper Sacramento-San Joaquin estuary and inhabit open, surface waters of the Delta and Suisun Bay.	No	**Presumed Absent:** No suitable habitat present onsite. There are no large bodies of water onsite to support this species. In accordance with the CNDDB, the closet recorded occurrence was documented in 2009 approximately 14 miles north of the project site.
Lanius ludovicianus Loggerhead shrike	Fed: None CA: CSC	Often found in broken woodlands, shrublands, and other habitats. Prefers open country with scattered perches for hunting and fairly dense brush for nesting.	Yes	**Present:** The loggerhead shrike was observed on the THSP property during the 2013 habitat assessment. The plant community on the project site provide little nesting habitat, and no nest have been observed onsite, but there is a limited potential for

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				loggerhead shrike to nest onsite.
Melospiza melodia Song sparrow (Modesto population)	Fed: None CA: CSC	Prefers riparian, fresh, or saline emergent wetland, and wet meadow habitats. Breeds in riparian thickets of willows, other shrubs, vines, tall herbs, and in fresh or saline emergent vegetation.	No	**Presumed Absent:** No suitable habitat. There are no emergent wetland habitats or riparian thickets of willows that could support this species. In accordance with the CNDDB, the nearest recorded occurrence was documented in 1896 approximately 6.5 miles northeast of the project site. The most recent recorded occurrence was documented in 2009 approximately 10.5 miles north of the project site in association with Clifton Court Forebay.
Neotoma fuscipes riparia Riparian (San Joaquin Valley) woodrat	Fed: END CA: CSC	Occupies in expensive riparian forests on the floor of the San Joaquin Valley along the San Joaquin and Tuolumne Rivers. Nests in cavities in trees, snags. Or logs, spaces in talus or lodges built of downed woody materials.	No	**Presumed Absent:** No suitable habitat. Found on the San Joaquin Valley floor, east of the project site. In accordance with the CNDDB, the nearest recorded occurrence was documented in 1935 approximately 12.5 miles east of the project site.
Perognathus inornatus inornatus San Joaquin pocket mouse	Fed: None CA: None	Requires friable soils in grasslands and blue oak savannas up to 1,500 feet in elevation.	No	**Moderate:** The grassland plant community onsite has the potential to support this species. In accordance with the CNDDB, the nearest recorded occurrence was documented in 2001 just south of the project site. The most recent occurrence was documented in 2002 approximately 12 miles northwest of the project site.
Phrynosoma blainvillii Coast horned lizard	Fed: None CA: CSC	Found in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	No	**High:** All of the plant communities on the THSP property provide suitable habitat for the cost horned lizard. In accordance with the CNDDB, the coast horned lizard was documented as occurring on the western portion of project site, within the area proposed for conservation, in 1990. The most recent occurrence was documented in 2003 approximately 1.5 miles west of the project site.
Rana boylii	Fed: None	Found in or near rocky streams in a	No	**Low:**

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Foothill yellow-legged frog	CA: CSC	variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types.		Foothill yellow-legged have been reported in Corral Hollow Creek upstream from the THSP property (documented in 1971 in accordance with the CNDDB) and have the potential to utilize Corral Hollow Creek within the THSP property during favorable water conditions. In accordance with the CNDDB, the most recent recorded occurrence was documented in 1998 approximately 10 miles southwest of the project site. Since this species has not been observed on the project site in over 40 years it was determiend to have a low potential to occur.
Rana draytonii California red-legged frog	Fed: THR CA: CSC	Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamside's with plant cover. Most common in lowlands or foothills. Breeds in permanent or ephemeral waters sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps.	No	**Moderate:** CRLF have been reported in Corral Hollow Creek upstream from the THSP property (documented in 2002 and 2008 in accordance with the CNDDB) and have the potential to utilize Corral Hollow Creek within the THSP property during favorable water conditions. The western half of the THSP property is located within federally designated Critical Habitat for CRLF. In accordance with the CNDDB, the most recent documented occurrence was documented in 2009 approximately 2 miles northwest of the project site.
Spea hammondii Western spadefoot	Fed: None CA: CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rain pools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	No	**High:** The grassland plant community on the THSP property provides suitable habitat for the western spadefoot toad, however, there is no suitable breeding habitat on the project site. In accordance with the CNDDB, the closest recorded occurrence was documented in 2001 in Corral Hollow Creek approximately 0.5 mile south of the project site. The most recent recorded occurrence was documented in 2004 approximately 7.5 miles southeast of the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Spirinchus thaleichthys Longfin smelt	Fed: None CA: THR	Primary habitat is the open water of estuaries, where they can be found in both the saltwater and freshwater areas, typically in the middle or deeper pars of the water column. Primarily found in saltwater, except to spawn.	No	**Presumed Absent:** No suitable habitat present onsite. There are no large bodies of water onsite to support this species. In accordance with the CNDDB, the closet recorded occurrence was documented in 2012 approximately 12 miles north of the project site.
Sylvilagus bachmani riparius Riparian brush rabbit	Fed: END CA: END	Occupies riparian forests within the natural floodplains, which have an ample brushy understory in association with the forest, plus suitable upland areas for cover and retreat from annual floods.	No	**Low:** Minimal habitat within Corral Hollow Creek upstream from the project site. In accordance with the CNDDB, the most recent recorded occurrence was documented in 2003 approximately 13 miles northeast of the project site.
Taxidea taxus American badger	Fed: None CA: CSC	Primarily occupy grasslands, parklands, farms, tallgrass and shortgrass prairies, meadows, shrub-steppe communities and other treeless areas with sandy loam soils where it can dig more easily for its prey. Occasionally found in open chaparral (with less than 50% plant cover) and riparian zones.	No	**High:** All of the plant communities on the THSP property provide suitable habitat for the American badger. In accordance with the CNDDB, American badger has been documented within the boundaries of the project site in 1991 (on the southern boundary near the existing landnd 1993 (on the western poriton of the THSP property within the area proposed for conservation). In accordance with the CNDDB, the most recent occurrence was documented in 2007, approximately 10 miles northwest of the project site.
Vulpes macrotis mutica San Joaquin kit fox	Fed: END CA: END	Prefers open, level areas with loose-textured soils supporting scattered shrubby vegetation with little human disturbances.	No	**High:** SJKF have been observed at numerous sites in the vicinity of the THSP property. The portions of the project site west of the California Aqueduct, excluding dense riparian habitats of Corral Hollow Creek, provide suitable habitat for SJKF. In accordance with the CNDDB, the most recent recorded occurrence was documented in 2002 approximately 4 miles southwest of the project site. The

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				closest document occurrence recorded in 1991 on the southeastern boundary of the project site.
Xanthocephalus xanthocephalus Yellow-headed blackbird	Fed: None CA: CSC	Nests in fresh emergent wetland with dense vegetation and deep water, often along borders of lakes or ponds. Forages in emergent wetland and moist, open areas, especially cropland and muddy shores of lacustrine habitat.	No	**Low:** The California aqueduct, Delta-Mendota Canal, and agricultural crops provide limited habitat for this species. In accordance with the eBird, the closest recorded occurrence was documented in 2010 approximately 2 miles east of the project site.
Plant Species				
Acanthomintha lanceolata Santa Clara thorn-mint	Fed: None CA: None CNPS: 4.2	Chaparral (often on serpentinite), cismontane woodland, coastal scrub; in rocky habitats. Prefers arid, rocky, serpentine slopes at elevations of 256 to 3,840 ft.	No	**Presumed Absent:** No suitable habitat. There are no undisturbed chaparral, cismontane woodland or coastal scrub plant communities on the project site that could support this species. In accordance with the CNPS, this species has the potential to occur in the Midway, Cedar Mountain, and Solyo quadrangles.
Allium sharsmithiae Sharsmith's onion	Fed: None CA: None CNPS: 1B.3	Restricted to the Mt. Hamilton Range in Central California. Occurs only on serpentine soil in chaparral, cismontane woodland, coastal scrub; in rocky habitats.	No	**Presumed Absent:** No suitable habitat. There are no chaparral, cismontante woodland, or coastal scrub plant communities on serpentine soils on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1994 approximately 10 miles southwest of the project site.
Amsinckia grandiflora Large-flowered fiddleneck	Fed: END CA: END CNPS: 1B.1	Occupies north-facing slopes in the upper elevations of grasslands near the blue oak belt.	No	**Presumed Absent:** No suitable habitat. The elevation of the project site is not within the range of this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2011 approximately 2.5 miles south of the project site.
Androsace elongata ssp. acuta	Fed: None	Chaparral, cismontane woodland, coastal scrub, meadows and seeps,	No	**Low** The plant communities on the project site

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
California androsace	CA: None CNPS: 4.2	pinyon and juniper woodland, valley and foothill grassland.		have a low potential to support this species, but are susceptible by grazing activities on the project site. In accordance with the CNPS, this species has the potential to occur within the Midway and Solyo quadrangles.
Aspidotis carlotta-halliae Carlotta Hall's lace fern	Fed: None CA: None CNPS: 4.2	Chaparral, cismontane woodland, generally found on serpentinite soils.	No	**Presumed Absent** No suitable habitat. There are no chaparral or cismontane woodland plant communities onsite that could support this species. In accordance with the CNPS, this species has the potential to occur on the Cedar Mountain quadrangle.
Astragalus tener var. tener Alkali milk-vetch	Fed: None CA: None CNPS: 1B.2	Alkali playa, valley and foothill grasslands and in vernal pools. Prefers grassy alkaline flats and vernally moist meadows at elevations below 500 ft.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools, alkali flats, or vernally moist areas onsite that provide suitable habitat. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2010 approximately 13 miles northhwest of the project site.
Atriplex cordulata var. cordulata heartscale	Fed: None CA: None CNPS: 1B.1	Chenopod scrub, valley and foothill grassland, meadows. Prefers saline or alkaline sandy soils in grassland or saltbush scrub.	No	**Presumed Absent:** Minimal habitat within the grassland plant community onsite. There are no saline or alkaline sandy soils onsite to support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2009 approximately 11 miles northwest of the project site.
Atriplex coronata var. coronata Crownscale	Fed: None CA: None CNPS: 1B.2	Chenopod scrub, valley and foothill grassland, vernal pools, in alkaline habitat, often clay.	No	**Presumed Absent:** The grassland plant communities onsite have the potential to provide suitable habitat, but there are no alkaline habitats or vernal pools onsite that could support this species. In accordance with the CNPS, this species has the potential to occur within the Vernalis quadrangle.
Atriplex coronata var. vallicola Lost Hills crownscale	Fed: None CA: None	Chenopod scrub, valley and foothill grassland, vernal pools. In powdery, alkaline soils that are vernally moist.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools onsite that could support this

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
	CNPS: 1B.2			species. In accordance with the CNPS, this species has the potential to occur within the Clifton Court Forebay quadrangle.
Atriplex depressa Brittlescale	Fed: None CA: None CNPS: 1B.2	Chenopod scrub, meadows, playas, valley and foothill grassland, vernal pools. Prefers alkaline or clay soils in grasslands, saltbush scrub, and at the edge of playas.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools or clay soils onsite that could support this species. In accordance with the CNPS, this species has the potential to occur within the Clifton Court Forebay quadrangle.
Atriplex joaquinana San Joaquin spearscale	Fed: None CA: None CNPS: 1B.2	Chenopod scrub, alkali meadow, valley and foothill grassland. Associated with seasonal alkali wetlands or alkali sink scrub.	No	**Low:** Suitable habitat within the RAFSS and riparian habitats on the project site. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2009 approximately 11 miles northwest of the project site.
Blepharizonia plumosa Big tarplant	Fed: None CA: None CNPS: 1B.1	Occurs in valley and foothill grassland. Dry hills and plains in annual grassland on clay to clay-loam soils. Usually on slopes and often in burned areas.	No	**Low:** The grassland plant community on the THSP property has the potential to provide suitable habitat. In accordance with the CNDDB and CNPS, the most recent recorded occurrence was documented in 2003 approximately 2 miles northwest of the project site. The closest recorded occurrence was documented in 1996 approximately on the southern boundary of the project site.
California macrophylla Round-leaved filaree	Fed: None CA: None CNPS: 1B.1	Cismontane woodland, valley and foothill grassland on clay soils.	No	**Low:** The grassland plant community onsite has a minimal potential to support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2006 approximately 2.5 miles west of the project site.
Campanula exigua Chaparral harebell	Fed: None CA: None CNPS: 1B.2	Occurs on rocky sites, usually on serpentine in chaparral.	No	**Presumed Absent:** No suitable habitat. There are no chaparral plant communities, in particular undisturbed chaparral plants communities

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				on the project site that would support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2005 approximately 10 miles southwest of the project site.
Caulanthus lemmonii Lemmon's jewel-flower	Fed: None CA: None CNPS: 1B.2	Occurs in pinyon-juniper woodland, valley and foothill grassland.	No	**Low:** The grassland habitat onsite has the potential to provide suitable habitat. In accordance with the CNDDB and CNPS, the closest and most recent recorded occurrence was documented in 1938 approximately 1.5 miles west of the project site. Since this species has not been documented in over 70 years, it was determined to have a low potential to occur onsite.
Cirsium crassicaule Slough thistle	Fed: None CA: None CNPS: 1B.1	Chenopod scrub, marshes and swamps, riparian scrub. Occurs in sloughs, riverbanks, and marshy areas. Occurs in seasonal and perennial drainages on serpentine. Prefers freshwater marshes, sloughs, and slow moving water. Can occur in both natural and agricultural waterways.	No	**Presumed Absent:** No suitable habitat. There are no freshwater marshes, sloughs, marshy riverbanks or swamps that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1974 approximately 12.5 miles east of the project site.
Cirsium fontinale var. campylon Mt. Hamilton fountain thistle	Fed: None CA: None CNPS: 1B.2	Occurs on serpentine soils in seeps and springs and along intermittent and perennial streams. Surrounding habitat is often serpentine bunchgrass grassland.	No	**Low:** Minimal habitat with the intermittent streams onsite, in particular Corral Hollow Creek. However, this species has not been documented within Corral Hollow Creek. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1993 approximately 10 miles southeast of the project site. The most recent occurrence was documented in 1996 approximately 11 miles southeast of the project site.
Clarkia breweri Brewer's clarkia	Fed: None CA: None CNPS: 4.2	Chaparral, cismontane woodland, coastal scrub; often on serpentine, and well drained soils.	No	**Low:** Minimal habitat occurs on the western portion of the project site within the area

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				proposed for conservation. In accordance with the CNPS, this species has the potential to occur in the Cedar Mountain and Solyo quadrangles.
Clarkia concinna ssp. automixa Santa Clara red ribbons	Fed: None CA: None CNPS: 4.3	Chaparral, cismontane woodland.	No	**Presumed Absent:** No suitable habitat. There is no chaparral or cismontane woodland plant communities on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1903 approximately 10 miles southwest of the project site.
Convolvulus simulans Small-flowered morning-glory	Fed: None CA: None CNPS: 4.2	Chaparral openings, coastal scrub, valley and foothill grassland on clay substrates and at serpentinite seeps.	No	**Presumed Absent:** No suitable habitat. There are no clay soils or serpentinite seeps that could support this species onsite. In accordance with the CNPS, this species has the potential to occur within the Solyo quadrangle.
Delphinium californicum ssp. interius Hospital Canyon larkspur	Fed: None CA: None CNPS: 1B.2	Prefers mesic slopes in open woodlands.	No	**Presumed Absent:** No suitable habitat. There are no open woodland plant communities on mesic slopes on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2009 approximately 5.5 miles southwest of the project site.
Delphinium recurvatum Recurved larkspur	Fed: None CA: None CNPS: 1B.2	Chenopod scrub, valley and foothill grassland, cismontane woodland on alkaline soils. Often in valley saltbush or valley chenopod scrub. Prefers poorly drained, fine alkaline soils in grassland and saltbush scrub.	No	**Low:** Minimal habitat within the grassland plant community onsite. There are no alkaline soils onsite that would support this species. In accordance with the CNDDB and CNPS, the most recent recorded occurrence was documented in 1993 approximately 13 miles northeast of the project site.
Eriastrum tracyi Tracy's eriastrum	Fed: None CA: Rare	Chaparral, cismontane woodland, on gravelly shale or clay. Often in open areas.	No	**Presumed Absent:** No suitable habitat. There are no chaparral or cismontane woodland plant

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
	CNPS: 3.2			communities on gravelly shale or clay soils on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1957 approximately 15 miles southeast of the project site.
Eryngium racemosum Delta button-celery	Fed: None CA: END CNPS: 1B.1	Occupies vernally mesic clay depressions, often associated with riparian scrub.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1923 approximately 13 miles east of the project site.
Eschscholzia rhombipetala Diamond-petaled California poppy	Fed: None CA: None CNPS: 1B.1	Occupies barren areas of clay soils in association with *Acanthomintha obovata* and *Erodium macrophyllum*. Known to occur at elevations between 30 to 3,200 ft.	No	**Low:** The grassland plant community on the THSP property has the potential to provide suitable habitat. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1940 approximately 2 miles south of the project site. The most recent occurrence was documented in 2003 approximately 3 miles west of the project site.
Fritillaria falcata Talus fritillary	Fed: None CA: None CNPS: 1B.2	Steep angle-of-repose and tallus slopes without dense, woody vegetation, or predominantly, margin of serpentine barrens in Jeffery pine-scurb oak forests. Endemic to the serpentine scree slopes of the mountains in and around the San Francisco Bay area.	No	**Presumed Absent:** No suitable habitat. There are no Jeffery pine-scrub oak forests on the project site or serpentine scree slopes on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1993 approximately 10 miles southwest of the project site.
Helianthella castanea Diablo helianthella	Fed: None CA: None CNPS: 1B.2	Associated with thin, rocky, well-drained soils. Found in grassy openings in woodlands, chaparral, and coastal scrub often at the transition zone between woodland and chaparral.	No	**Presumed Absent:** No suitable habitat. There are no undisturbed woodlands, chaparral, or coastal scrub plant communities on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				occurrence was documented in 1994 approximately 10.5 miles southwest of the project site.
Hesperolinon tehamense Tehama County western flax	Fed: None CA: None CNPS: 1B.3	Found in openings in mixed chaparral on serpentine soils at elevations from 328 to 3,280 feet.	No	**Presumed Absent:** No suitable habitat. There are mixed chaparral on serperntine soils on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2003 approximately 11 miles south of the project site.
Hibiscus lasiocarpos var. occidentalis Woolly rose-mallow	Fed: None CA: None CNPS: 1B.2	Found in freshwater marshes and swamps and along waterwayas of the Delta. Can be found in riprap on sides of levees.	No	**Presumed Absent:** No suitable habitat. There are no freshwater marshes or swamps on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2009 approximately 11 miles northwest of the project site.
Hoita strobilina Loma Prieta hoita	Fed: None CA: None CNPS: 1B.1	Found in openings in chaparral, cismontane woodland, or riparian scrub, serpentine or mesic.	No	**Presumed Absent:** No suitable habitat. There is no undisturbed chaparral, cismontane woodland, or riparian scrub habitats with serpentine or mesic soils on the project site. In accordance with the CNDDB and CNPS, the closest and most recent recorded occurrence was documented in 1959 approximately 10 miles southwest of the project site.
Lasthenia ferrisiae Ferris' goldfields	Fed: None CA: None CNPS: 4.2	Found in vernal pools with alkaline or clay soils.	No	**Presumed Absent:** No suitable habitat. There are no vernal pools that could support this species onsite. In accordance with the CNPS, this species has the potential to occur within the Clifton Court Forebay quadrangle.
Leptosyne hamiltonii Mt. Hamilton coreopsis	Fed: None CA: None CNPS: 1B.2	Prefers rocky places in cismontane woodland	No	**Presumed Absent:** No suitable habitat. There are no cismontane woodland habitats on the project site that would support this

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1995 approximately 15 miles southeast of the project site.
Lilaeopsis masonii Mason's lilaeopsis	Fed: None CA: Rare CNPS: 1B.1	Occupies riparian, freshwater, and brackish marshes at elevations between sea level and 50 ft. Peaty soils or clay soils are preferred.	No	**Presumed Absent:** No suitable habitat. There are no freshwater or saltwater marshes onsite that would support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2010 approximately 10 miles north of the project site.
Limosella australis Delta mudwort	Fed: None CA: None CNPS: 2.1	Occupies muddy or sandy intertidal flats at low elevations in association with waterways of the delta.	No	**Presumed Absent:** No suitable habitat. No sandy or intertidal flats occur onsite. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 2009 approximately 14 miles north of the project site.
Madia radiata Showy golden madia	Fed: None CA: None CNPS: 1B.1	Occurs in grasslands and oak woodlands on heavy clay soils. Typically found in openings rather than under closed canopy.	No	**Presumed Absent:** The grassland plant community on the project site has a low potential to provide suitable habitat, however, no heavy clay soils are found onsite. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1922 approximately 0.5 mile south of the project site. The most recent recorded occurrence was documented in the 1938 approximately9 miles southeast of the project site.
Malacothamnus hallii Hall's bush-mallow	Fed: None CA: None CNPS: 1B.2	Found in mixed northern chaparral and chamise chaparral, primarily in grassy openings associated with shrubs such as *Adenostema fasciculatum*, *Artemisia californica*. Also occurs in northern coastal scrub/Diablan sage scrub.	No	**Presumed Absent:** No suitable habitat. There is no undisturbed chaparral or coastal scrub plant communities on the project site that would support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1995 approximately 13 miles southeast of the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Micropus amphibolus Mt. Diablo cottonweed	Fed: None CA: None CNPS: 3.2	Found on slopes, ridges, on and near rock outcrops, shallow gravelly soils derived from shale, mudstone, sandstone, volcanic rocks (not recorded on serpentine), edges of or in clearings, grasslands, chaparral, woodlands.	No	**Low:** This species has a low potential to occur on the western portion of the project site within the proposed conservation area. In accordance with the CNPS, this species has the potential to occur within the Cedar Mountain quadrangle.
Myosurus minimus ssp. apus Little mousetail	Fed: None CA: Rare CNPS: 3.1	Occurs in association with vernal pools and within the alkali vernal pools and alkali annual grassland components of alkali vernal plains. Found in areas that have semi-regular inundation	No	**Presumed Absent:** No suitable habitat. There are no vernal pools on the project site. In accordance with the CNPS, this species has the potential to occur within the Clifton Court Forebay quadrangle.
Navarretia nigelliformis ssp. radians Shining navarretia	Fed: None CA: None CNPS: 1B.2	Found in cismontane woodland, valley and foothills grassland, vernal pools sometimes in clay soils.	No	**Low:** The hills on the western poriton of the THSP property, within the proposed conservation area, have the potential to provide suitable habitat. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1986 approximately 1 miles west of the project site.
Phacelia phacelioides Mt. Diablo phacelia	Fed: None CA: None CNPS: 1B.2	Occurs in chaparral and cismontane woodland, often associated with rocky soils.	No	**Presumed Absent:** No suitable habitat. There is no undisturbed chaparral or cismontane woodland plant communities onsite that would support this species. In accordance with the CNDDB and CNPS, the closest and most recent recorded occurrence was documented in 1949 approximately 15 miles southeast of the project site.
Sagittaria sanfordii Sanford's arrowhead	Fed: None CA: None CNPS: 1B.2	Occurs in shallow, standing, fresh water and sluggish waterways within the following: marshes, swamps, ponds, vernal pools and lakes, reservoirs, sloughs, ditches, canals, streams, and rivers at elevations from 10 to 1,000 ft.	No	**Presumed Absent:** No suitable habitat. There is no waterways on the project site that could support this species. In accordance with the CNPS, this species has the potential to occur within the Lathrop quadrangle.
Senecio aphanactis Chaparral ragwort	Fed: None CA: None CNPS: 2.2	Found in chaparral, cismontane woodland, and coastal scrub sometimes in alkaline soils.	No	**Presumed Absent:** No suitable habitat. There are no chaparral plant communities, in particular undisturbed chaparral plants communities

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
				on the project site that would support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1998 approximately 6 miles west of the project site.
Symphyotrichum lentum Suisun Marsh aster	Fed: None CA: None CNPS: 1B.2	Occurs in brackish or freshwater and along banks of sloughs and watercourses, often occurring with *Phragmites* ssp., *Typha* ssp., *Scripus* ssp. and *Rubus* ssp. Found at the water's edge in places where water is brackish and there is some tidal influence.	No	**Presumed Absent:** No suitable habitat. There are no waterways with natural areas that could support this species on the project site. In accordance with the CNPS, this species has the potential to occur within the Tracy, Vernalis, Union Island, and Lathrop quadrangles.
Trichocoronis wrightii var. wrightii Wright's trichocoronis	Fed: None CA: None CNPS: 2.1	Occurs in marshes, riparian forest, meadows, seeps, and vernal pools. Prefers moist places, mudflats, and shores with alkaline soils.	No	**Presumed Absent:** No suitable habitat. There are no marshes, meadows, seeps, or vernal pools on the project site that could support this species. In accordance with the CNDDB and CNPS, the closest recorded occurrence was documented in 1914 approximately 12.5 miles northeast of the project site.
Tropidocarpum capparideum Caper-fruited tropidocarpum	Fed: None CA: None CNPS: 1B.1	Occurs in valley and foothills grasslands. Prefers low, alkaline hills.	No	**Low:** The plant communities on the project site have the potential to provide suitable. In accordance with the CNDDB and CNPS, the most recent occurrence was documented in 1962 approximately 1.5 miles north of the project site. Since this species has not been documented in over 50 years it was determined to have a low potential to occur.
Sensitive Habitats				
Alkali Meadow	CDFW Sensitive Habitat	Biodiverse habitat that sustains common as well as rare species. Dominated by one or both native perennial grass species: *Distichilis spicata* and *Sporobolus airoides*. In healthy meadows, irises, lilies, and broad leaved herbaceous plants intermingle with the	No	**Not Present**

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
		grasses. Soils vary in alkalinity depending on the location, and some are very dark with organic matter.		
Great Valley Cottonwood Riparian Forest	CDFW Sensitive Habitat	This community of medium to tall broad leaved winter deciduous trees with well closed canopies that are densely stocked with *Populus fremontii* Wats. and *Salix gooddingii* Ball. Understories of various other willow species are common. This is an early seral riparian forest in which the tree canopy has been closed long enough to inhibit establishment of sun-loving species but not long enough for shade-tolerant species to grow into the canopy. A successor community to the Great Valley Willow Scrub.	No	**Not Present**
Northern Claypan Vernal Pool	CDFW Sensitive Habitat	This habitat is similar to Northern Hardpan Vernal Pools, but with less topographical relief, and usually lower overall cover. Pools range in size from the small (a few square meters) to quite large (covering several hectares). Often found on lower terraces and basin rims of Central San Joaquin Valley north to Glenn and Colusa counties. Typically more frequently found toward the valley floor when compared to Northern Hardpan Vernal Pools.	No	**Not Present**
Valley Sink Scrub	CDFW Sensitive Habitat	Valley Sink Scrub is a low succulent scrubland dominated by alkali-tolerant species, especially iodine bush (*Allenrolfea occidentalis*). There is usually no understory, though sparse herbaceous cover of foxtail chess (*Bromus madritensis* ssp. *rubens*) sometimes develops. This community formerly surrounded the large San Joaquin Valley lakes (Kern, Buena Vista, Tulare, Goose) and along the San Joaquin Valley through Merced County	No	**Not Present**

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
		to Solano and Glenn counties west of the Sacramento River. Valley Sink scrub has now been essentially extirpated by to flood control, agricultural development, and ground water pumping.		

U.S. Fish and Wildlife Service (USFWS) - Federal
END- Federal Endangered
THR- Federal Threatened
FCE- Federal Candidate Endangered
FSC- Federal Species of Concern

California Department of Fish and Wildlife (CDFW) - California
END- California Endangered
THR- California Threatened
CCE- California Candidate Endangered
CSC- California Species of Concern
WL- Watch List
FP- Fully Protected
Rare

California Native Plant Society (CNPS)
California Rare Plant Rank
1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2A Plants Presumed Extirpated in California, but More Common Elsewhere
2B Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
3 Plants About Which More information is Needed – A Review List
4 Plants of Limited Distribution – A Review List

Threat Ranks
0.1- Seriously threatened in California
0.2- Moderately threatened in California
0.3- Not very threatened in California

Appendix B Site Photographs

Photograph 1- Looking southwest at the annual grassland on the southern boundary of the project site east of Corral Hollow Road.

Photograph 2- Looking northwest at the grazed annual grassland west of Corral Hollow Road, north of I-580.

Photograph 3- Looking north along the southern bank of the California Aqueduct.

Photograph 4- Looking northwest across the project site at the grazed annual grassland.

Photograph 5- Looking northeast at the drainage inlet over the California Aqueduct.

Photograph 6- Ranch house on the northern portion of the project site.

Photograph 7- Looking north at the fallow agricultural field on the northern portion of the project site, north of the California Aqueduct.

Photograph 8- Looking southeast along the California Aqueduct.

Photograph 9- Active orchard north of the California Aqueduct and south of the Delta Mendota Canal.

Photograph 10- Looking at the ruderal vegetation on the northeast corner of the intersection of Corral Hollow Road and I-580.

Photograph 11- Annual grassland on the rolling hills on the project site west of I-580.

Photograph 12- Burrowing owl observed during the 2013 habitat assessment west of I-580.

Photograph 13- One of the occupied burrowing owl burrow. Feathers, scat, and pellets were observed.

Photograph 14- Looking south at the annual grassland on the project site west of I-580.

Appendix C Flora and Fauna Compendium

Flora Compendium

Scientific Name	Common Name
Artemisia californica	Sagebrush
Atriplex ssp.	Salt bush
Bromus catharticus	Resuce grass
Bromus diandrus	Ripgut
Bromus hordeaceus	Soft chess
Bromus madritensis ssp. rubens	Red brome
Carduus pycnocephalus	Italian thistle
Croton setigerus	Dove weed
Datura wrightii	Jimson weed
Erodium ssp.	Filaree
Eucalyptus ssp.	Eucalyptus
Grindelia camporum	Gumweed
Gutierrezia californica	Matchweed
Heterotheca grandiflora	Telegraph weed
Hirschfeldia incana	Mustard
Holocarpha heermannii	Heermann's tarweed
Hordeum ssp.	Barley
Lepidium latifolium	Pepper weed
Malva parviflora	Cheeseweed
Marrubium vulgare	horehoud
Opuntia ssp.	Prickly pear
Populus fremontii	Cottonwood
Quercus agrifolia	Coast live oak
Rumex crispus	Curly dock
Salix gooddingii	Black willow
Salsola tragus	Tumbleweed
Schinus molle	Peruvian pepper
Tamarix ssp.	Saltcedar
Trichostema lanceolatum	Vinegar weed
Typha ssp.	Cattail

Fauna Compendium

Scientific Name	Common Name
Arachnids	
Aphonopelma ssp.	California tarantula
Birds	
Athene cunicularia	Burrowing owl
Buteo jamaicensis	red-tailed hawk
Cathartes aura	turkey vulture
Circus cyaneus	Northern harrier
Columba livia	Rock dove
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Eremophila alpestris	Horned lark
Falco sparverius	American kestrel
Lanius ludovicianus	Loggerhead shrike
Larus ssp.	Gull
Passerculus sandwichensis	Savannah sparrow
Phalacrocorax auritus	Double-crested cormorant
Salpinctes obsoletus	Rock wren
Sayornis saya	Say's phoebe
Sturnella neglecta	Western meadowlark
Sturnus vulgaris	European starling
Zenaida macroura	Mourning dove
Mammals	
Canis latrans	Coyote
Lepus californicus	Black-tailed jackrabbit
Otospermophilus beecheyi	California ground squirrel
Sylvilagus audubonii	Cottontail
Thomomys bottae	Botta's pocketgopher

Appendix D Tracy Hills Project – U.S. Army Corps of Engineers Jurisdictional Assessment

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulation and Permitting

November 5, 2013

The Tracy Hills Project Owner, LLC
c/o John Palmer
672 W. 11th Street, Suite 102
Tracy, California 95376

Subject: Tracy Hills Project – U.S. Army Corps of Engineers Jurisdiction Assessment

Dear Mr. Palmer:

Olberding Environmental, Inc. (Olberding Environmental) has completed an investigation of the geographic extent of areas potentially subject to US Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act (wetlands and other waters) within the identified boundaries of the Tracy Hills Property (Property), located in San Joaquin County, California.

The Property consists of the Phase 1 parcel (554 acres) located north of Interstate Highway 580 and the Phase 2 parcel (1,116 acres) located south of Interstate Highway 580, for a total of 1,670 acres of undeveloped land owned by The Tracy Hills Project Owner, LLC. The Property generally straddles an area along Interstate Highway 580 between the Union Pacific Rail Road crossing to the west and Corral Hollow Road to the east. Phase 1 is located between the California Aqueduct and the interstate. The Phase 2 parcel generally extends from the interstate up the lower hills of the Altamont Range.

On February 15- 17, March 2, May 15, and September 20, 2013, field surveys were conducted for the purpose of identifying the extent of Corps jurisdiction within predetermined boundaries identifying the Property. This area is also referred to as the "study area". The study area was investigated in order to make a technical evaluation as to the extent of Corps jurisdiction based on current and historic land use conditions and applicable regulatory guidance. Visual observations as to the presence or absence of indicators of wetland soil, vegetation and hydrological conditions were made during the investigation and recorded on a topographical map of the Property. The boundaries of all potential wetland/water features observed were further defined in accordance with the Corps regulations and the required methodology described in the 1987 Corps Wetlands Delineation Manual (1987 Manual) and Arid West Supplement to the 1987 Manual.

Results of the jurisdictional delineation survey identified the presence of wetlands/waters within the survey boundaries of the Property. A total of approximately **2.33** acres of wetlands were identified within the survey boundaries. Observed wetland habitats included wetland swales, seasonal wetlands and vegetated drainage channels. Approximately **2.68** acres (14,117 linear feet) of drainage channels (waters) were also identified during the field survey. This figure includes numerous ephemeral drainage features which flow down the Altamont Range hills in a south to north direction, under Interstate Highway 580, before disappearing into an alluvial fan consisting of porous sand and gravel substrate. In total, Olberding Environmental identified 5.01 acres of wetlands/waters within the defined boundaries of the study area.

193 Blue Ravine Road, Suite 165 · Folsom, CA 95630 · Office: (916) 985-1188 · Fax: (916) 985-2288
Email: Jeff@olberdingenv.com

193 Blue Ravine Rd. Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Jurisdictional Delineation Map
Figure 5A
Tracy Hills Phase I Property
San Joaquin County, California

1 inch = 200 feet

Map Prepared by Chris Bronny.

193 Blue Ravine Rd. Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Jurisdictional Delineation Map
Figure 5B
Tracy Hills Phase I Property
San Joaquin County, California

N

1 inch = 200 feet

Map Prepared by Chris Bronny.

193 Blue Ravine Rd. Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Jurisdictional Delineation Map
Figure 5B
Tracy Hills Phase II Property
San Joaquin County, California

N
1 inch = 200 feet

Map Prepared by Chris Bronny.

193 Blue Ravine Rd. Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Jurisdictional Delineation Map
Figure 5A
Tracy Hills Phase II Property
San Joaquin County, California

N

1 inch = 200 feet

Map Prepared by Chris Bronny.

Observations made during the field surveys identified a consistent theme across the site. Moderately steep slopes located within the Phase 2 parcel contained narrow incised drainage channel features in the upper portion of the hilly landscape. These ephemeral channels have developed to drain stormwater off of the Property during and immediately after storm events before drying out several days later. Due to the steepness of the topography there is little opportunity for water to remain in the channel.

After descending down the steep slopes, the topography begins to flatten prior to intersecting Interstate Highway 580 to the north. At this point all but a single drainage has transformed from a channel feature with a defined bed and bank, to a shallow "U" shaped vegetated swale. The swale features eventually disappear into a wide alluvial fan dispersing runoff over a sandy/gravel substrate and allowing infiltration of the water. As is represented in the attached map set, only a single drainage channel actually flows from the Phase 2 site onto the Phase 1 site located across the Interstate. However, by the time the flows reach the Phase 1 parcel they too have been minimized by infiltration into the substrate resulting in little or no flow reaching the northern parcel. In fact, there are currently no drainage channel features which extend across the Phase 1 parcel.

Several wetland swale features occur on the western end of the Phase 1 parcel converging at the large bend in the California Aqueduct. These low gradient swales are extensions of several larger drainages which occur on the south side of the Interstate but outside the Property boundary. Stormwater runoff is collected and transported in these swales across the Phase 1 parcel and collects in a shallow seasonal wetland prior to entering a constructed overcrossing (viaduct) over the aqueduct. After flowing through the viaduct the runoff enters agricultural field located between the California Aqueduct and the Delta Mendota Canal were they diffuse across the landscape infiltrating into the sandy/gravel substrate. Numerous small seasonal wetland features were also observed within shallow topographical depressions on the Phase 1 parcel.

An extensive review of available photography, inspection of adjacent properties and assessment of regional rivers, creeks, streams, and ditch features indicates that all wetland and drainage features on the Property have no physical connectivity to any downstream water course. All runoff on the Property is in a south to north direction.

Flows must cross under Interstate Highway 580 through designated crossing locations and then flow across the porous substrate of the Phase 1 parcel. After flowing across the Phase 1 parcel any remaining runoff on the western portion of the site encounters an elevated railroad grade while runoff on the eastern portion of the site is redirect by the aqueduct levee. Both the California Aqueduct and Delta Mendota Canal are designed so as to not allow runoff from the adjacent properties into the constructed channels. Any remaining stormwater runoff crosses the California Aqueduct in the constructed viaducts and is discharged onto agricultural fields containing the same porous soils as is found on the Property. The Delta Mendota Canal located downslope of the California Aqueduct creates the final barrier to any downstream flow.

ISOLATED WATERS

The U.S. Supreme Court has ruled that isolated, non-navigable wetlands and other waters are not subject to federal regulation even if they provide habitat for migratory birds and endangered species. Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (hereinafter SWANCC) (No. 99-1178). The Corps has attempted to define isolated as "not having hydrological connectivity to other jurisdictional features." Based on this determination, the Court has eliminated the need to secure fill permits from the Corps under Section 404 of the Clean Water Act when isolated wetlands are encountered. Nevertheless, the decision is by no means a blanket repeal of Section 404. Every landowner's on-the-ground situation is unique, and must be analyzed individually. In the aftermath of this decision, each landowner must still carefully assess its situation to determine whether its survey area contains features which qualify as "waters of the U.S."

The RWQCB has indicated that they intend to continue regulation of isolated wetlands under the Porter-Cologne Act (Water Code Section 13260). Their interpretation of the Court ruling indicates that the SWANCC decision has no bearing on the RWQCB's regulation of "waters of the state" and as such they will continue to issue waste discharge requirements (WDRs) in lieu of a Section 401 Certification which is required when the Corps issues a Section 404 permit.

SIGNIFICANT NEXUS

The geographic extent of jurisdiction under the Clean Water Act was further refined based on the U.S. Supreme Court's interpretation of the Act in Rapanos v. United States, 126 S. Ct. 2208 (2006) (Rapanos Case). In the EPA and Corps joint guidance of the Rapanos Case, issued in June of 2007, it was determined that the Corps generally will not assert jurisdiction over (1) swales or erosional features (e.g. gullies, small washes characterized by low volume, infrequent, or short duration flow) and (2) ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water. Non-navigable tributaries that are not relatively permanent and wetlands adjacent to such tributaries will be assessed on a case-by-case basis to determine whether they have a "significant nexus" to traditional navigable water. A "significant-nexus" will be determined through assessment of the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters.

Based on information obtained during the field reconnaissance surveys performed in 2013, Olberding Environmental concluded that all wetland and water features occurring within the study area are considered "isolated" and as such, would not be regulated by the Corps. Additionally, none of the wetland/water features have a "significant nexus" to a traditional navigable water due to their isolated nature and therefore their federal non-jurisdictional status is substantiated. However, these wetlands would continue to be regulated by the Regional Water Quality Control Board (RWQCB) as "waters of the State".

I appreciate this opportunity to provide my services. If you have any questions, please feel free to contact me at (916) 985-1188.

Sincerely,

Jeff Olberding
Wetland Regulatory Scientist

Enclosures: Exhibit A/Scope of Work

Appendix E USFWS – Determination of Minor Amendment for Inclusion of the Tracy 580 Business Park Project Under the SJMSCP

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-00-F-0231
81420-2011-F-0721-09
08ESMF00-2012-TA-0413-02

MAY 16 2012

Mr. Steve Mayo
Senior Habitat Planner
San Joaquin Council of Governments, Inc.
555 East Weber Avenue
Stockton, California 95202

Subject: Determination of a Minor Amendment for Inclusion of the Tracy 580 Business Park Project under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, San Joaquin County, California

Dear Mr. Mayo:

This letter is in response to your February 27, 2012, letter (Letter) received in our office on March 13, 2012, containing a completed amendment packet and requesting procedural recommendation from the U.S. Fish and Wildlife Service (Service) under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) for the Tracy 580 Business Park Project (Project) in Tracy, San Joaquin County, California. At issue are the potential effects of the proposed Project on species under the purview of the Service, including the federally-endangered San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF), federally-threatened California red-legged frog (*Rana draytonii*; CRLF), federally-threatened central California distinct population segment of the California tiger salamander (*Ambystoma californiense;* CTS), western burrowing owl (*Athene cunicularia hypugaea;* BUOW), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), and golden eagle (*Aquila chrysaetos*; GOEA). There is critical habitat for CRLF that was designated in 2010 west of Interstate 580 just outside the project area. This response is provided pursuant to section 7(a)(2) of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*) (Act), as well as the Migratory Bird Treaty Act (50 CFR Section 10.13 and 16 U.S.C. 703-711), and is in accordance with the regulations governing interagency consultations (50 CFR §402).

The findings and recommendations in this letter are based on: (1) a March 23, 2009, letter from Mr. Timothy Taron to the Service providing project overview, (2) three site visits conducted between August and December 2009, (3) review of the California Natural Diversity Database,

(4) telephone calls, meetings, and correspondence between the Service, Mr. Taron, the San Joaquin Council of Governments (SJCOG), California Department of Fish and Game (CDFG), Augustine Planning Associates, Inc., and Berryman Ecological, (5) the bound document titled "Biological Resources on the Tracy 580 Business Park Property" dated April 22, 2010, (6) information provided in your May 19, 2010, letter and supplementary information provided to the Service in your October 7, 2010, letter, (7) a September 29, 2010, letter from the City of Tracy discussing setback distance from the California Aqueduct, and (8) other information available to the Service.

Project Description

The Tracy 580 Business Park was formerly part of the more expansive Tracy Hills Development Project, for which a separate Habitat Conservation Plan (HCP) was being created. However, the Tracy Hills HCP has not come to fruition and the Tracy 580 Business Park Project, which has a considerably smaller footprint and is restricted to the northern side of I-580, has since been sold to a different development group as a breakaway for commercial interests. The Project Site was annexed to the City of Tracy in 1998, and is entitled for urban development.

The Project will consist of a mix of commercial uses, office, industrial, and residential designations. The summary of proposed acreage of each land use designation within the Tracy 580 Business Park including allowable units / floor area ratio (FAR), and anticipated unit / square footage is provided in the following table:

LAND USE DESIGNATIONS		APPROXIMATE ACRES	GENERAL PLAN ALLOWABLE UNITS – FAR PER ACRE	RANGE OF UNITS ALLOWED / MAXIMUM NON-RESIDENTIAL SF	ANTICIPATED NUMBER OF RESIDENTIAL UNITS
General Highway Commercial	GHC	25.6	0.25 FAR	278,784 SF	
Neighborhood Shopping	NS	15.1	0.20 FAR	131,551 SF	
Village Center	VC	13.0	0.20 FAR	113,256 SF	
Professional Office & Medical	POM	73.8	0.20 FAR	642,946 SF	
Light Industrial	M-1	117.5	0.25 FAR	1,279,575 SF	
Medium Density Residential	MDR	258.0	5.5 to 12.0	1419 to 3096	1575
High Density Residential	HDR	34.5	12.1 to 25	417 to 862	425
Parks		33.9			
Open Space/Habitat Corridors		87.0			
School		14.0			
Streets/ROWs/Landscaping		67.6			

Based on the allowable floor area ratio, the build-out of the Project area is anticipated to generate up to 1,690,128 square feet of commercial uses, 642,946 square feet of office uses, and 1,279,575 square feet of light industrial uses. At build-out, the Project area will also provide approximately 2,000 residential units (1575 medium density and 425 high density units). There is an existing interchange at Corral Hollow Road and I-580 that provides direct access to the Project, as well as a planned interchange at Lammers Road and I-580 that will provide a second direct access to I-580 in the future. As the Project is located within the City of Tracy, public services including police, fire protection, sewer, water, and other municipal services will be provided by the City of Tracy.

The Project site is located 4.4 miles southwest of the City of Tracy in the Tracy and Midway U.S. Geological Survey 7.5-minute Quadrangle topographic maps, with an approximate centerpoint of Latitude 37°41'19"N, Longitude 121°28'43"W. The site elevation ranges from 250 to 400 feet. The Project contains on-site and off-site impacts of approximately 747.05 acres to be developed in the Central/Southwest Transition Zone of the SJMSCP on the southwest edge of the City of Tracy. The habitat disturbance will be a mix of Agricultural (701.99 acres), Natural (33.00 acres), and Multi-purpose (11.34 acres) habitat types. The Tracy 580 Business Park on-site area is bordered to the northeast by the California Aqueduct, to the northwest by the Western Pacific Railroad, and to the southwest by I-580. Offsite improvements (*e.g.,* storm water detention basins, water tank, access roads, and effluent storage) are anticipated adjacent to the proposed preserve.

Your Letter requests a Service determination of whether the Project should participate in the SJMSCP as a Minor or Major Amendment. The Service concurs with your recommendation that this Project proceed with a Minor Amendment for the reasons outlined below.

- The Project is consistent with the Service's biological opinion (Service file 1-1-00-F-0231; BO) for the SJMSCP (Service, 2001) and does not introduce significant new biological conditions or impacts not already analyzed in the BO. The types of species and habitats impacted by the Project were analyzed in the EIR/EIS and the SJMSCP.

- Take levels will be deducted from the originally-permitted take levels of the SJMSCP, resulting in no net increase in take levels under the SJMSCP or the BO. Noting that the SJMSCP is habitat-based (*i.e.*, not species-based), ample acreage is available for each category that will be affected (*i.e.,* Agricultural, Natural, and Multi-purpose).

- The Service agrees that, as described in your Letter, this Project is consistent with SJMSCP Permitted Activities listed in Section 8.2.1 of the SJMSCP as originally adopted, but it does require more extensive consultation than required for the addition of Permitted Activities. Therefore, with the concurrence of the Habitat Technical Advisory Committee (HTAC), the Project does qualify to proceed under the SJMSCP as a Minor Amendment.

- Of particular importance, the BO states that the entire former Tracy Hills project was evaluated under the cumulative impacts analysis for the SJMSCP (p. 180):

> "It is expected that the majority of lawful non-Federal actions within San Joaquin County over the next 50 years would fall under the purview of the proposed Permit. Future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this Opinion and which would be considered cumulative to the proposed action, include the following:
>
> ...3) Tracy Hills Habitat Conservation Plan, which is under development and has not completed the Section 10(a)(1)(B) permitting process."

- The BO incidental take limits did not utilize those specified in Table 4.2-1 (Estimated Open Space Conversion by Permitted Activity) of the SJMSCP, which discussed the possible exclusion of the Tracy Hills project footprint from the SJMSCP:

  > "The analysis in this Opinion does not use the information provided in Table 4.2-1 of the SJMSCP, which quantifies incidental take of Covered Species at full build-out based on acreage of habitat to be converted for each species. Section 3.3.4 of the SJMSCP describes how the impacts for unmapped activities were derived. Since this information could not be displayed in map format with spatial references, the Service's analysis of habitat impact acreage is based solely on the SJMSCP GIS data provided for areas within the Planned Land Use Map boundaries." (BO, p. 19)

- Under "Activities Not Covered by the SJMSCP," the BO does not exclude the project footprint from the SJMSCP (p. 14), which is within the City of Tracy's Urban Expansion Area.

- Although the Project is not located between the Delta-Mendota Canal and the California Aqueduct, where Stepping Stone Refugia for San Joaquin kit fox (SJKF) are required under the SJMSCP (p. 117), it does allow connectivity for SJKF moving east or west to ultimately access the main SJKF corridor. This movement would be facilitated by several crossing structures over the California Aqueduct, and a 100-foot habitat corridor on its south side. From there, SJKF may move northwest to an underpassing at the Pacific Western Railroad or southeast to the Project terminus to access the Corral Hollow Creek area. These features and areas address the SJMSCP's sections 5.5.3 (c) and 5.5.3 (d), which focus on the Stepping Stone Refugia and connectivity to east-west dispersal habitat within the primary SJKF corridor.

- Appropriate mitigation for SJKF through the SJMSCP will include Incidental Take Minimization Measures that incorporate elimination or reduction in barriers to their movement and dispersal.

- If approved, the mitigation land southwest of I-580 being provided by the applicant will provide an excellent benefit to the species affected. The potential mitigation land has recent known occurrences of western burrowing owl and California ground squirrel (*Spermophilus beecheyi*) use documented by the Service, is within the San Joaquin kit fox corridor, and is in proximity to existing SJMSCP Southwest Zone Grassland Preserves.

Approval of the proposed Tracy 580 Business Park does not imply or facilitate inclusion of future development in the unmapped area under the SJMSCP. Any potential projects that seek coverage under the SJMSCP will need to apply separately and will receive independent evaluation. Please note that approval of this Minor Amendment to the SJMSCP is conditioned upon the following: 1) final review and approval of the title insurance documents by SJCOG, Inc., 2) the subordination of the monetary lien to the three conservation easements (refer to the joint CDFG and Service letter signed on May 15, 2012; service numbers 81420-2009-F-0721-08

and 08ESMF00-2012-TA-0413-01), 3) signature and recordation of the three conservation easements (Tracy 580 Business Park Easement and the Southern Preserve Easements 1 and 2) by all parties, and 4) the Service receives a copy of the signed, recorded documents.

The Service wishes to thank you for your continued efforts and dedication to the conservation of America's wildlife resources. Please contact Ellen R. McBride or Mike Thomas at (916) 414-6678 if you have questions regarding this response. Please refer to Service file numbers 1-1-00-F-0231, 81420-2011-F-0721, and 08ESMF00-2012-TA-0413 in any future correspondence.

Sincerely,

Cay Goude
Assistant Field Supervisor

Literature Cited

San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) (San Joaquin County, November 14, 2000). 513 pp. without appendices.

U.S. Fish and Wildlife Service (Service). 2001. Intra-Service Biological and Conference Opinion on Issuance of an Incidental Take Permit to Multiple Applicants for a Multiple Species Habitat Conservation Plan for San Joaquin County, California. May 31, 2001.

cc:
Ms. Randi Adair, California Department of Fish and Game, Napa, California
Ms. Amy Augustine, Augustine Planning Associates, Inc., Sonora, California
Mr. Todd Gardner, California Department of Fish and Game, Rancho Cordova, California
Ms. Monica Streeter, Neumiller & Beardslee, Stockton, California
Mr. Tim Taron, Hefner, Stark & Marois LLP, Sacramento, California
Mr. Angelo K. Tsakopoulos, AKT Developments, Sacramento, CA

Appendix F Preserve Management Plan for the Tracy 580 Business Park Preserve

PRESERVE MANAGEMENT PLAN FOR THE TRACY 580 BUSINESS PARK PRESERVE

PREPARED FOR:

San Joaquin Council of Governments, Inc.
555 East Weber Street
Stockton, CA 95202
Contact: Steve Mayo
209.235.0600

PREPARED BY:

ICF International
630 K Street, Suite 400
Sacramento, CA 95814
Contact: Doug Leslie
916.231.9561

October 2011

ICF INTERNATIONAL

ICF International. 2011. *Preserve Management Plan for the Tracy 580 Business Park Preserve*. (ICF 05076.05.) October. Sacramento, CA. Prepared for the San Joaquin Council of Governments, Inc., Stockton, CA.

Contents

Tables and Figures

Tables

Figures

Acronyms and Abbreviations

Agencies	U.S. Fish and Wildlife Service, California Department of Fish and Game, and San Joaquin Council of Governments
Agreement	Habitat Conservation Agreement
CE 1	Conservation Easement 1
CE 2	Conservation Easement 2
CE 3	Conservation Easement 3
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
GPS	global positioning system
I-	Interstate
msl	above mean sea level
SJCOG	San Joaquin Council of Governments, Inc.
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
Site 300	Lawrence Livermore National Laboratory's Site 300
TAC	Technical Advisory Committee
THSPA	Tracy Hills Specific Plan Area
Tracy 580 BP Preserve	Tracy 580 Business Park Preserve

Chapter 1
Introduction

The San Joaquin Council of Governments, Inc. (SJCOG), is currently implementing the *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan* (SJMSCP) (San Joaquin County Council of Governments 2001). The principal biological goal of the plan is to maintain habitat of sufficient quality and quantity to conserve populations of all fish, wildlife, and plant species covered by the SJMSCP. As part of this plan, lands within the SJMSCP area are acquired from willing landowners through either conservation easements or fee title purchase.

This document presents the preserve management plan for the approximately 688-acre Tracy 580 Business Park Preserve (Tracy 580 BP Preserve) in southwestern San Joaquin County (Figure 1). The preserve is part of a larger contiguous block of conserved land (approximately 3,432 acres, hereinafter referred to as *associated conservation lands*) that may be added to the preserve in the future. The Tsakopoulos Family Trust (Landowner) owns both the Preserve and the associated conserved land.

The Preserve and associated conserved land (hereinafter referred to collectively as the Preserve) is currently used for livestock grazing. SJCOG is in the process of obtaining three conservation easements (Figure 2) on the Preserve for inclusion in the preserve system primarily as a Grassland Preserve of the Southwest Index Zone.

- Conservation Easement 1 (CE 1) is an approximately 790-acre area in the northern portion of the Preserve, adjacent to Interstate (I-) 580. Included in the easement are an approximately 41-acre corridor along the California Aqueduct and a 100-foot wide corridor along both sides of that portion of I-580 from the northern boundary of CE 1 to the intersection with Corral Hollow Road that do not count as mitigation and for which SJCOG, Inc., will not assume any management or monitoring responsibility. No grading or other development-related activity will be allowed on this conservation easement, except for temporary access on the California Aqueduct corridor associated with adjacent development, as described in Chapter 4, *Allowed and Prohibited Uses*.
- Conservation Easement 2 (CE 2) is an approximately 2,429-acre area that includes the majority of the Preserve. This easement allows for limited future construction of a water tank and access road. These facilities may be necessary in association with future development to the east and within the Tracy Hills Specific Plan Area (THSPA). Additional documentation may be required for this limited construction. Although SJCOG, Inc., will hold the easement, SJCOG, Inc., will not have management or monitoring responsibility on this easement.
- Conservation Easement 3 (CE 3) is an approximately 316-acre area that occupies slopes adjacent to proposed development within the THSPA. This easement allows for limited future grading, slope stabilization, road construction, and other temporary ground disturbance associated with the potential need to remediate the existence of landslide deposits that may be necessary if future adjacent development within the THSPA occurs SJCOG, Inc., will hold the easement but will not have management or monitoring responsibility on this easement. Development-related activities that could potentially occur within the Preserve are described further in Chapter 4, *Allowed and Prohibited Uses*.

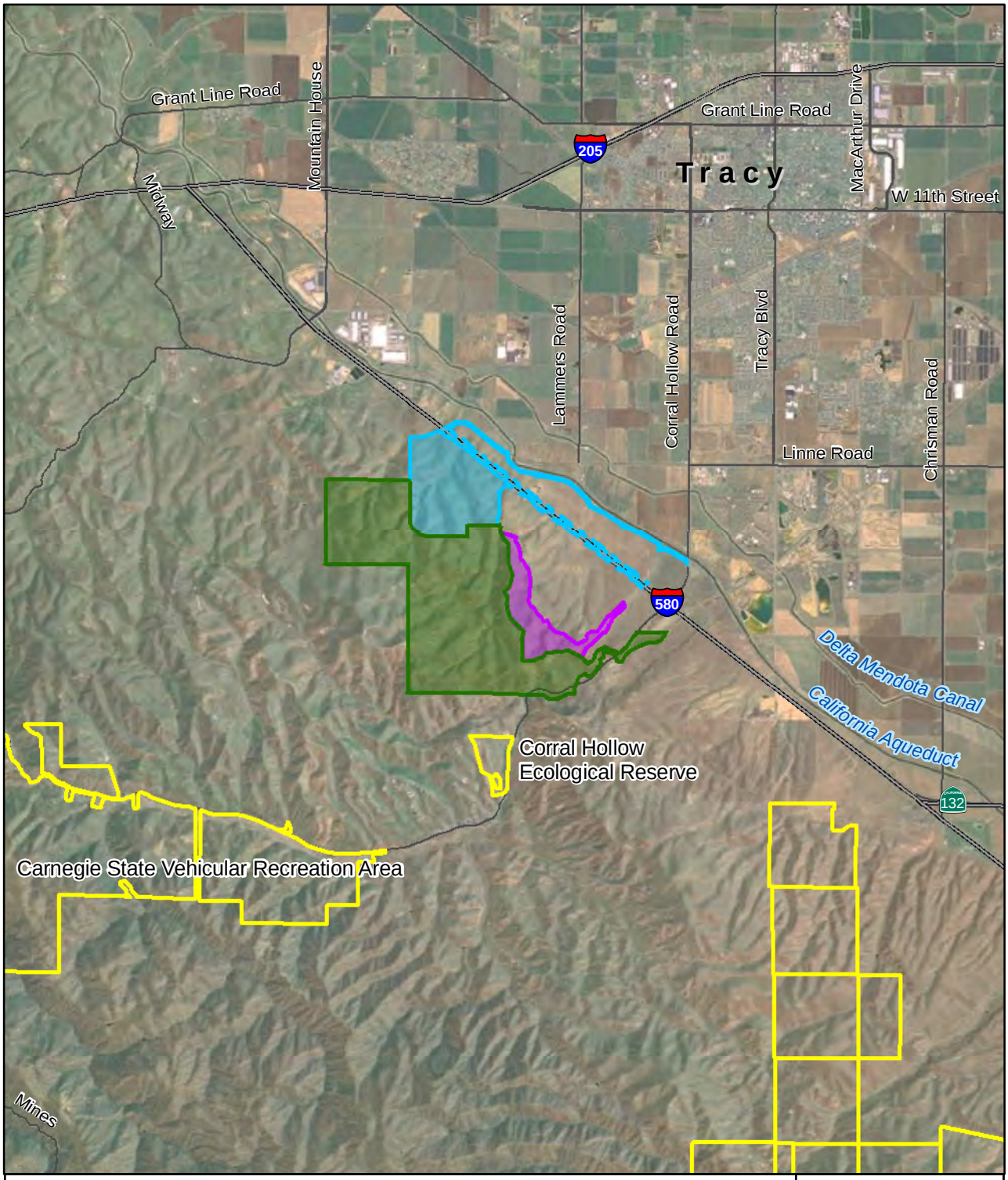
The approximately 688-acre portion of CE 1 west of I-580 is provided to SJCOG as land in lieu of fees pursuant to the SJMSCP to mitigate for impacts from implementation of the Tracy 580 Business Park Project. Additionally, the approximately 41-acre portion of CE 1 along the California Aqueduct is provided to enable habitat connectivity for San Joaquin kit fox and other covered species in the Transition Zone, as described in the SJMSCP.

CEs 2 and 3 have been recorded to mitigate for impacts associated with potential future development by the Landowner. The U.S. Fish and Wildlife Service, California Department of Fish and Game, and SJCOG (Agencies) have entered into a Habitat Conservation Agreement (Agreement) with the Landowner acknowledging that the Landowner may, in the future, count this property toward habitat mitigation requirements for development of adjacent property owned by the Landowner or any other property subject to the SJMSCP. The Agreement covers CEs 2 and 3 only.

This document provides the Landowner, SJCOG, and the Land Manager (ICF International) with specific guidelines regarding allowed and prohibited uses, land management, and monitoring in accordance with the requirements of the SJMSCP.

Preserve Location

The Preserve and associated conservation lands are located in southwestern San Joaquin County, adjacent to and within the city of Tracy (Figure 1). The majority of the Preserve and associated conservation lands lies immediately southwest of I-580; additionally, an approximately 41-acre habitat corridor lies northeast of I-580 and runs adjacent to the California Aqueduct right-of-way, and a 100-foot wide habitat corridor occurs along the southwest side of I-580 from the northern edge of CE 1 to the intersection with Corral Hollow Road. The area is east of Lawrence Livermore National Laboratory's Site 300 (Site 300), and most of the area is north of Corral Hollow Creek, although the associated conservation lands includes a portion of Corral Hollow Creek and some land to the south at its southernmost end. Information pertaining to the parcels proposed for each conservation easement is provided in Table 1 below.



Preserve Areas

- Conservation Easement #1
- Management Responsibility Remains with the Landowner
- Conservation Easement #2
- Conservation Easement #3
- Other Conserved Lands

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Figure 1

Location of Tracy 580 Business Park Conservation Easements

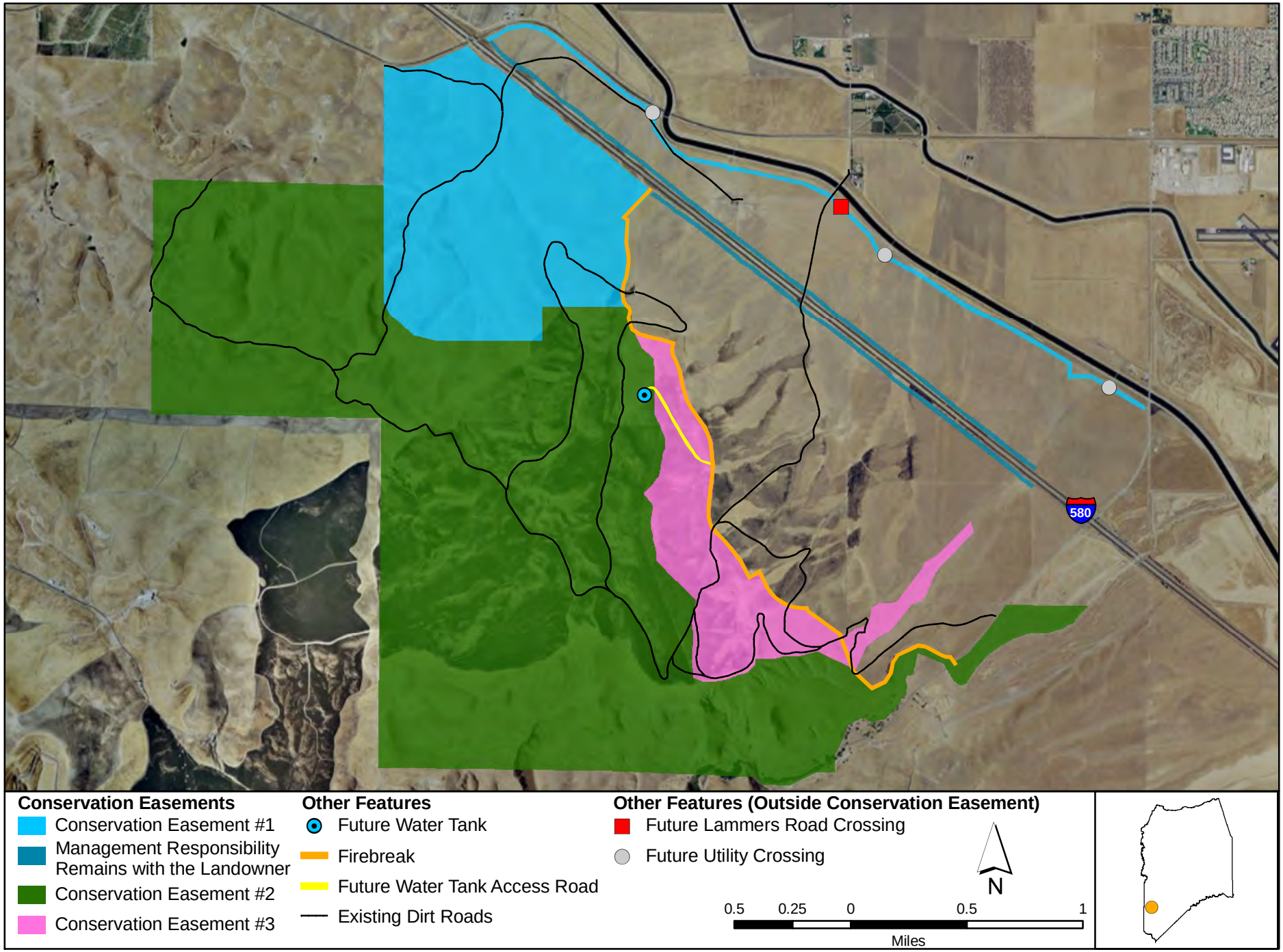

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Figure 2
Tracy 580 BP Conservation Easements

Table 1. Parcel Information for Conservation Easements

CE 1	
Assessor's Parcel Numbers	251-040-07, 251-050-13, portions of 251-060-06, 251-070-01, 251-060-04, 251-060-06, 251-110-03, 251-110-05, 251-120-01
Acreage	Approximately 790 acres
SJMSCP Index Zone	Southwest Zone
USGS 7.5-minute quadrangle	Tracy, Midway
Township	3 South
Range	4 East
Sections	Portions of 1, 2, 11, 12 (also portions of Sections 7, 17, 18, and 20 in R5E)
CE 2	
Assessor's Parcel Numbers	251-060-01, 251-120-02, 251-120-09, 251-130-01, 251-320-12, 253-040-07, 253-040-11, portions of 251-060-04, 251-060-06, 251-070-01, 251-110-03, 251-110-05, 251-120-01
Acreage	Approximately 2,429 acres
SJMSCP Index Zone	Southwest Zone
USGS 7.5-minute quadrangle	Tracy, Midway
Township	3 South
Range	4 East
Sections	10, and portions of 11, 12, 13, 23, 24 (also portion of 19 in R5E)
CE 3	
Assessor's Parcel Numbers	Portions of 251-060-04, 251-060-06, 251-110-03, 251-110-05, 251-120-01
Acreage	Approximately 316 acres
SJMSCP Index Zone	Southwest Zone
USGS 7.5-minute quadrangle	Tracy
Township	3 South
Range	4 East
Sections	Portions of 12, 12, 24

The establishment of conservation easements on and around the Preserve will expand the overall acreage of lands already under conservation easements in the Southwest Index Zone.

Setting

As noted above, the Preserve and associated conservation lands are currently used for livestock grazing. Elevations range from approximately 340 feet above mean sea level (msl) near I-580, in the northeastern portion of the Preserve, to 1,280 feet msl at the highest point in Section 23 (Figure 3). The Preserve is within a transition area between the Diablo Range to the southwest and the San Joaquin Valley to the east. Topography on the Preserve and in the general area consists of rolling hills cut by drainage channels, with gentle to moderately steep hill slopes and nearly flat-topped terraces. Surface water in this area generally flows to the northeast. To the east, topography flattens into low alluvial plains and fans. Approximately 27% of the Preserve and associated conservation lands have slopes of less than 15% (Table 2).

Table 2. Slope Analysis for Tracy 580 BP Preserve and Associated Conservation Lands

Slope Classes (% slope)	Percent of Area
<15	27
15–20	14
20–30	28
30-40	17
>40	14
Total	100

The Preserve consists of several habitat types that are classified and described in the SJMSCP (Figure 4). These include Valley Grassland, Great Valley Mixed Riparian Forest, and Fresh Emergent Wetland. The Preserve also includes smaller patches of matchweed scrub and spring and seasonal wetlands.

Valley Grassland constitutes approximately 99% (687.4 acres) of the Preserve (Figure 4) and associated conservation lands (3,433 acres). These grasslands consist primarily of nonnative annual grasses including wild barley (*Hordeum* sp.), soft chess (*Bromus hordeaceus*), red brome (*Bromus rubens*), ripgut brome (*Bromus diandrus*), and wild oats (*Avena* sp.), with some nonnative forbs including peppergrass (*Lepidium* sp.) and mustard (*Brassica* sp. and *Sisymbrium* sp.). The grasslands on the Preserve also include a few native species such as intermediate fiddleneck (*Amsinckia menziessii* var. *intermedia*), common goldfields (*Lasthenia fremontii*), buckwheat (*Eriogonum nudum*), popcorn flower (*Cryptantha* sp.), and broiaea (*Triteleia laxa* and *Dicheloptemma capitatum*). A large area of valley grassland was burned during a fire in 2009 but is rapidly recovering.

Two patches of the native purple needlegrass (*Nassella pulchra*), totaling approximately 0.41 acres (0.01% of the site) have been mapped within the grasslands on the Preserve (Figure 4). Both of these patches were mapped on north facing slopes: one patch in the southern portion of CE 3 and another patch in the easternmost portion of CE 2. The patch south of Corral Hollow Creek was not affected by the 2009 fire; it is unknown if the other patch was burned during the fire. Scattered plants of purple needlegrass are also present on the Preserve; mapped plants are shown as points in Figure 4 but are not included in the habitat acreage.

Riparian vegetation constitutes approximately 0.3% (10.21 acres) of the Preserve (Figure 4). The riparian habitat consists of riparian trees and shrubs along Corral Hollow Creek in the southern portion of the Preserve. This area was not affected by the 2009 fire. The riparian vegetation is dominated by Fremont cottonwood (*Populus fremontii*) and red willow (*Salix laevigata*), with shrub species including mulefat (*Baccharis salicifolia*) and nonnative tree tobacco (*Nicotiana glauca*), and a variety of herbaceous plant species. Two highly invasive nonnative species, tamarisk (*Tamarix* sp.) and giant reed (*Arundo donax*), are also present in the riparian habitat onsite. The banks and channel of Corral Hollow Creek are dominated by dense stands of cattails (*Typha* sp.) with patches of rushes (*Juncus* spp.) and saltgrass (*Distichlis spicata*). The vegetation does not appear to be affected by grazing; cattle access is limited by topography north of Corral Hollow Road. An oxbow in Corral Hollow Creek has been cut off from flow due to the construction of Corral Hollow Road. It retains remnant stands of cottonwoods and a few scattered, dead, or dying willows.

Approximately 3.61 acres of matchweed scrub was mapped on the Preserve in 2005, prior to the most recent fires (Figure 4). The status of these patches of matchweed since the fire is unknown.

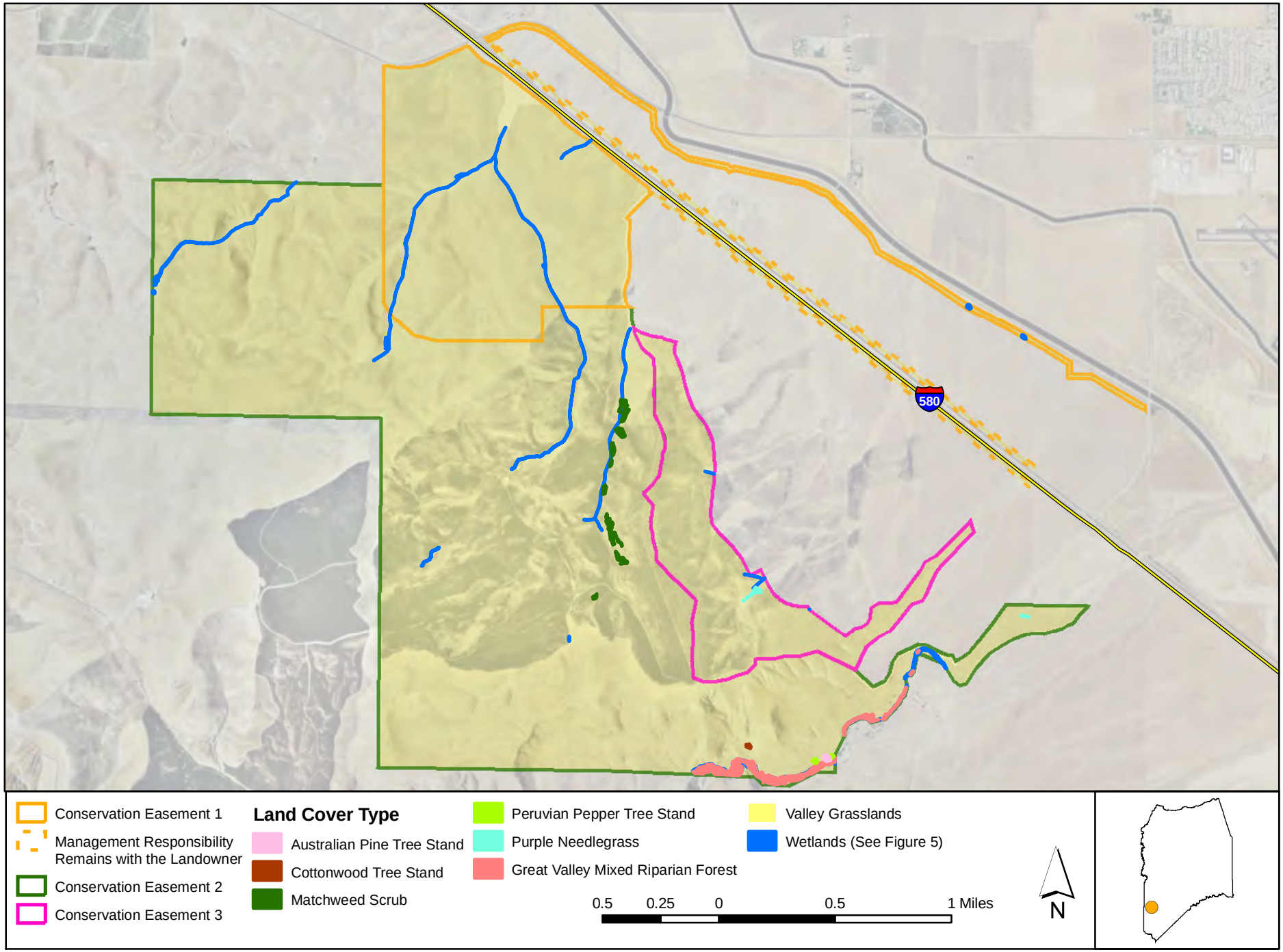

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Figure 4
Habitats on the Tracy 580 BP Conservation Easements

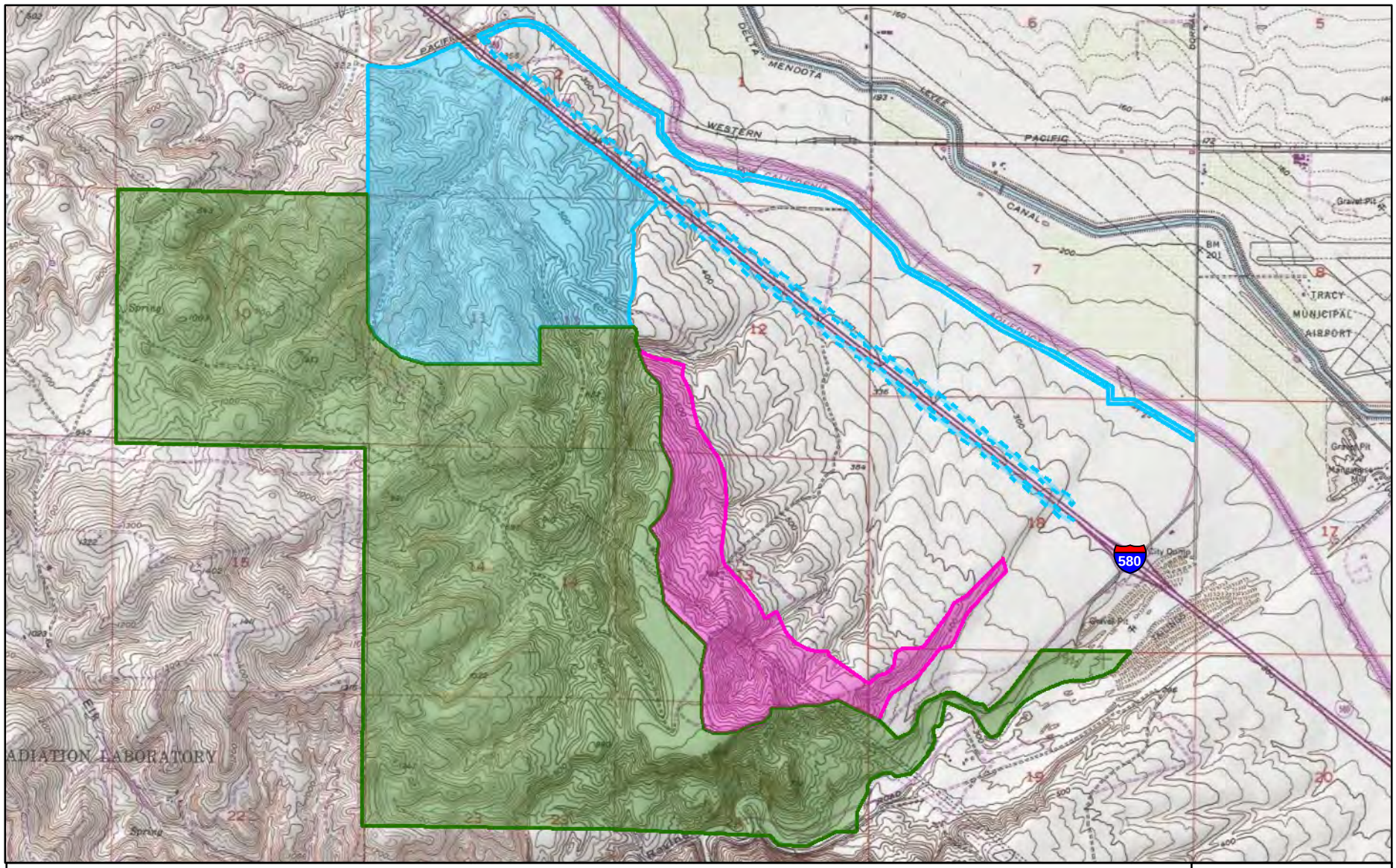

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Figure 3
Topography of Tracy 580 BP Conservation Easements

This vegetation type is found in association with rocky outcroppings on steep, north facing slopes. Dominant species observed in the matchweed scrub include matchweed (*Guiterrezia californica*), wild oat (*Avena* sp.), dove weed (*Croton setigerus*), soft chess (*Bromus hordeaceus*), and tarweed. Additional species observed include scattered California sagebrush (*Artemisia californica*) and buckwheat (*Erigonum* sp.), although these species are not dominant.

Trees are rare on the Preserve outside of the riparian woodland. Cottonwood trees are present along the remnant of Corral Hollow Creek that has been cut off by Corral Hollow Road. Nonnative trees present include an approximately 0.29-acre stand of Peruvian pepper trees and an approximately 0.35-acre stand of Australian pine trees near Corral Hollow Creek (Figure 4).

Wetlands and ephemeral drainages were delineated on the Preserve in 2005 (Figure 5). Other than Corral Hollow Creek—a perennial creek— drainages in the Preserve are ephemeral and flow only immediately following storm events. The amount and duration of surface water vary annually, depending on annual precipitation. Due to the short duration that water is present within these drainages, the ephemeral drainages are functionally part of the nonnative grasslands.

Approximately 1.05 acre of riverine seasonal wetland and 0.36 acre of depressional seasonal wetland were mapped on the Preserve (Figure 5). The seasonal wetland habitat is primarily dominated by rabbit's foot grass, saltgrass (*Distichlis spicata*), barley (*Hordeum marinum*), and Italian ryegrass (*Lolium multiflorum*).

Riverine seasonal wetlands occur in association with the ephemeral drainages that appear to have water seeping up to the surface in several locations. These areas have the same vegetation as that of the other seasonal wetlands on the site, except that in some areas Bermuda grass (*Cynodon dactylon*) is prevalent. Salt deposits can be observed at the soil surface in association with some of the riverine seasonal wetlands, however no typical alkali vegetation is present in association with these features.

A perennial spring near the western end of the Preserve provides water flow downstream to a depressional seasonal wetland formed as a result of berming the seasonal drainage, presumably to provide water for livestock. This shallow feature is dominated by rabbit's foot grass.

The perennial spring near the western boundary was excavated to create a pool approximately 6 feet in diameter and 4 feet deep. The pool contains emergent marsh vegetation and is dominated by cattails (*Typha* sp.) and rabbit's-foot grass (*Polypogon monspeliensis*) and is mapped as Perennial Marsh (Figure 5). The pool holds water perennially and supports California red-legged frogs. The pool is fenced to exclude livestock.

CE 1 includes the approximately 41-acre, 100-foot wide habitat corridor along the California Aqueduct. Under existing conditions, stormwater flows across the corridor at three locations during 100-year storm events and enters over-chutes that cross eastward over the California Aqueduct. Three 50-foot wide crossings are excluded from CE 1 along the habitat corridor to allow storm drainage to pass across this area and into the over-chutes during flood events. During large flood events some of this stormwater could flow onto CE 1 in the vicinity of the crossings; however, the peak flow levels are not expected to exceed those under existing, pre-development conditions.

In addition to the three drainage exclusions, a fourth crossing over the habitat corridor is excluded from CE 1 for the construction of Lammers Parkway. At this crossing, Lammers Parkway will include culverts that will be designed to allow for San Joaquin kit fox passage along the habitat corridor.

The majority of lands in the Southwest Index Zone are classified as Natural Lands. The adjacent lands to the north and south are used primarily for livestock grazing. A sand and gravel pit lies immediately adjacent to the Preserve on the southeast; numerous pits and mounds from the historic operations remain.

To the west of the Preserve is Site 300, an approximately 7,000-acre site that is operated by the Department of Energy and consists primarily of Valley Grassland. Operations at the site include testing high explosives and nonnuclear weapons components for national security purposes (Lawrence Berkeley National Laboratory 1999). Only an estimated 5% of the 7,000-acre site has been altered by operations and maintenance activities (U.S. Department of Energy 1999). Controlled burns are frequently conducted on Site 300, and in 2009 one of these burns spread and covered a substantial portion of the Preserve.

Land Ownership and Management

The parties responsible for managing lands in accordance with the Tracy 580 BP conservation easement are listed below.

Landowner:

Tsakopoulos Family Trust
7700 College Town Drive
Sacramento, CA 95826

Conservation Easement Holder:

SJCOG, Inc.
555 East Weber Street
Stockton, CA 95202
Contact: Steve Mayo
Phone: 209/468-3913

Land Manager:

ICF International
630 K Street, 400
Sacramento, CA 95814
Contact: Doug Leslie
Phone: 916/737-3000

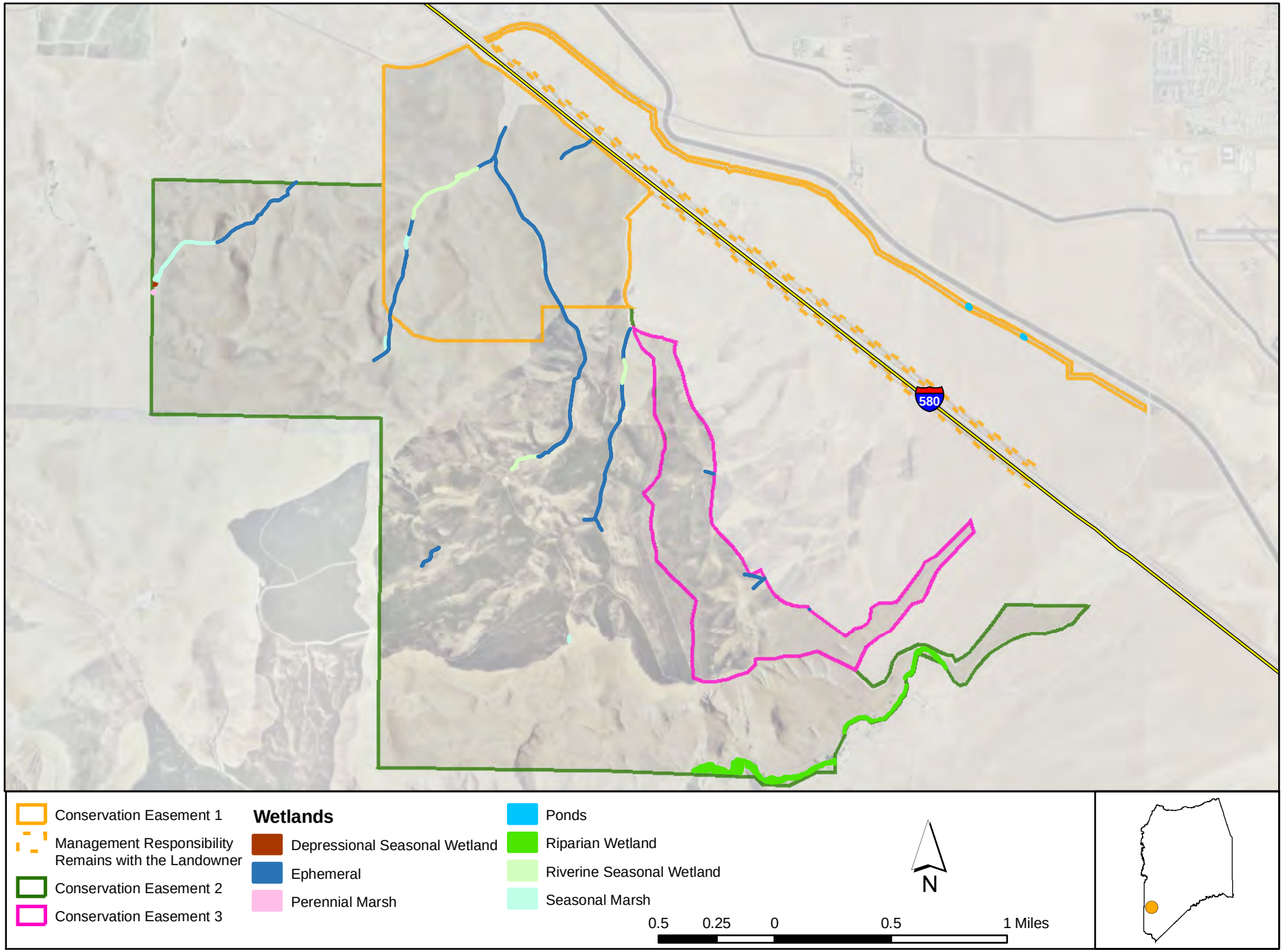

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Figure 5
Wetlands on the Tracy 580 BP Conservation Easements

Chapter 2
Purpose of the Preserve Management Plan

This preserve management plan sets forth specific guidelines regarding land management and monitoring activities to ensure that the Landowner and SJCOG are in agreement with the conditions of the conservation easements and the manner in which Preserve lands will be managed and monitored. This plan describes the baseline biological conditions of the property, states the goals and objectives of management, and describes ongoing land management activities, including allowed and prohibited uses of the property.

The preserve management plan also sets forth guidelines for adaptive management as required under the SJMSCP. Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. The principles of adaptive management recognize that the resources being managed are dynamic systems and that the state of knowledge regarding natural resource management is constantly improving. In the context of preserve management, monitoring activities are undertaken to assess the progress of management activities toward achieving the stated management goals. The information collected can then be used to improve management activities if warranted. However, there will be no alteration of management activities that adversely affect allowed uses of the land without the agreement of the Landowner.

Wildlife Habitat Associations

The mosaic of land cover types on the Preserve provides habitat for San Joaquin kit fox and several other SJMSCP-covered species. The habitats and elements described in the SJMSCP and present on the Preserve are listed below.

- Valley Grassland with the following elements.
    - North facing slopes on grasslands at elevations nearing the blue oak belt.
    - Seasonal or intermittent watercourse.
    - Loose, sandy, gravelly, or other easily crumbling soils.
    - Ground squirrel holes.
    - Rodent populations.
    - Tall perching sites (fence posts, rock outcrops).
    - Short grasses, sometimes almost barren ground.
    - Grasshoppers, cicadas, lizards, other snakes.
    - Potential roosting sites (rocky outcrops).
    - Potential nesting substrate for tricolored blackbird.
- Great Valley Mixed Riparian Forest with the following elements.
    - Ground squirrel holes or similar burrows within upland areas adjacent to riparian habitat.

- Relatively dense streamside vegetation and a permanent water source.
- Sandy, gravelly, loose soils.

These habitats and elements provide habitats potentially capable of supporting the SJMSCP-covered species listed below.

- Plants.
  - Large-flowered fiddleneck (*Amsinckia grandiflora*).
- Amphibians.
  - California red-legged frog (*Rana draytonii*) (observed onsite).
  - California tiger salamander (*Ambystoma californiense*).
  - Foothill yellow-legged frog (*Rana boylii*).
- Reptiles.
  - Coast horned lizard (*Phrynosoma coronatum*) (observed onsite)
  - San Joaquin whipsnake (*Masticophis lateralis*).
  - Western spadefoot (*Spea hammondii*).
- Birds.
  - California horned lark (*Eremophila alpestris*) (observed onsite).
  - Ferruginous hawk (*Buteo regalis*).
  - Golden eagle (*Aquilla chrysaetos*).
  - Loggerhead shrike (*Lanius ludovicianus*) (observed onsite).
  - Long-billed curlew (*Numenius americanus*).
  - Mountain plover (*Charadrius montanus*).
  - Northern harrier (*Circus cyaneus*)
  - Prairie falcon (*Falco mexicanus*) (observed onsite).
  - Tricolored blackbird (*Agelaius tricolor*).
  - Western burrowing owl (*Athene cunicularia hypugea*) (observed onsite).
  - White-tailed kite (*Elanus leucurus*).
- Mammals.
  - American badger (*Taxidea taxus*) (observed onsite).
  - Berkeley kangaroo rat (*Dipodomys heermanni berkeleyensis*).
  - Greater western mastiff bat (*Eumops perotis*).
  - Pacific western big-eared bat (*Corynorhinus townsendii townsendii*).
  - Pale big-eared bat (*Corynorhinus townsendii pallescens*).
  - San Joaquin kit fox (*Vulpes macrotis mutica*).

- San Joaquin pocket mouse (*Perognathus inornatus inornatus*).

These lands also benefit several other species, including wintering and resident raptors and songbirds, small and medium-sized mammals (e.g., pocket gopher, pocket mice, jackrabbit), and several species of reptiles and amphibians.

The habitat value varies seasonally and annually, depending primarily on vegetation height, which is in turn influenced by annual rainfall and stocking rate and duration.

Species Records

The SJMSCP geographic information system database (San Joaquin Council of Governments) and the California Natural Diversity Database (CNDDB) (California Natural Diversity Database 2011) were searched to identify records of SJMSCP-covered species within approximately 2 miles of the Preserve. The database searches indicated a total of 30 SJMSCP-covered species recorded as occurring within 2 miles of the Preserve: big tarplant (*Blepharizonia plumose*), diamond-petaled poppy (*Eschscholzia rhombipetal*), large-flowered fiddleneck (*Amsinckia grandiflora*), showy golden madia (*Madia radiate*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), California red-legged frog, foothill yellow-legged frog, California tiger salamander, western spadefoot, western pond turtle, coast horned lizard, San Joaquin whipsnake, tricolored blackbird, California horned lark, white-tailed kite, loggerhead shrike, western burrowing owl, golden eagle, ferruginous hawk, sharp-shinned hawk, merlin, prairie falcon, northern harrier, Swainson's hawk, American badger, California mastiff bat, San Joaquin kit fox, San Joaquin pocket mouse, riparian woodrat, and Berkeley kangaroo rat (Figure 6). Appropriate habitat is present on the Preserve to support all these SJMSCP covered species, although only eight of these species have been observed onsite. Four additional special status species that are not SJMSCP covered species have records from within 2 miles of the Preserve: Lemmon's jewelflower (*Streptanthus Lemmonii*), round-leaved filaree (*Erodium macrophyllum*), Alameda whipsnake, and pallid bat.

Surveys for special status species were conducted on the Preserve by LSA Associates in 1988, 1989, 1991, 1993, 1997, and 1999. Information from these studies was incorporated into an environmental impact report for the THSPA and is summarized below.

- Plants.
  - Big tarplant. Although big tarplant is not an SJMSCP covered species, it is a special status species (California Native Plant Society [CNPS] List 1B) that is potentially present on the Preserve. There are 14 records for this species within 2 miles of the Preserve in grasslands to the west and south. The species is noted as common and widespread on the adjacent Site 300 (Jones & Stokes 2006). Although it was not observed during focused plant surveys in 1989 (LSA Associates 1989) and 1990 (PMC 1997), clay soils within grasslands on the Preserve provide suitable habitat for this species.
  - Diamond-petaled California poppy. According to the SJMSCP database, there is one record of diamond-petaled California poppy from within 2 miles of the Preserve. This occurrence is southwest of the Preserve in the Corral Hollow Creek area (USFWS 1998). Not included on the SJMSCP or CNDDB databases is a population known to occur on the adjacent Site 300 property to the west. As of 2008, there were three subpopulations of diamond-petaled poppy totaling between 8,000 and 10,000 plants in the grasslands on Site 300

(PHYSorg.com 2008). Although it was not observed during focused plant surveys in 1989 (LSA Associates 1989) and 1990 (PMC 1997), clay soils within grasslands on the Preserve provide suitable habitat for diamond-petaled California poppy.

- Large-flowered fiddleneck. This species occurs in valley and foothill grasslands and is known to occur in only seven localities, three of which are within 2 miles of the Preserve (California Natural Diversity Database 2011) (Figure 6). One occurrence is within Site 300, which is just under 2 miles west of the Preserve, and the other is approximately 2 miles south of the Preserve at Connolly Ranch. Although it was not observed during focused plant surveys in 1989 (LSA Associates 1989) and 1990 (PMC 1997), it is possible this species occurs on the Preserve given the close proximity of known populations and the presence of suitable habitat within the Preserve.
- Lemmon's jewelflower. Although Lemmon's jewelflower is not an SJMSCP covered species, it is a special status species (CNPS List 1B) that is potentially present on the Preserve. There is one record for this species within 2 miles of the Preserve in the adjacent Site 300. Although it was not observed during focused plant surveys in 1989 (LSA Associates 1989) and 1990 (PMC 1997), annual grasslands on the Preserve provide suitable habitat for this species.
- Showy golden madia. There is one record of this species that occurs approximately 2 miles southwest of the Preserve near Corral Hollow Road. Although it was not observed during focused plant surveys in 1989 (LSA Associates 1989) and 1990 (PMC 1997), annual grasslands on open slopes within clay soils on the Preserve provide suitable habitat.
- Round leaved filaree. This is not an SJMSCP covered species, but it is a special-status species found in the vicinity of the Preserve. There is one record of round-leaved filaree from within 2 miles of the Preserve to the west on Site 300 (Jones & Stokes 2006). Although it was not observed during focused plant surveys in 1989 (LSA Associates 1989) and 1990 (PMC 1997), the friable clay soils within grasslands on the Preserve provide suitable habitat for this species.

- Invertebrates.
  - Valley elderberry longhorn beetle. The host plant for valley elderberry longhorn beetle, blue elderberry (*Sambucus mexicanus*), does not occur on the Preserve. Habitat capable of supporting blue elderberry shrubs – and thus potentially valley elderberry longhorn beetle – occurs in the Corral Hollow Creek portion of the Preserve.
- Amphibians.
  - California red-legged frog. California red-legged frogs have been documented in the Perennial Marsh/Freshwater Spring on the Preserve. Three adult California red-legged frogs were observed in this feature during the fall of 1989 (California Natural Diversity Database 2005). Twelve adult California red-legged frogs were observed in this feature in August of 2005.

    There are 10 additional recorded occurrences of California red-legged frog within 2 miles of the Preserve. Approximately 50 adults were observed in two small stock ponds approximately 1 mile apart just north of the Preserve in 1992 (California Natural Diversity Database 2011). California red-legged frogs have also been documented immediately west of the Preserve on Site 300 and at several locations within Corral Hollow Creek to the southwest of the Preserve.

2 Mile Radius Around Tracy 580 BP Conservation Easements

California Natural Diversity Database Species Records

USFWS Burrowing Owl Location

Preserve Areas

Conservation Easement 1

Conservation Easement 2

Conservation Easement 3

Management Responsibility Remains with the Landowner

San Joaquin HCP Terrestrial Species Records

Plants

Inverts

Herps

Birds

Mammals

Species within 2 Mile Radius of Tracy 580 BP Conservation Easement

Map Label	*Species Name*	*Map Label*	*Species Name*
AGTR	Tricolored blackbird	**ESRH**	diamond-petaled California poppy
AMCA	California tiger salamander	**EUPECA**	Western mastiff bat
AMGR	large-flowered fiddleneck	**FACO**	Merlin
ANELAC	California androsace	**FAME**	prairie falcon
ANPA	pallid bat	**LALU**	Loggerhead shrike
AQCH	golden eagle	**MAFLRU**	San Joaquin whipsnake
ATCU	burrowing owl	**MALAEU**	Alameda whipsnake
BLPL	big tarplant	**NEFURI**	Riparian woodrat
BURE	Ferruginous hawk	**NUAM**	Long-billed Curlew
BUSW	Swainson's hawk	**PEININ**	San Joaquin pocket mouse
CALE	Lemmon's jewel-flower	**PHBL**	coast horned lizard
CAMA	round-leaved filaree	**PHCOFR**	California horned lizard
CICY	Northern harrier	**RABO**	Foothill yellow-legged frog
CLMA	Western pond turtle	**RADR**	California red-legged frog
DECADI	valley elderberry longhorn beetle	**SCHA**	Western spadefoot toad
DIHEBE	Berkeley Kangaroo Rat	**TATA**	American badger
ELCA	White-tailed kite	**TRCA**	Caper-fruited tropidocarpum
EMMA	western pond turtle	**VUMAMU**	San Joaquin kit fox
ERALAC	California horned lark		

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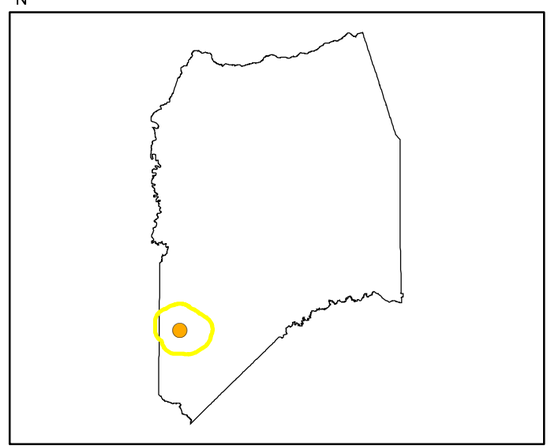

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Figure 6
Documented Occurrences of SJMSCP-Covered Species within 2 Miles of Tracy 580 BP Conservation Easements

- Foothill yellow-legged frog. There is a single record for this species from within 2 miles of the Preserve along Corral Hollow Creek (California Natural Diversity Database 2011). The portion of Corral Hollow Creek within the Preserve contains habitat capable of supporting this species.
- California tiger salamander. There are four recorded occurrences of California tiger salamander within 2 miles of the Preserve. An adult California tiger salamander was collected along Corral Hollow Road immediately adjacent to the Preserve in February of 1992 (California Natural Diversity Database 2011), and there are several other occurrences south and west of the Preserve within the Corral Hollow watershed.

  LSA Associates conducted surveys for California tiger salamander larvae in Corral Hollow Creek using dip nets in March and April of 1999 and did not detect this species (LSA Associates 2000).
- Western spadefoot. There is one recorded occurrence of western spadefoot within 2 miles of the Preserve from upstream portions of Corral Hollow Creek. The portion of Corral Hollow Creek within the Preserve contains habitat capable of supporting this species.

- Reptiles.
  - Alameda whipsnake. This is not a covered species under the SJMSCP, but there are two records for Alameda whipsnake on Site 300 within 2 miles of the Preserve. This species typically occurs in scrub habitat, which is scarce on the Preserve.
  - San Joaquin whipsnake. There are ten records of San Joaquin whipsnake within 2 miles of the Preserve, one of which (an SJMSCP record) includes the southernmost portion of the property along Corral Hollow Creek. The grasslands and scrub habitat on the Preserve provide habitat capable of supporting this species.
  - Coast horned lizard. There are ten records for coast horned lizard from within 2 miles of the Preserve. A coast horned lizard was observed within grassland in the southwest portion of the Preserve in 1990 (California Natural Diversity Database 2011). Additionally, there are several records from the adjacent Site 300, to the east, and from lands to the south of Corral Hollow Creek.
  - Western pond turtle. There are two records of western pond turtle within 2 miles of the Preserve, including one record mapped along Corral Hollow Creek partially within the Preserve. Additionally, this species was observed onsite within Corral Hollow Creek during surveys conducted in 1989 (LSA Associates 2000).
- Birds.
  - California horned lark. There are four records for California horned lark within 2 miles of the Preserve. Additionally, California horned larks have been observed during the winter on the Preserve on numerous occasions (Ellen Berryman, pers. comm.; PMC 1997).
  - Ferruginous hawk. There are no records for Ferruginous hawk from within 2 miles of the Preserve. However, a pair was observed wintering on the adjacent Site 300 in 1993 (California Natural Diversity Database 2011). The Preserve is outside the breeding range of this species, so it would only be expected to occur intermittently during migration or over the winter.

- Golden eagle. Golden eagles are regularly observed foraging over the grasslands on the Preserve (Ellen Berryman pers. comm.). An active nest was documented at the north end of the Preserve on an electrical transmissions tower (PMC 1997). There is one CNDDB occurrence for this species within 2 miles of the Preserve: this record is from the adjacent Site 300 where two adults were observed nesting on a power pole surrounded by grassland habitat in 1996 (California Natural Diversity Database 2011).
- Loggerhead shrike. There are two records of loggerhead shrike from within 2 miles of the Preserve. Two family groups were observed on the adjacent Site 300 in 2002 (California Natural Diversity Database 2011). Loggerhead shrikes have also been observed occasionally perching on fence posts within grasslands on the Preserve (Ellen Berryman pers. comm.; PMC 1997).
- Prairie falcon. There are four records for prairie falcon within 2 miles of the Preserve, and the species has been observed intermittently within the Preserve (Ellen Berryman pers. comm.; PMC 1997).
- Tricolored blackbird. There are two CNDDB records for tricolored blackbird within 2 miles of the Preserve. One record is from approximately 1 mile north of the site, where three males were observed in a group of nesting red-winged blackbirds in an artificially impounded pond. Nesting was assumed for this location. Another record is from Site 300 to the west of the Preserve, where 735 nests were counted in 2002 in freshwater emergent wetlands along Elk Creek (California Natural Diversity Database 2011).
- Northern harrier. There are five records for northern harrier within 2 miles of the Preserve. The grasslands on the Preserve provide habitat capable of supporting this species.
- Western burrowing owl. There are 35 records of western burrowing owl within 2 miles of the Preserve, 14 of which are on the Preserve. Active burrows have been observed on numerous occasions on the Preserve, although no attempt to estimate the population size has been undertaken. The distribution of burrowing owls across the Preserve may have shifted over time as a result of the fire in 2008 and other environmental factors (Ellen Berryman, pers. comm.), although owls are expected to re-colonize areas from which they were displaced by the fire.
- White-tailed kite. There are two records of white-tailed kite from within 2 miles of the Preserve. Nesting habitat on the site is limited to the riparian habitat within Corral Hollow Creek. Grasslands within the Preserve provide marginally suitable foraging habitat for this species.
- Sharp-shinned hawk. There is one record of sharp-shinned hawk nearly 2 miles east of the Preserve. This observation is from September 1990 and probably represents a migrating individual. Suitable habitat for this species does not occur within the Preserve.
- Swainson's hawk. There is one nesting record for Swainson's hawk within 2 miles of the Preserve, approximately 2 miles to the northeast. The riparian habitat on the Preserve provides potential nesting habitat for this species, and the grasslands provide suitable nesting habitat.
- Merlin. There are no records for Merlin from within 2 miles of the Preserve. The Preserve is outside the breeding range of this species, so it would only be expected to occur intermittently during migration or over the winter.

- Mammals.
    - American badger (observed onsite). There are nine records for American badger within 2 miles of the Preserve. This species was observed on the Preserve in 2008 on a south facing slope just north of Corral Hollow Creek, and badger sign has been detected to the north of this sighting (Ellen Berryman, pers. comm.).
    - Berkeley kangaroo rat. There is one record for Berkeley kangaroo rat within 2 miles of the Preserve, to the south. However, according to the *Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California* (U.S. Fish and Wildlife Service 2002), kangaroo rats in this geographic area are likely to be the Tulare subspecies of Heermann's kangaroo rat or a hybrid variety.
    - Pallid bat. Although pallid bat is not an SJMSCP covered species, it is a special status species with potential to be present on the Preserve. There is one record for pallid bat within 2 miles of the Preserve, approximately 1.5 miles to the south. Rock outcrops on the Preserve provide suitable roosting habitat for this species.
    - California mastiff bat. There is one record for California mastiff bat within 2 miles of the Preserve to the south along Corral Hollow Creek. The rock outcrops on the Preserve provide suitable roosting habitat for this species, and the grasslands provide suitable foraging habitat.
    - Riparian woodrat. Riparian woodrat is known to occur at Caswell Memorial State Park, east of the Preserve. The riparian habitat along Corral Hollow Creek provides suitable habitat for this species. Woodrat nests have been observed in the upper portion of Corral Hollow Creek within the Preserve (PMC 1997).
    - San Joaquin kit fox. There are ten records of San Joaquin kit fox within 2 miles of the Preserve, two of which are on the Preserve. The two onsite records are from 1973 and 1975 (California Natural Diversity Database 2011). The most recent kit fox record in the project vicinity is from 1991.

      No evidence of occupancy by kit fox were detected by LSA during focused kit fox surveys on portions of the Preserve in November and December of 1988; March, April, and May of 1989; and May and June of 1990 (LSA Associates 2000). Aerial surveys for San Joaquin kit fox dens were conducted in June 1996, and no potential kit fox dens were observed (H.T. Harvey and Associates 2006).
    - San Joaquin pocket mouse. There are four records of San Joaquin pocket mouse from within 2 miles of the Preserve, along Corral Hollow Creek to the south. The nearest record is from approximately 0.4 mile south in a previously mined area along Corral Hollow Creek between I-580 and the California Aqueduct. A total of 24 adult and 4 juveniles were trapped at this site between April 11 and May 9, 2001 (California Natural Diversity Database 2011). This species is potentially present in grassland habitats of the Preserve.

Goals and Objectives of the Management Plan

The Preserve will be managed primarily as a Grassland Preserve as described in Section 5.4.4.2(A) of the SJMSCP. However, portions of the Preserve support habitats covered under the Riparian Preserve type described in Section 5.4.4.2(D) of the SJMSCP.

The primary goal of the Preserve is to maintain extant habitat values for the benefit of SJMSCP-covered species, with a particular emphasis on San Joaquin kit fox, western burrowing owl, and California red-legged frog. Secondary goals of the management plan include the control of noxious weed infestations; prevention of soil erosion; maintenance of water quality; and the reduction of fire hazards.

These goals will be achieved primarily through implementation of best range management practices designed to maintain ecosystem health and rangeland conditions of maximum value to covered species by controlling vegetation height through grazing. Other management actions include the continued cessation of rodent control.

Chapter 3
Land Management Activities

This chapter summarizes the land management activities that will be implemented on the Preserve, including the desired grazing management practices required to meet the primary goal to conserve and manage habitat for San Joaquin kit fox. This chapter also identifies the allowed and prohibited land uses.

The Preserve will be managed according to the guidelines for Southwest Zone Grassland and Riparian Preserve types as outlined in the SJMSCP. These guidelines state that best range management practices be implemented to avoid overgrazing and to maintain cover for rodents that provide a food and burrow source for SJMSCP-covered species.

Grazing Management Practices

Grazing management practices for conservation and management of Valley Grassland habitats will be based primarily on maintaining appropriate grass height and vegetation density through livestock grazing and a continued cessation of rodent control. The grazing element of this preserve management plan is designed to use grazing as a management tool primarily to maintain grass height within an optimum range for San Joaquin kit fox.

Cattle grazing will be used to maintain the grassland in optimum condition and maximize habitat values for San Joaquin kit fox and other SJMSCP-covered species. To maintain optimum habitat values, average grass height should be maintained in the range of 3–12 inches year-round, with 4–7 inches being optimal. The maximum grass height of 12 inches is acceptable for short periods during the growing season, if necessary, if such a height is the result of the infeasibility of increasing stocking rates or of excessive spring grass growth. Grassland health will be monitored using permanent camera stations that will be established by SJCOG at key locations and well marked in the field: photographs will be taken annually at each camera station to track changes to the landscape over time. Grazing should be conducted primarily between November 1 and May 31, a period of 7 months. This grazing period coincides with rapid herbaceous plant growth in fall after the first rains, slow winter growth, and rapid growth again in spring, ending as plants die or become dormant in summer. The basic pattern is similar from year to year, but the timing and amount of growth varies (George et al. 2001). Grazing is also allowed in summer, if necessary, and if the grazing management standards are achieved.

Grazing during the wet season could cause wet soils and streambanks to become more vulnerable to compaction and erosion during times of higher than normal precipitation. During winter and spring, the relatively more nutritious herbaceous forage normally attracts grazing animals to the uplands, limiting impacts on streambanks.

Production and composition of herbaceous vegetation is controlled primarily by weather and site conditions and does not respond significantly to intensive grazing management systems (George et al. 2001). Accordingly, the entire grazeable area of the Preserve can be used as a single pasture within the perimeter fence.

Taller vegetation is to be expected on the upper slopes because these areas are usually grazed less heavily. The average grass height is usually less on the lower slopes than the upper slopes due to livestock preference for grazing the lower slopes.

The actual livestock numbers and grazing period will be adjusted by the Landowner as necessary to achieve the vegetation height performance standard. The Landowner will base the stocking rate and grazing period on the mix of cows and calves, the age and weight of the animals, planned seasonal adjustments, and experience with forage demands of the livestock to be used. A change in livestock type will require concurrence from the SJCOG Technical Advisory Committee (TAC).

Periods of drought could cause forage reductions that would require the Landowner to find alternative grazing locations, provide supplemental feed, or both. In the event of emergency loss of forage on the property, the Landowner will move the cattle off the property to the extent possible. Supplemental feeding will be allowed on the property as needed as long as the feeding stations (areas of livestock concentration and deposit of waste) are at least 45 feet from the banks of the low-flow stream channel.

Preserve Enhancements

This preserve management plan requires the continued cessation of rodent control under most circumstances. California ground squirrels are currently well distributed throughout the Preserve. Accordingly, placement of artificial burrowing owl boxes is not warranted.

Implementation and Management Schedule

The Landowner will begin implementing and managing the property in accordance with this preserve management plan immediately upon formal approval and acceptance of the conservation easement by the Landowner, SJCOG, and the TAC. The Landowner and SJCOG intend that the property be preserved and maintained in perpetuity by permitting only those practices that maintain and improve habitat for San Joaquin kit fox, western burrowing owl, California red-legged frog, and other SJMSCP-covered species, as described herein. Because the current grazing practices appear to be beneficial to these species, minimal changes to the current grazing regime are anticipated.

Chapter 4
Allowed and Prohibited Uses

This section identifies allowed and prohibited uses of the property on the Preserve. *Landowner* refers to the Tsakopoulos Family Partnership or its successors. *SJCOG* refers to SJCOG, Inc., and all affiliated agencies, organizations, or individuals that represent the SJCOG during the implementation of actions under the preserve management plan.

All Conservation Easements

The primary allowed use of the Preserve is ongoing livestock grazing that is compatible with the production and maintenance of high-quality Valley Grassland habitats for San Joaquin kit fox, burrowing owl, and others grassland-dependent covered species. Regular grazing will be limited or excluded from the riparian habitat along Corral Hollow Creek that potentially supports California red-legged frog, California tiger salamander, and western spadefoot. Grazing will also be excluded from the pond in Section 10 that supports California red-legged frog. The uses and activities listed below will be allowed or prohibited in accordance with the terms of the conservation easement. For all allowed ground-disturbing and other activities with potential for take of covered species, preconstruction surveys and avoidance and minimization measures will be required, including the presence of a qualified biologist to monitor construction-related activities.

Access and Trespass

No access by the general public will be allowed. The SJMSCP requires that signage be installed at all preserves under conservation easement. At the option of the Landowner, the signage can identify the property as being part of the San Joaquin County Open Space system, or *No Trespassing* signs can be installed. Signage should be installed on the Preserve within 120 days following recordation of the conservation easement. The signs should be installed along public roadways and rights-of-way (i.e., along Corral Hollow Road) and should clearly state that public access is prohibited. The signs will be provided by SJCOG and installed by the Landowner.

Agricultural Conversion

Unless prior approval has been issued by the TAC, it is prohibited to convert any portion of the Preserve from grazing land to other agricultural uses or to other land uses that are not compatible with providing Valley Grassland habitats primarily for San Joaquin kit fox and Riparian and Wetland habitats for California red-legged frog and other SJMSCP-covered species.

Alteration of Watercourses

The alteration or manipulation of any natural watercourse, wetland, or body of water within the conservation easements, and activities or uses that are detrimental to water quality within the conservation easements, including but not limited to degradation, pollution, or fill, are prohibited.

Chemical Usage

Except for those pesticides, herbicides, fungicides, or fertilizers used in ongoing grazing practices, and as allowed under the SJMSCP, no chemicals will be used on the Preserve unless they are used for the specific purpose of controlling exotic weed or pest species that may threaten the natural or created habitats, or unless specifically approved in advance by the TAC.

Dumping

The dumping, storage, or other disposal of refuse, trash, sewer sludge, or toxic or hazardous materials or chemicals is not allowed within the Preserve. This prohibition includes the storage or disassembly of inoperable automobiles, trucks, farm equipment, or other machinery for the purpose of sale or storage.

Emergency Vehicle Access

Emergency vehicles will be allowed to access the site from existing improved and unimproved roads and from the future water tank access road (Figure 2). Portions of the Preserve are currently protected by road gates that prevent public access and prohibit livestock from straying. The Landowner will be responsible for keeping gates and fences in good repair as required for grazing activities.

Grazing

A change in livestock type will require concurrence from the TAC. Areas of livestock concentration and waste deposit (e.g., salt licks, cattle pens, feeding station) shall be kept at least 45 feet from the banks of the low-flow stream channel along Corral Hollow Creek.

Hunting and Fishing

Noncommercial hunting and trapping of wildlife will be limited to the Landowner and will not be available to the general public so long as it complies with applicable laws and regulations and is conducted in a manner that does not significantly deplete wildlife resources or damage the ecology of the biological resources on or adjacent to the Preserve. Commercial hunting and fishing are prohibited.

Maintenance and Repair

The Landowner will be responsible for the general maintenance, repair, and replacement of existing facilities such as roads, fences, wells, pumps, and water supply lines required for grazing activities. The Landowner will maintain all fences and gates.

Native Vegetation Removal or Destruction

No large-scale removal, cutting, or destruction of native vegetation is allowed, other than what is customary for allowed grazing practices and firebreaks, and as specifically allowed below.

Natural Resource Development

The filling, dumping, excavating, draining, dredging, mining, drilling, removing, exploring, or extracting of or for minerals, soils, sands, gravels, rocks, or other material on the surface of the Preserve is prohibited, unless otherwise approved by the TAC.

Pest Management

Rodent and predator control will not be practiced in the Preserve without prior written authorization from the TAC.

Recreational Activities

Public recreation is not an allowed use in the Preserve. However, passive recreation uses such as bird-watching, hiking, horseback riding, and picnicking are allowed so long as these activities do not alter the surface of the land or require development of facilities (e.g., stables, access roads). Passive recreation will be limited to the Landowner and will not be available to the general public.

Roads

The construction of any additional new roads is prohibited without written consent from the TAC, except as specifically allowed below. However, resurfacing of existing roads with onsite materials and clean gravel is allowed as long as material is kept within the immediate roadway.

One access road may be constructed through CE 2 and CE 3, as shown on Figure 2, to access a proposed water tank to be constructed on CE 2 for the adjacent conservation easement. This road will be a 20-foot wide gravel access road to the water tank will be constructed and maintained in the general location shown in Figure 2. Water supply pipes may be installed within the access road right-of-way. (The exact location of the road and right-of-way will be determined when detailed engineering has been completed.) The access road will be within a 40-foot right-of-way and will not be fenced, and road maintenance and repair activities will be confined to this 40-foot right-of-way. All disturbances within the 40-foot right-of-way but outside the 20-foot road width will be temporary only (related to construction, maintenance, and repair), and will be restored following disturbance as described under *Post-disturbance Restoration*, below. The road may be sprayed with herbicides annually in late winter or early spring. Road maintenance will be coordinated with the Land Manager.

Soil-Disturbing Activities

No disking, tilling, grading of the soil, or other activity that would destroy ground squirrel burrows shall be permitted (other than grading of existing unpaved access roads), except as specifically allowed below.

A firebreak will be allowed within a 70-foot wide area adjacent to proposed development as shown in Figure 2. Mowing and disking are permitted in the construction and maintenance of this 70-foot wide firebreak. However, disking, mowing, and other forms of vegetation management other than grazing are prohibited outside of the firebreak without prior approval from the TAC; this includes ground disturbance for the purpose of fuel management except as may be required for public safety under emergency conditions (e.g., if control of a wildfire requires use of bulldozer or other equipment). The Landowner will be responsible for construction and maintenance of the firebreak.

In addition, limited grading activities associated with adjacent development may take place within the designated firebreak area at the eastern edge of CE 2 and CE 3 (Figure 2).

Specifically within CE 3, slope stabilization activities may be conducted. Pre-disturbance surveys and avoidance measures will be conducted as described under *Preconstruction Surveys and Impact Avoidance*, below. Remediation of active and potentially active landslides may be performed through removal and replacement of the unstable slide material with engineered and compacted fill including installation of surface and subsurface drainage. Stock piles may be placed on the lower flat areas. For landslide repair, permanent cut and fill slopes would be constructed at inclines that do not exceed pre-existing slopes to the extent feasible, with slopes no steeper than 3H:1V (horizontal to vertical). Benches a minimum of 10 feet wide and at vertical intervals of 5 feet or less would be excavated into firm, stable soil. Fill slopes would then be slightly overbuilt and trimmed back to firm, compacted soil in an effort to match the surrounding grade. Cut and fill slopes would be covered with some type of erosion control measure consisting of erosion resistant vegetation, jute netting, or geotextile erosion control mats. Routine maintenance will be required on all cut and fill slopes until they are deemed stable. Additional details on slope stabilization allowed in CE 3 are provided in Appendix A.

Following slope stabilization and grading activities, the disturbance areas will be re-contoured such that the slopes are less than or equal to pre-disturbance slope conditions, provided that the potential for future slope failures is not created. The site will then be seeded with native grassland species. Any areas that have been overly compacted by vehicular or other activity will be lightly tilled to a depth of 2 inches prior to seeding. The preferred planting method is a seed drill followed by a roller. Another appropriate mechanism is to lightly press seed into the soil surface. The revegetation site will be monitored every 2 months from January through July by the Land Manager to identify invasive plant species that are detrimental to habitat function. If invasive plants threaten habitat function, the Land Manager will be responsible for implementing measures to control these species.

Within 30 days following site restoration, a postconstruction report will be prepared, describing dates of construction, avoidance measures carried out in accordance with the preconstruction survey report described above, habitat impacts, and date of completion of restoration work.

Structures

With the exception of a water tank which may be constructed on CE 2 as shown on Figure 2 and described further below, the construction or placement of the following structures are prohibited within the Preserve.

- New residential or other buildings.
- Camping accommodations.
- Mobile homes, house trailers, permanent tent facilities, Quonset huts, or similar structures.
- Underground tanks.
- Billboards, signs, or other advertising.
- Streetlights.

- New utility structures or lines outside existing utility easements; however, powerlines would be allowed to the extent necessary to allow new pumps on the property for agricultural purposes.
- Wind turbines or other wind-related electrical generation devices and supporting infrastructure.
- Solar panels and associated infrastructure.
- New sewer systems.

However, one water tank may be constructed on CE 2. The water tank would be fenced, and the area occupied by the facility would not exceed 0.75 acre. The water tank facility would be located within the general area shown in Figure 2, but exact siting will be determined after detailed engineering work has been completed.

Vehicles

The use of motorized vehicles off existing roadways, except for ranching and agricultural purposes, is not allowed.

Chapter 5
Monitoring

This chapter summarizes the biological monitoring and reporting requirements for land management activities on the Preserve. Monitoring is currently only required on the 688-acre portion of CE 1. The primary objective of the monitoring plan is to ensure that the goals and objectives of the SJMSCP and the preserve management plan are being met. The monitoring procedures outlined in this plan are intended to be temporary until a system-wide preserve monitoring plan is completed, at which time the requirements of that plan will supersede the requirements below.

Two types of monitoring are required to assess the effectiveness of the preserve management plan in conserving target species: surveys to establish baseline conditions, and annual monitoring to assess changes from the baseline conditions and ensure compliance with the terms of the conservation easements.

Monitoring will focus on the primary objective of maintaining grassland herbaceous vegetation at 3–12 inches (4–7 inches optimum) mean herbaceous foliage height year-round. The number and size of ground squirrel colonies will also be assessed during monitoring. Changes in the number and size of noxious weed infestations, significant erosion sites, and other areas of disturbance will be noted annually.

Baseline Monitoring

To establish the baseline condition of habitats and target species present on the Preserve, a baseline habitat assessment and focused survey will be conducted by SJCOG. These baseline data will be used for comparison with results from future years' monitoring efforts to ensure that the goals and objectives of the preserve management plan are being met.

Baseline surveys will include an assessment of the following conditions.

- Herbaceous grassland vegetation height and condition.
- Noxious weed infestations.
- California ground squirrel abundance.

The assessment of the herbaceous grassland vegetation height and condition will be accomplished through the sampling of vegetation height at 24 representative sites. Because the vegetation communities and topography are not uniform across the Preserve, three topographic strata categories (720–1,000 feet msl, 1,000–1,280 feet msl, and 1,280–1,508 feet msl) will be established for monitoring purposes. Herbaceous vegetation height will be measured at four sites in each of the three topographic strata. The location of each site will be documented using a global positioning system (GPS) unit, and a photograph of the surrounding landscape will be taken at each site using a digital camera. Thus, each vegetation sampling site will also serve as a photo station to document change in the landscape over time.

The assessment of noxious weed infestations will be accomplished by traversing regularly spaced transects throughout the Preserve. The width of transects will vary depending on visibility, slope, and other factors to ensure complete coverage of the area. Each noxious weed occurrence observed during the surveys should be assigned a unique number, the species identified, and the boundaries of the infestation mapped on an aerial photograph. The level of infestation should then be assigned one of the following five cover/distribution categories.

- T = Trace (rare): less than 1% cover.
- L = Low (occasional plants): 1–5% cover.
- M = Moderate (scattered plants): 5–25% cover.
- H = High (fairly dense): 25–75% cover.
- D = Dense (dominant): more than 75% cover.

During the transect surveys for noxious weeds, the number and size of California ground squirrel colonies will be counted to assess the relative suitability of habitat for San Joaquin kit fox and western burrowing owl. The location, size, and any evidence of occupancy by San Joaquin kit fox will be recorded for each burrow with dimensions greater than 4 inches by 4 inches.

Notations will be made of any heavily disturbed sites, areas of severe erosion, and sightings of any covered plant or animal species.

A letter report documenting the results of the baseline monitoring efforts will be prepared and submitted to SJCOG within 30 days of completion of surveys. The report will document the methods, dates, times, personnel, and results of the baseline surveys.

Annual Monitoring

As required by the SJMSCP, preserves under conservation easement will be visited annually by SJCOG to assess changes from the baseline conditions of habitats and species present on the Preserve.

The surveys described in *Baseline Monitoring* above will be conducted annually on the Preserve at the end of the grazing season in May or June of each year.

An annual report documenting the results of the annual monitoring efforts will be prepared and submitted to SJCOG within 60 days of completion of surveys. The report will document the methods, dates, times, personnel, and results of the baseline surveys, and will include a summary of results from each of the previous years of monitoring.

Monitoring Neighboring Lands

The SJMSCP includes a Neighboring Lands Protection Program, the purpose of which is to protect adjacent landowners from incidental take of SJMSCP-covered species should species individuals move from the conservation easement lands to neighboring lands. Land uses subject to the neighboring land use provisions of the SJMSCP consist primarily of cattle grazing, although there is no grazing conducted on the adjacent Site 300 facilities. In accordance with the SJMSCP, neighboring

landowners will be notified of the establishment of the Preserve and will be invited to avail themselves of the Neighboring Land Use Protections provided by the SJMSCP.

Management of the Preserve under this preserve management plan will be substantially the same as current land management. Accordingly, implementation of the plan is not expected to affect neighboring land uses.

Success Criteria

Success criteria have been established for rangeland condition, noxious weed control, and relative abundance of kit fox prey.

A single criterion was established to determine the success of the grazing management plan. Grazing management will be considered successful if mean herbaceous foliage height is maintained at 3–12 inches (4–7 inches optimum) year-round. If the vegetation height standard is out of compliance for two consecutive 2 years, the Landowner must consult with SJCOG to determine what adaptive management measures, if any, should be taken.

Two qualitative performance criteria were established to determine if current management activities are sufficient to provide an adequate prey base for San Joaquin kit fox. Management will be considered successful if the number and size of active ground squirrel colonies remain constant or increase during any 3-consecutive-year period.

Chapter 6
Adaptive Management

This chapter summarizes the adaptive management provisions of the SJMSCP as they pertain to the Preserve. Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. The principles of adaptive management recognize that the resources being managed are dynamic systems and that the state of knowledge regarding natural resource management is constantly improving. Adaptive management, by definition, does not include predetermined actions—rather, it identifies new responses based on the outcome of management activities.

In the context of preserve management, monitoring activities are undertaken to assess the progress of management activities toward achieving the stated management goals. The information collected can then be used to improve management activities if change is warranted. However, there will be no alteration of management activities that adversely affect allowed uses of the land without the agreement of the Landowner.

Results of monitoring will be used to determine the effectiveness of the measures outlined in the SJMSCP and this preserve management plan in providing habitat for San Joaquin kit fox and other SJMSCP-covered species. If substantial changes in populations of SJMSCP-covered species occur, adaptive management procedures may warrant review of the terms of the conservation easement; such procedures could include review of the intensity, duration, and timing of grazing; placement of salt licks and other areas of congregation; need for erosion control measures; or other management aspects. Changes to the terms of the easement, the performance standards, or other terms outlined in this preserve management plan will require authorization from the TAC.

Chapter 7
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Personal Communications

Ellen Berryman, Owner, Berryman Ecological.

Appendix A

Geotechnical Engineering Report (Neil O. Anderson and Associates)

NEIL O. ANDERSON
AND ASSOCIATES

GEOTECHNICAL
ENVIRONMENTAL
INSPECTIONS & TESTING
LABORATORY SERVICES
POOL ENGINEERING
POST TENSION DESIGN

Neil O. Anderson and Associates - TECHNICAL MEMORANDUM

TO: Tracy 580 Business Park, Attn. Tim Taron

FROM: Stephen R. Korbay, CEG, PG, *Senior Engineering Geologist*
Garret S.H. Hubbart, GE, PE, *Principal*

SUBJECT: Landslide Deposits, Tracy Hills Development, San Joaquin County, California

DATE: November 10, 2010

This memorandum provides a preliminary evaluation of landslide conditions in the proposed Preserve and Future Development Area of the Tracy Hills Development site located west of Highway I-580 and north of Corral Hollow Road in San Joaquin County. The portion adjacent to I-580 is near-level, then the site gradually steepens towards a prominent northwest trending ridge line that is part of the eastern foothills of the Diablo Range.

As shown on the Tracy 580 Business Park Preserve Area Exhibit by Nolte and Associates, the western limit of the Future Development Area has a 70' Wide Slope Grading and Fuel Maintenance Area and a Potential Slope Stabilization Area that extends up-slope to the prominent ridge to the west.

The purpose of this evaluation was to estimate an approximate boundary of the limits of landslide deposits and their potential impact on project planning. The scope of work consisted of a review of published and unpublished reports and maps pertinent to the project site with non-stereoscopic aerial photo interpretation. No surface reconnaissance nor subsurface exploration was performed for this evaluation.

Background

Published geologic maps for the area that include landslide locations include the following:

Dibblee, T.W., 1980, Preliminary Geologic Map of the Midway Quadrangle, Alameda and San Joaquin Counties, California; U.S. Geological Survey Open-File Report 80-535.

This report shows only one landslide deposit for the site which is located on the steep south-facing bluff overlooking Corral Hollow Road.

Sowers, J.M., Noller, J.S., and Lettis, W.R., 1993, Preliminary Maps Showing Quaternary Geology of the Tracy and Midway 7.5' Quadrangles, California: U.S. Geological Survey Open-File Report 93-225.

This report includes a geologic map that shows four landslide deposits for the site; three are along the east-facing slope below the prominent flat-topped ridge west of the Future Development Area, and the fourth on the south-facing bluff overlooking Corral Hollow Road. The map includes a note that only landslide deposits that are larger than approximately 1 hectare are shown on the map.

Several geologic, geotechnical, and fault investigations have been performed in the past by geotechnical consultants. Those describing landslide conditions are briefly summarized as follows:

Earth System Consultants, 1989; Preliminary Geotechnical Evaluation, Proposed Tracy Hills Development, San Joaquin County, California.

This report mentions landslides in the site region as identified by others, and mentions a landslide in the southeast corner of the property, probably the landslide overlooking Corral Hollow Road. The report also mentions that interpretation of aerial photos indicates "several semi-arcuate features suggestive of ancient eroded landslides. However, field reconnaissance determined that these features were more probably erosion scars." The report includes a copy of the map from USGS publication OFR 80-535 (Dibblee, 1980).

Terrasearch, Inc., December 14, 1990; Geotechnical Investigation on Proposed Residential and Commercial Development, Tracy Hills Near Lammers Road, Tracy, California.

This report describes the results of a geotechnical investigation of that portion of the property on the east side of Highway I-580. The report states "No evidence of faults or landslides was observed on the site." The report includes a copy of the geologic map from USGS publications OFR 80-535 and 81-464, (Dibblee; Midway and Tracy 7.5' Quadrangles.)

Kleinfelder, Inc., April 12, 1999; Fault Evaluation, Tracy Hills Development, San Joaquin County, California.

Although this report was for the purpose of investigating reported active faults on the property, it does conclude that "several landslides were mapped on the site by Sowers (1993) and were preliminarily identified by our certified engineering geologists in the field." "...they appear to be located in areas of planned future development. Therefore

we recommend that prior to preparation of development plans that include the western hills of the site, a detailed landslide and slope stability evaluation be performed." The report includes a site development plan and a site geologic map which is a copy of the geologic map from Sowers (1993) that shows the four landslide deposits.

Evaluation Summary

A review of aerial photos and topographic maps of the site indicate several landslides and erosion gullies in the area. The four landslide deposit locations mapped by Sowers have topographic irregularities that are likely due to slope failure. In addition, Google aerial photography (2010) indicates the presence of several relatively small landslides and erosion features in many of the drainage ravines on the property, mostly in the hilly portions west of the Future Development Area. The four landslide deposits and smaller landslide locations are shown on the attached Preliminary Landslide Map, Plate 1.

This evaluation of landslide conditions considers locations identified by previous studies and by our review of aerial photos and topographic maps. Accordingly, further investigation by detailed field mapping, stereoscopic analysis of aerial photographs, and subsurface exploration with the use of borings and pits will be necessary to confirm those locations and any other locations that may be identified by field geologic mapping using large scale topographic maps and aerial photos.

Pre-development Remediation

The potential impact of these landslide conditions in the Preserve Area is that the slides may need to be remediated prior to development. The need for remediation depends on a number of factors including proximity to a slide, size and depth of the slide, steepness of slope, drainage above the slide area, and planned grading below the slide area. All of these factors should be thoroughly evaluated by an engineering geologist prior to final approval of the development plans.

Remediation of active and potentially active slides can be performed in several ways including removal and replacement of the unstable slide material with engineered and compacted fill including installation of surface and subsurface drainage (See Typical Slide Repair Schemes, Plates 2 and 3). Typical recommendations for the remove and replace option is discussed in more detail herein. These typical recommendations are for illustration purposes only and should not be used for any type of remdiation.

All landslide debris would be removed and stockpiled for reuse. Stock piles would be placed on the lower flat areas at least 60 feet away from the crest of any slopes and no more than 12 feet in height. For landslide repair, permanent cut and fill slopes would be constructed at inclinations no steeper than 2H:1V (Horizontal to Vertical.) These slope inclinations would be based on our experience with similar soil conditions and any future slope stability analysis. If the owner would like less risk, then the slopes can be flattened to inclinations of 3H:1V or flatter.

Where engineered fill is placed on slopes at inclinations greater than 5H:1V, a toe key should be constructed at the bottom of the fill. The width of the key would be at least half the height of the vertical slope above. This key would be excavated a minimum of 5 feet into firm, stable soil or stable weathered bedrock. The keyway would be inclined back towards the slope at an inclination of about 2 percent. Subsurface drainage would be constructed in the toe key. This drainage would discharge away from the bottom of the fill slope. Subdrains would consist of 4 inch diameter perforated rigid plastic pipe (SDR-35 or better) with a gravity outlet and Class 2 permeable material, or any drain rock encased in a non woven geotextile filter fabric such as Mirafi 140N or better.

During construction of the engineered fill, benches would be cut into the existing slope surface. The benches would be excavated at least 5 feet into firm, stable soil. The benches would be a minimum of 10 feet wide and would be constructed at vertical intervals of 5 feet or less. Depending on the height of the engineered fill, subsurface drainage may be required within the middle portions of the fill. Fills over 10 feet in height would have subsurface drains installed during construction. Details for the toe key, benches, compaction and subsurface drains are provided in Plate Nos. 2 and 3.

Since most fill slopes are constructed with a loosely or poorly compacted surface, the fill slopes would be slightly overbuilt and trimmed back to firm, compacted soil in an effort to match the surrounding grade. Drains may be provided at the top of all slopes where the contributing drainage area to the slope has a flow path longer than 30 feet measured horizontally. Runoff water would not be allowed to run over the slopes. Horizontal surfaced terraces would likely be constructed near midslope for any fills greater than 20 feet in vertical extent. These terraces would be a minimum of 6 feet wide. The terraces and drains would likely be sloped to a drain inlet or other appropriate drainage device. These drainage devices would then discharge the runoff away from the bottom of the slope. These drains and drainage devices should be inspected on a yearly basis, prior to the start of the rainy season. Preventative maintenance of the slopes and drains will reduce the potential for damage to the slopes from runoff.

Cut and fill slopes would need to be covered with some type of erosion control measure immediately after construction. Erosion control measures can consist of erosion resistant vegetation, jute netting, or geotextile erosion control mats. These would be installed per the manufacturer's specifications. Some minor, relatively shallow erosion should be planned for. Routine maintenance will be required on all cut and fill slopes. Any detected problems should be repaired immediately. It is important that the bottom of all cuts and fills be protected from erosion or undercutting that could jeopardize the integrity of the slope. Substantial slope failure could occur if the bottoms of the slopes are not protected.

Other methods include mechanical stabilization techniques such as retaining structures, de-watering wells, horizontal drains, surface drains, and subsurface drainage galleries. Specific options for remediating a potential slide area can be discussed after a thorough geologic investigation of the project is performed.

Post-development Remediation

Active and dormant slides can be re-activated from earthquake shaking. New slides can develop on slopes previously considered stable if a significant rainfall season occurs, saturating the soils, and a large seismic event occurs that generates sufficient ground motion acceleration. Remediation of landslides after project development could consist of similar methods described above. Selection of the appropriate method would depend on the characteristics of the individual slide; the size, depth, and location with respect to existing improvements, and accessibility for earth-moving and other construction equipment.

Limitations

The professional opinions contained in this technical memorandum are strictly based on cursory review of the available engineering documents for the project, local geologic maps, non-stereoscopic photos of the area, and topographical maps of the site. The statements of professional opinion based on our review do not substitute the need for a more in depth geologic review and investigation for the site.

The professional opinions contained in this memorandum are based on the site conditions as they existed at the time the reviewed documents were published. No site reconnaissance was performed. Our professional services were performed, our findings obtained, and our professional opinions are in accordance with generally accepted engineering geologic and geotechnical engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied. Our professional opinions do not constitute a guarantee or warranty, expressed or implied. The scope of our services did not include any environmental assessment or opinions for the presence or absence of wetlands.

Sincerely,
NEIL O. ANDERSON & ASSOCIATES, INC.

Stephen R. Korbay, Sr. Engineering Geologist
Certified Engineering Geologist

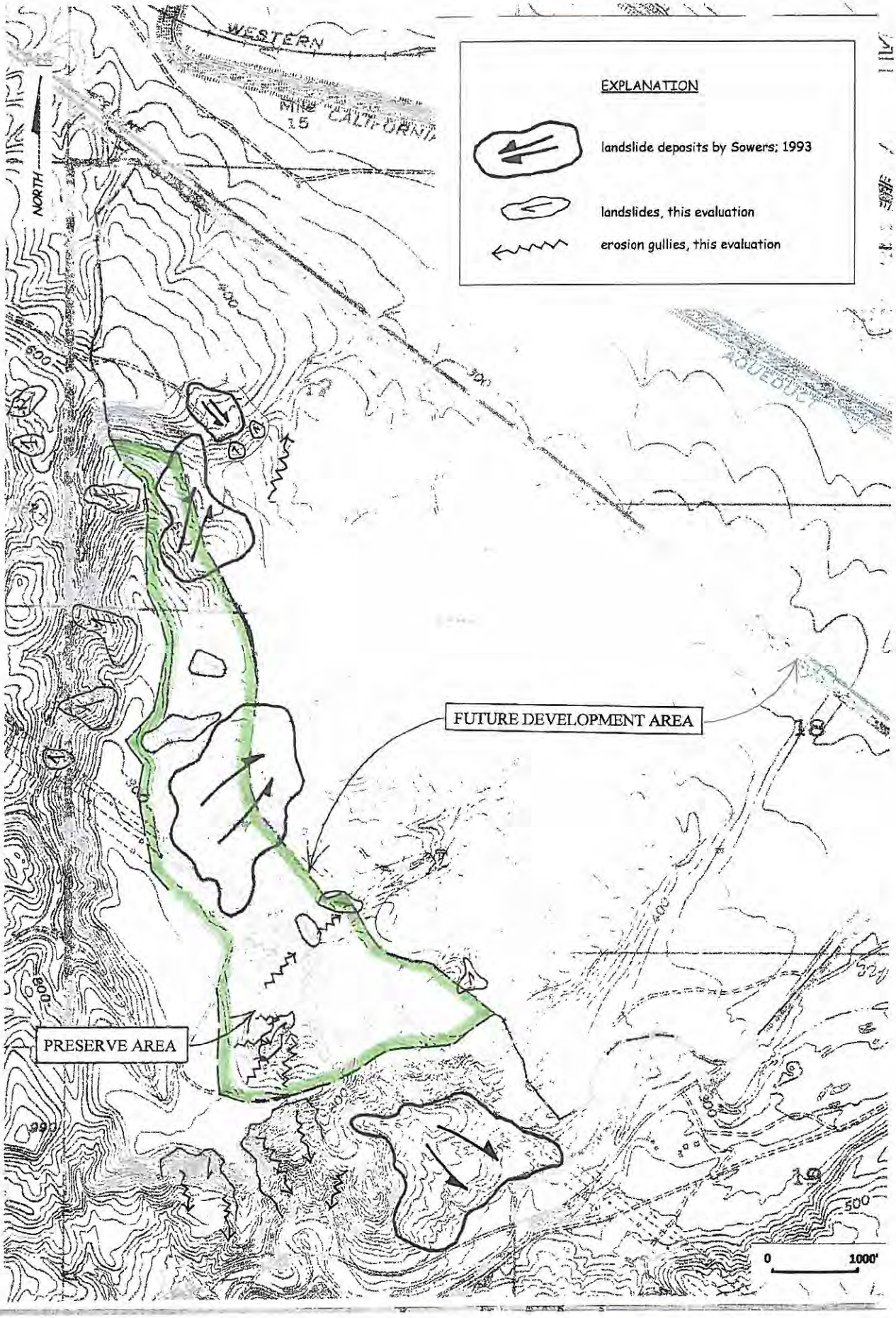
Garret S.H. Hubbart, Principal
Licensed Geotechnical Engineer 2588

CERTIFIED ENGINEERING GEOLOGIST STEPHEN R. KORBAY No. CEG 916 EXP 10/31/12 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER GARRET S. H. HUBBART 2588 Exp. 06-30-2011 GEOTECHNICAL STATE OF CALIFORNIA

NOV 11 2010

Attached: Preliminary Landslide Map, Plate 1
Typical Slide Repair Scheme without Drainage, Plate 2
Typical Slide Repair Scheme with Drainage, Plate 3

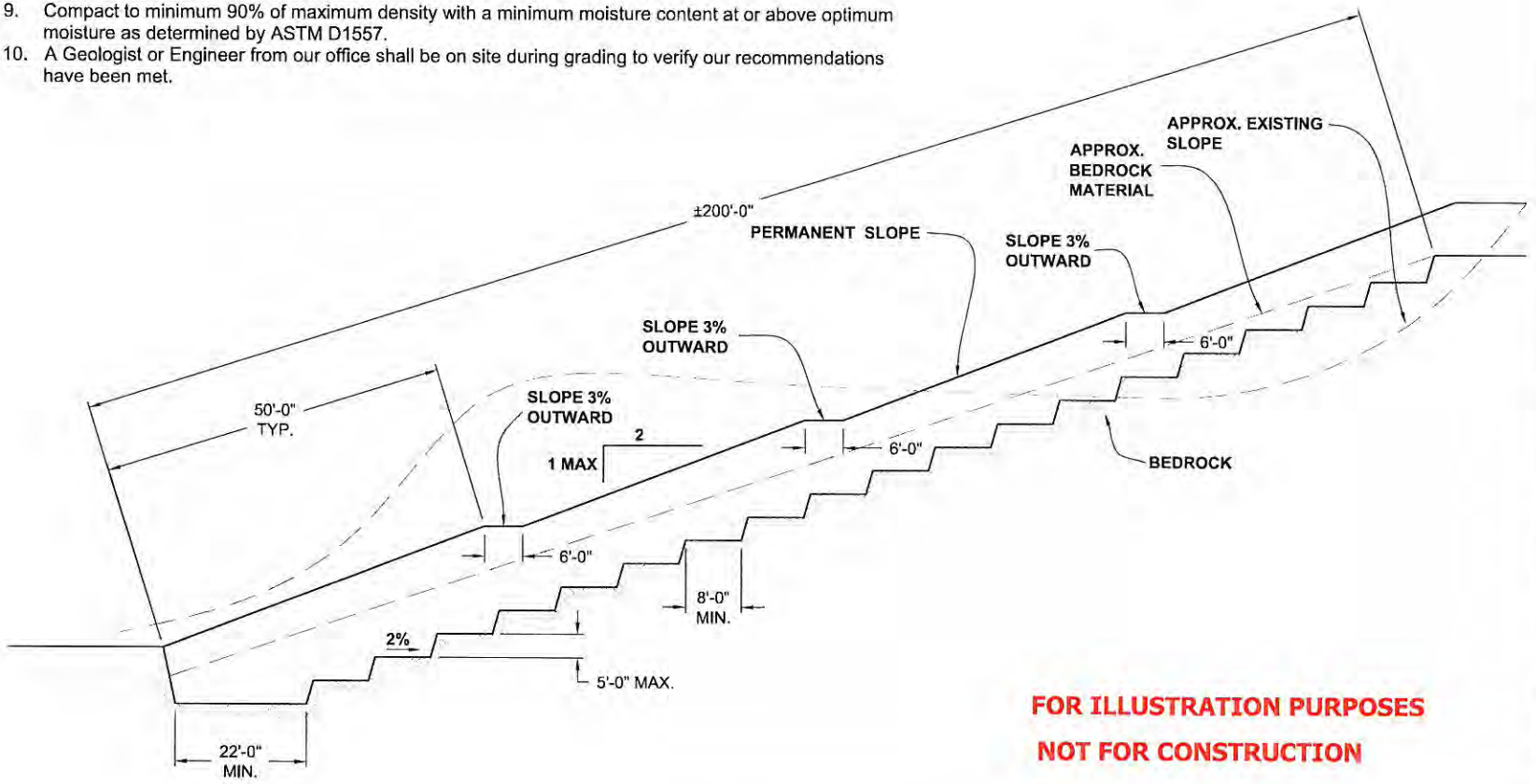


LANDSLIDE MAP **Plate 1**

Tracy Hills Development
San Joaquin County, California

NOTES:

1. Dimensions shown are for estimating purposes. Actual dimensions and extent of keyways and benches will be determined in the field by the soil engineer.
2. The upper 6" of soil exposed by excavation should be scarified, moisture conditioned and compacted to at 90 percent relative compaction.
3. Fill should be placed in thin lifts and similarly compacted.
4. Slopes should be planted with deep-rooted vegetation (or protected by other suitable means) to reduce erosion.
5. Fill slope shall be overbuilt and cut back to firm 2h:1v. No cat tracking face of slope to compact.
6. 22 feet wide buttress key or per soil Engineer's field recommendation.
7. Benches must be 2% into the slope.
8. Key must be minimum of 3 feet into bedrock.
9. Compact to minimum 90% of maximum density with a minimum moisture content at or above optimum moisture as determined by ASTM D1557.
10. A Geologist or Engineer from our office shall be on site during grading to verify our recommendations have been met.



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AND ASSOCIATES

CORPORATE OFFICE
902 INDUSTRIAL WAY
LODI, CALIFORNIA 95240
PHONE: (209) 367-3701
FAX: (209) 333-8303

SACRAMENTO
WALNUT CREEK
RENO
ANGELS CAMP

TYPICAL BENCHED CUT / FILL DETAILS

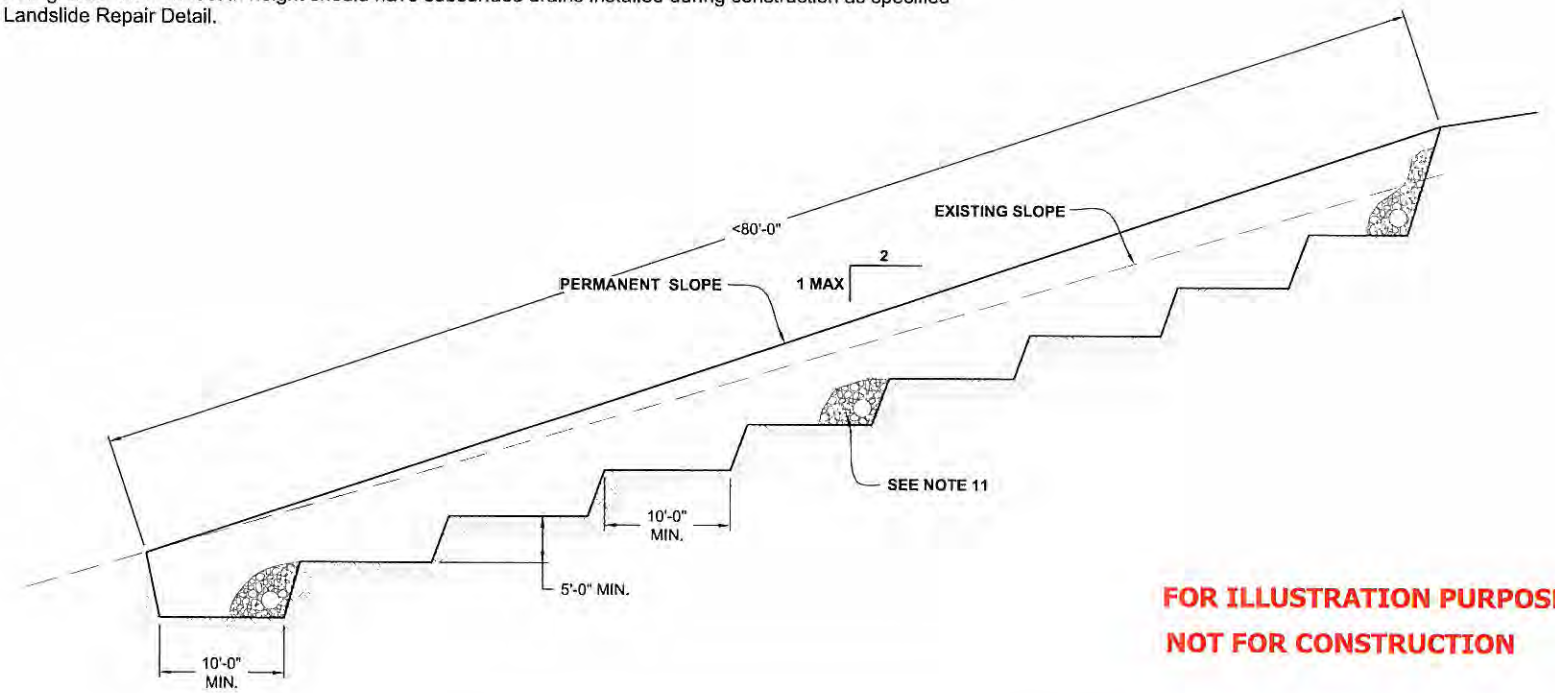
580 BUSINESS PARK

TRACY, CALIFORNIA

Job No.	LGE100072
Date:	11/10/10
Scale:	Not To Scale
Drawn by:	EC
Checked by:	GH
Plate No.	2

NOTES:

1. Dimensions shown are for estimating purposes. Actual dimensions and extent of keyways, benches, and subdrains will be determined in the field by the soil engineer.
2. The upper 6" of soil exposed by excavation should be scarified, moisture conditioned and compacted to at 90 percent relative compaction.
3. Fill should be placed in thin lifts and similarly compacted.
4. Slopes should be planted with deep-rooted vegetation (or protected by other suitable means) to reduce erosion.
5. Subdrains should consist of 4"Ø perforated, rigid plastic pipe (SDR-35 or equivalent) with a gravity outlet and Class 2 Permeable material, or any drainrock encased in a nonwoven geotextile fabric weighing at least 4 ounces per square yard.
6. Fill slope shall be overbuilt and cut back to firm 2 h:1 v. No cat tracking face of slope to compact.
7. 10 feet wide buttress key or per soil Engineer's recommendation.
8. Benches must be 2% into the slope.
9. Key must be min. of 5 feet into bedrock.
10. Compact to min. 90% of maximum density with a min. moisture content of 3% over optimum within the upper 5 feet and a min. of 93% with a min. 1% over optimum below 5 feet as determined by ASATM D1157.
11. Fill greater than 10 feet in height should have subsurface drains installed during construction as specified in Landslide Repair Detail.



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SACRAMENTO
WALNUT CREEK
RENO
ANGELS CAMP

TYPICAL BENCHED CUT / FILL DETAILS

580 BUSINESS PARK
TRACY, CALIFORNIA

Job No:	LGE100072
Date:	11/10/10
Scale:	Not To Scale
Drawn by:	EC
Checked by:	GH
Plate No.	3

Appendix G USFWS & CDFW Letter – Two Proposed Conservation Easements and Potential Mitigation Property

DEPARTMENT OF FISH AND GAME
BAY DELTA REGION
7329 SILVERADO TRAIL
NAPA, CA 94558
(707) 944-5500

U. S. FISH AND WILDLIFE SERVICE
SACRAMENTO FISH AND WILDLIFE OFFICE
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

In reply to Service, refer to:
08ESMF00-2012-TA-0413-01
81420-2009-F-0721-08

MAY 15 2012

Mr. Angelo K. Tsakopoulos
Tsakopoulos Family Partnership
AKT Developments
7700 College Town Drive, Suite 101
Sacramento, California 95826

Mr. Timothy Taron
Hefner, Stark & Marois, LLP
2150 River Plaza Drive, Suite 450
Sacramento, California 95833-4136

Subject: Two Proposed Conservation Easements and Potential Mitigation Property ("Southern Preserve") in San Joaquin County, California

Dear Mr. Tsakopoulos and Mr. Taron:

The U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Game (CDFG) (collectively referenced as Agencies) have reviewed the Grant Deeds of Conservation Easement Nos. 2 and 3 (titled "Southern Preserve Easement Areas 1 and 2", also referred to as the "Easements"), as well as the Preserve Management Plan, received in the Service's office on March 13, 2012. These documents are intended to protect and manage property (Property) comprised of approximately 2,753.8 acres owned by Tsakopoulos Family Partnership, and Angelo K. Tsakopoulos (collectively referred to as "Grantor"). The Property will be managed under the same Preserve Management Plan as the mitigation land provided to the San Joaquin Multi-Species Conservation Plan (SJMSCP) for the Tracy 580 Business Park (Service File No. 81420-2009-TA-0721), and the Easements will be recorded at the same time that the easement for mitigation of the Tracy 580 Business Park is recorded. Although the Property is not currently proposed as mitigation under the SJMSCP, the Property will be managed consistent with the SJMSCP preserve system overseen by the San Joaquin Council of Governments, Inc. (SJCOG). The SJCOG has voluntarily assumed responsibilities outlined in the Easements and Preserve Management Plan in order to ensure that management of the Property is consistent with nearby SJMSCP preserves.

The Property is located south of Interstate 580 approximately 5.9 miles southwest of the center of the City of Tracy with an approximate centerpoint of latitude 37.668946° and longitude -121.503231°. The Property is within the Southwest Zone of the SJMSCP, which is primarily comprised of valley grasslands and some riparian habitat adjacent to Corral Hollow Creek.

It is the Service's and CDFG's view that the proposed Property currently provides conservation value for the San Joaquin kit fox (SJKF) and western burrowing owl, as well as a known location for the California red-legged frog. This Property is within a known SJKF corridor and provides habitat for a recently-

documented population of burrowing owls. The Service's Biological Opinion for the SJMSCP (1-1-00-F-0231) indicated that the area of Tracy and southwest is important for burrowing owls, and currently there are no preserves for the SJMSCP that have known occurrences of this species. Other species on the Property that are covered under the SJMSCP will also benefit from its conservation status (*e.g.*, Swainson's hawk, SJKF, etc.).

The Agencies acknowledge that preservation and management of the Property pursuant to the terms of the Southern Preserve Easement Areas 1 and 2 are not, as of the date of this letter, necessary to mitigate for the development of any property. However, the Agencies believe that the recordation of the Easements on the Property at this time will help preserve its ecological value. The Agencies agree that the Grantor's recordation of the Easements on the Property will not in any way limit, reduce, prejudice, or prevent Grantor from utilizing the Property as habitat mitigation for development of property within the Southwest Zone or the Transition Zone of the SJMSCP.

The Service and CDFG are issuing this joint letter accepting the proposal to convey the Southern Preserve Easement Areas 1 and 2, and have the Property managed by the SJCOG, pursuant to the Preserve Management Plan. The Agencies are not making any finding regarding the suitability of the Property as mitigation for any specific future project. Such a determination would be made at the time the Agencies receive and consider future permit applications. The Southern Preserve Easement Areas 1 and 2, habitat management plan and endowment funding would need to meet all Agency mitigation standards in place when and if the Property is used as mitigation land and therefore may need amending. At such time, the Agencies will consider, among other issues, whether a proposed development project impacts the same species as those supported on the Property for which mitigation value is being sought, and whether the Property location has habitat values that are suitable for mitigating the impacts associated with the proposed development, as determined by the Agencies. If multiple projects are proposed to mitigate at the Property, the Agencies may recommend the establishment or a conservation bank or consider individual project mitigation. The Southern Preserve Easement Areas 1 and 2 will be conveyed to SJCOG without an endowment for management. It is the Agencies' agreement with the Grantor that if the Southern Preserve Easement Areas 1 and 2 are used as mitigation for a future proposed project, that project will provide an endowment, using a calculation based on the time of that project's groundbreaking, to cover management of the Property in perpetuity.

Please contact Ellen R. McBride or Mike Thomas with the U. S. Fish and Wildlife Service at (916) 414-6630, or Randi Adair with California Department of Fish and Game at (707) 944-5596 if you have questions regarding this response. Please refer to Service file numbers 81420-2009-F-0721 and 08ESMF00-2012-TA-0413 in any future correspondence.

Sincerely,

for Cay Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Fish & Wildlife Office

Scott Wilson
Acting Regional Manager
California Department of Fish and Game
Bay Delta Region

cc: Steve Mayo, Senior Habitat Planner, San Joaquin Council of Governments
555 East Weber Avenue, Stockton, California 95202

Appendix H SJMSCP Covered Species

TABLE 2-2
SJMSCP COVERED SPECIES

The 97 species covered by the SJMSCP are:

SPECIES NAME	Federal Status	State Status	Other Status	Presence confirmed in County/d/	Type of Coverage			Limitations to Take Coverage	Proposed ESA Coverage to be Pursued After HCP Adoption
					ESA	CESA	CEQA		
Federally-Listed Species									
Large-flowered fiddleneck (*Amsinckia grandiflora*)	E	E	CNPS 1B	X	X	X	X	NK/j/, NCO/j/	
Succulent owl's clover aka fleshy owl's clover (*Castilleja campestris* ssp. *succulenta* fmr *Orthocarpus succulentus*)	T	E	CNPS 1B	X	X	X	X	NK/j/,NCO/j/	
Orcutt grass/Greene's tuctoria (*Tuctoria greenei*)	E	R	CNPS 1B		X	X	X	NK/j/, NCO/j/	
Conservancy fairy shrimp (*Branchinecta conservatio*)	E			1/29/96/e/	X	X	X	NK/i/,NCO	
Longhorn fairy shrimp (*Branchinecta longiantenna*)	E			1/29/96/e/	X	X	X	NK/i/, NCO	
Vernal pool fairy shrimp (*Branchinecta lynchi*)	T			X	X	X	X		
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	T, CH			X	X	X	X		
Vernal pool tadpole shrimp (*Lepidurus packardi*)	E				X	X	X		
Delta smelt (*Hypomesus transpacificus*)	T, CH	T		X	X	X	X	LCA	
Sacramento splittail (*Pogonichthys macrolepidotus*)	T	SSC		X	X	X	X	LCA	
California red-legged frog (*Rana aurora draytonii*)	T	SSC		X	X	X	X		
Giant garter snake (*Thamnophis gigas*)	T	T		X	X	X	X	NK, NCO	
Aleutian Canada goose (*Branta canadensis leucopareia*)	T		MBTA	X	X	X	X		
Mountain plover (*Charadrius montanus*)	T	SSC	MBTA	X	X	X	X		
Riparian woodrat (Neotoma fucipes riparia)	E	SSC		X	X	X	X	NK, NCO	
Riparian brush rabbit (*Sylvilagus bachmani riparius*)	E	E		X	X	X	X	NK, NCO	
San Joaquin kit fox (*Vulpes macrotis mutica*)	E	T		X	X	X	X		
State-listed Species that are not Federally-Listed									
Delta button-celery/Delta coyote thistle (*Eryngium racemosum*)	SPOC	E	CNPS 1B	X	X	X	X	NK/j/, NCO/j/	
Boggs Lake hedge-hyssop (*Gratiola heterosepala*)	SPOC	E	CNPS 1B	X	X	X	X		
Mason's lilaeopsis (*Lilaeopsis masonii*)	SPOC	R	CNPS 1B	X	X	X	X		
Swainson's hawk (*Buteo swainsoni*)	SPOC	T	MBTA	X	X	X	X		
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	/h/	E	MBTA	X	X	X	X		

SPECIES NAME	Federal Status	State Status	Other Status	Presence confirmed in County/d/	Type of Coverage			Limitations to Take Coverage	Proposed ESA Coverage to be Pursued After HCP Adoption
					ESA	CESA	CEQA		
Greater sandhill crane (*Grus canadensis tabida*)		T	MBTA, FPS	X	X		X	NK/f/	
California black rail (*Laterallus jamaicensis coturniculus*)	SPOC	T		MBTA,	X			X	NK/f/
Bank swallow (*Riparia riparia*)		T	MBTA	X		X	X		
Other SJMSCP Covered Species									
Suisun marsh aster (*Aster lentus*)	SPOC		CNPS 1B	X	X	X	X		
Alkali milk-vetch (*Astragalus tener* var. *tener*)			CNPS 1B	X			X		
Heartscale (*Atriplex cordulata*)	SPOC		CNPS 1B				X		
Brittlescale (*Atriplex depressa*)	SPOC		CNPS 1B				X		
Hoover's calycadenia (*Calycadenia hooveri*)	SPOC		CNPS 1B				X		
Bristly sedge (*Carex comosa*)			CNPS 2	X			X		
Slough thistle (*Cirsium crassicaule*)	SPOC	SP	CNPS 1B	X	X	X	X	NK/j/, NCO/j/	
Mt. Hamilton coreopsis (*Coreopsis hamiltonii*)	SPOC		CNPS 1B				X		
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)	SPOC		CNPS 1B	X	X	X	X	NK/j/, NCO/j/	
Recurved larkspur (*Delphinium recurvatum*)	SPOC		CNPS 1B	X			X		
Diamond-petaled poppy/diamond-petaled California poppy (*Escholzia rhombipetala*)	SPOC		CNPS 1A		X	X	X	NK/j/, NCO/j/	
California hibiscus/rose mallow (*Hibiscus lasiocarpus*)	SPOC		CNPS 2	X	X	X	X		
Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)	SPOC		CNPS 1B				X		
Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)	SPOC		CNPS 1B	X	X	X	X		
Legenere (*Legenere limosa*)	SPOC		CNPS 1B		X	X	X	NK/j/, NCO/j/	
Delta mudwort (*Limosella subulata*)			CNPS 2	X	X	X	X		
Showy madia (*Madia radiata*)			CNPS 1B	X	X	X	X	NK/j/, NCO/j/	
Sanford's arrowhead/Sanford's sagittaria (*Sagittari sanfordii*)	SPOC		CNPS 1B	X	X	X	X	NK/j/, NCO/j/	
Mad-dog skullcap (*Scutellaria lateriflora*)			CNPS 2				X		
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)			CNPS 2	X			X		
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	SPOC		CNPS 1A	X			X		
Ciervo aegialian scarab beetle (*Aegialia concinna*)	R			X			X		
Mid-valley fairy shrimp (*Branchinecta* sp. *nova*)	/c/			1/14/97/c/			X		X
Curved-foot diving beetle (*Hygrotis curvipes*)	SPOC			1/29/96/e/			X		X

SPECIES NAME	Federal Status	State Status	Other Status	Presence confirmed in County/d/	Type of Coverage			Limitations to Take Coverage	Proposed ESA Coverage to be Pursued After HCP Adoption
					ESA	CESA	CEQA		
Moestan blister beetle (*Lytta moesta*)	SPOC						X		
Molestan blister beetle (*Lytta molesta*)	SPOC						X		
Green sturgeon (*Acipenser medirostris*)	SPOC			X			X		X
Longfin smelt (*Spirinchus thaleichthys*)	SPOC			X			X		X
California tiger salamander (*Ambystoma californiense*)	C	SSC		X	X	X	X		
Foothill yellow-legged frog (*Rana boylii*)	SPOC	SSC		X	X	X	X		
Western spadefoot toad (*Scaphiopus hammondi*)	SPOC	SSC		X	X	X	X		
Western pond turtle (*Clemmys marmorata*)/b/	SPOC	SSC		X	X	X	X		
San Joaquin whipsnake (*Masticophis flagellum ruddocki*)	SPOC	SSC		X		X	X		
California horned lizard (*Phrynosoma coronatum frontale*)		SSC		X		X	X		
Cooper's hawk (*Accipter cooperi*)		SSC	MBTA	X		X	X		
Sharp-shinned hawk (*Accipter striatus*)		SSC	MBTA	X		X	X		
Western grebe (*Aechmophorus occidentalis*)		SA	MBTA	X			X		
Tricolored blackbird (*Agelaius tricolor*)	SPOC	SSC	MBTA	X	X	X	X		
Bell's sage sparrow (*Amphispiza belli belli*)	SPOC	SSC	MBTA	X			X		
Golden eagle (*Aquila chrysaetos*)		SSC	FP	MBTA,	X	X	X	X	NK/f/
Great egret (*Ardea albus* formerly *Casmerodius albus*)		SA	MBTA	X			X		
Great blue heron (*Ardea herodias*)		SA	MBTA	X			X		
Short-eared owl (*Asio flammens*)		SSC	MBTA	X			X		
Ferruginous hawk (*Buteo regalis*)	SPOC	SSC	MBTA	X		X	X		
Northern harrier (*Circus cyanus*)		SSC	MBTA	X		X	X		
Yellow warbler (*Dendroica petechia brewsteri*)		SSC	MBTA	X		X	X		
Snowy egret (*Egretta thula*)		SA	MBTA	X			X		
White-tailed kite (*Elanus leucurus* - formerly *Elanus caeruleus*)		SA		MBTA,	X			X	NK/f/
California horned lark (*Eremophila alpestris actia*)	SPOC	SSC	MBTA	X		X	X		
Merlin (*Falco columbarius*)		SSC	MBTA	X		X	X		
Prairie falcon (*Falco mexicanus*)		SSC	MBTA	X		X	X		
Yellow-breasted chat (*Ictaria virens*)		SA	MBTA	X		X	X		
Loggerhead shrike (*Lanius ludovicianus*)	SPOC	SSC	MBTA	X	X	X	X		

SPECIES NAME	Federal Status	State Status	Other Status	Presence confirmed in County/d/	Type of Coverage			Limitations to Take Coverage	Proposed ESA Coverage to be Pursued After HCP Adoption
					ESA	CESA	CEQA		
Long-billed curlew (*Numenius americanus*)	SPOC	SSC	MBTA	X		X	X		
Black-crowned night heron (*Nycticorax nycticorax*)		SA	MBTA	X			X		
Osprey (*Pandion haliaetus*)		SSC	MBTA	X			X		
American white pelican (*Pelecanus erthrorhynchos*)		SSC	MBTA	X			X		
Double-crested cormorant (*Phalacrocorax auritus*)		SSC	MBTA	X			X		
White-faced ibis (*Plegadis chichi*)	SPOC	SSC	MBTA	X	X	X	X		
Burrowing owl (*Speotyto cunicularia*)		SSC	MBTA	X	X	X	X		
Ringtail/ringtail cat (*Bassaricus astutus*)			FPS/f/	X			X	NK/f/	
Berkeley kangaroo rat (*Dipodomys heermanni berkeleyensis*)		SA		X			X		
Greater western mastiff bat aka California mastiff bat (*Eumops perotis californicus*)	SPOC	SSC		X		X	X		
Red Bat (*Lasiurus blossevilli*)		SSC/a/		X/g/		X	X		
Small-footed myotis/bat (*Myotis ciliolabrum*)	SPOC						X		
Long-eared myotis/bat (*Myotis evotis*)	SPOC						X		
Fringed myotis/bat (*Myotis thysanodes*)	SPOC						X		
Long-legged myotis/bat (*Myotis volans*)	SPOC						X		
Yuma myotis/bat (*Myotis yumanensis*)	SPOC			X			X		
San Joaquin pocket mouse (*Perognathus inornatus inornatus*)		SA		X		X	X		
Pale big-eared bat (*Plecotus townsendii pallescens* aka *Corynorhinus townsendii pallescens*) aka Pacific western big-eared bat (*Plecotus townsendii townsendii* aka *Corynorhinus townsendii townsendii*)	SPOC	SSC		X		X	X		
American badger (*Taxidea taxus*)		SA		X			X		

/a/ This species is currently pending designation and is believed to be widely distributed in the County.
/b/ The Western and Southwestern Pond Turtles (*Clemmys marmorata marmorata* and *Clemmys marmorata pallida*, respectively) have been combined into a single category for the SJMSCP due to disagreements among experts as to the correct taxonomic classification.
/c/ The Mid-Valley fairy shrimp (*Branchinecta* sp. *nova*) is a newly discovered species of fairy shrimp which is not yet fully described, but has the potential for federal listing.
/d/ "X" indicates known occurrences in the County. Blanks indicate that habitats for these species exist and/or that the species range is in the County, however, occurrences for these species are not confirmed in the County. Dates provided indicate recent dates of discovery for the indicated species.
/e/ Requested addition by USFWS.
/f/ Pursuant to Fish and Game Code Sections 3511, 4700, 5050, and 5515 these are fully protected species. Fully protected species may not be “taken” or possessed at any time. "Take," for the purposes of these Fish and Game Code Sections , means kill of individuals of the species . Incidental Take Permits for these species are included in the SJMSCP, to allow for the Conversion of habitat for these species with appropriate creation of compensatory habitat for these species and the implementation of appropriate minimization measures. Therefore, to fulfill the requirements of the Fish and Game Code regarding fully protected species, Incidental Take Minimization Measures have been designed to avoid any kill of individuals of these species, while allowing Conversion of habitats, pursuant to Sections 5.2.4.12, 5.2.4.19, 5.2.4.21 and 5.2.4.26.
/g/ Personal Communication (September, 2000) - Elizabeth Pierson and Steve Stocking confirm identification and collection of species in San Joaquin County.

/h/ The USFWS has been petitioned to list this species by the Southwest Center for Biodiversity, et al. in 1999.
/i/ Limited kill of individuals permitted within Preserves for monitoring activities and during pre-construction surveys to allow net sampling to determine presence of the species.
/j/ Limited Conversion of habitats or kill of individuals may be allowed upon consultation with the Permitting Agencies pursuant to the provisions specified in Sections 55.2.___.

Appendix I Regulatory Background

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Endangered Species Act

Federally listed threatened and endangered species and their habitats are protected under provisions of the Federal Endangered Species Act (ESA). "Take" under the ESA is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." "Harm" has been defined by the regulations of the USFWS to include types of "significant habitat modification or degradation." The U.S. Supreme Court, in *Babbit v. Sweet Home*, 515 U.S. 687, ruled that "harm" may include habitat modification "...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." Activities that may result in "take" of individuals are regulated by USFWS.

The FESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is a species that is likely to become endangered in the foreseeable future. A "proposed" species is one that has been officially proposed by USFWS for addition to the federal threatened and endangered species list.

Section 9 of the FESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. The presence of any federally threatened or endangered species that are in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the FESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

USFWS produced an updated list of candidate species for listing in June 2002 (Federal Resister: Volume 67, Number 114, 50 CFR Part 17). Candidate species are regarded by USFWS as candidates for addition to the "List of Endangered and Threatened Wildlife and Plants." Although candidate species are not afforded legal protection under the ESA, they typically receive special attention from federal and state agencies during the environmental review process.

California Endangered Species Act

State-listed threatened and endangered species are protected under provisions of the California Endangered Species Act (CESA). Activities that may result in "take" of individuals

(defined in CESA as; “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.
The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, an informal term that refers to species which might be in need of concentrated conservation actions.

As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Section 3503, 3511, and 3513 of California Fish and Wildlife Code

The CDFW administers the California Fish and Wildlife Code. There are particular sections of the Code that are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds’ nest or any birds’ egges that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW will be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected include golden eagle (*Aquila chrysaetos*), and white-tailed kite (*Elanus leucurus*). Section 3513 of the Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

California Native Plant Society Rare or Endangered Plant Species

The CNPS initially created five California Rare Plant Ranks (CRPR) in an effort to categorize degrees of concern; however, in order to better define and categorize rarity in California's flora, the CNPS Rare Plant Program and Rare Plant Program Committee have developed the new California Rare Plant Ranks (CRPR) 2A and CRPR 2B. These new categories, in addition to the initial categories, are described as follows:

California Rare Plant Rank (CRPR)

- 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
- 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A: Plants Presumed Extirpated in California, but More Common Elsewhere
- 2B: Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
- 3: Plants About Which More Information is Needed – A Review List
- 3: Plants of Limited Distribution – A Watch List

The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. A Threat Rank is present for all California Rare Plant Rank 1B's, 2B's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A and 2A (presumed extirpated in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

Threat Ranks:

- 0.1: Seriously threatened in California
- 0.2: Moderately threatened in California
- 0.3: Not very threatened in California

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) makes it unlawful to pursue, capture, kill, or possess or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21).

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The SJMSCP intends to provide comprehensive compensation for impacts to threatened, endangered, rare and unlisted SJMSCP covered species and other wildlife, and compensation for some non-wildlife related impacts to recreation, agriculture, scenic values, and other beneficial open space uses (San Joaquin Council of Governments 2000). Comprehensive mitigation for impacts on plants, fish, and wildlife means that open space goals adopted under the SJMSCP are intended to adequately compensate for impacts on plants, fish, and wildlife for SJMSCP permitted activities pursuant to local, state, and federal regulations. At the state and federal levels, the SJMSCP is expected to provide adequate compensation for impacts on plants, fish, and wildlife for SJMSCP pursuant to the CESA, the California Native Plant Protection Act, ESA, Section 404 of the CWA, Section 10 of the Rivers and Harbors Act of 1899, and the MBTA for ESA-listed SJMSCP covered bird species also protected under this Act as these laws relate to the CDFG's, USFWS', and the USACE's responsibilities for covered species with respect to SJMSCP permitted activities located within the boundaries of San Joaquin County.

The plan also promotes preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under ESA or CESA; providing and maintaining multiple-use open spaces which contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to project applicants and society at large.

SJMSCP Approach to Impacts

The SJMSCP takes a habitat-based approach to mitigation for the loss of habitat for covered species. The SJMSCP emphasizes the establishment, enhancement, and management in perpetuity of preserves composed of a single vegetation type or association of vegetation types upon which groups of SJMSCP covered species rely.

Alternatively, the SJMSCP provides a mitigation approach that allows complete avoidance of SJMSCP covered species and habitats. Regardless of the approach, incidental take minimization measures are required for all project activities undertaken pursuant to the SJMSCP. If multiple species and multiple habitats are represented on a single parcel, avoidance of all impacts to all species and all habitats is required for a waiver of the SJMSCP compensation requirements.

Wherever SJMSCP covered species or jurisdictional wetlands are entirely avoided, no compensation is required pursuant to the SJMSCP. When multiple species and multiple habitats are found on a single parcel, implementation of complete avoidance measures for some species and habitats within project boundaries may permit partial waivers of SJMSCP

compensation requirements subject to the approval of the Joint Powers Agency (JPA) with the concurrence of the permitting agencies' representatives on the Technical Advisory Committee (TAC). If the JPA or permitting agencies' representatives on the TAC denies reduced compensation, then the compensation/avoidance established for each species and habitat by the SJMSCP shall be implemented.

When impacts are unavoidable, preserves are normally located outside of designated existing and planned urban boundaries predominantly on productive agricultural lands located throughout the County. Once acquired, preserve lands shall be enhanced by the JPA to increase the quality of habitats on preserves and, subsequently, to encourage occupation of a preserve site by SJMSCP covered species or increase the populations of existing SJMSCP covered species on preserves.

Section 5.3.2.3 of the SJMSCP describes the timing of fee payments, in-lieu dedications, and mitigation banking for participants of the Plan. Collection of fees or purchases of Mitigation Banking Credits for projects less than or equal to 350 acres in size would not occur greater than 30 days prior to or at the time of issuance of Building Permits. Land dedications in lieu of mitigation banking are required to occur prior to ground disturbing activities.

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Section 404 of the Federal Clean Water Act

Section 404 of the federal Clean Water Act, which is administered by the U.S. Army Corps of Engineers (Corps), regulates the discharge of dredge and fill material into waters of the United States. Areas meeting the regulatory definition of "Waters of the United States" are subject to the regulatory jurisdiction of the Corps under the Clean Water Act (CWA) (1972). The Corps, under provisions of Section 404 of the CWA, has jurisdiction over "Waters of the United States" (jurisdictional waters). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as Waters of the U.S., tributaries of waters otherwise defined as Waters of the U. S., the territorial seas, and wetlands adjacent to Waters of the U.S. (33 CFR, Part 328, Section 328.3).

Areas generally not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and, under certain circumstances, water-filled depressions created in dry land incidental to construction activity (51 Federal Register 41217, November 13, 1986).

The Corps has established a series of nationwide permits that authorize certain activities in waters of the U.S., provided that a proposed activity can demonstrate compliance with standard conditions. Normally, the Corps requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the U.S. projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Section 1600 of the California Fish and Wildlife Code

The California Fish and Wildlife Code establishes CDFW jurisdiction over alterations to streams in Sections 1601-1603. Also known as "Streambed Alteration," this jurisdiction generally extends to the "hinge points" on the top-of-bank of opposing channel banks and/or the full lateral extent of riparian vegetation beyond the top-of-bank. Definitions used

in the identification of the CDFW's jurisdiction are contained in various documents including the Fish and Wildlife Code, Title 14 of the California Code of Regulations (Cal. Code Regs., tit. 14 Section 699.5), and *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code* (1994). These areas generally include rivers, streams, creeks, or lakes. In addition, canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.

The California Fish and Wildlife Commission has also defined "wetlands" pursuant to section 703 of the Fish and Wildlife Code. The CDFW maintains a specific policy regarding impacts on wetland habitats because these habitats are important to a wide variety of plant and wildlife species. The CDFW considers projects that impact these resources as significant under CEQA if they result in a net loss of wetland acreage or habitat value. When wetland habitat cannot be avoided, impacts on wetlands are required to be compensated for with the creation of new habitat, preferably on site, at a minimum ratio of 1:1. Wetlands that have been inadvertently created by leaks, dams, or other structures, or failures in man-made water systems are not exempt from this policy.

The CDFW potentially extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream dependent terrestrial wildlife" (CDFG 1994). Such areas on the site were determined using methodology described in *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607* (CDFG 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream, or which substantially change its bed, channel or bank, or which utilize any materials (including vegetation) from the streambed, may require that a project applicant enter into a Streambed Alteration Agreement with the CDFW.

Section 401 of the Clean Water Act

Applicants for a federal license or permit for activities which may discharge to waters of the United States must seek Water Quality Certification from the state or Indian tribe with jurisdiction.[1] Such Certification is based on a finding that the discharge will meet water quality standards and other applicable requirements. In California, Regional Boards issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which are defined as numeric and narrative objectives in each Regional

[1] Title 33, United States Code, Section 1341; Clean Water Act Section.

Board's Basin Plan. Where applicable, the State Water Resources Control Board has this responsibility for projects affecting waters within multiple Regional Boards. The Regional Board's jurisdiction extends to all waters of the State (includes SWANCC and Rapanos conditions) and to all WoUS, including wetlands.

Section 401 of the Clean Water Act requires that "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act." Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the Regional Water Quality Control Board (RWQCB).

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.