Appendix D Biological Resources Report

Appendices

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MSHCP BIOLOGICAL RESOURCES REPORT
AND
CEQA BIOLOGICAL TECHNICAL REPORT

RANCHO SAN GORGONIO PLANNED COMMUNITY PROJECT

CITY OF BANNING

RIVERSIDE COUNTY, CALIFORNIA

LSA

November 6, 2015

MSHCP BIOLOGICAL RESOURCES REPORT
AND
CEQA BIOLOGICAL TECHNICAL REPORT

RANCHO SAN GORGONIO PLANNED COMMUNITY PROJECT

CITY OF BANNING

RIVERSIDE COUNTY, CALIFORNIA

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LSA

November 6, 2015

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1.0 INTRODUCTION

LSA Associates, Inc. (LSA) was retained by Diversified Pacific to conduct biological surveys for the Rancho San Gorgonio Planned Community Project, within and south of the City of Banning (City), Riverside County.

The City is preparing an environmental impact report (EIR) for the Rancho San Gorgonio Specific Plan (proposed project) for public review and comment. The Rancho San Gorgonio Initial Study was prepared by Placeworks in 2015. The proposed project would provide comprehensive direction for the development of 671 acres in the City and 160 acres located within the City's Sphere of Influence (SOI) which is proposed to be annexed to the City as part of the overall project development. In compliance with the California Environmental Quality Act (CEQA), the City of Banning, as lead agency, is preparing the environmental documentation for the proposed project to determine if approval of the discretionary actions requested and subsequent development would have a significant impact on the environment.

The City is a Permittee to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), which was adopted by the County of Riverside in June 2003 (RCTLMA 2003). The MSHCP is a comprehensive, multijurisdictional habitat conservation plan and Natural Communities Conservation Plan for the conservation of species and their associated habitats in western Riverside County. The MSHCP provides authorization for take of listed plant and animal species to Permittees for otherwise lawful activities consistent with MSHCP requirements and terms and conditions in exchange for compliance with provisions of the MSHCP including the assembly and management of a coordinated Conservation Area/Reserve. As a Permittee, the City has the responsibility to implement and adhere to the provisions of the MSHCP as well as the MSHCP Implementing Agreement.

Other public agencies whose approval is required are:

- Riverside County Local Agency Formation Commission (LAFCO): Annexation of part of the SOI into City;
- California Department of Fish and Wildlife (CDFW): CFGC Section 1602 Lake and Streambed Alteration Agreement;
- U.S. Army Corps of Engineers (USACE): Clean Water Act (CWA) Section 404 Permit;
- Colorado River Basin Regional Water Quality Control Board (RWQCB): CWA Section 401 Certification; and
- RWQCB: Water Quality Management Plan Approval.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The project site is located in the City of Banning (City), Riverside County, California. The site is located within Sections 16 and 17, Township 3 South, Range 1 East as shown on the U.S. Geological Survey (USGS) 7.5-minute series *Beaumont, California* quadrangle (Figure 1). The property is 0.4 mile south of Interstate 10 (I-10) and generally bordered by Westward Avenue on the north, Sunset Avenue on the west, Coyote Trail on the south, and San Gorgonio Avenue (State Route 243) on the east.

2.2 PROPOSED PROJECT

The draft Rancho San Gorgonio (RSG) Specific Plan (RBF 2014) (anticipated City decision in 2016) proposes an 831-acre master planned residential community within the City and its SOI. The RSG Specific Plan aims to fulfill the City's growth objectives by creating a development that responds to planning needs of the area, incorporates existing natural features and park amenities, and provides a variety of land uses. The Plan is organized into 44 planning areas (PAs) that include a variety of residential densities, lot types and housing types, common open spaces, and a commercial area. Parks and paseos are incorporated throughout the community and buffer the converging existing creeks, while providing walking, riding, and vehicle access throughout the community and connecting the RSG Specific Plan's distinct walkable "Village" neighborhoods. Figure 2 provides a copy of the most current version of the Specific Plan Community Design.

The RSG Specific Plan includes the following proposed land uses and design goals:

- A mix of up to 3,385 residential units (on approximately 516 acres);
- 9.3 acres for proposed Neighborhood Commercial uses, intended to provide a location for businesses that meet day-to-day shopping and service needs of the residential uses as may be identified;
- 210 acres for parks and recreational areas, varying from passive open space and trails to sports fields and gathering places;
- 77 acres for circulation uses, including roadways, pathways and bridges for vehicles, bikes, pedestrians, and equestrian use; and
- Drainage way improvements for flood control purposes that respect the natural creek paths through the area.

The RSG Specific Plan proposes a variety of residential opportunities including small, medium, and larger lot single-family detached homes; various potential configurations of single-family detached cluster residences, and potential attached multifamily dwellings. The variety of residential uses provides housing at different price levels. Through the use of effective planning, the proposed RSG

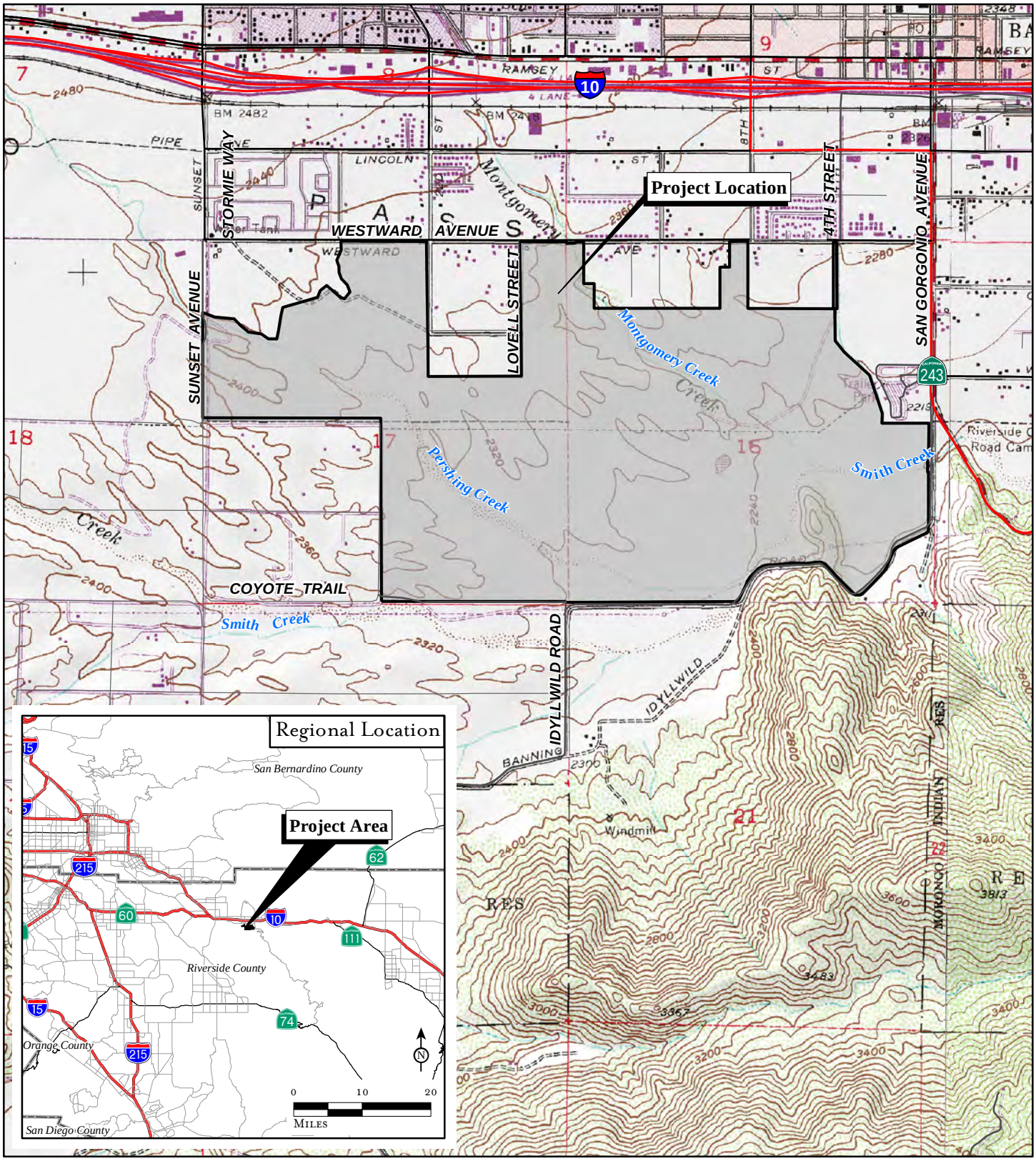

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FIGURE 1

SOURCE: USGS 7.5' Quads: Beaumont (88), CA; Cabazon (88), CA: Riverside County, 2011.

Rancho San Gorgonio Planned Community Project Biological Resources Report

Regional and Project Location

FIGURE 2

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SOURCE: Rancho San Gorgonio Specific Plan, 1/26/2015

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Specific Plan responds to the community's vision by providing a desirable high-quality planned community that integrates evenly distributed residential living areas and amenities.

The mix of residential, commercial, open space, and recreational opportunities provided by the RSG Specific Plan is organized and connected by the natural character of the land. The RSG Specific Plan's location within the City, situated between the San Bernardino Mountains including Mount San Gorgonio, and the San Jacinto Mountains, provides a human experience with design concepts that respond to the physical, social, and emotional needs of its residents. Needed infrastructure improvements including roadways, drainage, and other improvements have been identified and incorporated into an urban design concept that celebrates open space and the public realm.

3.0 REGULATORY REQUIREMENTS

A review of the various federal, state, regional, and local government regulatory requirements was conducted to identify regulations that provide protection of biological resources.

3.1 FEDERAL

The following subsections describe the Federal laws and regulations governing the protection of biological resources.

3.1.1 Endangered Species Act of 1973

The Federal Endangered Species Act of 1973 (FESA) (16 United States Code [U.S.C.] Sections 1531 through 1543) and subsequent amendments provide guidance for the conservation of federally listed species and the habitats on which they depend.

3.1.1.1 Prohibited Acts

Section 9 of the FESA and its implementing regulations prohibit the "take" of any fish or wildlife species listed as threatened, endangered, or proposed for listing as such, under the FESA unless otherwise authorized by federal regulations. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Take includes the modification of a listed species' occupied habitat. Sections 7 and 10 describe two processes whereby take is allowed when it is incidental to an otherwise legal activity. Section 9 of the FESA also prohibits the unlawful removal, damage or destruction of any endangered plant under federal jurisdiction, or where in non-federal areas, in knowing violation of any state law.

3.1.1.2 Interagency Consultation

Section 7 of the FESA provides a framework for authorizing the take of threatened or endangered species by federal agencies, or their designees, and applies to actions that are conducted, permitted, or funded by a Federal agency. The statute requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species.

3.1.1.3 Habitat Conservation Plans

If non-federal activities may or are likely to result in the "take" of threatened or endangered wildlife, FESA requires that a permit authorizing take be acquired from the USFWS. Section 10 of the FESA

allows incidental take permits to be issued in two different situations: (1) when the take is associated with scientific purposes related to the survival of the species, and (2) when the take is incidental to, and not the purpose of, an otherwise lawful activity. To be eligible for the second variety of Section 10 incidental take permits, a permit applicant must develop a Habitat Conservation Plan (HCP) that discusses the anticipated impact of the take, the steps that will be taken to minimize and mitigate any impacts of take and the funding to provide for those steps, the alternatives considered and rejected, and any other measures that the Secretary of the Interior may require for the HCP. In essence, an HCP is intended to offset any incidental take authorized by a Section 10 permit under FESA.

3.1.2 Clean Water Act

The Federal Clean Water Act (CWA) (33 U.S.C. Sections 1251 to 1376) serves as the primary Federal law protecting the quality of the nation's surface waters, including wetlands.

3.1.2.1 Section 401 of the Clean Water Act

Section 401 of the CWA (33 U.S.C.§ 1341) requires that an applicant for a federal license or permit, e.g., CWA 404 Permit (33 U.S.C. § 1344), for activities that may result in a discharge of pollutants to waters of the United States (waters of the U.S.) must obtain a certification from the State Water Resources Control Board (SWRCB) that the discharge complies with State Water Quality standards. The Regional Water Quality Control Boards (RWQCBs), under the oversight of the SWRCB, administer the certification program in California.

3.1.2.2 Section 402 of the Clean Water Act

Section 402 of the CWA (33 U.S.C. Section 1342) establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point source discharges of pollutants into waters of the United States. An NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the U.S. and establishes monitoring and reporting requirements, as well as special conditions. The RWQCBs, under the oversight of the SWRCB, administer the permit program in California.

3.1.2.3 Section 404 of the Clean Water Act

Section 404 of the CWA regulates the discharge of dredged or filled material to Waters of the U.S., and requires that any proposed activity that will result in dredged or fill materials being discharged into waters of the U.S. obtain a permit to do so from the U.S. Army Corps of Engineers (USACE). Before a section 404 permit can be issued by the USACE, California law requires that the proposed discharge be found in compliance with State Water Quality standards by a RWQCB. The USACE must also find that the proposed discharge complies with NEPA, FESA, and the National Historic Preservation Act (NHPA), and that the project proposed represents the least damaging practicable alternative (LEDPA), before a Section 404 permit can be issued.

3.1.3 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661, et seq.) applies to any federal project where any body of water is impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the appropriate state wildlife agency.

3.1.4 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), revised (USFWS 2013) makes it unlawful unless expressly authorized by permit pursuant to federal regulations to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird." This includes direct and indirect acts with the exception of harassment and habitat modification, which are not included unless they result in direct loss of birds, nests, or eggs. Most bird species occurring in California fall under the protection of the MBTA. The MBTA is regulated by the USFWS Division of Migratory Bird Management. While MBTA is federal law, in some states such as California, MBTA is implemented by a state agency such as the California Department of Fish and Wildlife (CDFW) on behalf of the USFWS.

3.1.5 Migratory Bird Treaty Reform Act

The Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447) amends the MBTA (16 U.S.C. Sections 703 to 712) such that nonnative birds or birds that have been introduced by humans to the United States or its territories are excluded from protection under the Act. It defines a native migratory bird as a species present in the United States and its territories because of natural biological or ecological processes.

3.1.6 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. Sections 668 to 668d) prohibits the "take" of bald and golden eagles (*Haliaeetus leucocephalus* and *Aquila chryseatos*) and their nests. The USFWS can authorize the "take" of Bald or Golden Eagles under the Bald and Golden Eagle Protection Act, provided that the proposed "take" complies with 16 U.S.C. § 668a and the implementing regulations in 50 C.F.R. part 22. Permits authorizing the "take" of bald and/or golden eagles can be authorized for activities where the take is incidental to, and not the object of, an activity that is otherwise lawful.

3.1.7 Protection of Wetlands

Executive Order 11990 aims to avoid direct or indirect impacts on wetlands from federal or federally approved projects when a practicable alternative is available. If wetland impacts cannot be avoided, all practicable measures to minimize harm must be included.

3.2 STATE

The following subsections describe the state laws and regulations governing the protection of biological resources.

3.2.1 California Fish and Game Code

3.2.1.1 California Endangered Species Act

The California Endangered Species Act (CESA) [California Fish and Game Code (CFGC) Sections 2050 to 2085] establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats by protecting "all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation." Animal species are listed by the CDFW as threatened or endangered, and plants are listed as rare, threatened, or endangered. However, only those plant species listed as threatened or endangered receive protection under the CESA.

CESA section 2080 prohibits "take" of CESA protected species in the absence of a permit issued by the California Department of Fish and Game expressly authorizing "take" for a limited range of activities. Under the CESA, take refers to mortality or injury of the listed species itself and does not include harassment or the modification of a listed species' habitat. For projects that would affect a species that is federally and State listed, compliance with the FESA satisfies the CESA if the CDFW determines that the federal incidental take authorization is consistent with the CESA under Section 2080.1. For projects that would result in take of a species that is state listed only, the project sponsor must apply for a take permit, in accordance with Section 2081(b) or CFGC Section 2835 (NCCPA).

3.2.1.2 Fully Protected Species

Four sections of the CFGC list 37 fully protected species (CFGC Sections 3511, 4700, 5050, and 5515). These sections prohibit take or possession of the listed species at any time, with few exceptions, and state that "no provision of this code or any other law will be construed to authorize the issuance of permits or licenses to 'take' the species," and that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession.

Although fully protected species are included in the list of Covered Species, take of these species is not authorized in the Natural Communities Conservation Plan (NCCP) Permit and was prohibited by the CFGC at the time the NCCP Permit was issued. In order for take of fully protected species associated with the NCCP to be authorized, an amendment to the NCCP Permit would need to be obtained from CDFW. The following species in the MSHCP are fully protected under the CFGC: 1) Golden eagle; 2) White-tailed kite; 3) Peregrine falcon; and 4) Bald eagle. The CDFW acknowledges and agrees that if the measures set forth in the MSHCP are fully complied with, the Covered Activities are not likely to result in take of these species. If the CDFW determines that such measures are not adequate to prevent take of one of the fully protected species, the CDFW shall notify the Regional Conservation Authority (RCA) and other affected Permittees in writing of such discovery and propose new, additional, or different conservation measures that it believes are necessary to avoid take of these species. The affected Permittees shall implement the measures proposed by the CDFW

or other measures agreed to by the Parties as adequate to avoid take of fully protected species. If at any time there is a change in State law such that the CDFW may issue a Section 2081(b) Permit, other permit, or authorization allowing the incidental take of any species subject to CFGC Sections 3511, 4700, 4800, 5050, or 5515, the Permittees may apply for an amendment of the MSHCP and NCCP Permit or for a new permit for such species. In processing any such application, the CDFW shall give good faith consideration to take avoidance and mitigation measures already provided in the MSHCP and shall issue the amendment or Permit under the same terms and conditions as the existing NCCP Permit, to the extent permitted by law.

3.2.1.3 Bird Protection Statutes

Nesting bird protections in the CFGC (Sections 3503, 3503.5, 3511, and 3513) include the following:

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others; now recognized as two orders, the Accipitriformes and Falconiformes), or Strigiformes (owls).
- Section 3511 prohibits the take or possession of specified fully protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, any project-related disturbance at active nesting territories is generally required to be reduced or eliminated during the nesting cycle.

3.2.1.4 Lake and Streambed Alteration

The Lake and Streambed Alteration Program (Section 1600 et seq.) requires notifying CDFW before any project activity that would do any of the following:

- Substantially divert or obstruct the natural flow of any river, stream, or lake.
- Substantially change or use any material from the bed, channel, or bank of any river, stream, or lake.
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed, bank, or channel. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. Under certain circumstances this may also apply to work undertaken in the floodplain of a body of water. Under Section 1602 of the CFGC, the CDFW may take jurisdiction over all lakes and streambeds, and although CDFW has not published a regulation defining state lakes or streambeds, state jurisdiction generally includes the streambed/ lakebed and bank, together with the adjacent riparian vegetation.

When an existing fish or wildlife resource may be substantially adversely affected by a diversion, the CDFW may propose reasonable modifications to the project proponent to protect the resources. These modifications, or conditions, are formalized in a Lake or Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

3.2.1.5 California Native Plant Protection Act

The California Native Plant Protection Act (Sections 1900 through 1913) requires all State agencies to use their authority to carry out programs to conserve endangered and rare native plants. It prohibits importation, take, and sale of such plants. There are currently 64 species, subspecies, and varieties of plants protected as rater under the California Native Plant Protection Act. The California Native Plant Protection Act prohibits the take of endangered or rare plants, but has exceptions for agricultural and nursery operations; emergencies; and after properly notifying the California Department of Fish and Wildlife for vegetation removal from canals, roads, and other sites, changes in land use, and in a limited number of other situations.

3.2.1.6 Natural Communities Conservation Planning Act

This act was enacted to encourage broad-based planning to provide for effective protection and conservation of the state's wildlife resources while continuing to allow appropriate development and growth (CFGC Sections 2800 to 2835). Natural Community Conservation Plans (NCCP) may be implemented, which identify measures necessary to conserve and manage natural biological diversity within the planning area, while allowing compatible and appropriate economic development, growth, and other human uses. An approved NCCP enables the CDFW to authorize take of species consistent with the NCCP Act and CFGC Section 2835. Refer to Section 3.3.3 for description of the relevant Riverside County habitat conservation plans.

3.2.2 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act [Section 13260(a) of the California Water Code] established nine RWQCBs to oversee water quality on a day-to-day basis at the local and/or regional level, which includes preparing and updating water quality control plans and issuing Section 401 water quality certifications. The Act also grants ultimate authority to the State Water Resources Control Board over state water rights and water quality policy.

The Porter-Cologne Water Quality Control Act (Section 13050[e] of the California Water Code) broadly defines waters under the jurisdiction of the State of California to mean any surface water or groundwater including saline waters within the boundaries of the State. Under the Porter-Cologne Act, isolated wetlands that may not be subject to regulations under federal law are considered waters of the state and regulated accordingly. On March 9, 2012, the California Water Boards released a preliminary draft of their Wetland Area Protection Policy, which includes a proposed wetland definition.

3.3 REGIONAL

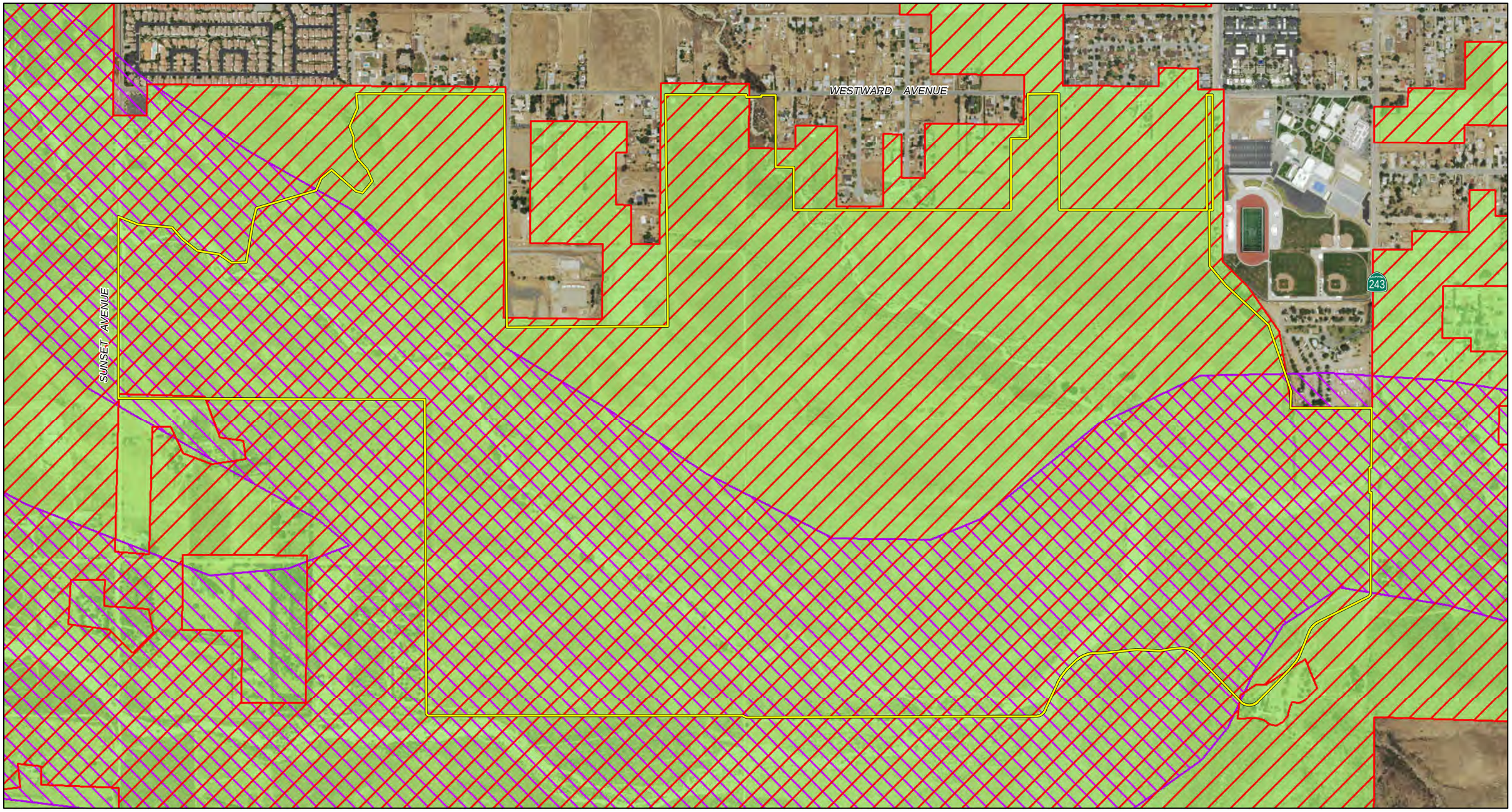
3.3.1 Western Riverside County Multiple Species Habitat Conservation Plan

A regional agency with applicable jurisdiction is the County of Riverside. A land management plan for plant and animal conservation has been adopted for the western half of the county. The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) was implemented in 2003.

The purpose of the MSHCP is to conserve large contiguous blocks of habitat to maintain species richness and density, to ensure population viability, to protect habitats from encroachment, and to reduce non-native species invasion. The Criteria Area consists of quarter section (160-acre) criteria cells within the MSHCP planning boundary that will be used to assemble 153,000 acres of new conservation land (the Conservation Area). The MSHCP provides for the assembly of a Reserve consisting of Core Areas and Linkages for the conservation of Covered Species (Riverside County 2003). The MSHCP provides an incentive-based program, the Habitat Evaluation and Acquisition Negotiation Strategy (HANS), for adding land to the MSHCP Conservation Area. A Core is the largest planning unit and its extent is large enough to support population of several species. A Linkage is a habitat connection between Cores that is wide and long enough to provide live-in habitat and movement corridors for plants, herbivores, and carnivores. More detailed information is provided in Section 3.0 of the MSHCP. Projects located in proximity to the MSHCP Conservation Area may result in edge effects that would adversely affect biological resources within the MSHCP Conservation area. MSHCP Urban/Wildlands Interface Guidelines (MSHCP Section 6.1.4) are intended to reduce such indirect effects.

The MSHCP requires focused surveys for certain plant and animal species for project sites located within designated plant and animal survey areas when potential suitable habitat is present. Figure 3 shows the MSHCP survey areas within the project area. In addition to species that have designated survey areas, surveys for listed riparian birds are required when suitable riparian habitat is present, surveys for listed fairy shrimp species are required when vernal pools or other suitable habitat is present, and surveys for Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) may be required in areas having Delhi soils. This report provides analysis of the project's compliance with the following sections of the MSHCP:

- MSHCP Section 3.0 MSHCP Objectives for Reserve Assembly;
- Section 6.1.2: Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools;
- Section 6.1.3: Protection of Narrow Endemic Plant Species;
- Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface;
- Section 6.3.2: Additional Survey Needs and Procedures;
- Section 7.5.2: Wildlife Crossings;
- Section 7.5.3: Construction Guidelines; and
- Appendix C: Best Management Practices (BMPs).



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Project Boundary

Narrow Endemics Plant Species Survey Area (NEPSSA)

Small Mammals Survey Area (Los Angeles Pocket Mouse)

Western Burrowing Owl Survey Area

Note: There are no Critical Habitat or MSHCP Critical Cells located at this site.

SOURCE: ESRI World Imagery, 2010, County of Riverside, 2005 and 2013.

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FIGURE 3

Rancho San Gorgonio
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MSHCP Survey Areas

3.3.2 Long-Term Stephens' Kangaroo Rat Habitat Conservation Plan

As described in the WRC Implementation Agreement, a Section 10(a) Permit and CFGC Section 2081 Management Authorization were issued to the Riverside County Habitat Conservation Agency (RCHCA) for the Long-Term SKR Habitat Conservation Plan (SKR HCP) in 1996 was approved by the USFWS and CDFG in August 1990 (RCHCA 1996). Relevant terms of the SKR HCP have been incorporated into the MSHCP and the Implementation Agreement. The SKR HCP will continue to be implemented as a separate HCP; however, to provide the greatest conservation for the largest number of Covered Species, the core reserves established by the SKR HCP are managed as part of the MSHCP Conservation Area consistent with the SKR HCP. Actions shall not be taken as part of the implementation of the SKR HCP that will significantly impact other Covered Species. The take of SKR outside of the boundaries but within the MSHCP area is authorized under the MSHCP and the associated Permits.

3.4 LOCAL

The agencies with local jurisdiction include the City of Banning. Local regulations related to biological resources are generally included in general plans, ordinance codes, and park master plans. City laws and regulations pertaining to the protection of biological resources relevant to the project are summarized below.

3.4.1 City Municipal Code, City Code of Ordinances, Chapter 12.52-WRC MSHCP and MSHCP Mitigation Fee

A. The City of Banning City Council has found that the City's and region's biological resources and vegetation communities are best supported by establishing mitigation standards which are applied to development projects under the Western Riverside County MSHCP. The City Council enacted Chapter 12.52 of the City Code of Ordinances in order to implement the implementing agreement executed by the City Council on November 12, 2003 associated with the Western Riverside County MSHCP.

B. To assist in providing revenue to acquire and preserve vegetation communities and natural areas within the city and western Riverside County which are known to support threatened, endangered or key sensitive populations of plant and wildlife species, a local development mitigation fee shall be paid for each development project or portion thereof to be constructed within the city.

3.4.2 City Municipal Ordinance Chapter 17.32 – LANDSCAPING STANDARDS 17.32.060 - Removal or Destruction of Trees

A. Removal of healthy, shade providing, and aesthetically valuable trees shall be strongly discouraged, and shall be in conformance with the policies and programs of the General Plan. A tree removal and replacement plan shall be required for the removal and replacement of all trees in excess of 50 years of age, unless their removal is required to protect the public health and safety.

B. Each tree that is removed in a new subdivision is considered a part of the common wealth of the citizens of Banning, is an important component of the habitat of surrounding wildlife, and is of

value to the City. Each identified tree removed shall be replaced with at least one 36 inch box specimen tree, in addition to any other required landscaping. Individual single family residential lots of less than one-half acre and commercial tree farms shall be exempt from this provision. *(Zoning Ord. dated 1/31/06, § 9108.06.)*

3.4.3 City Municipal Ordinance 17.92.040 – Open Spaces, Common Areas and Facilities

Common open spaces shall comprise not less than thirty percent (30%) of the gross site area. Common open space scan be the portion of the project site area developed for recreational use (such as swimming pool, tennis court, golf course, children's playground, picnic area), and designated for the use and enjoyment of all the occupants within the development, but shall not include streets, highways or other vehicular rights-of-way. Open space is at least fifty percent (50%) level land, or land of moderate slopes not exceeding ten percent (10%) grade. A streambed of any water course shall not be counted as open space. A declaration of covenants, conditions and restrictions relating to the repair, maintenance and management of the open spaces and common areas and facilities, signed and acknowledged by those parties having any record title to the land to be developed, and enforceable by the City shall be recorded.

Preservation of scenic landscape features such as watercourses, rock outcroppings, hillsides, sensitive land areas, existing vegetation, wildlife, unique topographic features and views shall be encouraged. Any failure to maintain such improvements located within the common areas shall be declared to be unlawful and a public nuisance endangering the health, safety and general welfare of the public and a determent to the surrounding community.

3.4.4 Fire Precautions

General precautions against fire were adopted by the City of Banning.

Section 304.1.2.1 Fuel Modification Requirements For New Construction. All new buildings to be built or installed in areas containing combustible vegetation shall comply with the following:

1. Preliminary fuel modification plans shall be submitted to and approved by the Banning Fire Marshal's office concurrent with the submittal for approval of any tentative map.
2. Final fuel modification plans shall be submitted to and approved by the Banning Fire Marshal's office prior to the issuance of a grading permit.
3. The fuel modification plan shall meet the criteria set forth in the fuel modification policy of the Banning Fire Marshal's office guidelines.
4. The fuel modification plan may be altered if conditions change. Any alterations to the fuel modification areas shall be approved by the Banning Fire Marshal's office.
5. All elements of the fuel modification shall be maintained in accordance with the California Fire Code.

Section 304.1.2.2 Unusual Circumstances. The Banning Fire Marshal's office may suspend enforcement of the vegetation management requirements and require reasonable alternative measures designed to advance the purpose of this code if determined that in any specific case any of the following conditions exist: 1) Difficult terrain, 2) Danger of erosion, 3) Presence of plants included in

any state and federal resources agencies, California Native Plant Society, and County approved list of wildlife, plants, and rare, endangered and/or threatened species, 4) Stands or groves of trees or heritage trees, and 5) Other unusual circumstances that make strict compliance with the clearance of vegetation provisions undesirable or impractical.

4.0 METHODS

4.1 LITERATURE REVIEW

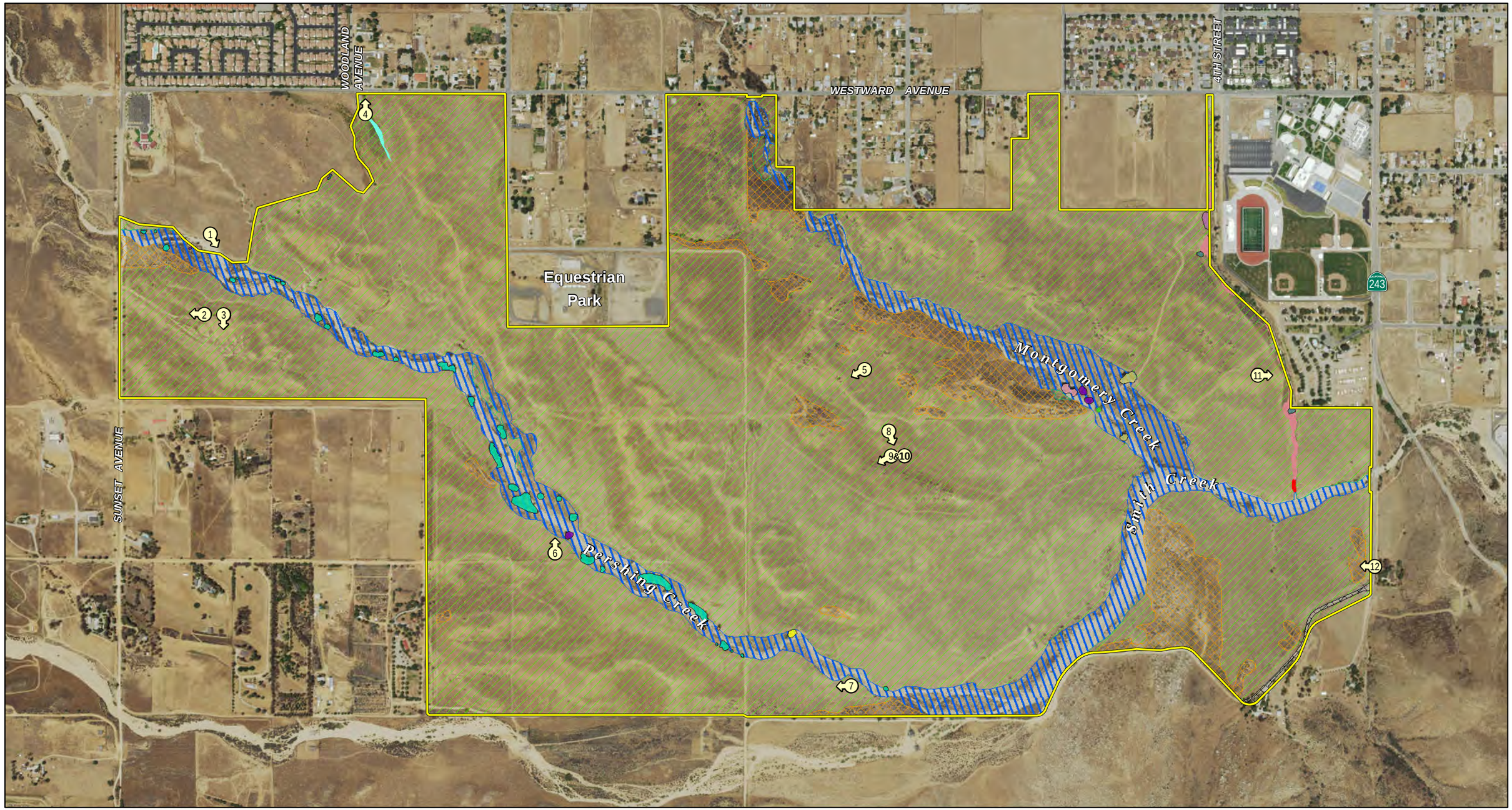
A literature review was conducted to determine the existence or potential occurrence of special-status plant and animal species on or in the vicinity of the project site. Database records for the *Beaumont, Cabazon, San Jacinto,* and *Lake Fulmor, California* USGS 7.5-minute quadrangles were searched in July 2015 using the CDFG[1] Natural Diversity Data Base application *Rarefind 5* (updated 2015) and the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (updated 2015). In addition, the Federal Information, Planning, and Conservation (IPaC) decision support system was used to retrieve potential species occurrences in the vicinity of the project. Database records were searched again in August 2015 to obtain any new updates in species occurrences. Volume 1 of the *Western Riverside County Multiple Species Habitat Conservation Plan* (Riverside County Transportation and Land Management Agency 2003) was also used to identify MSHCP requirements applicable to the project site. Soil information was taken from *Soil Survey of Western Riverside Area, California* (Knecht 1971). The project site is located within The Pass Area plan of the MSHCP Planning Area. Specific survey requirements and conservation measures have been developed for this site in accordance with its location within the MSHCP.

The soil characteristics of the project area were identified using the electronic soil survey database and GIS shape files provided by the U.S. Department of Agriculture at the website, http://sdmdataaccess.nrcs.usda.gov/, and in the Soil Survey Report for the Western Riverside County Area California (Knecht 1971).

4.2 VEGETATION COMMUNITIES MAPPING AND HABITAT DESCRIPTIONS

Vegetation was mapped by Dr. Stan Spencer on August 20 and 21, 2012, and January 8, 2013. Portions of the map were refined by Maria Lum based on notes taken during burrowing owl survey visits. The extent of vegetation and land uses was mapped on a current aerial photograph. The various areas were then digitized and converted into Geographic Information System (GIS) shape files. Vegetation community classifications used in this report generally follow *The Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Data Base* (CDFG 2008), Holland's (1986) vegetation community descriptions, and the Vegetation Communities described in the *Western Riverside County Multiple Species Habitat Conservation Plan,* Volume I, Section 2.1.3. The project site was revisited in August 2015 to confirm that the vegetation community mapping, depicted in Figure 4, provides an accurate depiction of project area conditions. Figures 4A through 4C are site photographs.

[1] The California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) as of January 1, 2013.



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FEET

Project Boundary

Photograph Location

Non-native Grassland

Riversidean Alluvial Fan Sage Scrub

Upland Riversidean Sage Scrub

Developed/Ruderal

Southern Riparian Scrub

Wetland of Non-native Grasses

Ornamental Trees

Trees

Black Locust

Cedar

Cypress

Elderberry

Eucalyptus

Fremont Cottonwood

Fruit/Nut Tree

Live Oak

Persion Lilac

Tamarisk

Tree of Heaven

SOURCE: ESRI World Imagery, 2010.

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FIGURE 4

Rancho San Gorgonio
Planned Commmunity Project
Biological Resources Report

Vegetation, Land Use and Photograph Locations

PHOTOGRAPH 1: *View of unnamed large creek in the center of the study area.*

PHOTOGRAPH 2: *View of one of the smaller pools in the Riverside fairy shrimp recorded locations.*

PHOTOGRAPH 3: *View of the largest pool (facing south) of suitable habitat for fairy shrimp.*

PHOTOGRAPH 4: *View of runoff in the ditch below a storm drain outlet.*

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FIGURE 4A

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Site Photographs

PHOTOGRAPH 5: *View of burrowing owl burrow (occupied) in a narrow erosional feature.*

PHOTOGRAPH 6: *View of a large cottonwood occupied by white tailed kites in the center creek.*

PHOTOGRAPH 7: *View of the lower reach of center creek showing grassland and adjacent upland scrub (California buckwheat).*

PHOTOGRAPH 8: *View of slope in the right half of the photograph with a burrow complex occupied by 6 owls.*

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FIGURE 4B

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Site Photographs

PHOTOGRAPH 9: *View of burrowing owl features at an occupied burrow complex.*

PHOTOGRAPH 10: *View of occupied burrow in the center of the study area.*

PHOTOGRAPH 11: *View of a minor tributary/gully adjacent to a KOA campground.*

PHOTOGRAPH 12: *View of pasture, creek and rocky knoll in the southeast corner of the study area.*

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FIGURE 4C

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Site Photographs

4.3 BIOLOGICAL RESOURCES SURVEYS

4.3.1 Literature Search

The USFWS and the CDFW provide online records of species reported to the agencies when observed during biological surveys. The records are reported in California Natural Diversity Data Base and Federal Information, Planning, and Conservation (IPaC) decision support system. Plant Species reported in the scientific literature to occur in the region are listed in Appendix B. Animal species reported in the scientific literature to occur in the region are listed in Appendix C. The analysis in this report is based in part on the following technical reports prepared by LSA and a complete digital copy of these studies is included in Appendix D.

- *Los Angeles Pocket Mouse Focused Survey Report* dated September 27, 2012.
- *Wet Season Fairy Shrimp Survey Report* dated June 17, 2013.
- *Dry Season Fairy Shrimp Survey Report* dated September 18, 2013.
- *Burrowing Owl Focused Survey Report* dated August 7, 2015.
- *Delineation of Jurisdictional Waters Report* dated August 2015.
- *Focused Plant Survey for the Mojave Tarplant* dated September 17, 2015.

In addition, the MSHCP Consistency/DBESP Analysis Report, prepared by LSA, dated August 2015, is included as Appendix E. The focused surveys for certain plant and animal species for project sites located within MSHCP designated plant and animal survey areas when potential suitable habitat is present. The MSHCP requires surveys for listed riparian birds when suitable riparian habitat is present and surveys for listed fairy shrimp species are required when vernal pools or other suitable habitat is present.

4.3.2 State and Federal Jurisdictional Waters, including Adjacent Waters and Vernal Pools

For compliance with the Clean Water Act, a jurisdictional delineation was conducted in August 2012 on the majority of the project area and then on the additional later acquired parcels in April 2013. The project area was surveyed on foot and by vehicle to identify potential jurisdictional areas. All areas of potential jurisdiction were delineated according to the current USACE and CDFW criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on aerial photographs. Limits of federal and state jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from aerial photographs. Areas supporting species of plant life potentially indicative of wetlands were evaluated according to routine wetland delineation procedures. The jurisdictional delineation was updated in August 2015 to reflect the recently revised and published federal definition of waters of the United States (Appendix D).

4.3.3 MSHCP Covered Special Status Plant Species

A habitat suitability assessment was required over the entire project area for narrow endemic plants in MSHCP Survey Area 8. Habitat suitability assessments (HSA) for NEPSSA species [Yucaipa onion

(*Allium marvinii*) and many-stemmed dudleya (*Dudleya multicaulis*)] were conducted on August 20 and 21, 2012, and on January 8, 2013, by LSA Senior Biologist Stan Spencer. Habitat requirements for these species were reviewed prior to the site visits.

The survey for Mojave tarplant was conducted by LSA botanist Stan Spencer on September 9, 2015, from 9:30 a.m. to 3:00 p.m. and on September 10 from 12:45 to 5:45 p.m. Areas of potentially suitable habitat on the site were surveyed by walking 10- to 30-foot transects. The survey effort was focused on areas of riparian scrub and Riversidean alluvial fan sage scrub within the drainages, as well as low areas along dirt roads. The total area surveyed was approximately 90 acres. The survey was floristic in nature and all plant species observed during the survey were noted. The survey report is provided in Appendix D.

Soil conditions and plants were noted during the intensive field surveys in August 2012 on the original 784.4-acre project area and then on the additional 45.6 acres in January 2013. During the visits, the site was analyzed for the presence of suitable habitats and/or soils to support these species. Focused surveys for Narrow Endemic Plant Species were not conducted. The literature records did not have any records of these species with 5 miles of the project area.

The following identifies the definitions of the CNPS listings:

- **List 1A:** Plants presumed to be extirpated in California, and either rare or extinct elsewhere;
- **List 1B:** Plants that are rare, threatened, or endangered in California and elsewhere;
- **List 2B:** Plants that are presumed to be extirpated in California, but are common elsewhere;
- **List 2B:** Plants that are rare, threatened, or endangered in California, but are more numerous elsewhere;
- **List 3:** Plants about which more information is needed (a review list); and
- **List 4:** Plants of limited distribution (a watch list).

A records search using the California Natural Diversity Data Base (CNDDB) and the CNPS Online Inventory was conducted for special-status plant species, and vegetation community surveys were conducted at the project site. Special-status plant species were identified with the potential to occur in the proposed project area and within 1 mile. Each of these species was assessed for its potential to occur within the project area based on the following criteria:

- **Present:** Species was observed within the project site during the survey.
- **High:** Both a historical record exists of the species within the project site or its immediate vicinity and the environmental conditions (including soil type) associated with species presence occur within the project site.
- **Moderate:** Either a historical record exists of the species within the immediate vicinity of the project site or the environmental conditions (including soil type) associated with species presence occur within the project site.
- **Low:** No records exist of the species occurring within the project site or its immediate vicinity and/or the environmental conditions (including soil type and elevation factors) associated with species presence are marginal within the project site.

- **Not Likely to Occur:** Species was not observed during reconnaissance surveys conducted at an appropriate time for identification of the species and species is restricted to environmental conditions (including soil and elevation factors) that do not occur within the project site.

Table A: MSHCP Covered and Listed Plant Species Reported to Occur in the Region

Species	Status	Occurrence Probability	Habitat Present/Absent	Rationale
San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*)	US: FE CA: 1B MSHCP: S	Not Likely To Occur	Absent. Vernal pools; endemic to the San Jacinto River Valley area of western Riverside County	Reported within 20 miles but habitat not present in project area.
Thread-leaved brodiaea (*Brodiaea filifolia*)	US: FT CA: SE/1B MSHCP: S	Not Likely To Occur	Absent. Vernal Pools	Reported within 20 miles but habitat not present in project area.
Mojave tarplant (*Deinandra mohavensis*)	CA: SE/1B MSHCP: P	Low	Present	Reported in hills south of Smith Creek located outside of the project.
Slender-horned spineflower (*Dodecahema leptoceras*)	US: FE CA: SE/1B MSHCP: S	Low	Present. Coastal sage scrub, sandy soil	Reported within 20 miles
Spreading navarretia (*Navarretia fossalis*)	US: FT CA: 1B MSHCP: S	Not Likely To Occur	Absent. Vernal Pools	Reported within 20 miles but habitat not present in project area.

US: Federal Classification
FE Taxa listed as Endangered
FT Taxa listed as Threatened.

CA: State Classification
SE Taxa State-listed as Endangered.
1B California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.

MSHCP: Western Riverside County MSHCP Status
S Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
P Species is covered but not considered adequately conserved pending completion of MSHCP specified requirements.

4.3.4 Not-MSHCP Covered Plant Species

The following listed plant species (i.e., federal or state endangered or threatened) are known or expected to occur within the City and "The Pass" to Coachella Valley. Other special status species (California Species of Concern or MSHCP Survey Area species) are listed in Table B.

Table B: Not MSHCP Covered and Listed Plant Species Reported to Occur in the Region

Species	Status	Occurrence Probability	Habitat Present/ Absent	Rationale
Coachella Valley milk-vetch (*Astragalus lentiginosis* var. *coachellae*)	US: FE CA: 1B MSHCP: NC	Not Likely To Occur	Absent. Sonora desert scrub	Reported within 20 miles but habitat not present in project area.
Parish's checkerbloom (*Sidalcea hickmanii parishii*)	US: – CA: SR/1B MSHCP: NC	Not Likely To Occur	Absent. chaparral, rocky places, 2,000–5,500 feet, pinyon-juniper woodland, Santa Rosa Mountains	Reported within 20 miles but habitat not present in project area.
California dandelion (*Taraxacum californicum*)	US: FE CA: 1B MSHCP: NC	Not Likely to Occur	Absent. Mesic meadows and seeps in mountain valleys.	Reported within 20 miles but habitat not present in project area.

US: Federal Classification
– No applicable classification
FE Taxa listed as Endangered

CA: State Classification
SR Taxa State-listed as Rare.
1B California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.

MSHCP: Western Riverside County MSHCP Status
NC Species is not conserved under the MSHCP.

4.3.5 MSHCP Covered Animal Species

Focused surveys for special status animal and MSHCP survey area species were conducted in 2012, 2013, and 2015 by LSA biologists following the accepted protocol and guidelines.

A habitat assessment for Los Angeles pocket mouse (*Perognathus longimembris brevinasus* [LAPM]) was conducted by LSA biologists Richard Erickson and Leo Simone on August 2, 2012. Prior to the initial habitat assessment site visit, a review was conducted of aerial photographs and species occurrence records in the vicinity. Three trapping sessions were conducted from August 5–10, 12–17, and August 27–September 1, 2012. Based on previous occurrence records in the major washes, it was determined that all major washes with sandy substrate within the project area would be considered occupied. Therefore, the trap lines were placed primarily in areas adjacent to larger washes to determine presence/absence in the upland areas and the smaller tributaries adjacent to Pershing and Smith Creeks. Focused survey for Los Angeles pocket mouse is provided in Appendix D. A habitat assessment for western burrowing owl (*Athene cunicularia hypugaea*) was conducted by reviewing aerial photographs prior to the initial site visit. Suitable habitat areas were identified by the presence of grassland habitat, dirt access roads, and other open areas with suitable low-growing, open vegetation with the potential to support burrowing owls. Areas with a concentration of coastal scrub shrub species or trees were not considered suitable habitat.

Burrow surveys were conducted in August 2012 according to Step II, Part A of the *Burrowing Owl Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*. All suitable habitat areas on the project site were walked at transects spaced at no more than 30 meters (100 feet),

which allowed for 100 percent visual coverage of suitable habitat. Suitable habitat and burrows were observed for presence of burrowing owl sign (e.g., whitewash, pellets, scat, tracks, and/or feathers) and burrowing owls. Burrows with presence of burrowing owl sign and/or burrowing owls were recorded using a handheld GPS unit and mapped onto an aerial photograph. Burrows with burrowing owl sign that did not have burrowing owls present at the time of the initial survey were revisited during other biological resources surveys to determine burrowing owl occupancy.

A habitat assessment for least Bell's vireo (*Vireo bellii pusillus*) and Southwestern willow flycatcher (*Empidonax traillii extimus*) was conducted on August 21, 2012, by Maria Lum, Wendy Davis, and Stan Spencer, and again in April 2013. All areas mapped as riparian scrub and Riversidean alluvial fan sage scrub were evaluated for habitat suitability for riparian/riverine associated species even if outside the limits of federal and state jurisdiction.

In *The Riparian Bird Conservation Plan* (Kus 2002), least Bell's vireo is found in territory sizes from 0.5 to 7.5 acres. Dense foliage is required in all strata, especially the lower, since nesting occurs within 3 feet above the ground. Canopy cover is nearly 100 percent in the highest populated area located at Camp Pendleton. Southwestern willow flycatcher and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) nesting habitat typically includes even-aged, structurally homogeneous, dense stands of trees and shrubs of mixed willow riparian habitat and riparian scrub with a dense understory near or over water. These species nest in approximately 13–23-foot tall vegetation with a high percentage of canopy cover and dense foliage from 0–13 feet above the ground. The dense riparian vegetation that is needed for breeding was historically rare and sparsely distributed and is now rarer. Quality habitat patch size for nesting is 1.2 to 3 acres (Federal Register: March 5, 2003, Volume 68, Number 43). These habitat types, quantity, and quality do not occur within the project area. Less than 5 percent of the habitat for the yellow-billed cuckoo actually exists west of the continental divide. This species requires mature majestic, expansive stands of willow and cottonwood forest (Federal Register: October 3, 2014, Volume 79, Number 132).

Vernal Pools are described in the MSHCP as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season." Artificially created features do not meet the MSHCP definition of vernal pool unless created for the purpose of providing wetlands habitat. *Listed Fairy Shrimp Habitat*, as described in the MSHCP, is habitat for Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), or Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and includes ephemeral pools, artificially created habitat such as tire ruts and stock ponds, and other features determined appropriate by a qualified biologist.

A 2012–2013 wet season survey was conducted for Riverside fairy shrimp and vernal pool fairy shrimp by Stanley Spencer under LSA Federal 10(a)(1)(A) Permit TE-777965 and in accordance with the April 19, 1996, *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. Site checks were made on November 15, 16, and 28; December 10 and 21, 2012; January 4, 14, and 18; February 1, 13, 22, 26, and 28; March 4, 14, 16, 25, and 28; April 3, 12, and 26; and May 15, 2013, to determine if water was present in ponding features following storm events. Ponded features were sampled at required intervals until they had dried and remained dry.

A 2012–2013 dry season survey was conducted by LSA Senior Biologists David Muth and Stanley Spencer under LSA Federal 10(a)(1)(A) Permit TE-777965 and TE-796345 in accordance with the United States Fish and Wildlife Service *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for Listed Vernal Pool Branchiopods*, dated April 19, 1996. Mr. Muth and Dr. Spencer collected a series of ten 0.1-liter samples of soil material from each of the potential habitat areas in the project area on August 8, 2013.

Special-status species include those listed as threatened or endangered under the Federal or California Endangered Species Acts, species proposed for listing, and species of special concern, and which have the potential to occur in the City of Banning and the San Gorgonio Pass (Beaumont to Cabazon). Special-status animal species (Appendix C) have the potential to occur within the project area are discussed below. Each of these species was assessed for its potential to occur in the project area based on the following criteria:

- **Present:** Species was observed on site or in the same watershed (aquatic species only) during a site visit or recent focused survey, or population has been acknowledged by the CDFW or USFWS.
- **High:** Habitat (including soils) for the species occurs on site and a known occurrence occurs in vicinity of the site within the past 20 years.
- **Moderate:** Habitat (including soils) for the species occurs on site and a known occurrence occurs within the database search, but not near the site or within the past 20 years; or a known occurrence occurs within 5 miles of the site and within the past 20 years and marginal or limited amounts of habitat occurs on site; or the species range includes the geographic area and suitable habitat exists.
- **Low:** Limited habitat for the species occurs on site and no known occurrences were found within the database search and the species' range includes the geographic area.
- **Not likely to occur:** Habitat requirements strongly associated with the species (including vegetation and soils) do not occur within the survey area or the known range of the species does not include the survey area.

Table C shows listed animal species (i.e., Federal or State endangered or threatened) and MSHCP Covered species that are confirmed to be absent, not known, or not expected to occur within the City and "The Pass" to Coachella Valley. Other special status species (California Species of Concern or Survey Area species) are listed in Appendix B.

Table C: MSHCP Covered Animal Species Likelihood of Occurrence within The Pass and the City of Banning.

Species	Status	Occurrence Probability	Habitat Present/Absent	Rationale
Riverside fairy shrimp *(Streptocephalus woottoni)*	US: FE CA: SA MSHCP: S	Not Likely to Occur	Absent	Formerly thought to have occurred on site (CNDDB) but 2013 and 2014 surveys confirmed absence of the species and unsuitable pool conditions.

Table C: MSHCP Covered Animal Species Likelihood of Occurrence within The Pass and the City of Banning.

Species	Status	Occurrence Probability	Habitat Present/Absent	Rationale
Arroyo toad (*Anaxyrus californicus*)	US: FE CA: SSC MSHCP: S	Not Likely to Occur	Absent	Habitat is unsuitable due to lack of consistent water source.
Southern mountain yellow-legged frog (*Rana muscosa)*	US: FE CA: SE MSHCP: C	Not Likely to Occur	Absent	Reported in surrounding 9 quads, this site has nothing resembling suitable habitat.
Western yellow-billed cuckoo *(Coccyzus americanus occidentalis)* (nesting)	US: FT CA: SE MSHCP: S	Not Likely to Occur	Absent	Nesting habitat is not present (cottonwood and willows in riparian forest).
Southwestern willow flycatcher *(Empidonax trailii extimus)* (nesting)	US: FE CA: SE MSHCP: S	Not Likely to Occur	Absent	Brushy riparian habitat with surface water not present.
Least Bell's vireo *(Vireo bellii pusillus)*	US: FE CA: SE MSHCP: S	Not Likely to Occur	Absent	Brushy riparian habitat not present.
Stephens' kangaroo rat (*Dipodomys stephensi*)	US: FE CA: ST MSHCP: C	Present	Present	Observed, found in plant communities transitional between grassland and coastal sage scrub. Requires well-drained soils with compaction characteristics suitable for burrow construction.

US: Federal Classification
FE Taxa listed as Endangered
FT Taxa listed as Threatened.

CA: State Classification
SE Taxa State-listed as Endangered.
ST Taxa State-listed as Threatened.
SSC California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
SA Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.

MSHCP: Western Riverside County MSHCP Status
S Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
C Species is adequately conserved under the MSHCP.

4.3.6 MSHCP Not-Covered and Listed Animal Species

Table D shows listed animal species (i.e., Federal or State endangered or threatened) and species NOT covered by the MSHCP or "Other Species," that are confirmed to be absent, not known, or not expected to occur within the City and "The Pass" to Coachella Valley. "Other Species" are defined in the MSHCP document as species considered but not included in the MSHCP because not enough information was available to use them as baseline species for conservation planning. Other special

status animal species (California Species of Concern or MSHCP Survey Area species) are listed in Appendix C.

Table D: Listed Animal Species Not Covered in the MSHCP Likelihood of Occurrence within The Pass and the City of Banning

Species	Status	Occurrence Probability	Habitat Present/Absent	Rationale
Townsend's big-eared bat (*Corynorhinus townsendii*)	US: FC CA: SSC MSHCP: NC	Low	Roosting habitat absent. Foraging habitat present.	Predominantly uses mines, caves, and cave-like areas for roosting. May also use buildings, bridges, rock crevices, and hollow trees as roost sites. Forages in edge habitats along streams and desert washes. May forage several miles from roost sites.

US: Federal Classification
FC Candidate for listing as Threatened or Endangered.

CA: State Classification
SSC California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.

MSHCP: Western Riverside County MSHCP Status
NC "Other Species" is not covered under the MSHCP.

5.0 RESULTS

5.1 ENVIRONMENTAL SETTING

5.1.1 City of Banning

Development adjacent to the project site to the north includes residential properties, residential tract housing, and two school campuses—Banning High School and Mt. San Jacinto Community College San Gorgonio Pass—located on the northeast and northwest. A similar residential specific plan area had been previously proposed by others on the site located west of Sunset Avenue and northwest from the RSG Specific Plan area. This draft specific plan was called Five Bridges and was submitted for initial review, but was subsequently withdrawn from consideration. The area to the south includes Smith Creek and small residential ranch properties. The project site is located within one half mile south of I-10, as well as the Ramsey Street Commercial Corridor, and Banning's downtown area.

5.1.2 Existing Land Use

The property is currently used for ranching and is generally unimproved. A large electrical transmission easement exists in the southeast corner of the site and a high-pressure gas pipeline easement bisects the property from west to east. The project site is located in an area that was previously used for dry land farming and grazing; winter wheat was the typical crop. The property more recently has been used as rangeland for cattle and horses. Previously referenced Figure 4 provides a map of vegetation communities and land use within the project area.

The common ownership of the RSG Specific Plan property comprises all of the subject 831 acres, including the 161 acres that are presently outside of the current City limits. This area is all within the City's General Plan Planning Area, including the 161 acres. For these reasons, the entire 831-acre site is included in the identified Specific Plan area. Pursuant to the City's 2006 General Plan land use designations, the subject site had been designated predominantly Very Low Density Residential, with a limited amount of Medium Density Residential, Rural Residential and Open Space-Parks. Included with the Specific Plan is a General Plan Amendment, which creates a Specific Plan Area overlay that allows the land uses as contained in the approved RSG Specific Plan. The Zoning designations of the site have been the same as the General Plan land use designations and the approved Specific Plan provides the new zoning for the site.

Land uses applicable to the project are described in the MSHCP. The land was used for grazing and dry farming for decades. The land uses are listed and described below.

- **Agriculture.** Agricultural lands include areas occupied by dairies and livestock feed yards or areas tilled for use as croplands or groves/orchards. The project area is used for grazing. Historically, the region was dry farmed over the past several decades. Water conveyances, such as earthen berms, pipes, spillways, and impoundments are scattered throughout the project area.

- **Developed/Disturbed.** Developed lands include roadways, existing buildings, and other man-made infrastructures, such as rail, utilities, and flood control facilities. Disturbed lands consist of areas that have been disked, cleared, or otherwise altered. Vegetation within the developed and disturbed areas can include ornamental plantings, non-native exotics, and non-native weedy species. The property contains existing dirt roads and electrical utility easements through the center of project area and across the southeast corner of the project.

5.1.3 Topography and Hydrology

The project is located within the Riverside Lowlands Bioregion, as described in the MSHCP. This bioregion includes areas east of the Santa Ana Mountains Bioregion, south of the Riverside/San Bernardino County line, west of Diamond Valley Lake, Lake Skinner, Gilman Hot Springs, and north of the Riverside/San Diego County line. The Riverside Lowlands Bioregion generally occurs at elevations below 2,000 feet above mean sea level (amsl) and is characterized by Riversidean sage scrub and annual grasslands. The relatively arid climate is in part the result of the rain shadow cast by the Santa Ana Mountains. A high level of disturbance and urbanization are noted within this bioregion.

The project area elevation ranges from approximately 2,200–2,420 feet amsl. The topography is fairly level with low, rolling hills. The rolling hills and high terraces within the upland areas are split by the deeply incised Montgomery Creek and an unnamed tributary, both of which are tributaries to a larger drainage identified as Smith Creek. The channel depths vary from 1 to 20 feet. Refer to Figures 5A and 5B for maps of hydrologic features and impacts within the project area.

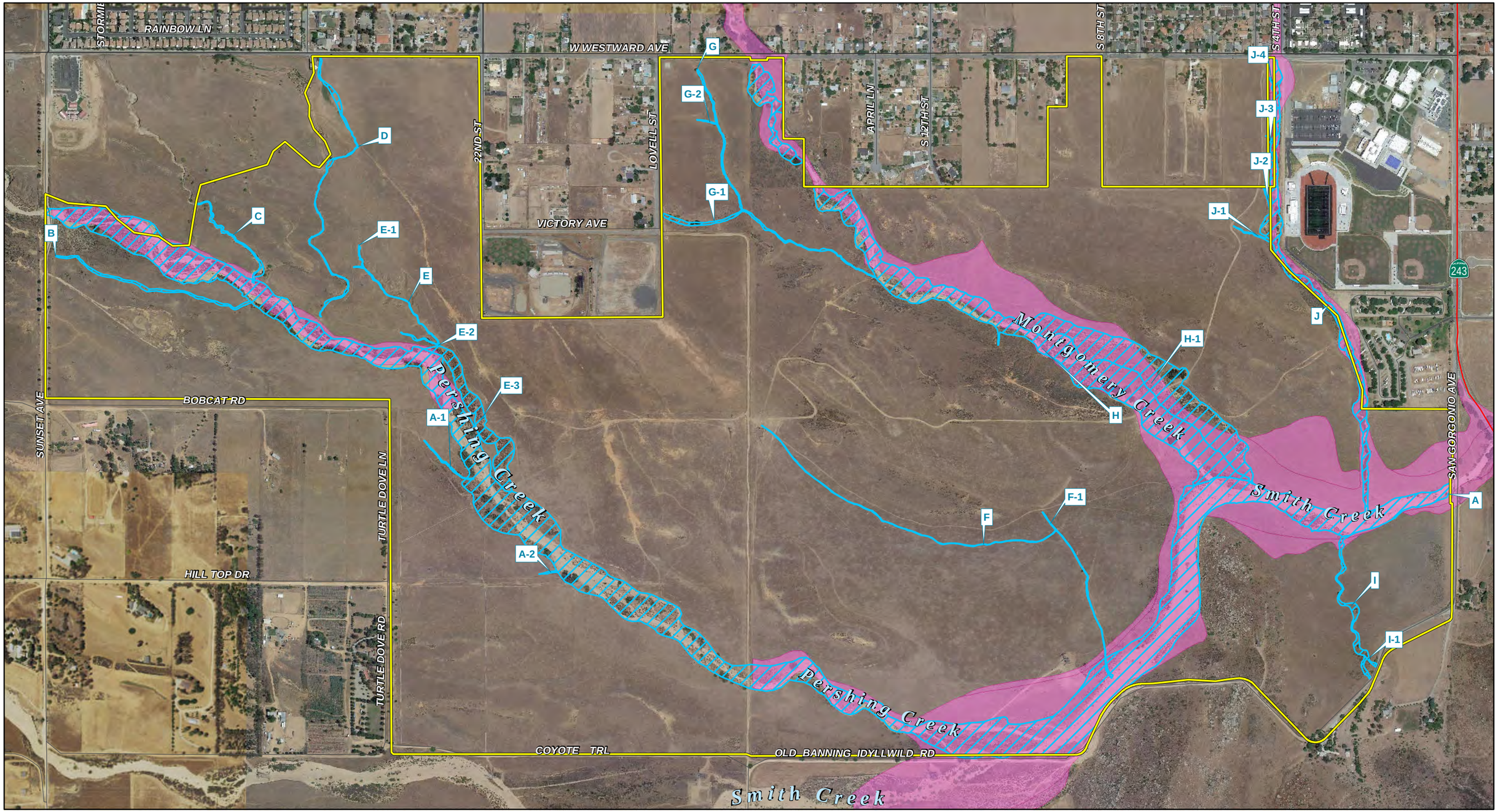
The project site is located in Whitewater Hydrologic Unit/San Gorgonio Hydrologic Area/Banning Hydrologic Subarea (719.31). Four named drainage courses cross through or are adjacent to the project site: Smith Creek, Pershing Creek, Montgomery Creek, and South Fourth Street Channel. The creeks within the project area flow into the Coachella Planning Area of the California Regional Water Quality Control Board Region 7-Colorado River Basin (Regional Water Quality Control Board [RWQCB] 2006). Region 7 covers 13 million acres in Riverside, San Bernardino, San Diego, and Imperial Counties and only a small portion of the total Colorado River drainage area.

Smith Creek, Fourth Street Channel, and Montgomery Creek are mapped as an existing Federal Emergency Management Agency (FEMA) floodway. Existing native Riversidean alluvial fan sage scrub (RAFSS) vegetation and riparian scrub along the creeks is present within the limits of the 100-year flood zone. Pershing Creek is confined to the existing channel during a 100-year flood event. Figures 5A and 5B illustrate the riparian/riverine habitat and impacts within the 100-year flood zone map.

5.1.4 Climate

Banning, California has warm-summer Mediterranean climate.[2] The region receives an average of 18 inches of rain per year. The number of days with measurable precipitation is 44. On average, there are 268 sunny days per year in Banning, California. The July high is around 96°F and the January low is 39°F.

[2] http://www.bestplaces.net/climate/city/california/banning



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Project Boundary

Riparian/Riverine Area (CDFW Jurisdiction)

FEMA 100-Year Flood Zone

SOURCE: ESRI World Imagery, 2010; Google Earth, 2012; Riverside County, 2011; FEMA Flood Insurance Data, 2008.

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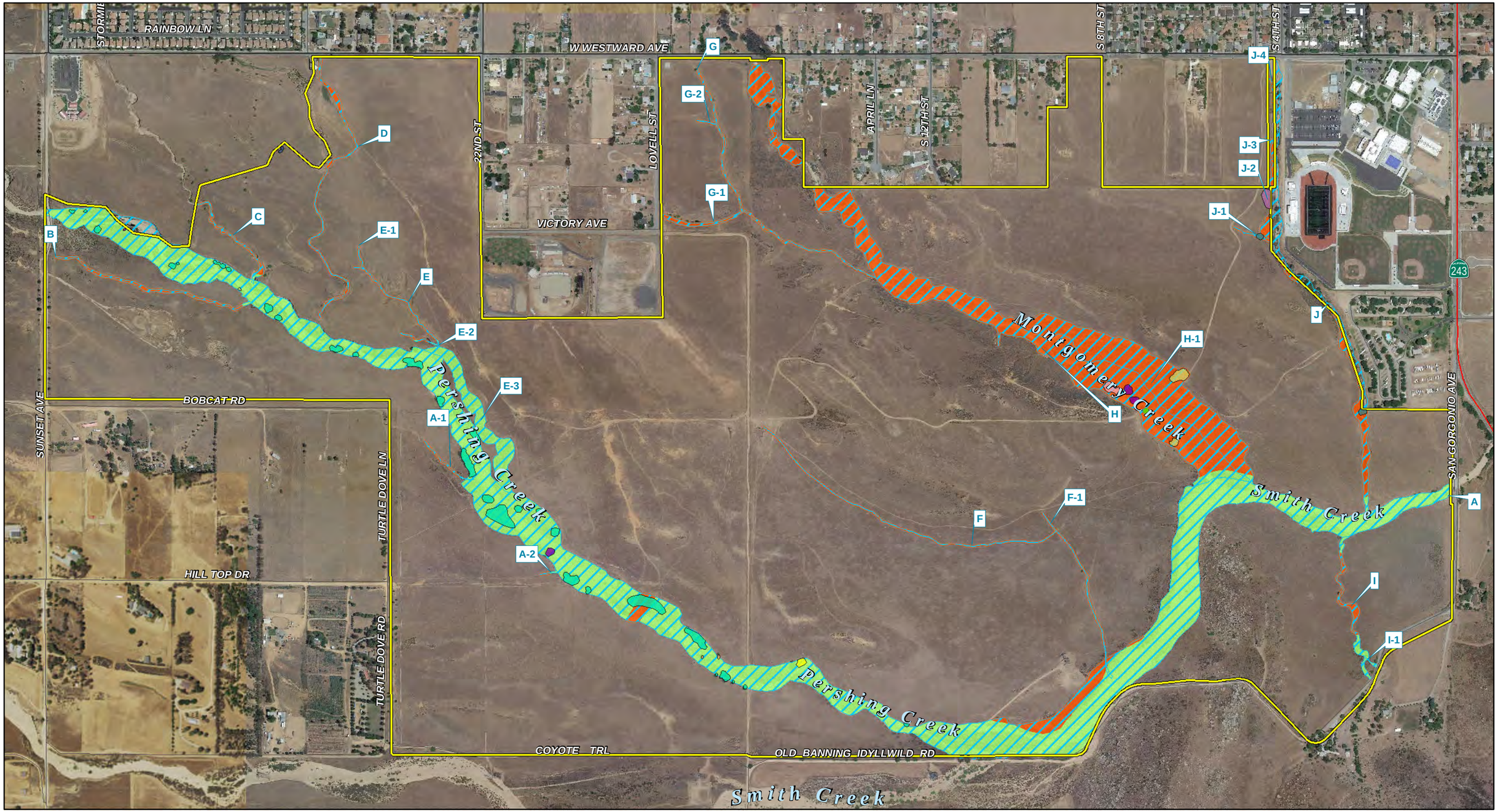
FIGURE 5A

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Hydrology and Riparian/Riverine Habitat



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Project Boundary

Riparian/Riverine Area (CDFW Jurisdiction)

Impacts to Riparian/Riverine

No Impact

Permanent Impact

Trees

Black Locust

Cedar

Cypress

Elderberry

Eucalyptus

Fremont Cottonwood

Fruit/Nut Tree

Live Oak

Persion Lilac

Tamarisk

Tree of Heaven

SOURCE: ESRI World Imagery, 2010; Google Earth, 2012; Riverside County, 2011; FEMA Flood Insurance Data, 2008.

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FIGURE 5B

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Impacts to Hydrology and Riparian/Riverine Habitat

5.2 JURISDICTIONAL WATERS

The creeks within the project area are tributary to desert rivers/washes that ultimately drain into the Salton Sea. The surface runoff and precipitation during severe storm events discharge into Smith Creek, to San Gorgonio River, to Whitewater River and, ultimately, into the Salton Sea. The Salton Sea is a "water of the United States" due to interstate and international commerce, and the "sea" is subject to ebbs and flows with the tides in the Gulf of California (*Colvin v. United States*, 181 F. Supp. 2d 1050 [C.D. Cal. 2001]). South Fourth Street Channel receives continuous discharges of nuisance flows from the municipal storm drain system.

5.2.1 Non-Wetland Waters

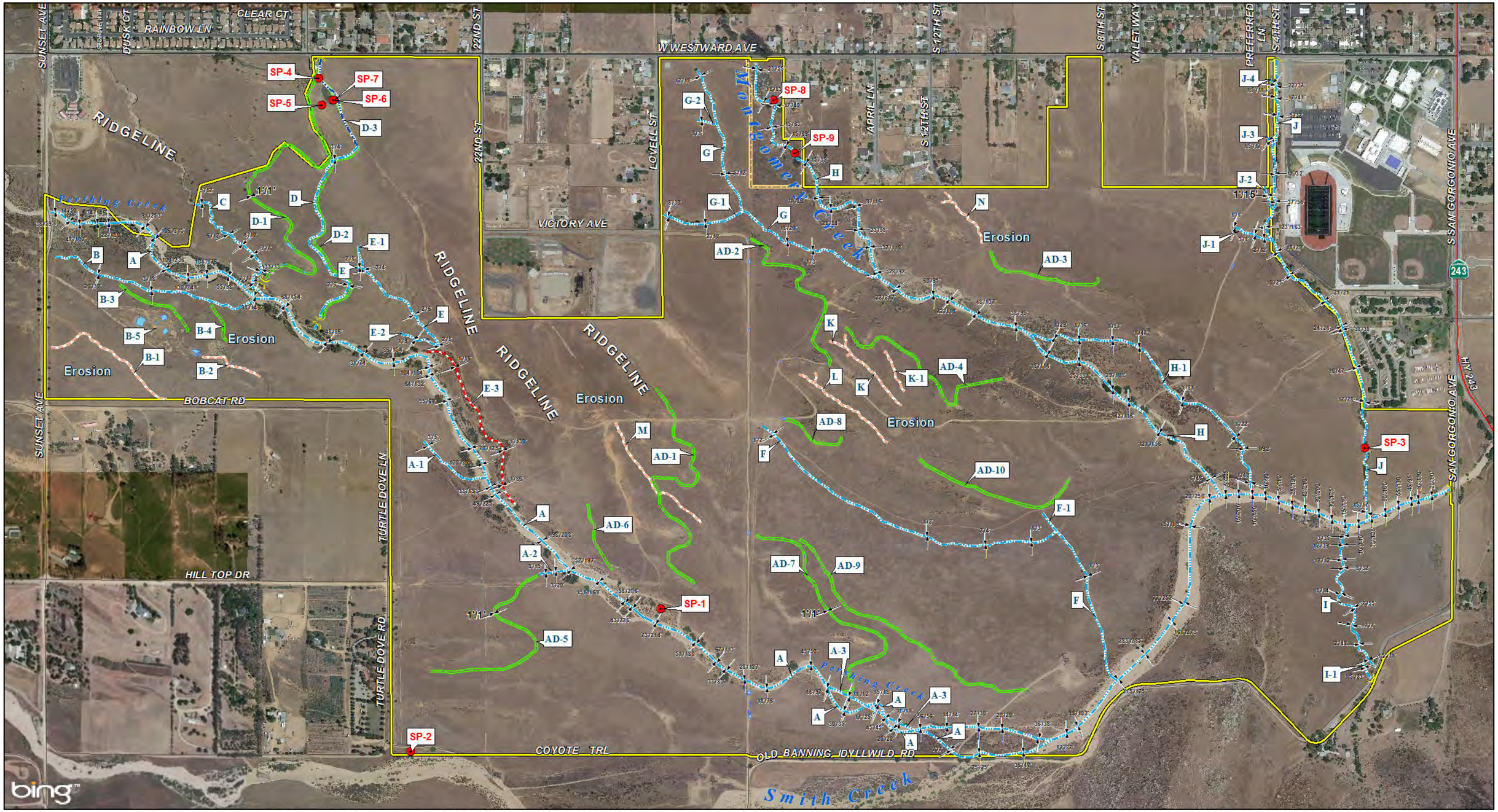
The three larger creeks (Pershing, Smith, and Montgomery Creeks) in the project area had substantial flows during the brief intense storm event on August 13, 2012. The Fourth Street and the South Woodland Avenue drainages receive continuous discharges of nuisance flows from the municipal storm drain system although the flows are minimal and percolate into the ground prior to reaching the larger creeks.

Erosional features and agricultural ditches along the base of the dry-land farming terraces also occur in the project area without contiguity of flow into the creeks under the current hydrologic conditions and flow patterns. These features are shown in Figure 6A. Smaller ephemeral features are hillside gullies and erosion rills that end in the pasture/fields when the slope flattens. There are also large inactive floodplain oxbows, terraces, and gullies that did not have any flows during the recent storm event. Other non-jurisdictional features in the project area are the agricultural ditches and berms constructed to build the dryland farming terraces.

A copy of the jurisdictional delineation report is provided in Appendix D. Pursuant to the delineation and the site review, LSA concludes that USACE jurisdiction within the project area includes the main channel of Pershing Creek (Drainage A), the large creek through the center of the project area, and Smith Creek, with which Pershing Creek merges. The total length of these combined drainages is 16,576.2 linear feet. In addition, USACE jurisdiction encompasses Drainage H (Montgomery Creek), which is 7,691.7 linear feet; Drainage J (South 4th Street), which is 4,383.6 linear feet of ephemeral waters; and other tributaries, with and without frequent seasonal flow, which contribute to the total hydrologic feature length of 42,708.4 linear feet within the project area.

5.2.2 Wetland Waters

The only wetland site in the project area is where nuisance flows from South Woodland Avenue discharge from a storm drain pipe and then sheet flow into the pasture. All three wetland criteria were met at Sample Points 4 and 7. This is an artificially induced wetland created in upland due to the street drain outlet. This wetland area is not jurisdictional based on the new 2015 Clean Water Act Rule since the wetland site is created in uplands via discharges from an artificial agricultural ditch and urban storm drain. Further, this wet area is not a functioning or valuable natural wetland resource, and is thus not jurisdictional under current regulations.



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SOURCE: Bing Imagery, 2010; Google Earth, 2012; Riverside County, 2011

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- Project Boundary
- Additional Study Area (6.8 Ac)
- 8'/12' * Drainage Width (ACOE/CDFG)
- Sample Plot
- Culvert
- Ephemeral Stream
- Intermittent Stream
- No Flow*
- Perennial Flow
- Agricultural Ditch
- Inactive Oxbow
- Erosion
- Ponding Areas and Puddles (0.18 ac)
- Wetland Area (0.2 ac) (hydrophytic grasses due to sheet flow)

*Note: Where ACOE is 0', there is no Ordinary High Water Mark, CDFW jurisdiction only.
No Flow: no flow during August 2012 storm event.

FIGURE 6A

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Potential Jurisdictional Features

5.2.3 Potential Jurisdictional Area

Based on the analysis of the field data, the total potential federal jurisdiction within the project area is 28.9 acres. LSA excluded isolated ditches, roadside and other erosion gullies and rills, and agricultural and urban runoff diversions from jurisdiction under the Rule based on observations. The total area of CDFW jurisdiction including the riparian/riverine vegetation is 73.7 acres. See Table E and Figure 6B. Relic oxbows with sage scrub and alluvial scrub vegetation are included in CDFW jurisdiction due to presence of contiguous similar vegetation (RAFSS) on the upper adjacent terraces. There are 6.9 acres of proposed impacts to federal waters and 26.3 acres to CDFW streambeds.

Table E: Total Length and Area of Potential Impacts to Waters of the U.S. and CDFW Jurisdiction and Proposed Impacts

	Length	USACE area (acres)	CDFW area (acres)
Total	42,708.4	28.9	73.7
Proposed Impacts	28,125.8	6.9	26.3

5.3 SOILS

The project site is underlain by Holocene and Pleistocene Age alluvial soils except for a small hill in the southeast portion of the property that is composed of granitic and metamorphic bedrock. Soils mapped on the surface include Greenfield, Monserate, and Ramona sandy loams; Hanford coarse sandy loam and cobbly coarse sandy loam; Cieneba rocky sandy loam; Friant rocky fine sandy loam; Tujunga loamy sand; riverwash; rockland; and terrace escarpments. Soils observed on the site are generally consistent with these designations. Figure 7 shows the soils as mapped in the Soil Survey for Western Riverside Area, California (Knecht 1971 and SSURGO/Soil Data Mart 2003). All of these soils are non-hydric soils per the Natural Resources Conservation Service (NRCS) National Hydric Soils List (NRCS 2014).

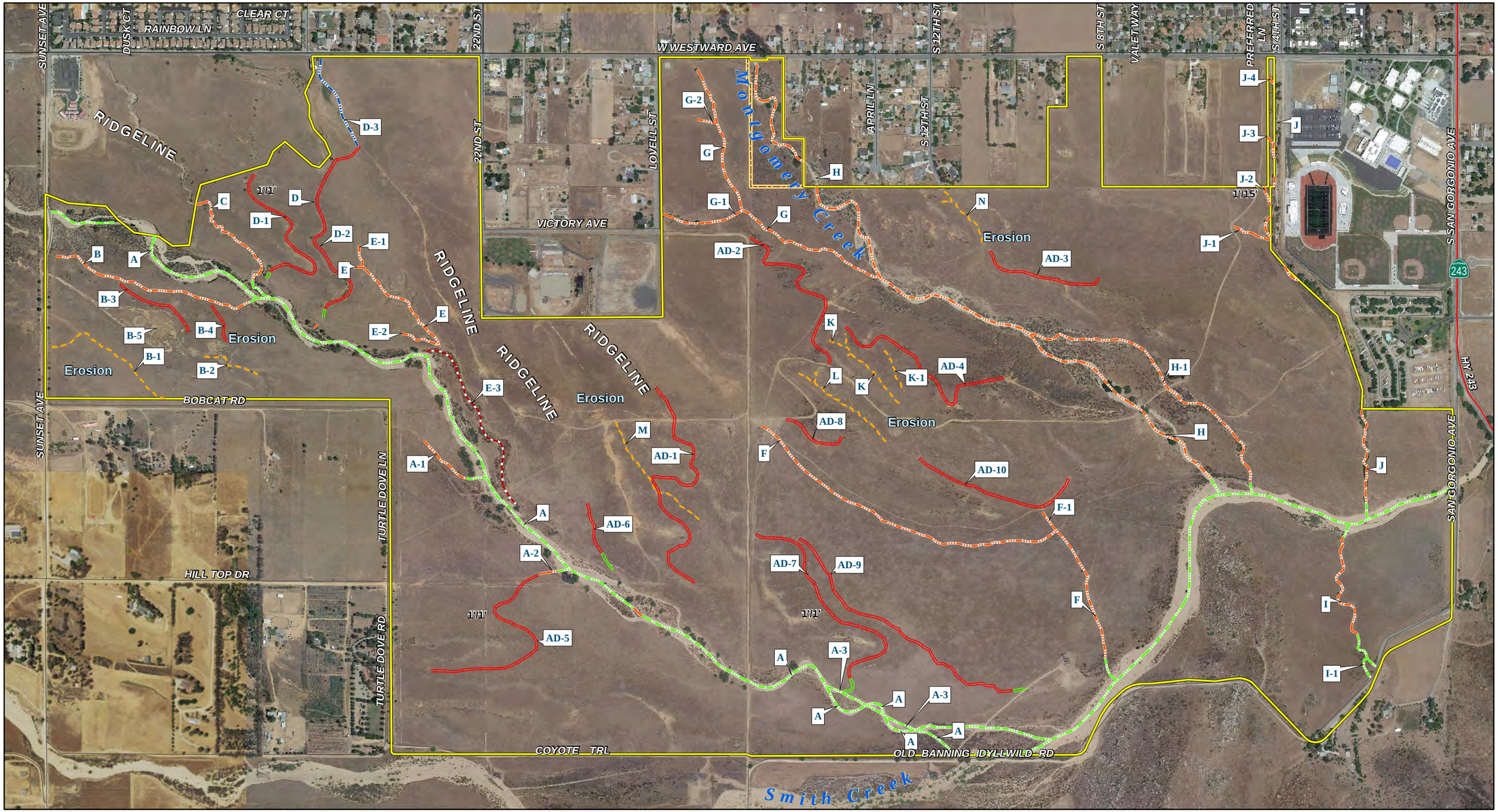
The soil types within the channels as mapped by the NRCS are sandy loams for a range of soil series, such as Cieneba, Greenfield, Hanford, Monserate, Ramona, and Tujunga. All of these soils are non-hydric soils per the NRCS National Hydric Soils List. Table F lists the types with a brief description of the characteristics.

5.4 VEGETATION COMMUNITIES AND HABITAT DESCRIPTIONS

Table G and previously referenced Figure 4 show the vegetation communities mapped in the project area. The CDFW classification system is used in this report and is also used in the MSHCP. A brief description of each vegetation community is provided below.

5.4.1 Riparian Forest/Woodland/Scrub

No riparian forest or woodland habitat exists on the site. Smith, Pershing, and Montgomery Creeks are sparsely vegetated with sage scrub and scattered eucalyptus (*Eucalyptus* sp.), tamarisk, cottonwood, and oak trees. The upper reach of the Fourth Street Channel is occupied by black locust (*Robina psuedoacacia*) with other upland vegetation.



LSA

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FEET

Project Boundary

Additional Study Area (6.8 Ac)

Ephemeral Stream, No Impact

Ephemeral Stream, Permanent Impact

No Flow, No Impact*

Perennial Flow, Permanent Impact

Agricultural Ditch, No Impact

Agricultural Ditch, Permanent Impact

Inactive Oxbow, No Impact

Isolated Erosion, Permanent Impact

*Note: No Flow: no flow during August 2012 storm event.

SOURCE: World Imagery, 2010; Google Earth, 2012; Riverside County, 2011

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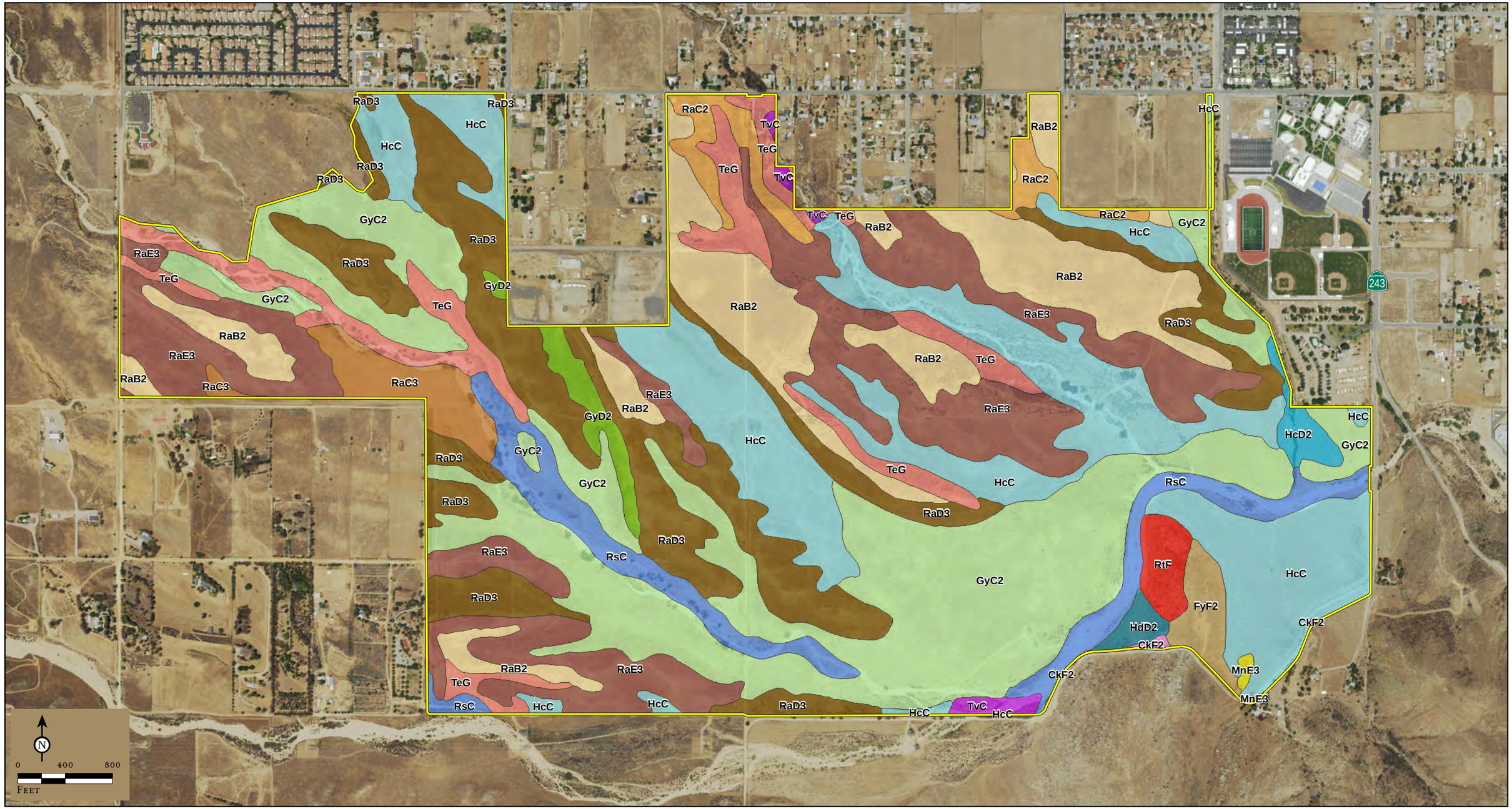
FIGURE 6B

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Impacts to Potential Jurisdictional Features



LSA

Project Boundary

Soil Types

CkF2: Cieneba rocky sandy loam, 15-50% slopes, eroded

FyF2: Friant rocky fine sandy loam, 25-50%t slopes, eroded

GyC2: Greenfield sandy loam, 2-8% slopes, eroded

GyD2: Greenfield sandy loam, 8-15% slopes, eroded

HcC: Hanford coarse sandy loam, 2-8% slopes

HcD2: Hanford coarse sandy loam, 8-15% slopes, eroded

HdD2: Hanford cobbly coarse sandy loam, 2-15% slopes, eroded

MnE3: Monserate sandy loam, shallow, 15-25% slopes, severely eroded

RaB2: Ramona sandy loam, 2-5% slopes, eroded

RaC2: Ramona sandy loam, 5-8% slopes, eroded

RaC3: Ramona sandy loam, 5-8% slopes, severely eroded

RaD3: Ramona sandy loam, 8-15% slopes, severely eroded

RaE3: Ramona sandy loam, 15-25% slopes, severely eroded

RsC: Riverwash

RtF: Rockland

TeG: Terrace escarpments

TvC: Tujunga loamy sand, channeled, 0-8% slopes

FIGURE 7

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Soils Map

SOURCE: Bing Imagery, 2010; SSURGO/Soil Data Mart, 2003.

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Table F: Soil Types and Characteristics

Soil Type Name	Codes	Slopes (%)	Characteristics
Cieneba rocky sandy loam	CkF2	15 to 20	Highly permeable, slightly acidic, and no salinity. Rock outcrops are common and the soil is used as rangeland.
Friant rocky fine sandy loam	FyF2	25 to 50	Moderate permeability, slightly acidic, and no salinity. High potential for erosion. Soil is used for range and some grain cultivation, orchards, and home sites.
Greenfield sandy loam	GyC2 GyD2	2 to 8 8 to 15	Low to moderate permeability, neutral, and no salinity. Low potential for erosion. Soil fertility is high and is used for range and some grain cultivation, orchards, and home sites.
Hanford coarse and cobbly sandy loams	HcC HcD2 HdD2	2 to 8 8 to 15 2 to 15	Moderate to high permeability, neutral and no salinity. Low potential erosion. Soil fertility is moderate and is used for range and some grain cultivation, truck crops, orchards, and home sites.
Monserate sandy loam, shallow	MnE3	15 to 25	Shallow sandy loam with subsoil of sandy clay loam. Low permeability, neutral, and no salinity. High potential for erosion. Soil is used for range and some grain cultivation.
Ramona sandy loam eroded and severely eroded	RaB2 RaC2 RaC3 RaD3 RaE3	2 to 5 5 to 8 5 to 8 8 to 15 15 to 25	Low to moderate permeability, erosion, and runoff, neutral, and no to low salinity. This soil type is used for irrigated citrus, peaches, truck crops, alfalfa, grain, pasture, and home sites.
Riverwash	RsC	0 to 8	Located in valley fills and alluvial fans, sandy, gravelly, and cobbly. Suitable for habitat for wildlife.
Rockland	RtF	15 to 75	Areas with 35 percent of more cover from granite boulders and rock outcrops. Suitable for wildlife habitat and water source.
Terrace Escarpment	TeG		Varied composition of sizes and rock type in truncated unaltered alluvial outwash.
Tujunga loamy sand, channel	TvC		Moderate to high permeability, neutral, and no salinity. High potential to wind erosion, flooding, and runoff is slow. The soil is used for dryland grain, pasture, and range.

Table G: Vegetation Communities and Land Uses in the Rancho San Gorgonio Project Area

General Habitat (Code)	Alliance (Code)	Association Code	Acres
Low to high elevation riparian scrub (63.000.00)	Southern riparian scrub (63.900.00)	Mule Fat Scrub (63.510.00)	0.06
Coastal scrub (32.000.00)	Riversidean sage scrub (32.005.00)	Riversidean alluvial fan sage scrub (32.005.02)	82.6
Coastal scrub (32.000.00)	Riversidean sage scrub (32.005.00)	Upland Riversidean sage scrub (32.005.01)	44.6
Non-native grassland (42.000.00)	—	—	700.8
Seasonally ephemeral pools and puddles (no code)	—	—	0.2
Wetland with non-native grasses (no code)	—	—	0.2
Developed/Ruderal (no code) (1.1 acres) including ornamental/non-native trees (1.5 acres)	—	—	2.6
Total			**831**

5.4.2 Mule Fat Scrub (63.510.00)

The southern riparian scrub habitat type used in the MSHCP exists on the project site with mule fat as the dominant plant. The disturbed mule fat scrub occurs in the lowest 100 feet (0.06 acre) of the South Fourth Street Channel, which flows parallel to the high school property. The vegetation in this lower 100-foot area consists of a mixture of a few shrubby willows, mule fat, ornamental trees, and non-native herbs and shrubs. This area is classified as Mule Fat Scrub (63.510.00). The area with willows and mule fat is marginal and highly disturbed. The site has only a sparse understory and the habitat is not suitable or adequate for least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo due to the lack of extensive, undisturbed, contiguous riparian habitat.

5.4.3 Riversidean Alluvial Fan Sage Scrub (32.005.02)

Riversidean alluvial fan sage scrub is a Mediterranean shrubland type that occurs in washes and on gently sloping alluvial fans. On the project site, this community occurs throughout the three major washes, where it is typically dominated by scalebroom or by California buckwheat with scalebroom as a subdominant. Scattered trees in these areas include Fremont cottonwood (*Populus deltoides* ssp. *fremontii*), athel (*Tamarix aphylla*), eucalyptus, palo verde (*Parkinsonia aculeata*), black locust, tree of heaven, elderberry (*Sambucus nigra* ssp. *cerulean*), and coast live oak.

5.4.4 Upland Riversidean Sage Scrub (32.005.01)

Sage scrub is distributed throughout Western Riverside County. It can be found in diverse vegetation community mosaics with other plant communities, particularly grassland and chaparral, and oak/ riparian woodland in wetter areas. In western Riverside County, coastal sage scrub is found both in large contiguous blocks scattered throughout the County as well as integrated with chaparral and grasslands. Riversidean sage scrub is dominated by a characteristic suite of low-statured, aromatic, drought-deciduous shrubs and subshrub species. Composition varies substantially depending on physical circumstances and the successional status of the vegetation community; however, characteristic species include California sagebrush (*Artemisia californica*), California buckwheat, laurel sumac (*Malosma laurina*), California encelia (*Encelia californica*), and several species of sage (e.g., *Salvia mellifera, S. apiana*) (Holland 1986; Sawyer-Wolf 1995). This plant community is located in pockets on the uncultivated fields, stream banks, ridgelines, and rocky outcrops throughout the project area.

5.4.5 Non-native Grassland (42.000.00)

Non-native grasslands are likely to be dominated by several species of grasses that have evolved to persist in concert with human agricultural practices: slender oat (*Avena barbata*), wild oat (*Avena fatua*), fox tail chess (*Bromus madritensis*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), barley (*Hordeum* spp.), rye grass (*Lolium multiflorum*), English ryegrass (*Lolium perrene*), rat-tail fescue (*Vulpia myuros*), and Mediterranean schismus (*Schismus barbatus*).

Ephemeral drainages that receive too little water to support hydrophytic species are typically barren of vegetation or dominated by the same plant species that occur in adjacent upland areas. Vegetation of the ephemeral channels in the project area is similar to that of the surrounding upland plant community, consisting primarily of non-native annual grasses with scattered clusters of California

buckwheat and tree tobacco. Previously referenced Figure 6 depicts the location of the non-native grasslands.

5.4.6 Playas and Vernal Pools (44.300.00)

Vernal pools are ephemeral wetlands that form in shallow depressions underlain by a substrate near the surface that restricts the downward percolation of water. Depressions in the landscape fill with rainwater and runoff during the winter and may remain inundated until spring or early summer, sometimes drying more than once during the wet season. Smaller pools can fill and dry, and larger pools can hold water longer and may in the deeper portions support species that are more representative of freshwater marshes. Vernal pools are well-known for their high level of endemism and abundance of rare, Threatened, or Endangered Species. Many vernal pools are characterized by concentric rings of plants that flower sequentially as the pools dry. Vernal pools are dominated by native annual plants, with low to moderate levels of perennial herbaceous cover. Common vernal pool plant species in Western Riverside County include woolly marbles (*Psilocarphus brevissimus*), toad rush (*Juncus bufonius*), and spike rush (*Eleocharis* spp.). In addition, the following sensitive or listed plant species are found in one or more of these pools: California Orcutt grass (*Orcuttia californica*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), spreading navarretia (*Navarretia fossalis*), low navarretia (*N. prostrata*), Orcutt's brodiaea (*Brodiaea orcuttii*), thread-leaved brodiaea (*Brodiaea filifolia*), Parish brittlescale (*Atriplex parishii*), Parish meadowfoam (*Limnanthes gracilis* ssp. *parishii*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), and smooth tarplant (*Hemizonia pungens* ssp. *laevis*). The Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*) occurs only in Western Riverside County, which is also the location of the southernmost record for the vernal pool fairy shrimp (*Branchinecta lynchi*).

5.4.6.1 Seasonally Ephemeral Pools and Puddles

There are no playas or vernal pools on the project site. Common or listed plant species known to be endemic to Riverside County vernal pools do not occur on site. The several ephemeral ponding areas and puddles are due to roads, compaction, and grading in the fields. The puddles in the southwest corner of the project area provided enough inundation for a long enough period of time for non-listed fairy shrimp to reproduce during the 2014 survey. Refer to Figure 2 in the fairy shrimp survey report dated June 17 and September 18, 2013 and provided in Appendix D.

5.4.6.2 Wetland with Non-native Grasses

In heavily grazed areas, wetlands are often dominated by perennial, facultatively hydrophytic grasses, such as Bermuda grass (*Cynodon dactylon*), together with other native and non-native herbaceous species that are tolerant of saturated soils. There is a small wetland area (0.2 acre) of hydrophytic grasses in the northwest corner of the site supported by storm drain discharge from Woodland Avenue. Dominant species in this area include Bermuda grass, barnyard grass (*Echinochloa crus-galli*), annual rabbitsfoot grass (*Polypogon monspeliensis*), and tall flatsedge (*Cyperus eragrostis*).

5.5 SPECIES SURVEYS

5.5.1 Special-Status Plant Species

Previously referenced Tables A and B list federally and State listed plant species and other special status plant species listed by of the California Native Plant Society (CNPS) on the California Rare Plant Risk List that may occur in or near the proposed project area. Figure 8A provides a map of the species survey findings. Figure 8B illustrates proposed avoidance areas for existing biological resources. The CNPS has developed and maintains a list of rare, threatened, and endangered plants of California. This information is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2015). The CNPS list is endorsed by the CDFW. Figure 9A illustrates records of occurrences of CDFW/CNDDB plant species.

5.5.1.1 MSHCP Covered and Listed Plant Species

Mojave tarplant is an annual plant species listed as Endangered by the State of California. It inhabits seeps, drainages (including low areas along roads), ponds, and similar mesic areas, generally in sandy alluvial soil, in openings in riparian scrub, grassland, and chaparral at 640 to 1,600 meters (2,100 to 5,300 feet) elevation. It blooms from June through October. This species has been reported from the hills south of the project site. Habitat on the project site is poor for this species due to inappropriate, generally dry, loamy soils, but the major drainages may be marginally suitable. Mojave tarplant was not observed during the survey, nor was any other special status plant species. Due to the poor habitat quality and negative results of the survey, it is the conclusion of LSA that Mojave tarplant does not occur on the project site.

5.5.1.2 Other Plant Species Not Covered by MSHCP and Listed Plant Species

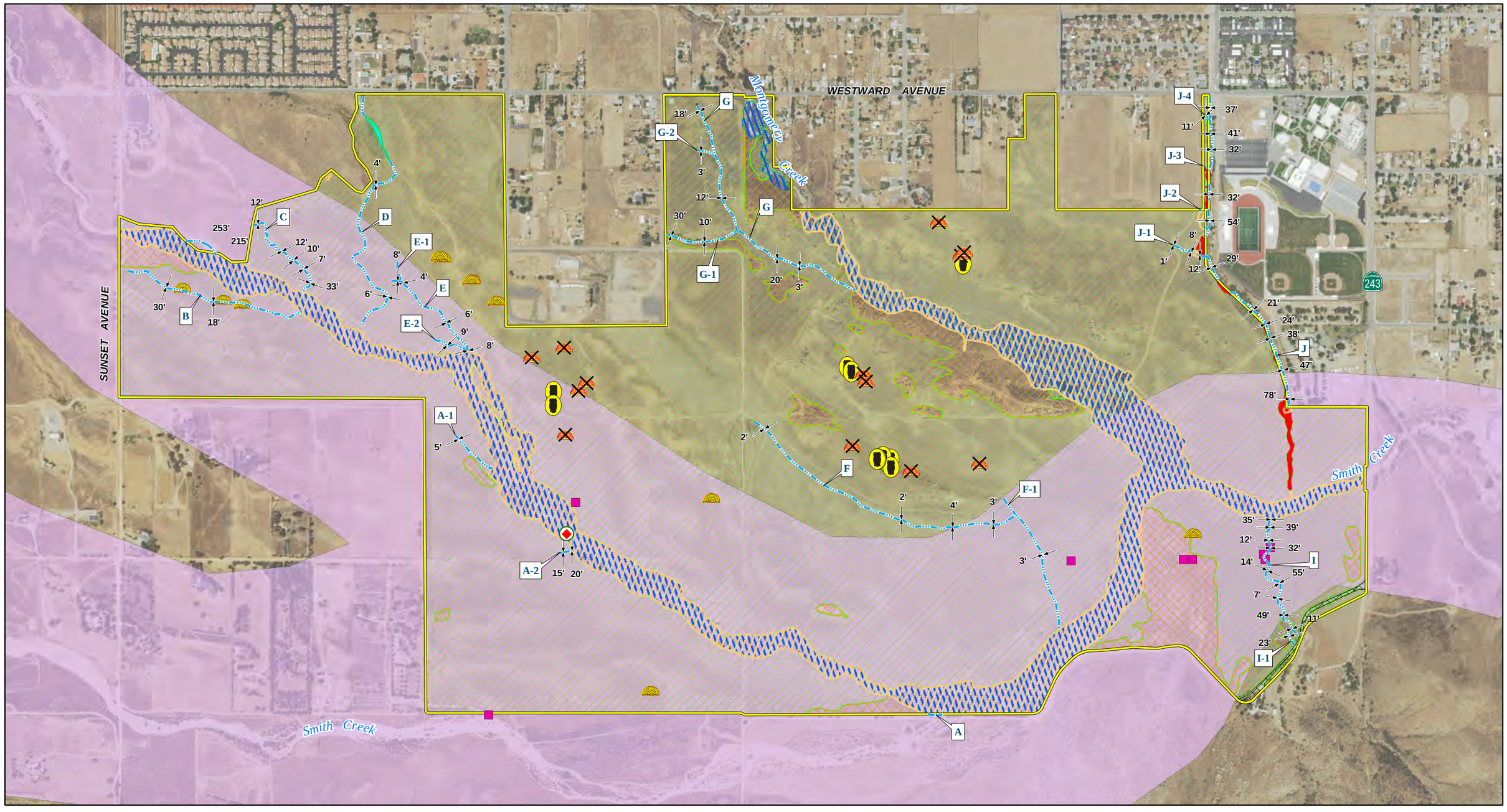
There are no species with federal or state listings. The project site is unsuitable or outside the known ranges for species known to occur in western Riverside County. Soils are not suitable for the Narrow Endemic Plant Species targeted for focused surveys within the project area.

5.5.1.3 Other Special Status Plant Species

Other plant species observed on the project site without federal or state listed designations are presented in Appendix A. All special status species and others not covered by the MSHCP with potential to occur on the project site are listed in Appendix B. Habitat suitability assessment was conducted for the MSHCP Narrow Endemic Plant Species. The site does not have suitable soils or water conditions to support the MSHCP species of interest. Refer to Appendix D for the MSHCP plant species habitat suitability report.

5.5.2 Special-Status Wildlife Species

All other animal species observed on the project site are listed in Appendix A. See Appendix C for additional discussion of special-status wildlife species' likelihood of occurrence within the project vicinity. Figure 9B illustrates records of occurrences of CDFW/CNDDB animal species.



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- Project Boundary
- 10' Drainage Width (CDFW)
- Unvegetated Stream Channel
- Potential Nesting Tree White-tailed Kite (2012)

Los Angeles Pocket Mouse (LAPM)

- Habitat Areas Assumed Occupied by LAPM
- LAPM Capture Locations
- Small Mammal Survey Area (LA Pocket Mouse)

Burrowing Owl

- Active Burrows and Owls Present (2013)
- Active Burrow
- Inactive Burrow with Sign

Habitat

- Non-native Grassland
- Riversidean Alluvial Fan Sage Scrub
- Upland Riversidean Sage Scrub
- Developed/Ruderal
- Southern Riparian Scrub
- Wetland of Non-native Grasses

SOURCE: ESRI World Imagery, 2010.

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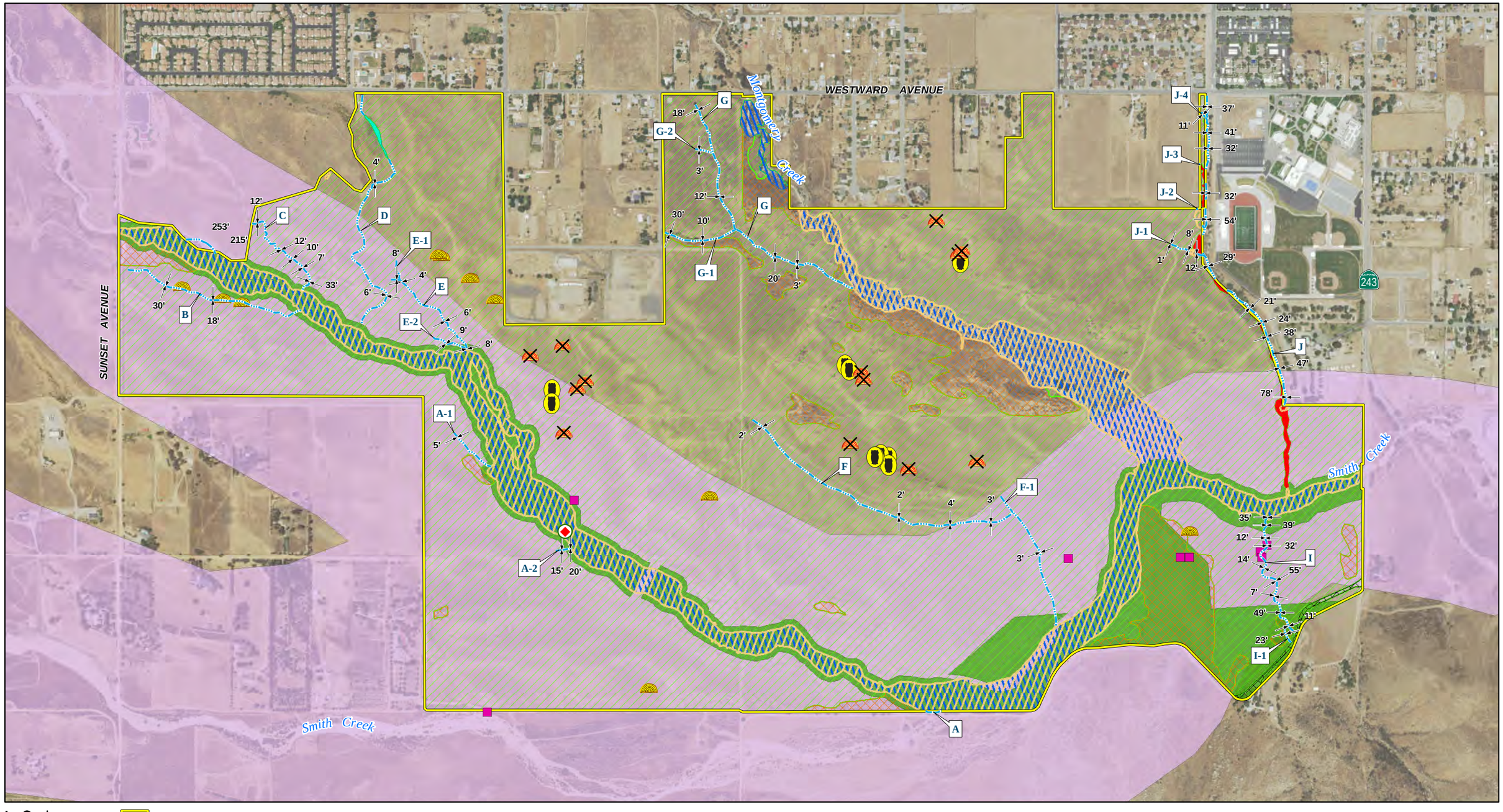
FIGURE 8A

Rancho San Gorgonio
Planned Commmunity Project
Biological Resources Report

Existing Biological Resources Map



LSA

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- Project Boundary
- 10' Drainage Width (CDFW)
- Unvegetated Stream Channel
- Potential Nesting Tree White-tiailed Kite (2012)
- Avoidance Area

Los Angeles Pocket Mouse (LAPM)

- Habitat Areas Assumed Occupied by LAPM
- LAPM Capture Locations
- Small Mammal Survey Area (LA Pocket Mouse)

Burrowing Owl

- Active Burrows and Owls Present (2013)
- Active Burrow
- Inactive Burrow with Sign

Habitat

- Non-native Grassland
- Riversidean Alluvial Fan Sage Scrub
- Upland Riversidean Sage Scrub
- Developed/Ruderal
- Southern Riparian Scrub
- Wetland of Non-native Grasses

SOURCE: ESRI World Imagery, 2010.
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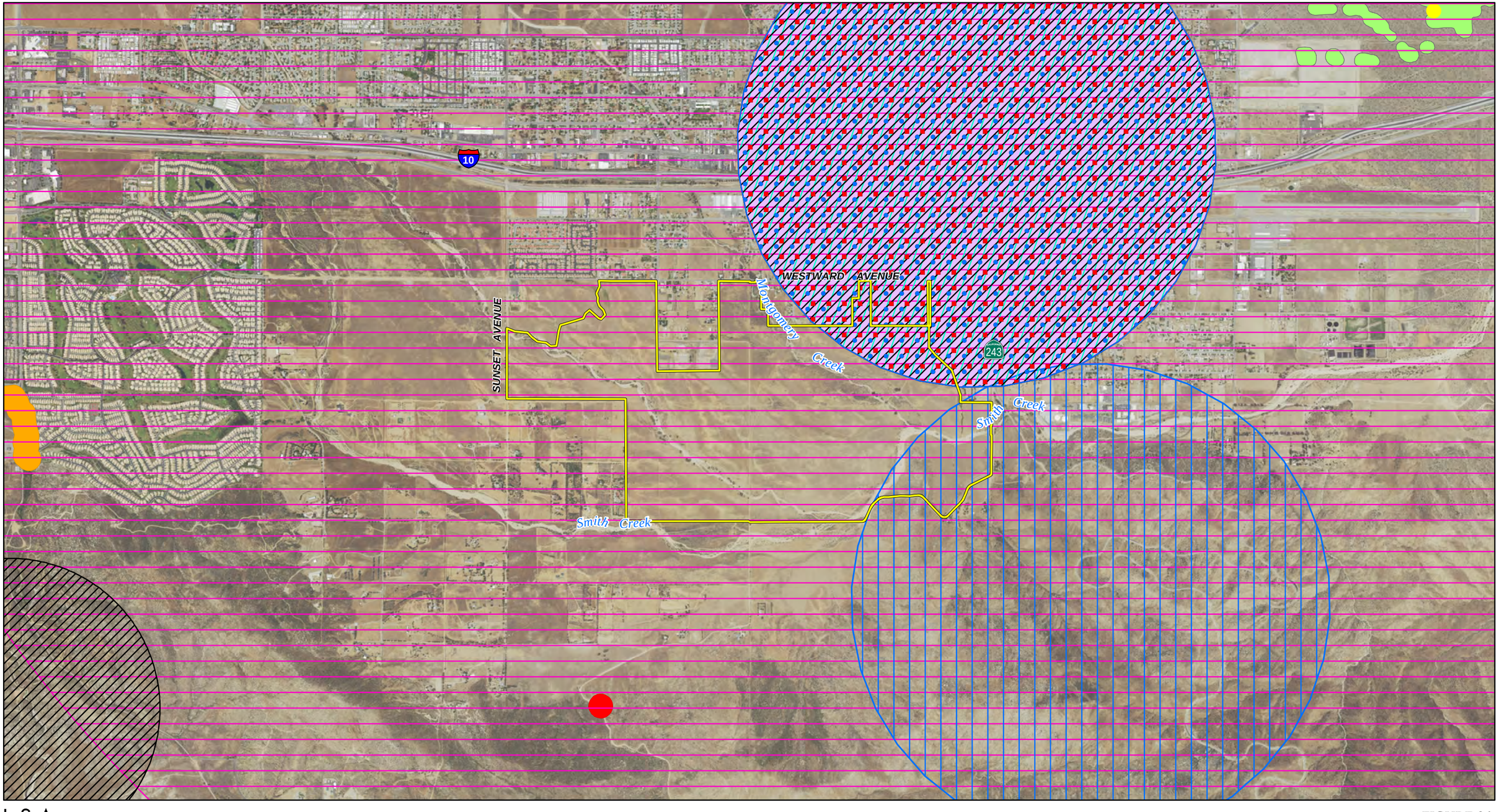
FIGURE 8B

Rancho San Gorgonio
Planned Commmunity Project
Biological Resources Report

Proposed Avoidance Areas for
Existing Biological Resources Map



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SOURCE: ESRI World Imagery, 2010; CNDDB, 2014

Project Boundary

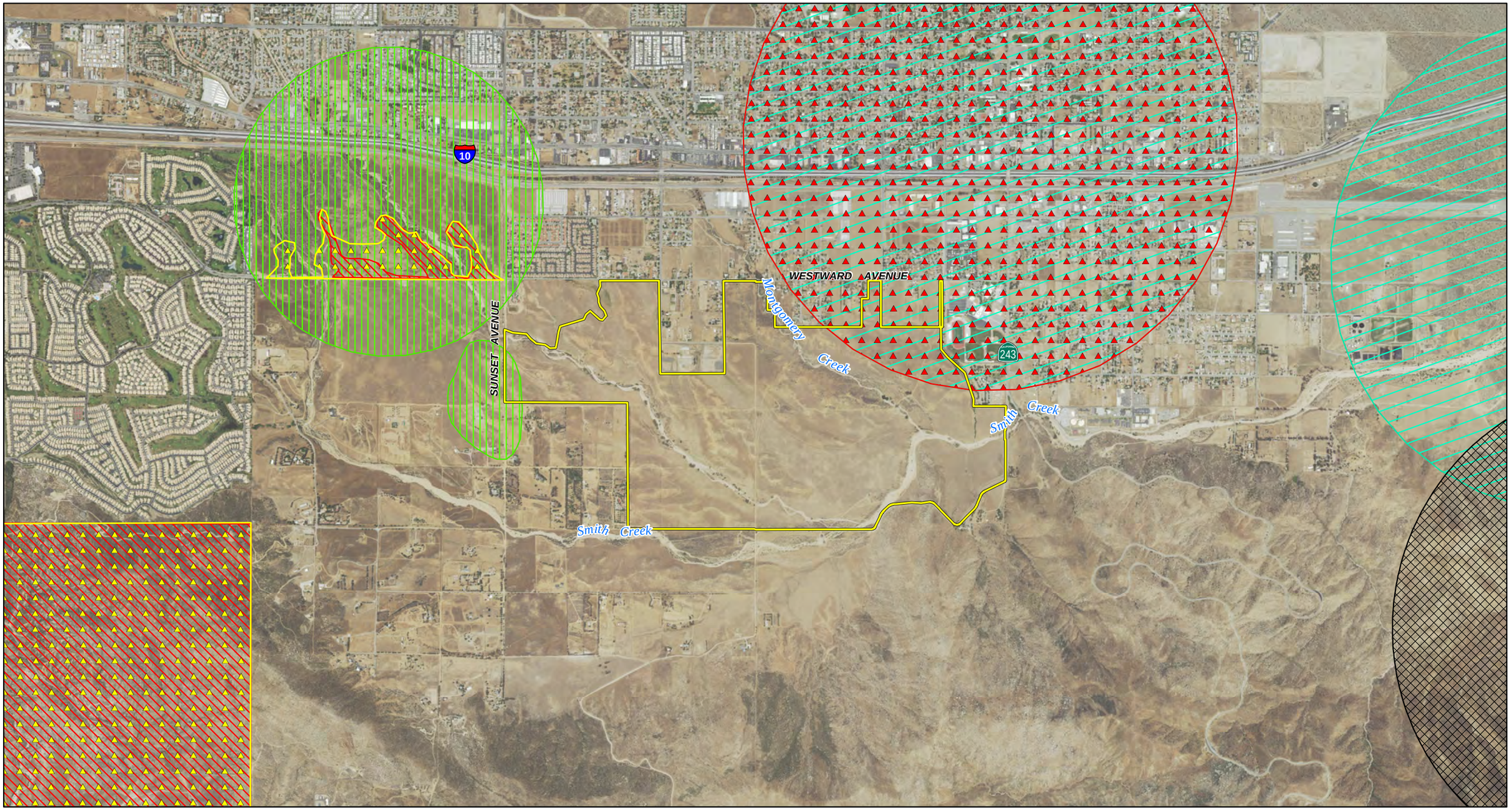
CNDDB Plant Species June 2014

- Abronia villosa var. aurita: chaparral sand-verbena
- Allium marvinii: Yucaipa onion
- Astragalus lentiginosus var. coachellae: Coachella Valley milk-vetch (Federal Endangered/Not MSHCP Covered)
- Astragalus pachypus var. jaegeri: Jaeger's milk-vetch
- Calochortus plummerae: Plummer's mariposa-lily
- Caulanthus simulans: Payson's jewelflower
- Centromadia pungens ssp. laevis: smooth tarplant
- Chorizanthe parryi var. parryi: Parry's spineflower
- Chorizanthe xanti var. leucotheca: white-bracted spineflower
- Deinandra mohavensis: Mojave tarplant (State Endangered/MSHCP Covered)
- Horkelia cuneata var. puberula: mesa horkelia

FIGURE 9A

Rancho San Gorgonio
Planned Commmunity Project
Biological Resources Report

CDFW/CNDDB Plant Species Occurrence of Records



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SOURCE: ESRI World Imagery, 2010; CNDDB, 2014

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Project Boundary

CNDDB Animal Species June 2014

Chaetodipus fallax fallax: northwestern San Diego pocket mouse

Chaetodipus fallax pallidus: pallid San Diego pocket mouse

Dipodomys stephensi: Stephens' kangaroo rat (Federal Endangered/State Threatened/MSHCP Covered)

Lanius ludovicianus: loggerhead shrike

Perognathus longimembris brevinasus: Los Angeles pocket mouse

Spea hammondii: western spadefoot

Taxidea taxus: American badger

FIGURE 9B

Rancho San Gorgonio
Planned Commmunity Project
Biological Resources Report

CDFW/CNDDB Animal Species Occurrence of Records

5.5.2.1 MSHCP Covered and Listed Animal Species

Riverside fairy shrimp (*Streptocephalus woottoni*, FE/SA/S) was the subject of seasonal focused surveys. Refer to species tables in report section 4.3 for the listing status acronyms. The only fairy shrimp species observed during the wet season survey was versatile fairy shrimp (*Branchinecta lindahli*), not a special status species nor covered by the MSHCP. The more common egg forms in the samples were the versatile fairy shrimp and alkali fairy shrimp (*B. mackini*). Given the project location, the habitat conditions, and the sizes of the eggs analyzed, the 2012–2013 dry season survey *Streptocephalus* eggs collected from the project site are those of New Mexico fairy shrimp (*Streptocephalus dorothae*). This species has been previously reported from within a mile of the project site. Riverside fairy shrimp produces larger eggs, occurs in deeper pools, and is not known to occur as far east as the San Gorgonio Pass area. This listed species and its suitable habitat is absent from the project site. See Appendix D (Wet season and dry season fairy shrimp survey reports) for additional information.

Nesting habitat suitable for federal and state listed as threatened or endangered bird species affiliated with riparian and riverine vegetation communities is not present within the project area. The riparian/ riverine vegetation communities would need to be more extensive and contiguous to be suitable for species associated with this habitat type. The least Bell's vireo nests in areas adjacent to open water with mature riparian woodland and dense understory. The southwestern willow flycatcher and the western yellow-billed cuckoo require similar habitat characteristics but much more contiguous and expansive areas of historical occurrences in larger river watersheds. These two habitat suitability qualities are lacking within the project area. The MSHCP Riparian/Riverine survey species [least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus*)] are not likely to occur within the project area. There is no riparian forest or woodland on the site and the 0.06 acre of mixed mule fat scrub at the south end in Fourth Street Channel is not adequate as nesting habitat. Due to the lack of dense riparian habitat within the project area, focused riparian bird surveys were not warranted.
There is a cluster of mature cottonwoods in center reach of Pershing Creek. These will not be removed. Athel trees (0.2 acre) will be removed to build the road crossing over Pershing These trees are over 50 years old and are suitable for nesting raptors. In Montgomery Creek, there are large two cottonwoods and two live oak trees (0.4 acre) that will need arborist assessment to determine any mitigation requirements. All the trees in Montgomery Creek, native and non-native, will be removed.

Stephens' kangaroo rat (*Dipodomys stephensi*) FE/ST/C. This species was determined to be present on the project site from captures during the small mammal trapping survey in 2012.

5.5.2.2 Other Animal Species Not Covered by MSHCP and Listed Animal Species

Townsend's big-eared bat (*Corynorhinus townsendii*) FC/SC/NC. This bat species is not likely to roost within the project site due to the lack of roosting habitat, such as caves and mines, and a reliable water source. However, this species may roost in abandoned buildings or bridges in the vicinity of the project site, and foraging habitat suitable for this species is present within the project site. If avoidance of breeding roosts or colonies, if occurring on the project site, cannot be achieved, then CESA compliance for this species will mitigate impacts to less than significant under a separate Section 2081(b) Permit.

5.5.2.3 Other Special Status MSHCP Animal Species

Animal species observed on the project site are listed in Appendix A. Other animal species observed on the project site without special-status federal or state listed designation and MSHCP Survey Area species are listed presented in Appendix C.

Burrowing Owl. The burrowing owl is an MSHCP Survey Species and was determined to be present on the project site during focused surveys. A total of 11 owls were observed in a colony site and at other outlying active burrow locations in the center of the project. See Appendix D Burrowing Owl survey report for more information.

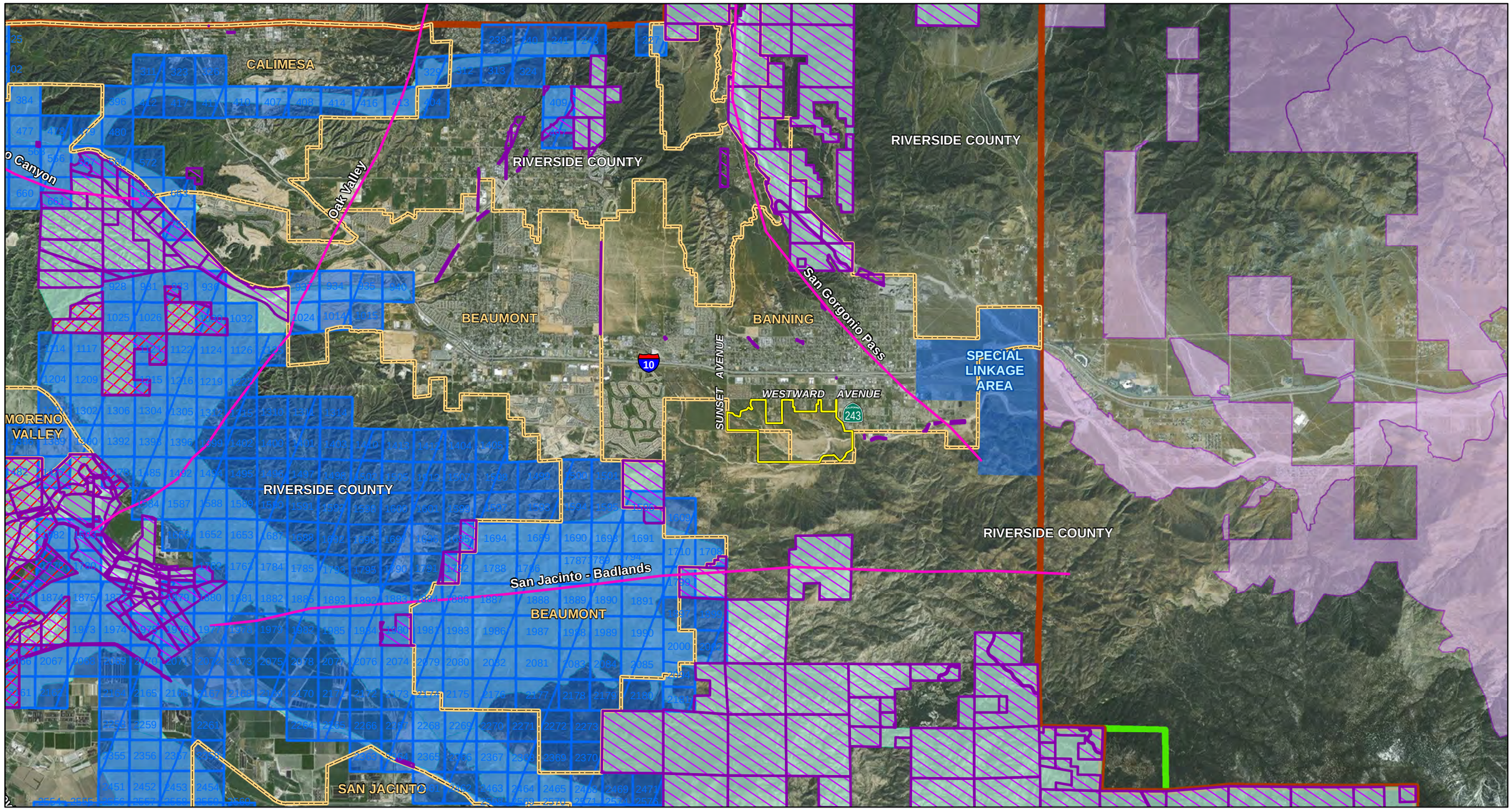
Los Angeles Pocket Mouse. There were 10 Los Angeles pocket mouse captures on the edge of the wash in the southwestern portion of the site, next to a low spot dropping into the wash in the west-central portion of the site, and on three traplines in the southeastern portion of the site.

5.5.3 Wildlife Movement and Connectivity

Wildlife movement is an important issue in assessing impacts to plants and wildlife. On a regional scale, the San Gorgonio Pass area is a critical point in the connection between the San Bernardino Mountains and the San Jacinto Mountains for many plant and animal species primarily associated with higher elevations. Refer to Figure 10 to see the context of the project in regional wildlife movement planning. For this reason, the San Gorgonio River Wash, several miles east of the project site, has been identified as a critical conservation area by the MSHCP and the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). Refer to Section 3.3.10, p. 3-245 of the MSHCP document for more information. The north-south connection on the axis of the project site has already been compromised by long-standing development of the City of Banning.

The San Bernardino/San Jacinto connection was also emphasized in the California Essential Habitat Connectivity Project report (Spencer et al. 2010). The report also targeted the San Gorgonio River Wash—along with Stubbe Canyon and Whitewater Canyon farther east—for linkage protection. A linkage tributary identified by the report extends from the confluence of Smith Creek and the San Gorgonio River Wash west all the way to the headwaters of Potrero Creek. Closest to the project site, that tributary runs along the ridge to the south, avoiding the Rancho San Gorgonio Project site altogether.

The east-west connection for lowland species through San Gorgonio Pass has not been considered as important in the planning processes described above. The pass generally marks the transition between coastal habitats to the west and desert habitats to the east.



LSA

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FEET

Project Boundary
City Limits
Criteria Areas
Criteria Cells
Core Linkage
CV MSHCP Conservation Area Boundaries
PQP Conserved Lands 2011
SKR Reserve
Missing Linkages in California Landscape
MSHCP Boundary
CV MSHCP Boundary

SOURCE: ESRI World Imagery, 2010, County of Riverside, 2005 and 2013; www.SCWildlands.org.

I:\PIE1201\Reports\CEQA\fig10_WildlifeCorridor.mxd (9/23/2015)

FIGURE 10

Rancho San Gorgonio
Planned Community Project
Biological Resources Report

Wildlife Corridors

6.0 CEQA ENVIRONMENTAL ANALYSIS

6.1 PROPOSED PROJECT IMPACTS

Table H summarizes the proposed project direct impacts to vegetation communities and the plant and wildlife species of special concern associated with each vegetation community/land cover type. Species known predominantly to occur in the vegetation communities with moderate to high probability to occur are listed with each habitat type. Each species occurrence and density and location is unknown at this time.

Table H: Summary of Proposed Project Impacts by Vegetation Community and Associated Species

Vegetation Community	Location	Project Site (Acres)	Avoided/ Conserved (acres)	Direct Impacts (acres)
Non-Native Grassland	**Pasture and Fields**	**700.5**	**45.2**	**655.3**
MSHCP-Covered Species	Western spadefoot, coast horned lizard, red-diamond rattlesnake, western burrowing owl, golden eagle, ferruginous hawk, white-tailed kite, California horned lark, loggerhead shrike, turkey vulture, coyote, Stephens' kangaroo rat, Dulzura kangaroo rat, San Diego black-tailed jackrabbit, bobcat, long-tailed weasel, and mountain lion.			
Non-MSHCP Species	Coast patch-nosed snake, burrowing owl, Oregon vesper sparrow, American badger.			
Riversidean Alluvial Fan Sage Scrub	**Ephemeral/ Intermittent Streams**	**82.6**	**55.8**	**26.8**
MSHCP-Covered Species	Western spadefoot, coastal western whiptail, coast horned lizard, red-diamond rattlesnake, southern California rufous-crowned sparrow, golden eagle, white-tailed kite, loggerhead shrike, coyote, San Diego pocket mouse, Stephens' kangaroo rat, Dulzura kangaroo rat, San Diego black-tailed jackrabbit, bobcat, long-tailed weasel, San Diego desert woodrat, and mountain lion.			
Non-MSHCP Species	Chaparral sand verbena, silvery legless lizard, coast patch-nosed snake, pallid bat, western mastiff bat, western yellow bat, Los Angeles pocket mouse, and American badger.			
Upland Riversidean Sage Scrub	**Upper Terraces of Stream Channels**	**44.6**	**17.5**	**27.1**
MSHCP-Covered Species	Parry's spineflower, western spadefoot, coastal western whiptail, San Diego banded gecko, coast horned lizard, granite spiny lizard, red-diamond rattlesnake, Southern California rufous-crowned sparrow, golden eagle, Bell's sparrow, Costa's hummingbird, coyote, San Diego pocket mouse, Dulzura kangaroo rat, bobcat, long-tailed weasel, San Diego desert woodrat, and mountain lion.			
Non-MSHCP Species	Silvery legless lizard, coast patch-nosed snake, Costa's hummingbird, and Lawrence's goldfinch.			

Table H: Summary of Proposed Project Impacts by Vegetation Community and Associated Species

Vegetation Community	Location	Project Site (Acres)	Avoided/ Conserved (acres)	Direct Impacts (acres)
Southern Riparian Scrub	**Fourth Street Channel**	**0.06**	**0**	**0.06**
MSHCP-Covered Species	None			
Non-MSHCP Species	Silvery legless lizard, oak titmouse, and yellow-headed blackbird.			
Wetland with non-native grasses	**pasture**	**0.2**	**0**	**0.2**
MSHCP-Covered Species	none			
Non-MSHCP Species	none			
Seasonally Ephemeral Pools and Puddles in Grassland	**Graded Hilltop and Road Puddles**	**0.2**	**0**	**0.2**
MSHCP-Covered Species	Western spadefoot toad.			
Non-MSHCP Species	none			
Developed/Roads/Utilities	**Roads and Utilities**	**2.6**	**0.8**	**1.7**
Total		**831**	**119.3**	**711.5**
Additional Vegetation Information				
Native Trees (elderberry, cottonwood, live oak)	**Pershing and Montgomery Creeks**	**0.47**	**0.08**	**0.39**
MSHCP-Covered Species	White-tailed kite (and other large nesting birds such as crows, hawks, owls)			
Non-MSHCP Species	Pallid bat, western yellow bat, and big free-tailed bat.			

Impacts to biological resources may occur as a result of full implementation of the project. Biological resources may be either directly or indirectly impacted by activities associated with construction of the proposed project or from the implementation of the RSG Specific Plan. Furthermore, direct and indirect impacts may be either permanent or temporary in nature. These various types of impacts are defined below.

- **Direct:** Direct impacts are caused by a project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Direct impacts would include direct losses to potential jurisdictional waters, wetlands, and special-status species; and diverting natural surface water flows. Direct impacts include injury, death, and/or harassment of listed and/or special-status species. Direct impacts also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts to plants can include crushing of adult plants, bulbs, or seeds.
- **Indirect:** As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but indirect impacts are still reasonably foreseeable and attributable to project-related activities. Examples include habitat fragmentation; elevated noise, dust, and lighting levels; changes in hydrology, runoff, and sedimentation;

decreased water quality; soil compaction; increased human activity; and the introduction of invasive plants. Refer to Section 7 for a discussion of indirect effects.

- **Permanent:** All impacts that result in the irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.
- **Temporary:** Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust, noise, and erosion during construction, or removing vegetation for transmission structure activities and allowing the natural vegetation to recolonize the impact area.

Thresholds of Significance. For the purpose of impact analysis in the chapter, the following applicable thresholds of significance are used to determine whether implementing the Project would result in a direct significant impact. CEQA Guidelines Appendix G requires a finding as to whether the project "ha[s] the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal …" Where a project may substantially reduce the number of or restrict the range of a listed species, impacts can be reduced to a level of less than significant through mitigation if the project complies with the mitigation requirements of an approved HCP/NCCP or preserve, restore, or enhance sufficient habitat to mitigate reduction in habitat or number of species (American Council of Engineers 2015).

A biological resources impact is considered significant if implementation of the project alternatives would result in any of the following:

B-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;

B-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;

B-3: Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, and coastal areas) or any state-protected jurisdictional areas not subject to regulation under Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means;

B-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

B-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy, or ordinance; or

B-6: Conflict with the provisions of an adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservation plan.

6.1.1 Threshold B-1: Listed Species

The following listed species have moderate to high potential to occur within the project area or were observed on the project during field surveys in 2012 to 2013. In Section 4.3, Tables A, B, C, and D provide a list of all special status species reported in the literature with potential to occur ranging from absent to present.

- **MSHCP Covered Species**
  - Moderate: Parry's spineflower, slender-horned spineflower, Mesa horkelia, Bell's sparrow, Costa's hummingbird, and ferruginous hawk.
  - High: coast horned lizard, granite spiny lizard, California horned lark, and mountain lion.
  - Present: western spadefoot toad, rufous-crowned sparrow, golden eagle, Bell's sparrow, burrowing owl, white-tailed kite, oak titmouse, California horned lark, loggerhead shrike, turkey vulture, coyote, San Diego pocket mouse, San Diego black-tailed jackrabbit, bobcat, Los Angeles pocket mouse, Dulzura kangaroo rat, San Diego woodrat, and Stephens' kangaroo rat.
- **Not MSHCP Covered Species**
  - Moderate: Silvery legless lizard, Oregon vesper sparrow, and Lawrence's goldfinch.
  - High: western yellow bat and pallid bat.
  - Present: coast patch-nosed snake, oak titmouse, Nuttall's woodpecker, yellow-headed blackbird, and American badger.

6.1.2 Threshold B-2: Riparian Habitat or Other Sensitive Natural Community

6.1.2.1 Riparian Forest/Woodland

There is no riparian forest or woodland on the project site. Proposed to be removed is the 0.06 acre of mule fat scrub at the east end in Fourth Street Channel (previously referenced Figure 3). This scrub is a small pocket and isolated from other suitable riparian stands located approximately 3,000 feet downstream. It is not suitable for least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo.

6.1.2.2 Alluvial Fan Sage Scrub

Major drainages include Smith Creek, Montgomery Creek, and Pershing Creek. These major drainages consist primarily of Riversidean alluvial fan sage scrub. This community occupies coarse alluvial soils of washes and gently sloping alluvial fans, where it is usually indicated by the presence of scalebroom and chamise (*Adenostoma fasciculatum*) with a mixture of species typical of Riversidean sage scrub. The project will impact 26.8 acres out of a total of 82.6 acres within the project boundaries.

6.1.2.3 Riversidean Sage Scrub

Dispersed areas of Riversidean sage scrub occur throughout the project site. The dominant shrub species are common to this vegetation community type, such as California buckwheat, deerweed, and white sage. The project will impact 27.1 acres out of a total of 44.6 acres within the project boundaries.

6.1.3 Threshold B-3: Federally Protected Wetlands/State-Protected Jurisdictional Areas

The only wetland site in the project area is where nuisance flows from Woodland Avenue street/storm drain sheet flow into the pasture, inducing a wetland consisting mostly of nonnative hydrophytic grasses (Figure 3, wetland of non-native grasses). This is an artificially induced wetland due to the street drain outlet and is not jurisdictional under the CWA or CFGC because it was excavated in upland. The total wetland area is 0.2 acre in the project area. This will be removed with construction of the proposed boundaries.

There are no features on the site that meet the MSHCP definition of vernal pools or the USACE definition of vernal pools. In order to be considered a vernal pool under the MSHCP, a feature must be a wetland, based on the presence of hydrophytic vegetation, hydric soil, and wetland hydrology, as stated in Section 6.2.2 of the MSHCP. These are the same criteria for the USACE (USACE 2015). The feature must also have a natural origin. Although there are several depressions on the site that pond water (total of 0.2 acre); none meets wetland criteria and all are artificially created by ground disturbance. All of these features will be removed to construct the proposed project.

As noted in MSHCP Section 6.2.2, the Plan Area includes areas subject to CFGC Section 1600 et seq. and the CWA Sections 401, 402 and 404. The USACE will continue to consult with the USFWS pursuant to Section 7 of the FESA on projects that may affect federally listed species within USACE jurisdictional wetlands and waters. The CDFW will continue to work closely with the USACE, USFWS, and local jurisdictions to ensure that the CFGC Section 1600 et seq. agreements are consistent with the mitigation required for Covered Species. In addition, other existing regulations related to wetland habitats, such as the Porter-Cologne Act will continue to apply.

6.1.4 Threshold B-4: Wildlife Movement and Nursery Sites

Development of the 831-acre project area will remove most of the remaining open land within the city limits of Banning north of the San Jacinto Mountains and along Smith Creek. The development of over 700.5 acres of upland and riverine habitat will impact wildlife movement and dispersal due to the expansive nature of the project in remaining areas of open space south of Banning. Regional wildlife movements are more associated with the mountain areas and foothills in The Pass area within the vicinity of the City of Banning (Penrod 2000). A new road crossing will be built across Pershing Creek near the center of the project site. Impacts on wildlife movement include presence of fill in the creek, lighting, and perching sites for predators. Pershing and Smith Creeks and the grassland/coastal sage scrub habitat on rocky outcrops will be dedicated as 119.3 acres of open space within the proposed project area. Pershing and Smith Creeks will continue to function as riverine movement corridors.

The project site is unlikely to be occupied by a colony of breeding bats due lack of a steady supply of water for the insects and bats to reproduce. Bats in the southwest require water in addition to roosts and food. Surface water is critical according to an article prepared by the U.S. Forest Service (Chung-MacCoubrey 1996). Townsend's big-eared bat selects habitat with great emphasis on water availability. In agricultural areas, bats use streams, stock tanks, drainage ditches, and perennial storm water discharge. Bats roost in grassland habitat that includes crevices in and under rocks, natural holes in the ground, shrub foliage, and trees, as well as canyon slopes, caves, mines, bridges, and storm drains.

6.1.5 Threshold B-5: Local Ordinances Protecting Biological Resources

Relevant to the City of Banning Landscape Ordinance 17.32.060, there is a cluster of four mature cottonwoods in center of the reach within the project area. In Montgomery Creek, there are two large cottonwoods and two live oak trees.

6.1.6 Threshold B-6: Provisions of an Adopted Habitat Conservation Plan

The purpose of the consistency analysis and the determination of biologically equivalent or superior preservation is a process for the Lead Agencies to ensure to project fulfilled all the requirements that apply to it under the MSHCP guidelines, permits, and implementation agreement. Table I presents the MSHCP project review checklist and is followed by a summary of the discussion of the impacts and the proposed avoidance, minimization, and mitigation measures. The complete MSHCP and DBESP report is provided in Appendix E.

Table I: MSHCP Project Review Checklist

MSHCP Section	Yes	No
MSHCP Section 3.0: Is the project located in Criteria Area or Public/Quasi-Public Land?		✓
MSHCP Section 6.1.2: Are riverine/riparian/wetland habitats or vernal pools present?	✓	
MSHCP Section 6.1.3: Is the project located in Narrow Endemic Plant Species Survey Area?	✓	
MSHCP Section 6.1.4: Is the project located adjacent to MSHCP Conservation Areas?		✓
MSHCP Section 6.3.2: Is the project located in Criteria Area Plant Species Survey Area?		✓
MSHCP Section 6.3.2: Is the project located in Amphibian Species Survey Area?		✓
MSHCP Section 6.3.2: Is the project located in Mammal Species Survey Area?	✓	
MSHCP Section 6.3.2: Is the project located in Burrowing Owl Survey Area?	✓	
MSHCP Section 7.5.2: Does the project provide for wildlife movement and habitat linkages?	✓	

- **MSHCP Section 6.1.2: Riparian/Riverine Habitat and Vernal Pool Areas.** The project will avoid 21.8 acres out of 74.3 acres of riparian/riverine/CDFW streambed habitat. No vernal pools were identified on the project site. This acreage does not include the 0.4 acre of storm drain outfall and puddles in the project site.
- **MSHCP Section 6.1.2: Species Associated with Riparian/Riverine Habitat Areas.** No direct impacts will occur to habitat for MSHCP-Covered riparian bird species of concern, least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo, per MSHCP guidelines.

- **MSHCP Section 6.1.2: Species Associated with Vernal Pool Areas.** The ponding conditions were found to not be suitable for MSHCP-Covered fairy shrimp species and/or not within the species distribution range. Riverside fairy shrimp does not occur on the project site (Appendix D, Vernal Pool Reports).
- **MSHCP Section 6.1.3: NEPSSA.** Vernal pool plant associations were not observed in the project area. HSAs for the two MSHCP Survey Area plant species of interest in the Banning area—Yucaipa onion and many-stemmed dudleya—determined suitable soils and/or habitat conditions do not occur on site.
- **MSHCP Section 6.1.4: Urban/Wildlands Interface.** This project is not located within 1,000 feet of the MSHCP Criteria Area or other Public/Quasi-Public Lands; therefore, MSHCP Urban/ Wildlands Interface requirements (MSHCP Section 6.1.4) do not apply to this project.
- **MSHCP Section 6.3.2: MSHCP Plant Survey.** The project is not located in survey area.
- **MSHCP Section 6.3.2: MSHCP Amphibian Survey.** The project is not located in survey area.
- **MSHCP Section 6.3.2: MSHCP Mammal Survey.** Los Angeles pocket mouse was found in the grassland and upland sage scrub, and is also known to occur in the alluvial fan sage scrub within the creeks. The upland habitat areas and minor tributary habitat will be developed, but Pershing and Smith Creeks will be left in their current conditions. Fifty feet of native habitat buffer at the top of the stream banks will remain in place along Pershing and Smith Creeks. Occupied Los Angeles pocket mouse grassland habitat (480.4-acre MSHCP Survey area within the project site will be impacted. Since this impact area exceeds more than 10% of the habitat within the MSHCP small mammal survey area, then compensatory mitigation is required per the MSHCP.
- **MSHCP Section 6.3.2: MSHCP Burrowing Owl Surveys.** The project is also located in additional MSHCP species survey area for the western burrowing owl. The grassland in the project area is considered suitable for burrowing owls due to use of rangeland/grassland habitat, of which 655.3 acres will be impacted. Two pairs of burrowing owls, one individual, and one group of six burrowing owls were observed during the burrow survey. Several active burrows with burrowing owl sign (e.g., whitewash, pellets, scat, tracks, and/or feathers) were observed within the project area.
- **MSHCP Section 7.5.2. Wildlife Crossings.** The existing Sunset Avenue will be improved for flood safety, increased traffic use, and emergency services. In addition, a new road will be placed in the center of Pershing Creek. The State Route 243 bridge and the road itself will not be improved upon by the project. The project will be required to comply with Section 7.5.2 of the MSHCP: Guidelines for Construction of Wildlife Crossings.
- **MSHCP Reserve Assembly.** The City is located in The Pass Area Plan. The MSHCP did not designate any Criteria Cells within the western and central parts of the City. The targeted acreage (50 to 90 acres) within the northern part of the City is in Cell 227 Area Subunit 2-Badlands/San Bernardino Forest. The Special Linkage Area located in the eastern part of the City is for project applicants to contribute to the San Gorgonio/San Bernardino-San Jacinto Mountains Linkage. Refer to previously referenced Figure 10 for map of the MSHCP Cell and Special Linkage Area. The project is not within any of the reserve assembly areas; therefore, it is not subject to MSHCP Reserve Assembly consideration described in MSHCP Section 3.0 or the Habitat Acquisition Assembly process (HANS) described in MSHCP Section 6.1.1.

6.2 THRESHOLDS OF SIGNIFICANCE ANALYSIS

Thresholds (or levels) of significance of project impacts pertaining to biological resources is based on the six thresholds of significance as introduced in Section 6.1 of this report. The following is a presentation of the biological resources mandatory findings of significance for the project.

6.2.1 No Environmental Impact

The following biological resources will not be subject to project-related impacts.

a. **No Impact: Narrow Endemic Plants (Threshold B-1).** No suitable heavy clay soil habitat is present for the MSHCP Survey Area 8 narrow endemic plant species—Yucaipa onion and many-stemmed dudleya—within the project area. Species are unlikely to be present.

b. **No Impact: Fairy Shrimp Species (Threshold B-1).** No listed fairy shrimp species are present on the project site. Focused wet and dry season surveys confirmed absence of listed or other special status fairy shrimp species**.**

c. **No Impact: Vernal Pool Plant Species (Threshold B-1).** No listed or special-status plant species—thread-leaved brodiaea (FT/SE), spreading navarretia (FT), and San Jacinto Valley crownscale (FE)—associated with clay soils, vernal pools, or playas are present.

d. **No Impact: Riparian Vegetation Communities (Threshold B-1).** Species associated with riparian woodland and scrub habitats are unlikely to nest on the project site, since this habitat type is not present within the project area. Impacts will not occur to these species.

e. **No Impact: (Threshold B-3).** The 0.2 acre of seasonal ponding in developed areas on the project site is not jurisdictional under current CWA regulations, due to the unreliable, non-sustaining water source (storm water). The impact will not affect habitat needs or threaten plant or animal species.

f. **No Impact: Riverine Plant Species (Threshold B-1).** Impacts to listed plant species associated with sand dunes, sandy alluvium, and flood terraces and mountainous regions, such as California dandelion (FE) and Coachella Valley milk-vetch (FE), are unlikely to occur since the project is located outside the species geographic or elevation range.

g. **No Impact: Upland Vegetation Communities (Threshold B-1).** Impacts to plant and animal non-listed California species of special concern adapted to chaparral, coastal sage scrub, mesic sites, and grassland habitats found at higher elevation, and on rock outcrops, ridgelines, and mountain slopes are unlikely to occur. The project will make the 16.2 acres of rock outcrops/ridgeline with coastal sage scrub an open space area. These species are Plummer's mariposa lily, Payson's jewel-flower, Cleveland bush monkeyflower, granite spiny lizard, Costa's hummingbird, Lawrence's goldfinch, black-chinned sparrow, Brewer's sparrow, western mastiff bat, pocketed free-tailed bat, and big free-tailed bat.

h. **No Impact: Bat habitat for breeding colonies and colonial roosting sites (Threshold B-4).** Bat species are unlikely to be present in large numbers in one roosting site during the breeding season within the project site because of the lack of caves and large artificial structures, such as bridges. Solitary bats—western red bat and western yellow bat—have moderate potential to occur on the project site. Fewer or individual animals can be present in the project site in roosting sites such as trees, earthen cliffs, and boulder outcrops.

i. No Impact: Landscaping Ordinances (Threshold B-5). Landscaping plans shall rely primarily on indigenous plant and tree species that are suitable to the local climate and soil types, rather than relying on foreign or invasive species, which often compete with and displace local species, per the City landscaping ordinance (17.32.020).

6.2.2 Less Than Significant Environmental Impacts

The following actions will have less than significant impact or are below thresholds for regulatory compliance or authorizations.

j. Less Than Significant Impact: Mule Fat Scrub (Threshold B-1). The removal of 0.06 acre of mule fat scrub habitat will not result in impact to long-term conservation of any species associated with this habitat type**. [Mitigation Measure BIO-9]**

k. Less Than Significant Impact: Wetlands (**Threshold B-3).** Species associated with non-jurisdictional seasonal aquatic habitat, such as spadefoot toad and fairy shrimp, occur on the project site, since this biological resource is present within the project area. Impacts will not occur to wetlands or permanent water habitat types, for species requiring larger water bodies, flow water, or longer duration of a water source for breeding, such as the arroyo toad (FE) or Riverside fairy shrimp (FE), since they do not occur in the project area. The 0.2 acre of wetland in the pasture, adjacent to an agricultural ditch and supported by storm water, is not habitat important to long-term conservation of a special interest species. **[Mitigation Measure BIO-9]**

6.2.3 Less Than Significant Environmental Impacts with Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant:

1. Less Than Significant with Mitigation: Other Species (**Not Covered by MSHCP) Associated with non-native Grassland and Coastal Sages Scrub Habitat, and Other Habitats [Threshold B-1].**

1a. Impacts to non-listed species of special interest will not create a significant impact to the species population or important and limited species habitat. Mitigation through contribution of fees to the MSHCP for the purpose of conserving Covered Species associated with the same vegetation communities and habitat types will ensure conservation of the non-covered species within the Plan Area. **[Mitigation Measure BIO-1]**

1b. The Other Species, not covered by the MSHCP, associated with alluvial fan sage scrub and arid land streambeds are (FE/SE), silvery legless lizard, American badger, pallid bat, western mastiff bat, pocketed free-tailed bat, and big free-tailed bat. **[Mitigation Measure BIO-2, BIO-9, BIO-11]**

1c. The Other Species, not covered by the MSHCP, associated with grassland and coastal sage scrub habitats are Robinson's peppergrass, coast patch-nosed snake, American badger, pallid bat, western mastiff bat, pocketed free-tailed bat, and big free-tailed bat. Marginally suitable habitat at the limits of the species' ranges occurs within the project area. Focused surveys for Townsend's big-eared bat and other bat species will be conducted to determine habitat

suitability and, if present, search for individuals within the project area. **[Mitigation Measure BIO-1, BIO-10, BIO-11, BIO-12]**

2. **Less Than Significant with Mitigation: Nesting Birds and Large Trees Suitable for Raptor Nesting and Bat Roosting [Threshold B-1].** There are numerous trees over 20 feet tall in three large creeks. While they do not constitute habitat, these trees are suitable for nesting by large raptors and smaller birds of special concern, such as the white-tailed kite. Mitigation will be pre-construction nesting surveys, if tree removal will occur during the nesting season (February 1 through August 30). The Other Species (not covered by the MSHCP) and associated with large mature solitary or clustered trees are some bat species (not covered by MSHCP), Nuttall's woodpecker, western yellow bat, and western red bat. **[Mitigation Measure BIO-3, BIO 4, BIO-6, BIO-11, BIO-15]**

3. **Less Than Significant with Mitigation: Local Biological Resource Protection Measures [Threshold B-5].** A total of 0.4 acre of cottonwood and coast live oak trees in Montgomery Creek will be removed. Each tree that is removed in a new subdivision is considered a part of the common wealth of the citizens of Banning, is an important component of the habitat of surrounding wildlife, and is of value to the City. Each identified tree removed shall be replaced with at least one 36-inch box specimen tree, in addition to any other required landscaping. Individual single-family residential lots of less than one-half acre and commercial tree farms shall be exempt from this provision. [**Mitigation Measure BIO-5, BIO-15]**

4. **Less Than Significant with Mitigation: MSHCP Covered Species. Stephen's Kangaroo Rat [Threshold B-6].** Stephens' kangaroo rat, Listed, is present on the project site. Land/habitat mitigation or focused surveys are not required for SKR, since the project is located within the SKR HCP fee area. Mitigation for non-listed species of special interest is provided by consistency with conditions and implementation of the guidelines in the MSHCP. **[Mitigation Measure BIO-7 and BIO-10]**

5. **Less Than Significant with Mitigation: Wildlife Movement and Crossings [Threshold B-4].** Due to the amount of land proposed for development, alteration of the regional west-to-east connectivity of the creeks and of the valley connection between two mountain ranges to the north and south will be significant. Approximately 50 percent of the existing undeveloped land south of I-10 within City of Banning will be built out between existing rural residential and low density housing north of the San Jacinto Mountains. Development of the 831-acre project area will remove open land within the city limits of Banning, north of the San Jacinto Mountains and along Smith Creek. Impacts related to wildlife movement and dispersal will result from the development of 711.5 acres of upland and riverine habitat. **[Mitigation Measure BIO-8 and BIO-9]**

6.2.4 Potentially Significant Environmental Impacts

The following impact analysis addresses thresholds of significance for potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

6. **Potentially Significant Impact: Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service [Threshold B-2].** These major drainages consist primarily of Riversidean Alluvial Fan Sage Scrub (RAFSS). The project will result in

impacts to 26.8 acres of RAFSS out of a total of 82.6 acres within the project area. **[Mitigation Measure BIO-2 and BIO-11]**

7. **Potentially Significant Impact: Jurisdictional Waters include Smith Creek, Montgomery Creek, and Pershing Creek and the tributaries.** The project will impact 28,126 linear feet of ephemeral streams, 6.9 acres of USACE jurisdiction waters, and 26.3 acres of streambed regulated by the CDFW. **[Mitigation Measure BIO-2 and BIO-11]**
8. **Potentially Significant Impact: MSHCP Covered Species, Burrowing Owl.** Project development is subject to MSHCP mitigation fees. The project will require a Determination of Biologically Equivalent or Superior Preservation Report (DBESP) for compliance with the MSHCP, depending on impacts to certain MSHCP-covered species, i.e., burrowing owl. A total of 11 burrowing owls were observed during the burrow surveys (Appendix D, burrowing owl Survey report). Several active burrows with burrowing owl sign were observed within the project area. The grassland habitat (700.5 acres) in the project area is considered suitable for burrowing owls. Forty-five (45.2) acres will be avoided and 655.3 acres will be subject to impacts from the proposed project. **[Mitigation Measure BIO-16]**
9. **Potentially Significant Impact: MSHCP Covered Species, Los Angeles Pocket Mouse.** Project development is subject to MSHCP mitigation fees. The project will require a Determination of Biologically Equivalent or Superior Preservation Report (DBESP) for compliance with the MSHCP, depending on impacts to certain MSHCP-covered species, i.e., Los Angeles pocket mouse. The MSHCP-designated survey area (480.4 acres) is mapped likely occupied or suitable habitat for long-term conservation value. Although 77.7 acres of the small mammal survey area within Pershing Creek would be preserved, the hills and fields in the southeast portion of the site, tributaries to the major washes, and additional suitable habitat within other low areas along the major washes would be affected (402.7 acres). **[Mitigation Measure BIO-12]**

6.3 MITIGATION MEASURES

The California Code of Regulations Section 15126.4(a)(1) specifies "feasible measures which could minimize significant adverse impacts." These measures include:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

BIO-1 MSHCP Fees. According to Section 8.5.1, Funding Sources, of the MSHCP, Government Code Section 66000 et seq. allows cities and counties to charge new Development for the costs of mitigating the impacts of new Development. The Cities and County will implement a Development Mitigation Fee pursuant to the MSHCP; this fee will be one of the primary sources of funding the implementation of the MSHCP. The fee ordinance adopted by the Cities and the County will provide for an annual CPI adjustment based upon the Consumer

Price Index for "All Urban Consumers" in the Los Angeles-Anaheim-Riverside Area, measured as of the month of December in the calendar year which ends in the previous Fiscal Year. Current fee rates are listed below.

MSHCP MITIGATION FEES (Fiscal Year 2011–2012 Fees)

Fee Category	**Fee**
Residential, density less than 8.0 dwelling units per acre (fee per dwelling unit)	$1,938
Residential density between 8.0 and 14.0 dwelling units per acre (fee per dwelling unit)	$1,241
Residential density greater than 14.0 dwelling units per acre (fee per dwelling unit)	$1,008
Commercial (fee per acre)	$6,597
Industrial (fee per acre)	$6,597

In-Lieu Payments. In lieu of payment of the Local Development Mitigation Fee, a private project applicant may elect to acquire acreage from a conservation bank ("In-lieu Payment"), as described in the MSHCP *Implementation Agreement*. In order for a project applicant to utilize an In-lieu Payment, the following conditions must be met:

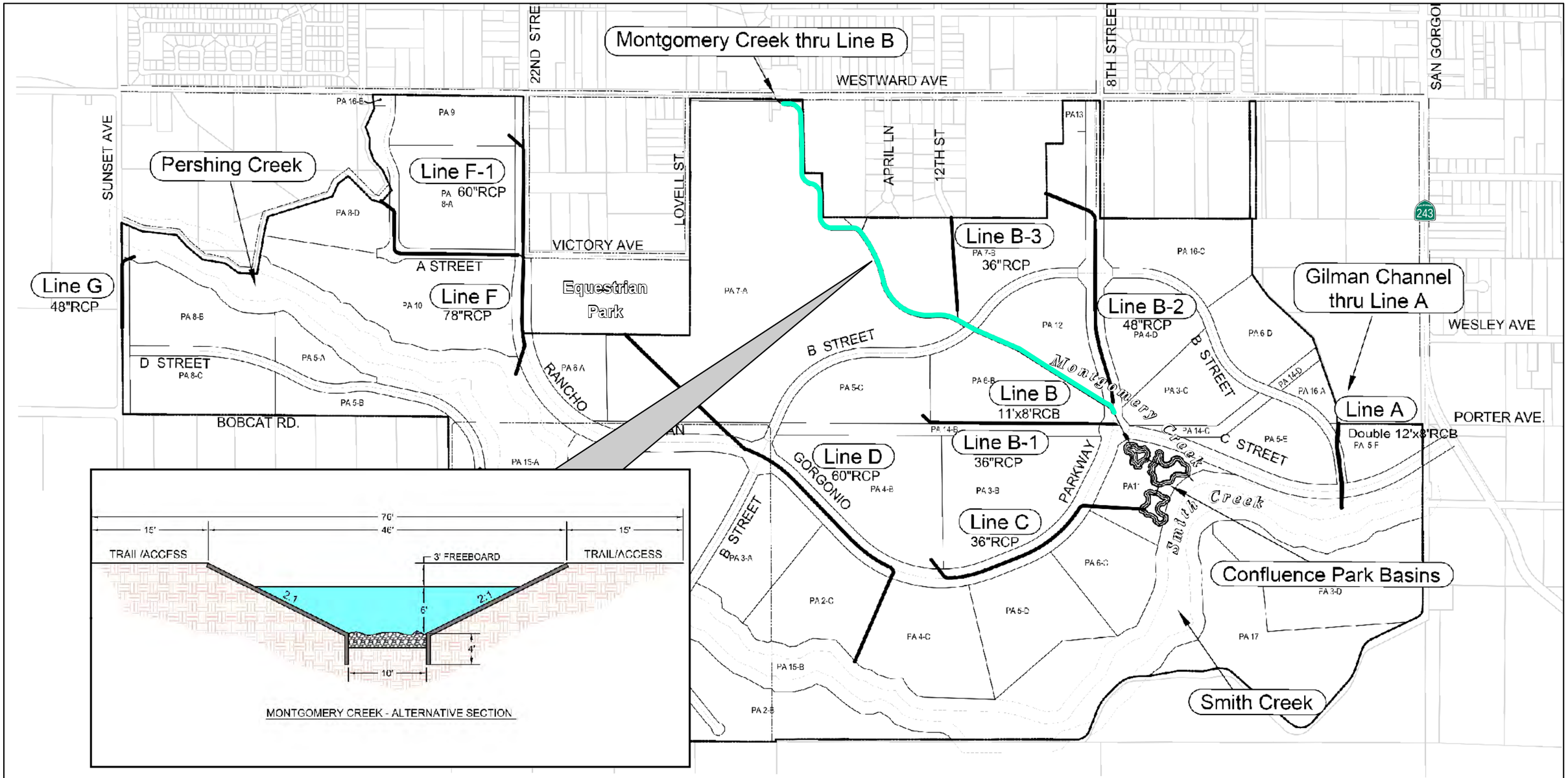
1. The conservation bank must be listed in Section 4.6.1 of the final MSHCP.
2. The conservation bank owner must have executed a formal, written banking agreement with the Wildlife Agencies within 12 months of Permit issuance. If the conservation bank owner has taken all necessary actions to execute the banking agreement and the Wildlife Agencies fail to execute the agreement within this time frame, the bank owner, at his/her discretion, will either extend this time period for an additional 12 months or provide to the RCA and the Wildlife Agencies an irrevocable offer to record conservation easements on the conservation bank property. The RCA will have the opportunity to review and comment on all draft banking agreements prior to execution to ensure consistency with the MSHCP.
3. The In-lieu Payment must be at a 1:1 ratio to gross area of project impact (i.e., for every acre of Development, at least one acre of land would have to be acquired from a conservation bank).
4. For conservation bank lands identified in Section 4.6.1 of the MSHCP for which conservation easements have been recorded on or before June 17, 2003, the bank owner/ operator or management entity retained by the bank owner/operator must use best efforts to manage the lands consistent with and pursuant to Section 5.0 of the MSHCP.
5. Alternatively, the bank owner/operator will transfer management of the lands with all related financial commitments for the management and monitoring of such lands, such as endowments, to the RCA, to the extent legally feasible. In the event that neither of the above options is feasible, the bank owner/operator shall cooperate with the RCA to allow any additional management activities to occur on the conservation bank lands, including but not limited to access, to ensure that management will occur pursuant to Section 5.0 of the MSHCP.
6. For conservation bank lands that have not been conserved on or before June 17, 2003, the conservation bank must be managed by the bank owner/operator or management entity retained by the bank owner/operator consistent with and pursuant to Section 5.0 of the MSHCP.

7. The conservation bank acreage relied upon for the In-lieu Payment must be contained in the bank as of June 17, 2003, as reflected in Section 4.6.1 of the MSHCP, located within the Criteria Area and contribute to Reserve Assembly.
8. The conservation bank owner/operator must provide written documentation to the RCA proving the availability of adequate acreage to meet project requirements. The RCA must approve all In-lieu Payments pursuant to the provisions of this section as early as possible, but in no instance later than grading permit issuance.
9. The bank owners may, at any time, initiate negotiations for acquisition of any remaining acreage in the bank.

BIO-2 Alluvial Fan Sage Scrub and State and Federal Jurisdictional Waters. Mitigation for fill placed into waters of the U.S. and for removal of associated alluvial fan sage scrub, and other riparian/riverine wildlife habitat associated with and to streambeds under CDFW jurisdiction will be the following measures:

1. Native landscaping in temporarily disturbed areas.
2. Native landscaping in transition buffers in open space areas.
3. Removal of non-native vegetation within the creeks and replacement with native riparian trees and shrubs.
4. Use of storm water basin discharges due season rains to support additional riparian vegetation and alluvial fan sage scrub downstream.
5. Avoidance of jurisdictional areas on site where feasible.
6. Minimization of impacts: Construction of open earthen channel instead of buried pipe in the Montgomery Creek (Drainage Feature H) storm drain easement. A 4,600-linear foot open channel will reduce permanent impacts by an estimated 1.0 acre. Refer to Figure 11 for illustration of the proposed storm drain location and of the channel alternative.
7. Mitigation on site at 2:1 ratio, where feasible.
8. Mitigation off site at 3:1 ratio for remaining compensatory requirements in USACE approved mitigation bank or applicant created conservation area, either
    a. Within The Pass area,
    b. Within watershed, or
    c. Outside watershed.
9. Actual mitigation ratios and mitigation plan will be negotiated and authorized through consultation with the USACE and CDFW.

BIO-3 Tree-Roosting Bat Habitat and Vegetation Removal. Mature trees and snags that are suitable as roost sites for several species of bats are present at various locations. Removal of trees containing habitat for day-roosting bats may result in potential adverse effects to bats. Therefore, measures will be implemented to avoid direct mortality to tree-roosting bats. To reduce potential impacts to tree-roosting bats, LSA recommends the following measures:



LEGEND

Montgomery Creek - Alternative Section

FIGURE 11

Rancho San Gorgonio
Planned Commmunity Project
Biological Resources Report

Montgomery Creek - Alternative Section

0 400 800
FEET

SOURCE: Rancho San Gorgonio Master Plan of Drainage, February 6, 2015.
I:\PIE1201\Reports\CEQA\fig11_MontgomeryCreekDrainage.mxd (11/5/2015)

- The removal of mature trees and snags will be minimized to the greatest extent practicable.
- If trimming or removal of mature trees and snags containing roost cavities is required, a two-step removal process shall be employed for the removal of these mature trees and snags. This process involves removing all branches less than 2 inches in diameter from trees to create a disturbance that will encourage bats to choose another roosting site after foraging that night. The following day, the tree may be completely removed. If a tree is small enough that a bat biologist can determine zero occupancy, then that tree may be removed in one step.
- To avoid direct impacts to flightless young, tree trimming/removal activities shall be performed outside of the bat maternity season, which occurs from April 1 through August 31; this period also coincides with the bird nesting season of March 15 through September 15.
- If tree trimming/removal activities cannot be avoided during the bat maternity season (April 1 through August 31) and roosting bats have been documented, then a qualified biologist shall monitor removal of any mature trees or snags containing crevice or cavity habitat during the bat maternity season to monitor for the presence of flightless juvenile bats. If any flightless juvenile or injured adult bats are found during the trimming or removal of those trees, these bats will be transported to a CDFW-licensed rehabilitator.
- Bridges constructed for the project can include roosting features suitable for use by crevice and cavity-roosting bats; these bridge features would simulate rock crevices or cave-like spaces, and may be part of the bridge structure or consist of bolted-on features. Any bat roosting habitat installed as mitigation for impacts will be designed in coordination with a qualified bat biologist to ensure it is appropriate for the target species. In addition, avoidance of mature native trees such as western cottonwood, black willow, and western sycamore, as well as ornamental fan palms that may serve as roost sites, would serve to minimize impacts to roosting bats. The inclusion of mature plantings of these species in the landscaping plan for the project would serve to mitigate for loss of these roost sites because they would provide suitable habitat for tree-roosting bat species.
- Native habitat enhancement, if implemented as part of the riparian/riverine and jurisdictional waters mitigation plan in Pershing and Smith Creek areas, will improve the quality of the foraging habitat currently available, and aid in minimizing the effect of reducing the overall quantity of the foraging habitat currently available to the local bat population.

BIO-4 Unexpected Discovery of Roosting Bats During Project Construction. If any previously undiscovered roosting bats are discovered during construction activities, all work shall stop on, under, around, or within an appropriate buffer as determined by the CDFW-approved bat biologist.

BIO-5 Removal or Destruction of Trees. Impacts to specimen native trees will be assessed by a certified arborist as to the viability and value of the trees in order to determine if mitigation and replacement is recommended. Removal of healthy, shade-providing, and aesthetically valuable trees shall be strongly discouraged, and shall be in conformance with the policies and programs of the General Plan. A tree removal and replacement plan shall be required for

the removal and replacement of all trees in excess of 50 years of age, unless their removal is required to protect the public health and safety. *(Zoning Ord. dated 1/31/06, § 9108.06.)*

BIO-6 Stephens' Kangaroo Rat Habitat Conservation Plan. The project is located within the SKR habitat mitigation fee area established by Riverside County Ordinance 663.10. This ordinance requires payment of an SKR habitat mitigation fee of $500.00 per gross acre for development projects within the designated fee area. In addition to paying the fee, the applicant shall adhere to the following BMPs to preclude harm to the Stephens' kangaroo rat and the Los Angeles pocket mouse where it occurs on site.

- Construction personnel will refrain from entering, on foot or by vehicle, the sandy wash adjacent to the project area.
- Vehicle and equipment staging areas will be established away from the creeks and also away from the terraces that separate the project area from the creek.

BIO-7 MSHCP Section 7.5.2: Wildlife Crossings. Among MSHCP mitigation measures for wildlife movement in the conserved Pershing and Smith Creeks are requirements for redirected lighting, pets to be on-leash, and native vegetation to be used for movement, cover, and screening. These minimization measures will include the project design features suggested in MSHCP Section 6.1.4. Guidelines Pertaining to Urban/Wildlands Interface.

BIO-8 MSHCP Permittees' Take Authorization. Each Permittee may engage in, and receive Take Authorization for, Covered Activities as set forth in Section 7.0 of the MSHCP. Additionally, the RCA may confer Take Authorization for Covered Activities as set forth in Section 6.6 of the MSHCP. The County and cities may also confer Take Authorization and approve projects proposed within their respective jurisdictions, as set forth in Sections 7.1 and 7.3.1 of the MSHCP. The RCA, County, and cities may also confer Take Authorization through the issuance of a Certificate of Inclusion or other written mechanism as set forth in Sections 11.3 and 11.8 of the Implementation Agreement.

BIO-9 Jurisdictional Waters. Mitigation for impacts to Riparian/Riverine areas for MSHCP Consistency would be through several options: (1) contribution of land at 2:1 ratio containing similar habitat and jurisdictional areas to the Reserve; or (2) land dedicated at 2:1 mitigation ratio in fee-title toward conservation and managed by third-entity conservation entity; or (3) fee payment made to mitigation bank of in-lieu fee program at 2:1 mitigation ratio; or (4) through creation and enhancement of riparian habitat at 2:1 mitigation ratio within the project area using the increased surface runoff from the developed areas expected to be received via the storm drain outlets into Smith and Pershing Creeks.

BIO-10 MSHCP Section 6.3.2: Burrowing Owl. Prior to construction of the project development areas, the following mitigation measures will be implemented for impacts to burrowing owl:

1. On-site conservation of habitat at economically feasible quantity, and not more 1:1 mitigation ratio,
2. Off-site land conservation, at economically feasible quantity, and not more than 1:1 mitigation ration

3. Pre-construction burrowing owl surveys following accepted MSHCP survey protocols will be conducted at least 120 days prior to ground disturbance in all areas of suitable habitat to avoid take of burrowing owls and occupied burrowing owl nests.
4. If burrowing owls are identified during the pre-construction surveys, take of active burrowing owl nests will be avoided if possible. If burrowing owls are identified during the pre-construction surveys and cannot be avoided, a burrowing owl relocation/translocation plan will be prepared for submittal to the wildlife agencies for approval 90 days prior to ground-disturbing activities.
5. Indirect impacts of exotic plant and animal infestations, litter, fire, and increased light and glare will be minimized by use of native plants for landscaping, removal of litter during construction, and by incorporating shielded lighting at the boundary of the conservation area.

BIO-11 Bat Pre-Construction Surveys. Focused bat pre-construction surveys will be performed by a qualified bat biologist using acoustic bat detection equipment are recommended to gather more information about bat species occupancy, and to determine the numbers and species of bat(s) present. The information gained from these pre-construction surveys will be used to determine appropriate mitigation and minimization measures if needed, in consultation with the CDFW.

BIO-12 MSHCP Section 6.3.2: Los Angeles Pocket Mouse. Because greater than 90 percent avoidance of occupied Los Angeles pocket mouse grassland habitat is not feasible, the project is obligated to contribute to the conservation of the species through land conservation on or off site. The mitigation alternatives at 1:1 mitigation ratio are: (1) contribution of land containing LAPM occupied habitat to the Reserve; or (2) land dedicated in fee-title toward conservation and managed by third-entity conservation entity; or (3) monetary contribution to RCA for direct purchase of land for LAPM long-term conservation.

BIO-13 Compliance with MSHCP Section 7.5.3: Construction Guidelines. The following conditions will be applied to the project so that impacts are reduced to covered species as construction occurs:

1. Plans for water pollution and erosion control will be prepared. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control.
2. Avoid work in riparian areas during the most active breeding season; typically designated as March 1 to June 30 by the CDFW/MSHCP Guidelines. Disturbance will be minimized within 300 feet of any active nest.
3. If vegetation removal must occur during this avoidance period, then a nest survey by a qualified biologist is required. The nest survey shall be conducted for five consecutive days ending no more than three days prior to clearing. If an active nest is observed, then the nest location shall be fenced off at a minimum radius buffer zone as determined adequate by qualified biologist. The buffer zone shall not be disturbed until the nest is inactive.

4. Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
5. Short-term stream diversions, if needed, will be accomplished by use of sandbags or other methods that will result in minimal instream impacts. Short-term diversions will consider effects on wildlife.
6. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off-site.
7. Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
8. No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
9. The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
10. Equipment storage, fueling and staging areas will be sited on non-sensitive upland habitat types with minimal risk of direct discharge into riparian areas or other sensitive habitat types.
11. The limits of disturbance, including the upstream, downstream, and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
12. During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland habitats occupied by covered species that are outside of the project footprint will be avoided.
13. Exotic species removed during construction will be properly handled to prevent sprouting or regrowth through use of herbicides by a certified, permitted applicator.
14. Environmental awareness training of construction personnel will be provided by biological monitor.
15. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
16. When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to RSS vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.
17. Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.

18. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain runoff.
19. No waste, dirt, rubble, or trash shall be deposited in the Conservation Area or in native habitat.

BIO-14 Compliance with MSHCP Section MSHCP Appendix C: Best Management Practices (BMPs).

1. A qualified biologist shall conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Federal Endangered Species Act (FESA), CESA, CFGC, and the MSHCP, the need to adhere to the provisions of FESA and the MSHCP, the penalties associated with violating the provisions of FESA, the general measures being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
2. Water pollution and erosion control plans shall be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements.
3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via preexisting access routes to the greatest extent possible.
4. The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
5. Projects will be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
6. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats will be timed to avoid the breeding season of riparian bird species identified in MSHCP Global Species Objective No. 7.
7. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal in stream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
8. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable

jurisdictional city, USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.

9. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
10. The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
11. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to preexisting contours and revegetated with appropriate native species.
12. Exotic species that prey upon or displace target species of concern will be permanently removed from the site to the extent feasible.
13. To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing will be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
15. The City shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

BIO-15 Pre-construction Raptor and other Nesting Bird Surveys. Within 30 days prior to the commencement of construction (if between January 15 and September 1), a qualified biologist will perform a raptor nesting survey that will consist of a single visit to ascertain whether there are active raptor or other protected bird nests within 300 feet of the project footprint. Nests will be searched for in the abandoned buildings or other unused structures, and trees and shrubs. This survey will also identify the species of nesting raptor and to the degree feasible, nesting stage (e.g., incubation of eggs, feeding of young, near fledging). Nests will be mapped (not by using GPS because close encroachment may cause nest abandonment).

Avoid work in riparian areas during active breeding season; typically designated as February 15 through August 30 by the CDFW Guidelines. If vegetation removal must occur during this avoidance period, then a nest survey by a qualified biologist is required. The nest survey shall be conducted for five consecutive days and no more than three days prior to clearing. If an active nest is observed, then the nest location shall be fenced off surrounding an adequate radius buffer zone as determined by biological monitor; the buffer zone shall not be disturbed until the nest is inactive; biological monitoring will occur during vegetation removal activities.

BIO-16 Burrowing Owl. To ensure direct mortality of burrowing owls is avoided, a pre-construction survey will be conducted within 30 days prior to ground disturbance at the site. The pre-construction survey shall be prepared by a qualified biologist and submitted to the City. This survey shall be required and conducted no more than 30 days prior to initiation of ground-disturbing activities. If construction is to be initiated during the breeding season (February 1 through August 31) and burrowing owl is determined to occupy any portion of the study area during the 30-day pre-construction survey, consultation with the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) shall take place and no construction activity shall take place within a buffer zone of adequate width as determined in consultation with CDFW during the breeding season of an active nest/burrow until it has been determined that the nest/burrow is no longer active and all juveniles have fledged the nest/burrow. No disturbance to active burrows shall occur without appropriate permitting through the USFWS and/or CDFW.

If active burrowing owl burrows are detected outside the breeding season (September through January), or within the breeding season but owls are not nesting or in the process of nesting, passive relocation may be conducted following consultation with the CDFW and USFWS. If active nests are identified in a development area, the nests shall be avoided or the owls actively or passively relocated to an appropriate off-site location, to the satisfaction of the USFWS or the CDFW. To avoid active nests adequately, no grading or heavy equipment activity shall take place in a buffer zone of adequate width as determined in consultation with CDFW during the breeding season (February 1 through August 31). This measure shall be implemented to the satisfaction of the City Community Development Department. If active burrowing owl burrows are detected outside the breeding season, passive and/or active relocation may be undertaken following consultation with and approval by the CDFW and/or USFWS. One-way doors may be installed as part of a passive relocation program. Burrowing owl burrows shall be excavated with hand tools by a qualified biologist when determined to be unoccupied and backfilled to ensure that animals do not reenter the holes/dens. This measure shall be implemented to the satisfaction of the City Community Development Department.

6.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The mitigation measures would reduce potential impacts to biological resources to a level that is less than significant. No significant unavoidable adverse impacts to biological resources have been identified.

7.0 INDIRECT EFFECTS

As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but indirect impacts are still reasonably foreseeable and attributable to project-related activities.

Indirect impacts of the project on adjacent areas may result from edge effects such as exotic plant infestations, pollutants from storm water runoff, increased fire risk, unauthorized recreational use, and litter. Exotic plant infestations may degrade native habitat that supports special-status and other native species. Additionally, pollutants (in the form of nitrogen compounds from car emissions) may settle on the soil and stimulate growth of nonnative species, which may out-compete native species. Fire risk increases the potential to require vegetation clearing and removal of habitat. Increased fire frequency may also result in type conversion of native habitats and an increase in the number of exotic plant species. Type conversions from more open native habitat to more dense non-native grasslands would reduce the area of potential habitat for special-status and other native species. The project may result in additional litter, which may in turn result in animal infestations. These may result in additional predators in the area that may prey on native species.

Indirect impacts will be minimized by reducing edge effects by following the similar protocols provided in the *Guidelines Pertaining to the Urban/Wildlands Interface* in the MSHCP, Section 6.1.4. The MSHCP was conceived and developed and is being implemented specifically to address the direct, indirect, cumulative, and growth-related effects on species and habitats from activities covered by the MSHCP. Edge effects resulting from an increase in light and glare associated with safety lighting will be reduced by incorporating shielded lighting near environmentally sensitive areas. Among MSHCP mitigation measures for wildlife movement in the conserved Pershing and Smith Creeks are requirements for redirected lighting, pets to be on-leash, and native vegetation to be used for movement, cover, and screening.

8.0 CUMULATIVE EFFECTS

The consideration of potential cumulative effects is an important component of the CEQA review process. A project's cumulative effects may be considered significant if the incremental effects of a project are considerable when viewed in connection with the effects of similar projects in the area in the past, present, and future.

Judged in this way, the cumulative effects of the Rancho San Gorgonio Planned Community Project and similar ones are significant. A detailed accounting of similar projects is not necessary, as development along the Interstate 10 corridor through San Gorgonio Pass is a well-established occurrence. The loss of open space and natural habitat—along with associated plants and wildlife—is significant, but even this is overshadowed by the negative effects on regional habitat connectivity. This is true primarily of the north-south connection between the San Bernardino and San Jacinto Mountains, but also of the east-west connection between the Colorado Desert and coastal lowlands to the west. Some species will be able to incorporate developed areas into their long-term movement patterns, but many other species will not be able to do so. Nevertheless, what are probably the primary wildlife corridors through the project site—Smith Creek and Pershing Creek Washes—will remain undeveloped and available for wildlife movement much as they are today. Thus, what little long-range wildlife movement may now occur along Pershing Creek (through the project site, up to I-10, and beyond to the open space between Beaumont and Banning) may continue with little change.

The open space north of I-10 is also ultimately scheduled for development. The area east of the project site is more open, but is also subject to ongoing development. Project impacts on wildlife movement in the immediate area will be limited somewhat by the fact that the project site is adjacent to existing development in the City of Banning.

The MSHCP and CVMSHCP have taken all of this into account and were designed specifically to address such issues. As discussed in more detail previously, the north-south connection will be maintained primarily via the San Gorgonio River Wash, Stubbe Canyon, and Whitewater Canyon. The east-west corridor is maintained through foothill connections north and south of the pass.

Significant cumulative effects of the project on plants, wildlife, wildlife movement, and habitat connectivity are fully mitigated by the City of Banning's signatory status under the MSHCP and the requisite measures for mitigation of project-specific impacts to burrowing owl, Los Angeles pocket mouse, and Stephens' kangaroo rat habitat. Cumulative effects on special-status species not specifically covered under the MSHCP are nevertheless mitigated for by the broad range of habitats covered by the MSHCP.

9.0 REFERENCES

American Council of Engineering Companies. 2015. California Environmental Quality Act CEQA Guidelines. Sacramento, CA.

Banning, City of. 2006. General Plan adopted January 31, 2006. http://banning.ca.us/DocumentCenter/Home/View/660.

Banning, City of. 2013. *Draft Rancho San Gorgonio Specific Plan*, prepared by RBF Consulting, dated October 31, 2013.

California Department of Fish and Game (CDFG). 2012. *Rarefind 3*. The Resources Agency, Sacramento, California. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Updated September 1, 2013.

California Department of Fish and Game. 2008. *List of California Terrestrial Natural Communities recognized by the California Natural Diversity Data Base*. Wildlife and Habitat Data Analysis Branch. September.

California Department of Fish and Game. 2008. *The Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Data Base*.

California Invasive Plant Council. Alternative Landscaping Plant Selections. http://www.cal-ipc.org/landscaping/.

California Native Plant Society (CNPS). 2013. *Inventory of Rare and Endangered Plants*, v7. California Native Plant Society. Sacramento, California. http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi. Updated on August 5, 2013.

California Regional Water Quality Control Board. 2006. Water Quality Control Plan, Colorado River Basin-Region 7.

Chung-MacCoubrey, A.L. (1996). Grassland bats and land management in the Southwest. UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE GENERAL TECHNICAL REPORT RM, 54-63.

Hickman, J.C., ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press. 1,400 pp.

Holland, R.F., 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* The Resources Agency, Department of Fish and Game, Sacramento, California. 156 pp.

Knecht, A.A., 1971. *Soil Survey of Riverside County, California*. United States Department of Agriculture, Washington, D.C.

Kus, B. 2002. Least Bell's Vireo (*Vireo bellii pusillus*). *In* The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian associated birds in California. California Partners in Flight. http://www.prbp.org/calpif/htmldocs/riparian_V-2.html.

Levick, L. et al. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-Arid American Southwest. USEPA and USDA/ARS Southwest Watershed Research Center, EPA/600/r-08/138, ARS/233046, 116 pp.

Placeworks. Initial Study for the Rancho San Gorgonio Specific Plan Banning, CA. Santa Ana, CA. March.

Patton, J. L., D. G. Huckaby, and S. T. Álvarez-Castañeda. 2008. "The evolutionary history and a systematic revision of woodrats of the Neotoma lepida group." *University of California Publications in Zoology* no. 135.

Penrod, K. 2000. Missing Linkages: Restoring Connectivity to the California Landscape (K. Penrod November 2, 2000

Riverside County Habitat Conservation Agency. 1996. Implementation Agreement Riverside County Long Term Habitat Conservation Plan. http://www.skrplan.org/ implementation_agreement.html.

Riverside County Transportation and Land Management Agency. 2003. *Western Riverside County Multiple Species Habitat Conservation Plan* (MSHCP). Final MSHCP—Volumes 1 and 2. Approved June 17, 2003.

Riverside County Transportation and Land Management Agency. March 29, 2006. *Burrowing Owl Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area.*

Sawyer, J.O., and T. Keeler-Wolf. 1995. *A Manual of California Vegetation.* California Native Plant Society. Sacramento, California. 471 pp.

United States Army Corps of Engineers. 2015. Amended by Clean Water Rule (Rule) adopted June 29, 2015 and effective August 28, 2015 (Federal Register Vol. 80, No. 124).

United States Department of Agriculture, Natural Resources Conservation Service. National Hydric Soils List at http://soils.usda.gov/use/hydric/.

United States Department of Agriculture, Natural Resources Conservation Service. 2003. Soil Survey Geographic (SSURGO) Database for Riverside County, CA, 2003. Available online at http://soildatamart.nrcs.usda.gov. Accessed September 6, 2013.

United States Fish and Wildlife Service. Final rule. Migratory Bird Treaty Act amendment. Federal Register/50 CFR Parts 10 and 21/Vol. 78, No. 212/Friday, November 1, 2013.

United States Fish and Wildlife Service. 1996. *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods.* April 19, 1996.

United States Geological Service. 1988. *Beaumont, California* 7.5-minute quadrangle.

APPENDIX A

PLANT AND ANIMAL SPECIES OBSERVED

Appendix A: Plant and Animal Species Observed

Scientific Name	Common Name
PLANTS	
GYMNOSPERMS	
Cupressaceace	**Cypress family**
Cupressus sempervirens (non-native species)	Italian cypress
Pinaceae	**Pine family**
Cedrus atlantica (non-native species)	Atlas cedar
Dicots	
Anacardiaceae	**Sumac family**
Schinus molle (non-native species)	Peruvian pepper tree
Asteraceae	**Sunflower family**
Ambrosia confertiflora	Weak-leaved burweed
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
Artemisia dracunculus	Tarragon
Baccharis salicifolia	Mule fat
Corethrogyne filaginifolia	California aster
Ericameria palmeri var. pachylepis	Box Springs goldenbush
Helianthus gracilentus	Slender sunflower
Lepidospartum squamatum	Scalebroom
Pseudognaphalium beneolens	Fragrant rabbit-tobacco
Pseudognaphalium biolettii	Two-color rabbit-tobacco
Pseudognaphalium microcephalum	San Diego rabbit-tobacco
Stephanomeria exigua	Small wreath-plant
Xanthium strumarium	Rough cocklebur
Boraginaceae	**Borage family**
Amsinckia menziesii	Common fiddleneck
Cryptantha sp.	Cryptantha
Pectocarya sp.	Pectocarya
Brassicaceae	**Mustard family**
Hirschfeldia incana (non-native species)	Shortpod mustard
Sisymbrium sp. (non-native species)	Sisymbrium
Cactaceae	**Cactus family**
Opuntia littoralis	Coastal prickly pear
Caprifoliaceae	**Honeysuckle family**
Sambucus nigra ssp. *cerulea*	Blue elderberry
Convolvulaceae	**Morning-glory family**
Convolvulus arvensis (non-native species)	Field bindweed

Appendix A: Plant and Animal Species Observed

Scientific Name	Common Name
Euphorbiaceae	**Spurge family**
Croton californicus	California croton
Croton setigerus	Dove weed
Fabaceae	**Pea family**
Acacia greggii	Catclaw
Lotus scoparius	Deerweed
Lotus sp.	Lotus
Parkinsonia aculeata (non-native species)	Mexican palo verde
Robinia pseudoacacia (non-native species)	Black locust
Spartium junceum (nonnative species)	Spanish broom
Fagaceae	**Beech family**
Quercus agrifolia	Coastal live oak
Geraniaceae	**Geranium family**
Erodium cicutarium (non-native species)	Redstem stork's bill
Hydrophyllaceae	**Waterleaf family**
Eriodictyon crassifolium	Yerba santa
Phacelia ramosissima	Branching phacelia
Lamiaceae	**Mint family**
Marrubium vulgare (non-native species)	Horehound
Salvia apiana	White sage
Trichostema lanatum	Woolly blue-curls
Martyniaceae	**Unicorn-plant family**
Proboscidea sp.	Unicorn-plant
Myrtaceae	**Myrtle family**
Eucalyptus sp. (non-native species)	Eucalyptus
Oleaceae	**Olive family**
Fraxinus sp. (non-native species)	Ash
Onagraceae	**Evening primrose family**
Camissoniopsis sp.	Camissoniopsis
Plantaginaceae	**Plantain family**
Plantago sp.	Plantain
Polemoniaceae	**Phlox family**
Eriastrum densifolium	Giant woollystar
Polygonaceae	**Buckwheat family**
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile	Slender buckwheat
Polygonum aviculare (non-native species)	Common knotweed

Appendix A: Plant and Animal Species Observed

Scientific Name	Common Name
Rumex crispus (non-native species)	Curly dock
Rosaceae	**Rose family**
Adenostoma fasciculatum	Chamise
Prunus dulcis (non-native species)	Almond
Salicaceae	**Willow family**
Populus fremontii	Fremont cottonwood
Salix exigua	Narrowleaf willow
Salix gooddingii	Goodding's willow
Scrophulariaceae	**Figwort family**
Keckiella antirrhinoides	Yellow bush penstemon
Simaroubaceae	**Quassia family**
Ailanthus altissima (non-native species)	Tree of heaven
Solanaceae	**Nightshade family**
Datura wrightii	Sacred thorn-apple
Nicotiana glauca (non-native species)	Tree tobacco
Tamaricaceae	**Tamarisk family**
Tamarix aphylla (non-native species)	Athel
Ulmaceace	**Elm family**
Ulmus sp.	Elm
Zygophyllaceace	**Caltrop family**
Tribulus terrestris (non-native species)	Puncture vine
MONOCOTS	
Cyperaceae	**Sedge family**
Cyperus eragrostis	Tall flatsedge
Poaceae	**Grass family**
Arundo donax (non-native species)	Giant reed
Avena sp. (non-native species)	Oat
Bromus diandrus (non-native species)	Ripgut brome
Bromus hordeaceus (non-native species)	Soft chess
Bromus madritensis ssp. *rubens* (non-native species)	Red brome
Bromus tectorum (non-native species)	Cheatgrass
Cynodon dactylon (non-native species)	Bermuda grass
Hordeum murinum (non-native species)	Mouse barley
Schismus barbatus (non-native species)	Common Mediterranean grass

Appendix A: Plant and Animal Species Observed

Scientific Name	Common Name
ANIMALS	
AMPHIBIANS	
Speobatidae	**Spadefoot Toads**
Spea hammondii	Western spadefoot
REPTILES	
Phrynosomatidae	**Phrynosomatid Lizards**
Sceloporus occidentalis	Western fence lizard
Uta stansburiana	Common side-blotched lizard
Colubridae	**Colubrid Snakes**
Lampropeltis getula	Common kingsnake
Salvadora hexalepis virgultea	Coast patch-nosed snake
Viperdae	**Vipers**
Crotalus oreganus	Western rattlesnake
BIRDS	
Odontophoridae	**New World Quail**
Callipepla californica	California quail
Accipitridae	**Kites, Hawks, and Eagles**
Elanus leucurus	White-tailed kite
Buteo lineatus	Red-shouldered hawk
Buteo jamaicensis	Red-tailed hawk
Aquila chrysaetos	Golden eagle
Falconidae	**Falcons**
Falco sparverius	American kestrel
Charadriidae	**Plovers and Lapwings**
Charadrius vociferus	Killdeer
Columbidae	**Pigeons and Doves**
Columba livia (non-native species)	Rock pigeon
Zenaida macroura	Mourning dove
Streptopelia decaocto (non-native species)	Eurasian collared dove
Cuculidae	**Cuckoos and Roadrunners**
Geococcyx californianus	Greater roadrunner
Tytonidae	**Barn Owls**
Tyto alba	Barn owl
Strigidae	**Typical Owls**
Bubo virginianus	Great horned owl
Athene cunicularia hypugaea	Burrowing owl

Appendix A: Plant and Animal Species Observed

Scientific Name	Common Name
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus rufus/sasin	Rufous/Allen's hummingbird
Picidae	**Woodpeckers**
Picoides nuttallii	Nuttall's woodpecker
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Myiarchus cinerascens	Ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	Western kingbird
Laniidae	**Shrikes**
Lanius ludovicianus	Loggerhead shrike
Corvidae	**Crows and Ravens**
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Alaudidae	**Larks**
Eremophila alpestris	Horned lark
Paridae	**Titmice**
Poecile gambeli	Mountain chickadee
Baeolophus inornatus	Oak titmouse
Troglodytidae	**Wrens**
Salpinctes obsoletus	Rock wren
Thryomanes bewickii	Bewick's wren
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
Sturnidae	**Starlings**
Sturnus vulgaris (nonnative species)	European starling
Emberizidae	**Emberizines**
Aimophila ruficeps canescens	So. Cal. rufous-crowned sparrow
Melozone crissalis	California towhee
Chondestes grammacus	Lark sparrow
Zonotrichia leucophrys	White-crowned sparrow
Cardinalidae	**Cardinals, Grosbeaks, and Allies**
Passerina caerulea	Blue grosbeak

Appendix A: Plant and Animal Species Observed

Scientific Name	Common Name
Icteridae	**Blackbirds, Orioles and Allies**
Sturnella neglecta	Western meadowlark
Xanthocephalus xanthocephalus	Yellow-headed blackbird
Euphagus cyanocephalus	Brewer's blackbird
Molothrus ater	Brown-headed cowbird
Icterus cucullatus	Hooded oriole
Icterus bullockii	Bullock's oriole
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
MAMMALS	
Leporidae	**Rabbits and Hares**
Lepus californicus bennettii	San Diego black-tailed jackrabbit
Sylvilagus audubonii	Desert cottontail
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
Heteromyidae	**Pocket Mice and Kangaroo Rats**
Perognathus longimembris brevinasus	Los Angeles pocket mouse
Chaetodipus fallax	San Diego pocket mouse
Dipodomys simulans	Dulzura kangaroo rat
Dipodomys stephensi	Stephens' kangaroo rat
Muridae	**Mice, Rats and Voles**
Reithrodontomys megalotis	Western harvest mouse
Peromyscus maniculatus	Deer mouse
Neotoma lepida	Desert woodrat
Canidae	**Foxes, Wolves and Dogs**
Canis latrans	Coyote
Urocyon cinereoargenteus	Gray fox
Mustelidae	**Weasels, Otters, and Badgers**
Taxidea taxus	American badger
Felidae	**Cats**
Lynx rufus	Bobcat

APPENDIX B

SPECIAL STATUS PLANT SPECIES

Appendix B: Special Status Plant Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Abronia villosa var. *aurita* **Chaparral sand-verbena**	US: – CA: 1B MSHCP: NC	Blooms mostly March through August	Low	Site is only marginally suitable. Not observed during focused survey.	Sandy areas (generally flats and benches along washes) in chaparral and coastal sage scrub, and improbably in desert dunes or other sandy areas, below 5,300 feet elevation.
Allium marvinii **Yucaipa onion**	US: – CA: 1B MSHCP: S	Blooms April through May (perennial bulbiferous herb)	Not Likely To Occur	Absent.	Heavy, clay soils do not occur within the project.
Astragalus lentiginosus var. *coachellae* **Coachella Valley milk-vetch**	US: FE CA: 1B MSHCP: NC	Blooms February through May (annual or perennial herb)	Not Likely To Occur	Absent. Sonora desert scrub	Reported in surrounding 9 quads but habitat not present in project area.
Astragalus pachypus var. *jaegeri* **Jaegar's milkvetch**	US: – CA: 1B MSHCP: C	Blooms February through May (annual or perennial herb)	Not Likely To Occur	Sandy and rocky soils in chaparral, coastal sage scrub, and grasslands.	Known to occur in Potrero Creek.
Atriplex coronata var. *notatior* **San Jacinto Valley crownscale**	US: FE CA: 1B MSHCP: S	Blooms April through May (annual herb)	Not Likely To Occur	Absent. Vernal pools; endemic to the San Jacinto River Valley area of western Riverside County	Reported in surrounding 9 quads but habitat not present in project area.
Brodiaea filifolia **Thread-leaved brodiaea**	US: FT CA: SE/1B MSHCP: S	Blooms March through June (perennial herb)	Not Likely To Occur	Absent. Vernal Pools	Reported in surrounding 9 quads but habitat not present in project area.
Calochortus plummerae **Plummer's mariposa lily**	US: – CA: 4.2 MSHCP: P Determined to be adequately conserved by RCA in 2015.	Blooms May through July (perennial herb)	Low	Present. Granitic, rocky, valley and foothill grassland	Most of site is not in mountainous areas and site is intensively grazed, but reported in the Banning area.
Caulanthus simulans **Payson's jewel-flower**	US: – CA: 4.2 MSHCP: C	Blooms March through June	Low	Present. Sandy, granitic, coastal scrub	Reported in the mountains south of the project.

Appendix B: Special Status Plant Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Centromadia pungens ssp. *laevis* **Smooth tarplant**	US: – CA: 1B MSHCP: S	Blooms April through November (annual herb)	Not Likely to Occur	Absent.	Generally alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 1,600 feet elevation.
Chorizante parryi var. *parryi* **Parry's spineflower**	US: – CA: 3.2 MSHCP: C	Blooms April through Jun	Moderate	Sandy and rocky soils in chaparral, coastal sage scrub, and grasslands.	Known to occur in the Banning area and vicinity.
Chorizanthe xanti var. *leucotheca* **White-bracted spineflower**	US: – CA: 1B MSHCP: NC	Blooms April through June (annual herb)	Not Likely to Occur	Absent	Sandy to gravelly places in Mojave desert scrub, pinyon and juniper woodland, or coastal scrub at 980 to 3,900 feet elevation.
Deinandra mohavensis **Mojave tarplant**	US: – CA: SE/1B MSHCP: P	Blooms July through October (annual herb)	Not Likely to Occur	Absent	Reported in foothills south of Smith Creek located outside of the project.
Dodecahema leptoceras **slender-horned spineflower**	US: FE CA: SE/1B MSHCP: S	Blooms April through June (annual herb)	Low	Present. Coastal sage scrub, sandy soil	Reported in surrounding 9 quads, but not within 1 mile
Dudleya multicaulis **Many-stemmed dudleya**	US: – CA: 1B MSHCP: S	Blooms April through July (perennial herb)	Not Likely To Occur	Absent.	Heavy, often clay soils do not occur within the project.
Horkelia cuneata ssp. *puberula* **Mesa horkelia**	US: – CA: 1B MSHCP: NC	Blooms February through July (sometimes to September) (perennial herb)	Moderate	Present. Coastal sage scrub, sandy soil	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 200 to 2,700 feet elevation.
Lepidium virginicum var. *robinsonii* **Robinson's pepper-grass**	US: – CA: 4.3 MSHCP: NC	Blooms January through July (annual herb)	Low	Present. Dry soils in coastal sage scrub and chaparral below 885 meters (2,900 feet) elevation.	Widespread species but with little records in the species databases.
Mimulus clevelandii **Cleveland's bush monkeyflower**	US: – CA: 4.2 MSHCP: P	Blooms January through June	Not Likely To Occur	Present on rock outcrop and slope in the southeast corner of the project.	Species is known to occur in Santa Ana and Aqua Tibia Mountains with chaparral.

Appendix B: Special Status Plant Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Navarretia fossalis **Spreading navarretia**	US: FT CA: 1B MSHCP: S	Blooms April through June (annual herb)	Not Likely To Occur	Absent. Vernal Pools	Reported in surrounding 9 quads but habitat not present in project area.
Sidalcea hickmanii parishii **Parish's checkerbloom**	US: – CA: SR/1B MSHCP: NC	Blooms May through June (perennial herb)	Not Likely To Occur	Absent. chaparral, rocky places, 2,000–5500 feet, pinyon-juniper woodland, Santa Rosa Mountains	Reported in surrounding 9 quads but habitat not present in project area.
Taraxacum californicum **California dandelion**	US: FE CA: 1B MSHCP: NC	Blooms May through September (perennial herb)	Not Likely to Occur	Absent. Mesic meadows and seeps in mountain valleys.	Reported in surrounding 9 quads but habitat not present in project area.

Legend:

US: Federal Classification

– No applicable classification
FE Taxa listed as Endangered
FT Taxa listed as Threatened.

CA: State Classification

SE Taxa State-listed as Endangered.
SR Taxa State-listed as Rare.
1B California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.
3 California Rare Plant Rank 3: A review list of plants about which more information is needed.
4 California Rare Plant Rank 4: A watch list of plants of limited distribution.
CRPR Extensions
0.2 Fairly endangered in California (20 to 80% occurrences threatened).
0.3 Not very endangered in California (less than 20% of occurrences threatened).

MSHCP: Western Riverside County MSHCP Status

S Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
C Species is adequately conserved under the MSHCP.
P Species is covered but not considered adequately conserved pending completion of MSHCP specified requirements.
NC Species is not conserved under the MSHCP.

APPENDIX C

LIST OF SPECIAL STATUS ANIMAL SPECIES

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Invertebrates					
Streptocephalus woottoni **Riverside fairy shrimp**	US: FE CA: SA MSHCP: S	Seasonally following rains; typically January through April.	Absent	Absent	Formerly thought to have occurred on site (CNDDB) but 2013 and 2014 surveys confirmed absence of the species and unsuitable pool conditions.
Amphibians					
Anaxyrus californicus **Arroyo toad**	US: FE CA: SSC MSHCP: S	March through July	Not Likely To Occur	Absent	Habitat is unsuitable due to lack of consistent water source.
Spea hammondii **Western spadefoot**	US: – CA: SSC MSHCP: C	October through April (following onset of winter rains).	Present	Present	Observed, largely terrestrial but requires rain pools or ponded water for breeding. Burrows in loose soils during dry season.
Rana muscosa **Southern mountain yellow-legged frog**	US: FE CA: SE MSHCP: C	Diurnal, winters at the bottom of frozen lakes.	Not Likely To Occur	Absent	Reported in surrounding 9 quads, this site has nothing resembling suitable habitat.
Reptiles					
Aspidoscelis (Cnemidophorus) tigris stejnegeri **Coastal western whiptail**	US: – CA: SA MSHCP: C	Diurnal; April through August.	High	Present	Utilizes a wide variety of habitats including coastal sage scrub, sparse grassland and riparian woodland.
Coleonyx variegatus abbotti **San Diego banded gecko**	US: – CA: SA MSHCP: C	Nocturnal; April through October.	Moderate	Present	Potentially suitable coastal sage habitat is present.
Phrynosoma blainvillii **Coast horned lizard**	US: – CA: SSC MSHCP: C	Diurnal; April through July with reduced activity August through October.	High	Present	Creeks, grassland, and scrub areas provide suitable areas.

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Plestiodon skiltonianus interparietalis **Coronado skink**	US: – CA: SSC MSHCP: NC	Diurnal, primarily spring through fall.	Not Likely to Occur	Absent	Coastal scrub. Site is probably too dry for the species.
Aspidoscelis hyperythra **Orange-throated whiptail**	US: – CA: SSC MSHCP: C	Diurnal, primarily spring through fall.	Not Likely to Occur	Absent	Coastal scrub. Apparently outside the current range of the species.
Anniella pulchra pulchra **Silvery legless lizard**	US: – CA: SSC MSHCP: NC	Diurnal and crepuscular, but primarily fossorial; active year round.	Moderate	Present	Conditions may be suitable along drainage channels, but may be too dry.
Salvadora hexalepis virgultea **Coast patch-nosed snake**	US: – CA: SSC MSHCP: NC	Diurnal, primarily spring through fall.	Present	Present	Observed. Uses a wide range of habitats; most likely to occur on the rocky ridge south of Smith Creek.
Sceloporus orcutti **Granite spiny lizard**	US: – CA: – MSHCP: C	Diurnal, primarily spring through fall	High	Present	Coastal scrub with rocky outcrops.
Thamnophis hammondii **Two-striped garter snake**	US: – CA: SSC MSHCP: NC	Primarily nocturnal and crepuscular, spring through fall.	Not Likely To Occur	Absent	The site is probably too dry, as the species is highly aquatic.
Crotalus ruber **Red-diamond rattlesnake**	US: – CA: SSC MSHCP: C	Diurnal and nocturnal; primarily spring through fall.	High	Present	Uses a wide range of habitats.
Xantusia henshawi henshawi **Granite night lizard**	US: – CA: – MSHCP: C	Nocturnal	Low	Present	Rock canyons and boulder outcrops in desert and coastal sage scrub on hillsides.
Birds					
Agelaius tricolor (nesting colony) **Tricolored blackbird**	US: BCC CA: SSC MSHCP: C	Year-round diurnal	Not Likely to Occur	Absent	Preferred nesting habitat (primarily freshwater marsh; dense patches of nettles, willows, blackberries, and thistles; silage; and grain fields) not present.

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Aimophila ruficeps canescens **Southern California rufous-crowned sparrow**	US: – CA: SA MSHCP: C	Year-round, diurnal activity	Present	Present	Observed.
Ammodramus savannarum **Grasshopper sparrow**	US: – CA: SSC MSHCP: P	Primarily March through August; diurnal	Low	Present	Undisturbed or lightly disturbed grassland not present.
Aquila chrysaetos (nesting & wintering) **Golden eagle**	US: BCC CA: CFP MSHCP: C	Year-round diurnal	Present	Present	Observed foraging in September 2013.
Artemisiospiza belli belli **Bell's sparrow**	US: BCC CA: SA MSHCP: C	Year-round, diurnal.	Moderate	Present	Rocky ridge south of Smith Creek is potentially suitable habitat.
Athene cunicularia (burrow sites) **Burrowing owl**	US: BCC CA: SSC MSHCP: S	Year-round	Present	Present	Observed, burrows in open, dry grasslands, agricultural and range lands. Known to nest in man-made structures such as berms, cement culverts, cement and wood debris piles.
Baeolophus inornatus **Oak titmouse**	US: BCC CA: SA MSHCP: NC	Year-round	Present	Present	Observed, inhabits primarily Oak Woodland but also oak-conifer, riparian woodland, and pinyon-juniper associations.
Buteo regali (wintering) **Ferruginous hawk**	US: BCC CA: SCC MSHCP: C	October through April; diurnal.	Moderate	Present	Annual grassland is appropriate winter habitat.
Calypte costae (nesting) **Costa's hummingbird**	US: BCC CA: SA MSHCP: NC	Primarily April through July; diurnal.	Moderate	Present	Rocky ridge south of Smith Creek is potentially suitable habitat.
Cathartes aura (breeding) **Turkey vulture**	US: – CA: – MSHCP: C	Year-round	Present	Absent (nesting)	Observed, utilizes a variety of habitats for foraging; nests in rock crevices, caves, ledges, thickets, fallen trees and abandoned buildings away from civilization.

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Campylorhynchus brunneicapillus **Cactus wren**	US: – CA: – MSHCP: C	Year-round (non-migratory)	Low	Absent	Suitable habitat is absent.
Coccyzus americanus occidentalis (nesting) **Western yellow-billed cuckoo**	US: FT CA: SE MSHCP: S	May through September	Not Likely To Occur	Absent	Nesting habitat is not present (cottonwood and willows in riparian forest).
Elanus leucurus (nesting) **White-tailed kite**	US: – CA: CFP MSHCP: C	Year-round	Present, possible nesting	Present	Observed, nests in riparian trees such as oak, willows, and cottonwoods. Forages in open country.
Empidonax trailii extimus (nesting) **Southwestern willow flycatcher**	US: FE CA: SE MSHCP: S	May through September	Not Likely To Occur	Absent	Brushy riparian habitat with surface water not present.
Eremophila alpestris actia **California horned lark**	US: – CA: SSC MSHCP: C	Year-round	High, but not confirmed to be nesting	Present	Open grasslands and fields. Prefers bare ground for nesting.
Falco mexicanus (nesting) **Prairie falcon**	US: BCC CA: SA MSHCP: C	Year-round	Not Likely To Occur	Nesting habitat absent; foraging habitat present.	Annual grassland is appropriate foraging habitat, but suitable nesting sites are absent.
Icteria virens **Yellow-breasted chat**	US: – CA: SSC MSHCP: C	April through September	Not Likely To Occur	Absent	Brushy riparian habitat not present.
Lanius ludovicianus (nesting) **Loggerhead shrike**	US: – CA: SSC MSHCP: C	Year-round	Present, but not confirmed nesting	Present	Observed, prefers open habitat with scattered shrubs, trees, posts, fences and other perches. Inhabits open country, riparian areas and open woodlands.

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Picoides nuttallii **Nuttall's woodpecker**	US: BCC CA: SA MSHCP: NC	Year-round	Present	Present	Observed, resident in oak and riparian woodlands.
Picoides pubescens **Downy woodpecker**	US: – CA: – MSHCP: C	Year-round	Not Likely To Occur	Absent	Resident in riparian deciduous and associated hardwood and conifer habitats.
Pooecetes gramineus affinis **Oregon vesper sparrow**	US: – CA: SSC MSHCP: NC	September through April	Moderate	Present	Annual grassland is appropriate winter habitat.
Progne subis (nesting) **Purple martin**	US: – CA: SSC MSHCP: C	Summer resident	Not Likely To Occur	Absent	Now rare and local in distribution with nesting habitat marginal on site.
Setophaga petechia (*Dendroica petechia brewsteri*) **Yellow warbler**	US: – CA: SSC MSHCP: C	April through September	Not Likely To Occur	Absent	Number of riparian trees present probably insufficient for nesting by the species. However, migrants are likely to occur.
Spinus lawrencei (nesting) **Lawrence's goldfinch**	US: BCC CA: SA MSHCP: NC	April through August	Moderate	Present	Rocky ridge south of Smith Creek is potentially suitable habitat.
Spizella atrogularis (nesting) **Black-chinned sparrow**	US: BCC CA: SA MSHCP: NC	April through August	Low	Present	Rocky ridge south of Smith Creek is potentially suitable habitat.
Spizella breweri (nesting) **Brewer's sparrow**	US: BCC CA: SA MSHCP: NC	April through August	Low	Present	Rocky ridge south of Smith Creek is potentially suitable habitat.
Toxostoma lecontei **Le Conte's thrasher**	US: – CA: SSC MSHCP: NC	Year-round	Not Likely To Occur	Absent	Desert scrub habitat is not present.

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Vireo bellii pusillus **Least Bell's vireo**	US: FE CA: SE MSHCP: S	April through September	Not Likely To Occur	Absent	Brushy riparian habitat not present.
Xanthocephalus xanthocephalus (nesting) **Yellow-headed blackbird**	US: – CA: SSC MSHCP: NC	Year-round diurnal	Present, but nesting habitat absent	Absent	Observed, but preferred nesting habitat (marshes with tall emergent vegetation) not present.
Mammals					
Antrozous pallidus **Pallid bat**	US: – CA: SSC MSHCP: NC	Nocturnal; year-round, primarily active spring through fall.	High	Present	Roosts in crevices in rocky outcrops and cliffs, caves, mines, hollows or cavities of large trees, and anthropogenic structures such as bridges and buildings; may also roost near the ground in rock piles. Foraging habitat includes grassland, open scrub, open forest, and gravel roads.
Canis latrans **Coyote**	US: – CA: – MSHCP: C	Year-round, mainly crepuscular with increased diurnal activity from February to May.	Present	Present	Observed, utilizes almost all available habitats; limited by water availability.
Chaetodipus fallax fallax **San Diego pocket mouse**	US: – CA: SSC MSHCP: C	Year-round	Present	Present	Observed, found in coastal sage scrub, chaparral, grasslands, and sagebrush.
Chaetodipus fallax pallidus **Pallid San Diego pocket mouse**	US: – CA: SSC MSHCP: C	Year-round	Not Likely to Occur	Absent	This subspecies is found in desert scrub and arid coastal areas.
Corynorhinus townsendii **Townsend's big-eared bat**	US: FC CA: SSC MSHCP: NC	Nocturnal; primarily active spring through fall.	Low	Roosting habitat absent. Foraging habitat present.	Predominantly uses mines, caves, and cave-like areas for roosting. May also use buildings, bridges, rock crevices, and hollow trees as roost sites. Forages in edge habitats along streams and desert washes. May forage several miles from roost sites.

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Dipodomys stephensi **Stephens' kangaroo rat**	US: FE CA: ST MSHCP: C	Year-round, nocturnal	Present	Present	Observed, found in plant communities transitional between grassland and coastal sage scrub. Requires well-drained soils with compaction characteristics suitable for burrow construction.
Dipodomys simulans **Dulzura kangaroo rat**	US: – CA: – MSHCP: C	Crepuscular; peak breeding period in winter and spring.	Present	Present	Observed; occurs in gravelly and sandy soils in coastal sage scrub and grasslands.
Eumops perotis californicus **Western mastiff bat**	US: – CA: SSC MSHCP: NC	Nocturnal; year-round, primarily active spring through fall.	Not Likely to Occur	Absent	Primarily a cliff-dwelling species, roosting under exfoliating rock slabs and in crevices in boulders and buildings. Forages widely over a variety of habitat types.
Lasiurus blossevillii **Western red bat**	US: – CA: SSC MSHCP: NC	Nocturnal; year-round, primarily active spring through fall.	Low	Present	Roosts in the foliage of broad-leafed trees or shrubs within streams or fields, in orchards, and occasionally urban areas; commonly roosts in mature cottonwoods and sycamores. More commonly found in riparian habitats, but highly migratory. Forages in a variety of habitats.
Lasiurus xanthinus **Western yellow bat**	US: – CA: SSC MSHCP: NC	Nocturnal; year-round, primarily active spring through fall.	High	Present	Roosts in the dead fronds of palm trees and has also been documented roosting in cottonwood trees. Found in open areas, valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.
Lepus californicus bennettii **San Diego black-tailed jackrabbit**	US: – CA: SSC MSHCP: C	Year-round, diurnal and crepuscular activity.	Present	Present	Observed, occurs in a variety of habitats such as herbaceous and desert scrub. Most common in open habitats.
Lynx rufus **Bobcat**	US: – CA: – MSHCP: C	Year-round, mainly crepuscular during winter, more nocturnal during spring.	Present	Present	Observed, adapted to wide variety of habitats.
Mustela frenata **Long-tailed weasel**	US: – CA: – MSHCP: C	Year-round, nocturnal and diurnal.	High	Present	Inhabits a range of habitats, including coastal sage scrub and grasslands.

Appendix C: List of Special Status Animal Species

Species	Status	Activity Period	Occurrence Probability	Habitat Present/ Absent	Rationale
Myotis volans **Long-legged myotis**	US: – CA: SSC MSHCP: NC	Nocturnal; year-round, primarily active spring through fall.	Not Likely to Occur	Absent	Roosts in abandoned buildings, cliff crevices, exfoliating tree bark, and hollows within snags; usually overwinters in caves and mine tunnels. Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats.
Neotoma lepida intermedia **San Diego desert woodrat**	US: – CA: SSC MSHCP: C	Year-round, mainly nocturnal, occasionally crepuscular and diurnal.	Not Likely To Occur	Present	The species was captured on site, but individuals from Banning and Cabazon are best considered the subspecies *gilva*, not *intermedia* (see section 5.6.2.3, above).
Nyctinomops femorosaccus **Pocketed free-tailed bat**	US: – CA: SSC MSHCP: NC	Nocturnal; year-round, primarily active spring through fall.	Not Likely to Occur	Absent	Roosts primarily in crevices in cliffs, high rocky outcrops, and slopes. Forages widely in a variety of desert scrub, desert riparian habitats.
Nyctinomops macrotis **Big free-tailed bat**	US: – CA: SSC MSHCP: NC	Nocturnal; year-round, primarily active spring through fall.	Low	Present	Roosts mainly in crevices in cliffs, although there is some documentation of roosting in buildings, caves, and tree cavities. Found in desert shrub, woodlands, and evergreen forests. Forages widely in a variety of habitats.
Perognathus longimembris brevinasus **Los Angeles pocket mouse**	US: – CA: SSC MSHCP: S	Nocturnal. Generally active on the surface spring through fall.	Present	Present	Observed, prefers sandy soil for burrowing. Found in coastal sage scrub and grassland ecotones.
Puma concolor **Mountain lion**	US:– CA: – MSHCP: C	Year-round	High	Present	Species is wide-ranging over numerous habitats and occurs in the area.
Taxidea taxus **American badger**	US: – CA: SSC MSHCP: NC	Year-round	Present	Present	Observed, primary habitat requires friable soils in relatively open grasslands, woodlands and deserts.

LEGEND	
US: Federal Classifications	
–	No applicable classification
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.
FC	Candidate for listing as Threatened or Endangered.
BCC	Bird of Conservation Concern.
CA: State Classifications	
SE	Taxa State-listed as Endangered.
ST	Taxa State-listed as Threatened.
SSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
CFP	California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515.
SA	Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan Status	
S	Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
C	Species is adequately conserved under the MSHCP.
P	Species is covered but not considered adequately conserved pending completion of MSHCP specified requirements.
NC	"Other Species" not covered under the MSHCP.

APPENDIX D

FOCUSED SURVEY REPORTS

- D-1. Los Angeles Pocket Mouse Focused Survey Report dated September 27, 2012
- D-2A. Wet Season Fairy Shrimp Survey Report dated June 17, 2013
- D-2B. Dry Season Fairy Shrimp Survey Report dated September 18, 2013
- D-3. Burrowing Owl Focused Survey Report dated August 7, 2015
- D-4. Delineation of Jurisdictional Waters Report dated August 2015
- D-5. Focused Plant Survey for the Mojave Tarplant dated September 17, 2015

D-1. LOS ANGELES POCKET MOUSE (2012)

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614
949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS
FRESNO
PALM SPRINGS
PT. RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISCO

September 27, 2012

Scott Osborn
California Department of Fish and Game
Wildlife Branch, Nongame Program
1812 Ninth Street
Sacramento, California 95811

Susie Tharratt
U.S. Fish and Wildlife Service
Carlsbad Field Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

Subject: Los Angeles Pocket Mouse Survey Results
Banning 803 Rancho San Gorgonio Planned Community Project
City of Banning and Unincorporated Riverside County, California
August 2012 (LSA Project Number PIE1201)

Dear Dr. Osborn and Ms. Tharratt:

This letter report documents the results of protocol presence/absence surveys for the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*; a California Species of Special Concern) conducted by LSA Associates, Inc. (LSA). Three small mammal trapping sessions were conducted within the study area for the proposed Banning 803 Rancho San Gorgonio Planned Community Project.

There were 10 Los Angeles pocket mouse captures and one Stephens' kangaroo rat (*Dipodomys stephensi*) capture. Stephens' kangaroo rats located in the study area are fully covered under the Western Riverside County Multiple Species Habitat Conservation Plan (WRCMSHCP).

Study Area

The approximately 803-acre (ac) study area is situated in the southwestern portion of the City of Banning and in unincorporated Riverside County (Figure 1, Appendix A). The site is located on the south side of Interstate 10 (I-10) and is generally bordered by Westward Avenue on the north, Sunset Avenue on the west, Coyote Trail on the south, and San Gorgonio Avenue (State Route 243) (SR-243) on the east. A portion of the project (approximately 160 acres) is outside the city limits but within the city's sphere of influence. Geographically, the study area encompasses Sections 16 and 17, Township 3 South, Range 1 East as shown on the *Beaumont, California* 7.5-minute United States Geologic Survey (USGS) topographic map. Elevation within the study area ranges from 2,200 to 2,400 feet (ft) above mean sea level (amsl). Vegetation within study area is primarily dominated by nonnative grassland, with alluvial fan sage scrub and riparian vegetation in some of the drainages. The study area is moderately disturbed by ongoing cattle grazing activity.

Methods

Trapping was limited to areas within the WRCMSHCP Los Angeles Pocket Mouse Survey Area (see Figure 2). The Los Angeles pocket mouse had been found in the study area in previous years, so we assumed they were still present in the best habitat along the active washes. Therefore, we restricted our trapping effort to areas adjacent to the washes.

LSA biologists Leo Simone, Richard Erickson, Wendy Walters and Claudia Bauer conducted three five-night trapping sessions: August 5–10, August 12–17, and August 27–September 1. Protocol trapping was conducted pursuant to LSA's Federal Fish and Wildlife Permit TE-777965-9 (April 8, 2008–April 7, 2012; renewal pending) and a California Department of Fish and Game attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Mammals (September 30, 2009–April 30, 2012; renewal pending). A total of 300 traps were set during Session 1, 200 traps during Session 2, and 100 traps during Session 3. Traps were set in seven lines during the first session, in five lines during the second session, and in four lines during the third session as shown on Figure 2. Traps were baited with bird seed and wild oats. Trap checks occurred at midnight and at dawn. All animals were identified and released at their capture sites. Trapping was discontinued throughout the trapline wherever a Los Angeles pocket mouse was captured; thus, trapping effort diminished during each session.

Results

There were 10 Los Angeles pocket mouse captures: 8 during Session 1, 1 during Session 2, and 1 during Session 3. As shown on Figure 2, capture locations were on the edge of the wash in the southwestern portion of the site, next to a low spot dropping into the wash in the west-central portion of the site, and on three traplines in the southeastern portion of the site. Of the latter, the western location is in sparse scrubby habitat transitional between the wash and the grassy uplands, the central site is in scrub on a hill, and the eastern site is along a small wash tributary to the main wash.

There were 202 captures of six other rodent species, primarily San Diego pocket mice (*Chaetodipus fallax fallax*) and deer mice (*Peromyscus maniculatus*). Complete capture results are shown in Table B-1, Appendix B.

California Native Species Field Survey Forms are provided in Appendix C.

If you have any questions or comments, please contact Richard Erickson or me by phone at (949) 553-066 or via email at leo.simone@lsa-assoc.com or richard.erickson@lsa-assoc.com.

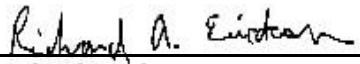
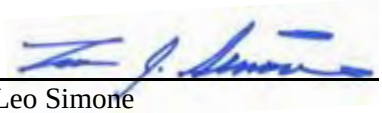
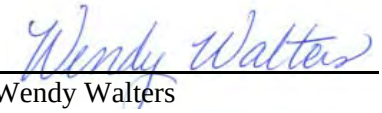
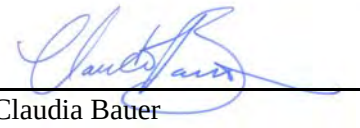
Sincerely,

LSA ASSOCIATES, INC.

Leo Simone
Associate, Biologist

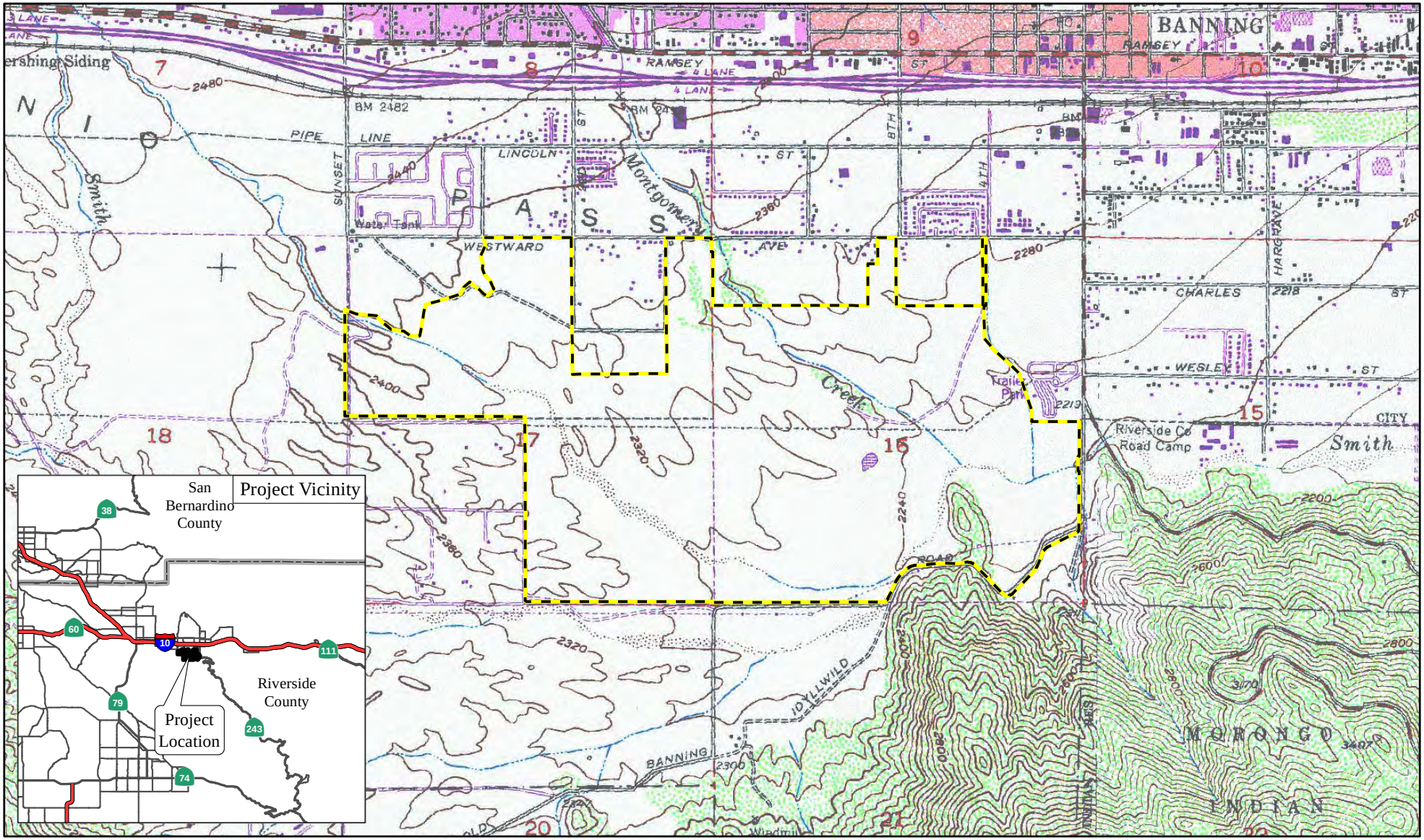
Attachments: Appendix A: Figures 1 and 2
Appendix B: Table B-1, Trapping Results
Appendix C: California Native Species Field Survey Forms

I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENT MY WORK:

SURVEYOR:	PERMIT NUMBER	DATE:
 Richard Erickson	TE-777965-7	September 27, 2012
 Leo Simone	TE-777965-7	September 27, 2012
 Wendy Walters	TE-777965-7	September 27, 2012
 Claudia Bauer	TE-777965-7	September 27, 2012

APPENDIX A

FIGURES 1 AND 2



LSA

LEGEND

Project Boundary

FIGURE 1

N

0 1000 2000

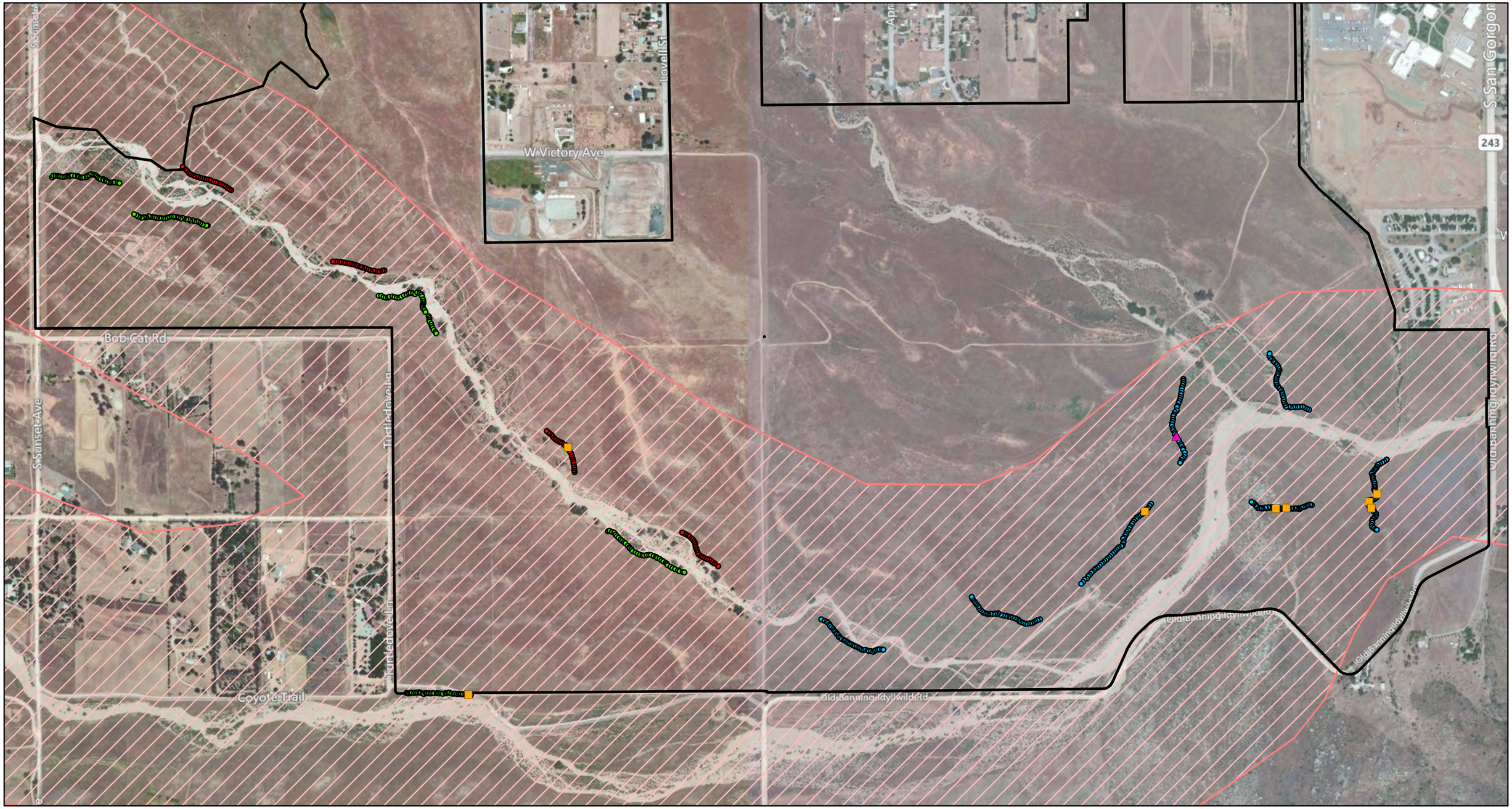
FEET

SOURCE: USGS 7.5' Quad., *Beaumont, CA* (1988)

I:\PIE1201\GIS\ProjectLocation.mxd (9/17/2012)

Banning 803 Rancho San Gorgonio Planned Community Project

Project Location



LSA

LEGEND

- Project Boundary
- Traplines August 5-10, 2012
- Traplines August 12-17, 2012
- Traplines August 27 - September 1, 2012
- Los Angeles Pocket Mouse Capture Location
- Stevens' Kangaroo Rat Capture Location
- Los Angeles Pocket Mouse MSHCP Survey Area

0 340 680
FEET

SOURCE: Bing (c 2009); MSHCP

I:\PIE1201\GIS\Trap_Locations.mxd (9/26/2012)

FIGURE 2

Banning 803 Rancho San Gorgonio Planned Community Project

Trapline and Capture Locations

APPENDIX B

TABLE B-1, TRAPPING RESULTS

APPENDIX B

TABLE B-1, TRAPPING RESULTS

Trapping Session 1											
Date and Time	**Aug 5 2300**	**Aug 6 0600**	**Aug 6 2300**	**Aug 7 0600**	**Aug 7 2300**	**Aug 8 0600**	**Aug 8 2300**	**Aug 9 0600**	**Aug 9 2300**	**Aug 10 0600**	**Total**
Number of Traps	**300**		**250**		**250**		**210**		**160**		**1170**
Species											
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	**3**	**2**				**2**	**1**				**8**
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	**1**	**1**	**1**	**1**	**4**	**2**	**2**	**3**			**15**
Stephens's kangaroo rat *Dipodomys stephensi*						**1**					**1**
Deer mouse *Peromyscus maniculatus*	**2**	**2**	**1**	**3**		**2**	**2**	**1**			**13**
Total Rodent Captures	**6**	**5**	**2**	**4**	**4**	**7**	**5**	**4**	**0**	**0**	**37**

Trapping Session 2											
Date and Time	**Aug 12 2300**	**Aug 13 0600**	**Aug 13 2300**	**Aug 14 0600**	**Aug 14 2300**	**Aug 15 0600**	**Aug 15 2300**	**Aug 16 0600**	**Aug 16 2300**	**Aug 17 0600**	**Total**
Number of Traps	**200**		**200**		**200**		**200**		**200**		**1,000**
Species											
Los Angeles pocket mouse *Perognathus longimembris brevinasus*										**1**	**1**
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	**4**	**10**	**1**	**4**	**10**	**9**	**6**	**9**	**9**	**12**	**74**
Dulzura kangaroo rat *Dipodomys simulans*	**1**	**4**	**1**	**5**	**3**	**7**	**4**	**2**	**3**	**2**	**32**
Western harvest mouse *Reithrodontomys megalotis*	**1**									**1**	**2**
Deer mouse *Peromyscus maniculatus*	**5**	**3**	**1**	**4**	**5**	**10**	**8**	**7**	**4**	**6**	**53**
Desert woodrat *Neotoma lepida*	**1**	**1**			**1**						**3**
Total Rodent Captures	**12**	**18**	**3**	**13**	**19**	**26**	**18**	**18**	**16**	**22**	**165**

Trapping Session 3											
Date and Time	**Aug 27 2300**	**Aug 28 0600**	**Aug 28 2300**	**Aug 29 0600**	**Aug 29 2300**	**Aug 30 0600**	**Aug 30 2300**	**Aug 31 0600**	**Aug 31 2300**	**Sept 1 0600**	**Total**
Number of Traps	**100**		**100**		**75**		**75**		**75**		**425**
Species											
Los Angeles pocket mouse *Perognathus longimembris brevinasus*				**1**							**1**
Western harvest mouse *Reithrodontomys megalotis*										**1**	**1**
Deer mouse *Peromyscus maniculatus*		**1**		**3**		**1**		**2**		**1**	**8**
Total Rodent Captures	**0**	**1**	**0**	**4**	**0**	**1**	**0**	**2**	**0**	**2**	**10**

APPENDIX C

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORMS

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 08/05/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Dipodomys stephensi*

Common Name: Stephens' kangaroo rat

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Richard A. Erickson
Address: LSA Associates, 20 Executive Park, Suite 200
Irvine, CA 92614
E-mail Address: leo.simone@lsa-assoc.com
Phone: (949) 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

Banning

County: Riverside Landowner / Mgr.: private

Quad Name: _____ Elevation: _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐

Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

primarily annual grassland dissected by active washes

1 capture over 5 nights (second of three trapping sessions in the area); at least one other seen in the area at night

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: residential to the north, primarily undeveloped otherwise

Visible disturbances: cattle grazing

Threats: residential development

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☑ Other: personal experience

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

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Mail to:
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Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 08/05/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Perognathus longimembris brevinasus*

Common Name: Los Angeles pocket mouse

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 8 captures Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Leo J. Simone et al.
Address: LSA Associates, 20 Executive Park, Suite 200
Irvine, CA 92614
E-mail Address: leo.simone@lsa-assoc.com
Phone: (949) 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

8 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Banning

County: Riverside Landowner / Mgr.: private

Quad Name: _____ Elevation: _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐

Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

primarily annual grassland dissected by active washes

8 captures over 5 nights (first of three trapping sessions in the area)

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: residential to the north, primarily undeveloped otherwise

Visible disturbances: cattle grazing

Threats: residential development

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☑ Other: personal experience

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 08/05/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Chaetodipus fallax fallax*

Common Name: San Diego pocket mouse

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 15 captures Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Leo J. Simone et al.
Address: LSA Associates, 20 Executive Park, Suite 200
Irvine, CA 92614
E-mail Address: leo.simone@lsa-assoc.com
Phone: (949) 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

15 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

Banning

County: Riverside Landowner / Mgr.: private

Quad Name: _____ Elevation: _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐

Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

primarily annual grassland dissected by active washes

15 captures over 5 nights (first of three trapping sessions in the area)

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: residential to the north, primarily undeveloped otherwise

Visible disturbances: cattle grazing

Threats: residential development

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☑ Other: personal experience

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 08/12/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Perognathus longimembris brevinasus*

Common Name: Los Angeles pocket mouse

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 capture Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Leo J. Simone et al.
Address: LSA Associates, 20 Executive Park, Suite 200
Irvine, CA 92614
E-mail Address: leo.simone@lsa-assoc.com
Phone: (949) 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1				
# adults	# juveniles	# larvae	# egg masses	# unknown

☐	☐	☐	☐	☐	☐
wintering	breeding	nesting	rookery	burrow site	other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Banning

County: Riverside Landowner / Mgr.: private
Quad Name: _____ Elevation: _____
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐
Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

primarily annual grassland dissected by active washes

1 capture over 5 nights (second of three trapping sessions in the area)

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: residential to the north, primarily undeveloped otherwise

Visible disturbances: cattle grazing

Threats: residential development

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☑ Other: personal experience

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

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Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Chaetodipus fallax fallax*

Common Name: San Diego pocket mouse

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 74 captures Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Leo J. Simone et al.
Address: LSA Associates, 20 Executive Park, Suite 200
Irvine, CA 92614
E-mail Address: leo.simone@lsa-assoc.com
Phone: (949) 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

74				
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

Banning

County: Riverside Landowner / Mgr.: private
Quad Name: _____ Elevation: _____
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐
Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

primarily annual grassland dissected by active washes

74 captures over 5 nights (second of three trapping sessions in the area)

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: residential to the north, primarily undeveloped otherwise

Visible disturbances: cattle grazing

Threats: residential development

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☑ Other: personal experience

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 08/12/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Neotoma lepida ssp. unknown*

Common Name: desert woodrat

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 3 captures Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Leo J. Simone et al.
Address: LSA Associates, 20 Executive Park, Suite 200
Irvine, CA 92614
E-mail Address: leo.simone@lsa-assoc.com
Phone: (949) 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

3 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map *AND/OR* fill out your choice of coordinates, below)**

Banning

County: Riverside Landowner / Mgr.: private

Quad Name: _____ Elevation: _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐

Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

primarily annual grassland dissected by active washes

3 captures over 5 nights

subspecies unknown, apparently within the range of N. l. gilva, not N. l. intermedia

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: residential to the north, primarily undeveloped otherwise

Visible disturbances: cattle grazing

Threats: residential development

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☑ Other: personal experience

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 08/27/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Perognathus longimembris brevinasus*

Common Name: Los Angeles pocket mouse

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 capture Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Leo J. Simone et al.
Address: LSA Associates, 20 Executive Park, Suite 200
Irvine, CA 92614
E-mail Address: leo.simone@lsa-assoc.com
Phone: (949) 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

# adults	# juveniles	# larvae	# egg masses	# unknown
1				

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Banning

County: Riverside Landowner / Mgr.: private
Quad Name: _____ Elevation: _____
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____
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Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐
Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

primarily annual grassland dissected by active washes

1 capture over 5 nights (third of three trapping sessions in the area)

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: residential to the north, primarily undeveloped otherwise

Visible disturbances: cattle grazing

Threats: residential development

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: personal experience

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

D-2A. WET SEASON FAIRY SHRIMP SURVEY REPORT (2013)

LSA

LSA ASSOCIATES, INC.
1500 IOWA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92507

951.781.9310 TEL
951.781.4277 FAX

OTHER OFFICES:
IRVINE
PT. RICHMOND
SAN LUIS OBISPO
PALM SPRINGS

FORT COLLINS
BERKELEY
ROCKLIN
CARLSBAD
FRESNO

June 17, 2013

Ms. Susie Tharratt
Recovery Permits Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: Results of 2012–2013 First Year Wet Season Fairy Shrimp Survey for the Rancho San Gorgonio Planned Community Project in Riverside County (LSA Project No. PIE1201)

Dear Ms. Tharratt:

This letter provides the results of a 2012–2013 first year wet season presence/absence survey for vernal pool branchiopods. The wet season survey was conducted by LSA Associates, Inc. (LSA) on the Rancho San Gorgonio Planned Community project site, located within portions of Sections 16 and 17, Township 3 South, Range 1 East, at approximately 33.91° latitude and -116.89° longitude. The proposed project site encompasses approximately 850 acres south of Westward Avenue and east of Sunset Avenue in and adjacent to the City of Banning, Riverside County, as shown on the U.S. Geological Survey (USGS) 7.5-minute series *Beaumont, California* quadrangle in (attached Figure 1). The proposed project is a residential development.

METHODS

The fairy shrimp survey was conducted for Riverside fairy shrimp (*Streptocephalus woottoni*) and vernal pool fairy shrimp (*Branchinecta lynchi*) by LSA Senior Biologist Stanley Spencer under LSA Federal 10(a)(1)(A) Permit TE-777965 and in accordance with the April 19, 1996, *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. Site checks were made on November 15, 16, and 28; December 10 and 21, 2012; January 4, 14, and 18; February 1, 13, 22, 26, and 28; March 4, 14, 16, 25, and 28; April 3, 12, and 26; and May 15, 2013, to determine if water was present in ponding features following storm events. Ponded features were sampled at required intervals until they had dried and remained dry.

Features were sampled by drawing a handheld net through the water column, occasionally bumping the bottom to stir up any benthic organisms. The net was periodically removed from the water to check for aquatic species. Sampling was continued until the net was pulled through a sufficient portion of the water body to indicate the probable absence of fairy shrimp.

Table A provides the dates and weather conditions for each site visit during which features were sampled. LSA biologist Sarah Barrera assisted with the December 12 survey. Wet season data sheets are attached.

Table A: Survey Dates, Weather Conditions, and Features Sampled

Date	Water Temperature (°C)	Air Temperature (°C)	Cloud Cover	Feature Sampled
11/16/12	12	19	95%	10
12/21/12	8	13	5%	1, 2, 4, 5, 7, 10-22, 24
1/4/13	10	14	0%	1, 10-13, 19, 22
2/1/13	8	16	2%	1, 10-19, 22, 24
2/13/13	21	21	0%	1, 2, 4, 5, 7, 9-22, 24
2/22/13	14	17	0%	1-24
2/28/13	12	19	0%	1, 2, 4, 5, 7, 10-13, 15-18, 21, 22
3/4/13	NA	16	1%	1, 2, 4, 5, 11, 14
3/14/13	24	29	2%	10-22, 24
3/16/13	24	26	0%	1, 2, 4, 5, 7
3/25/13	25	29	30%	1, 2, 4, 5
3/28/13	24	26	1%	1, 11
4/3/13	27	26	5%	1, 11
4/12/13	NA	26	15%	1

RESULTS

Feature characteristics are provided in Table B. All features and adjacent areas were unvegetated or vegetated with nonnative grassland or ruderal species. Based on feature locations and patterns of disturbance, all sampled features appear to be artificially created depressions (Table B). All are highly disturbed by ongoing vehicle use or cattle trampling. Due to soil texture and compaction, these features retain water long enough to support or potentially support some invertebrate species adapted to ephemeral pools. These features are fed by direct rainfall as well as runoff from adjacent compacted areas.

Table B: Characteristics of Features Sampled

Feature	Estimated Maximum Depth (cm)	Estimated Maximum Length (m) × Width (m)	Origin	Vegetation	Fairy Shrimp Species Observed
1	25	26 × 25	stock pond or borrow pit	none	*Branchinecta lindahli*
2	15	12 × 7	stock pond or borrow pit	none	*Branchinecta lindahli*

Table B: Characteristics of Features Sampled

Feature	Estimated Maximum Depth (cm)	Estimated Maximum Length (m) × Width (m)	Origin	Vegetation	Fairy Shrimp Species Observed
3	5	10 × 4	stock pond or borrow pit	*Corethrogyne filaginifolia, Hirschfeldia incana, Erodium botrys, Bromus hordeaceus*	none
4	17	20 × 11	stock pond or borrow pit	none	*Branchinecta lindahli*
5	20	22 × 11	stock pond or borrow pit	none	*Branchinecta lindahli*
6	4	2 × 2	borrow pit or scrape	*Corethrogyne filaginifolia, Hirschfeldia incana, Erodium botrys, Bromus hordeaceus, Convolvulus arvensis*	none
7	16	23 × 7	depression above berm	none	*Branchinecta lindahli*
8	6	6 × 2	depression above berm	*Hirschfeldia incana, Bromus madritensis, Erodium cicutarium, Erodium botrys, Hordeum murinum*	none
9	6	10 × 3	depression above berm	none	none
10	15	8 × 5	road rut	none	none
11	16	14 × 7	road rut	none	none
12	15	7 × 5	road rut	none	none
13	12	12 × 8	road rut	none	none
14	16	10 × 8	road rut	none	none
15	12	10 × 8	road rut	none	none
16	8	4 × 3	road rut	none	none
17	8	5 × 3	road rut	none	none
18	12	14 × 6	road rut	none	none
19	12	13 × 4	road rut	none	none
20	7	9 × 2	road rut	*Matricaria discoidea*	none
21	4	8 × 2	road rut	none	none
22	10	8 × 4	road rut	none	none
23	5	8 × 2	road rut	none	none
24	10	13 × 3	road rut	none	none

The only fairy shrimp species observed during the wet season survey was *Branchinecta lindahli*, a non-sensitive species, which was found in Features 1, 2, 4, 5, and 7. Other aquatic animals observed included water boatman (Corixidae; in Features 1 and 4), backswimmer (Notonectidae, in Feature 1), seed shrimp (Ostracoda, in features 1 and 11), and western spadefoot larvae (*Spea hammondii*, in Feature 1).

Please contact me if you require any additional information.

Sincerely,

LSA ASSOCIATES, INC.

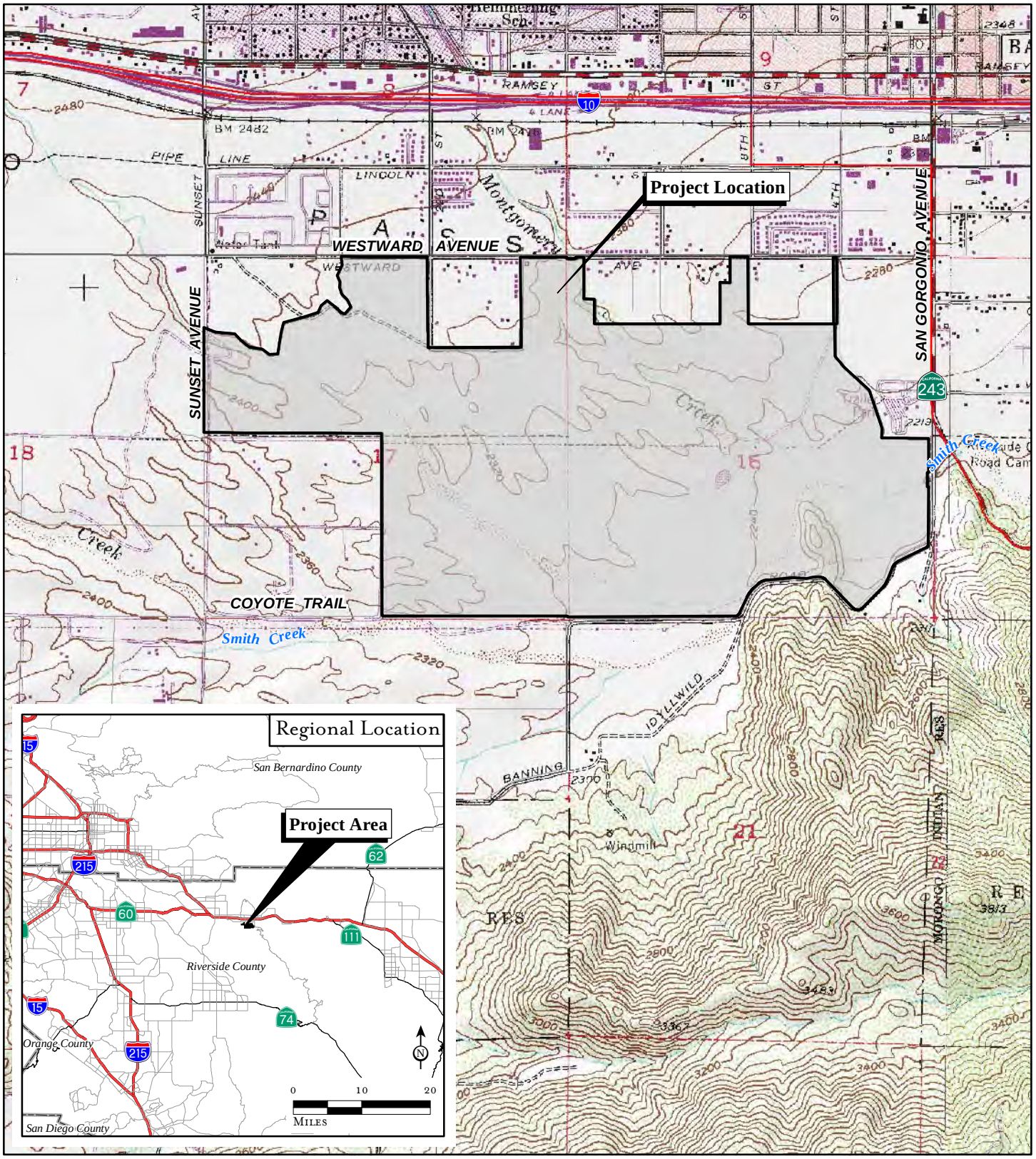
Stanley C. Spencer, Ph.D.
Senior Biologist

Attachments: Certification
Figure 1: Regional and Project Location
Figure 2: Features Sampled
Figure 3: Representative Site Photographs
Data Sheets

cc: Peter Pitassi, Pitassi Architects
Karin Cleary-Rose, US Fish and Wildlife Service
Adam Malisch, Western Riverside County MSHCP Biological Monitoring Program

I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENTS MY WORK:

SURVEYOR:	PERMIT NUMBER	DATE:
Stanley Spencer	TE-777965	June 17, 2013



LSA

FIGURE 1

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Wet Season Survey 2012-2013

Regional and Project Location

SOURCE: USGS 7.5' Quads: Beaumont (88), CA; Cabazon (88), CA: Riverside County, 2011.

I:\PIE1201\Reports\FairyShrimp\WetSeason2013\fig1_Reg_Loc.mxd (6/13/2013)

LSA

N

0 200 400

FEET

Project Boundary

Features Sampled

1 2

FIGURE 2
Sheet 1 of 2

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Wet Season Survey 2012-2013

Features Sampled

SOURCE: ESRI World Imagery, 2010; Riverside County, 2011

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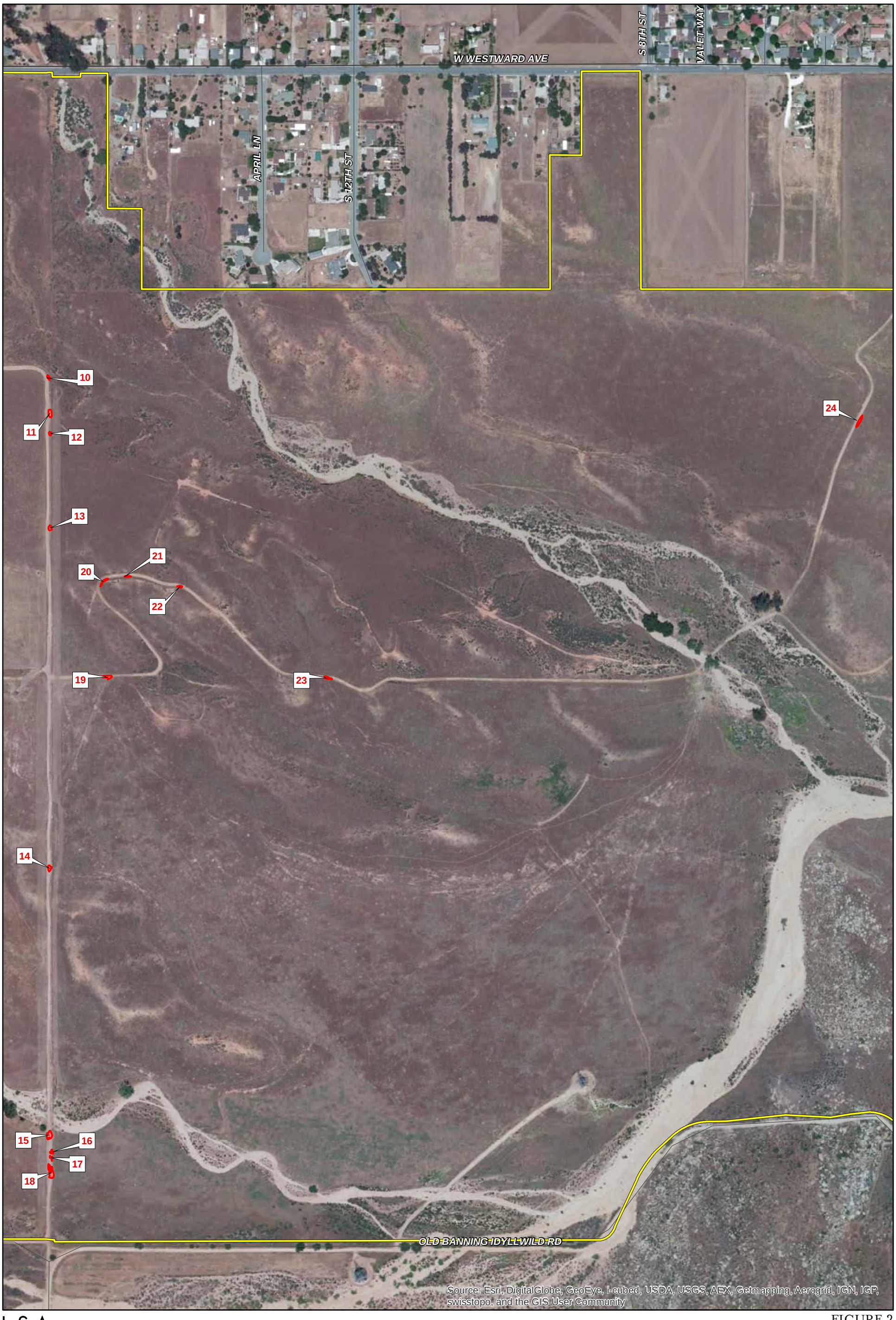

LSA

N

0 200 400

FEET

Project Boundary

Features Sampled

1 2

SOURCE: ESRI World Imagery, 2010; Riverside County, 2011

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FIGURE 2
Sheet 2 of 2

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Wet Season Survey 2012-2013

Features Sampled

PHOTOGRAPH 1:
View looking west, showing feature 1.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 2:
View looking west, showing Features 2 and 4.
(S. Spencer, 2/21/2012)

PHOTOGRAPH 3:
View looking west, showing Feature 5.
(S. Spencer,12/21/2012)

LSA

FIGURE 3A

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Wet Season Survey 2012–2013
Representative **Site Photographs**

PHOTOGRAPH 4:
View looking east, showing feature 6.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 5:
View looking west, showing Feature 7.
(S. Spencer, 12/21/12)

PHOTOGRAPH 6:
View looking west, showing Feature 9.
(S. Spencer,12/21/12)

LSA

FIGURE 3B

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Wet Season Survey 2012–2013
Representative **Site Photographs**

PHOTOGRAPH 7:
View looking south, showing Features 15 - 18.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 8:
View looking east, showing Features 20 and 21.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 9:
View looking east, showing Feature 22.
(S. Spencer,12/21/2012)

LSA

FIGURE 3C

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Wet Season Survey 2012-2013
Representative **Site Photographs**

D-2B. DRY SEASON FAIRY SHRIMP SURVEY REPORT (2013)

LSA

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1500 IOWA AVENUE, SUITE 200
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BERKELEY
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September 18, 2013

Ms. Susie Tharratt
Recovery Permits Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: Results of 2013 Dry Season Fairy Shrimp Survey for the Rancho San Gorgonio Planned Community Project in Riverside County (LSA Project No. PIE1201)

Dear Ms. Tharratt:

This letter provides the results of a 2013 dry season presence/absence survey for vernal pool branchiopods that serves as a second-year protocol-level survey. The dry season survey was conducted by LSA Associates, Inc. (LSA) on the Rancho San Gorgonio Planned Community project site, located within portions of Sections 16 and 17, Township 3 South, Range 1 East, at approximately 33.91° latitude and -116.89° longitude. The proposed project site encompasses approximately 850 acres south of Westward Avenue and east of Sunset Avenue in and adjacent to the City of Banning, Riverside County, as shown on the U.S. Geological Survey (USGS) 7.5-minute series *Beaumont, California* quadrangle in (attached Figure 1). The proposed project is a residential development.

METHODS

The 2013 dry season survey was conducted by LSA Senior Biologists David Muth and Stanley Spencer under LSA Federal 10(a)(1)(A) Permit TE-777965 and TE-796345 in accordance with the United States Fish and Wildlife Service *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for Listed Vernal Pool Branchiopods*, dated April 19, 1996.

Mr. Muth and Dr. Spencer collected a series of ten 0.1-liter samples of soil material from each of the potential habitat areas in the study area on August 8, 2013. The soil was dry at the time of collection and stored in plastic zip-lock bags marked to indicate the site of collection and sample number.

The soil was processed by Mr. Muth on August 17, 24, 26, and 27, 2013. The soil samples were processed individually by placing each in a five-gallon bucket containing 1 to 2 gallons of water to saturate the soil. After approximately 10 to 15 minutes, the soil/water mixture was stirred and then poured through a series of three sieves with mesh sizes of 710, 355, and 212 microns, respectively (as recommended by Richard Hill of the California Department of Transportation). The sieves were stacked with the largest mesh size at the top to the smallest mesh size on the bottom. Samples were poured and washed through the set with water. Material trapped in the two smallest sieve sizes in each set was saved for analysis by washing the material into coffee filters and leaving it to dry. The sieved material was examined by Mr. Muth on September 1 using a 10- to 40-power Olympus stereo microscope. Egg sizes were measured with an ocular micrometer on a 10- to 50-power Nikon stereo microscope. A reference cyst collection was available for comparison of any cysts found in the samples. Soil material will be stored with LSA until final deposition can be arranged.

RESULTS

Characteristics of the sampled features are provided in Table A. All features and adjacent areas were unvegetated or vegetated with nonnative grassland or ruderal species. Based on feature locations and patterns of disturbance, all sampled features appear to be artificially created depressions. All are highly disturbed by ongoing vehicle use or cattle trampling. Due to soil texture and compaction, these features retain water long enough to support or potentially support some invertebrate species adapted to ephemeral pools. These features are fed by direct rainfall as well as runoff from adjacent compacted areas.

Table A: Characteristics of Features Sampled

Feature	Estimated Maximum Depth (cm)	Estimated Maximum Length (m) × Width (m)	Origin	Vegetation	Fairy Shrimp Eggs Found in Samples
1	25	26 × 25	stock pond or borrow pit	none	*Branchinecta* Type 1
2	15	12 × 7	stock pond or borrow pit	none	*Branchinecta* Type 1 *Branchinecta* Type 2 *Streptocephalus*
3	5	10 × 4	stock pond or borrow pit	*Corethrogyne filaginifolia, Hirschfeldia incana, Erodium botrys, Bromus hordeaceus*	*Branchinecta* Type 1 *Streptocephalus*
4	17	20 × 11	stock pond or borrow pit	none	*Branchinecta* Type 1 *Branchinecta* Type 2 *Streptocephalus*
5	20	22 × 11	stock pond or borrow pit	none	*Branchinecta* Type 1 *Branchinecta* Type 2 *Streptocephalus*
6	4	2 × 2	borrow pit or scrape	*Corethrogyne filaginifolia, Hirschfeldia incana, Erodium botrys, Bromus hordeaceus, Convolvulus arvensis*	*Branchinecta* Type 1 *Streptocephalus*
7	16	23 × 7	depression above berm	none	*Branchinecta* Type 1 *Branchinecta* Type 2
8	6	6 × 2	depression above berm	*Hirschfeldia incana, Bromus madritensis, Erodium cicutarium, Erodium botrys, Hordeum murinum*	none
9	6	10 × 3	depression above berm	none	*Branchinecta* Type 1 *Streptocephalus*
10	15	8 × 5	road rut	none	none
11	16	14 × 7	road rut	none	none
12	15	7 × 5	road rut	none	none

Table A: Characteristics of Features Sampled

Feature	Estimated Maximum Depth (cm)	Estimated Maximum Length (m) × Width (m)	Origin	Vegetation	Fairy Shrimp Eggs Found in Samples
13	12	12 × 8	road rut	none	none
14	16	10 × 8	road rut	none	none
15	12	10 × 8	road rut	none	*Branchinecta* Type 2 *Streptocephalus*
16	8	4 × 3	road rut	none	none
17	8	5 × 3	road rut	none	none
18	12	14 × 6	road rut	none	none
19	12	13 × 4	road rut	none	none
20	7	9 × 2	road rut	*Matricaria discoidea*	none
21	4	8 × 2	road rut	none	none
22	10	8 × 4	road rut	none	none
23	5	8 × 2	road rut	none	none
24	10	13 × 3	road rut	none	none

At least two (and possibly three) species of fairy shrimp eggs were found in the soil samples, including *Branchinecta* (one or two species) and *Streptocephalus*.

The *Branchinecta* eggs were found in pools 1, 2, 3, 4, 5, 6, 7, 9, and 15. *Branchinecta* eggs are not considered differentiated enough to make a species determination. However, there are two types of *Branchinecta* eggs that can be roughly distinguished from each other by the extent of ridges on the egg surface (Hill and Shepard 1997; Hill, pers. comm.). The first type is heavily ridged and more typical of several species of *Branchinecta*, including versatile fairy shrimp (*Branchinecta lindahli*), a species previously reported from the site (Allen 2006; LSA 2013). The second type is smoother and more typical of alkali fairy shrimp (*B. mackini*). No listed species appear to have this egg form (Hill and Shepard 1997). The *Branchinecta* eggs in the samples appeared to consist of both types. The two types were readily apparent in the samples, with the smooth form less common than the ridged. This may indicate that alkali and versatile fairy shrimp co-occur in the pools, which is not an uncommon situation (Eriksen and Belk 1999). Where they co-occur, it has been suggested that versatile fairy shrimp is likely to be more successful during dry years and alkali fairy shrimp more successful in wet years (Eriksen and Belk 1999). The last few years have been low-rainfall years in Southern California, and this may account for the differences in numbers of the two types within the samples. However, there were many eggs that appeared intermediate between the two types. The *Branchinecta* eggs in the samples could represent the presence of two species of *Branchinecta* in the pools, or extensive variation in the eggs of one species, versatile fairy shrimp.

A number of *Streptocephalus* eggs were found in pools 2, 3, 4, 5, 6, 9, and 15. (*Streptocephalus* eggs were previously reported from pools 2, 3, 4, 5, and 6 during a dry season survey conducted by Lisa Allen in 2006. The *Streptocephalus* eggs LSA found were, for the most part, small in size, averaging 219 microns (of 8 eggs measured). The true average size of the *Streptocephalus* eggs on the project

site is probably smaller, as this survey (as well as the 2006 survey) used a minimum screen size of 212 microns for isolating the eggs, and it is likely that the smallest eggs were missed by the sampling procedure.

Like *Branchinecta* eggs, eggs of *Streptocephalus* species are considered fairly indistinguishable from each other. The *Streptocephalus* eggs found during the 2006 dry season survey were presumed by Allen to be those of Riverside fairy shrimp (*Streptocephalus woottoni*) because that was the only species they considered to potentially occur in the area (Allen 2006). However, another species of *Streptocephalus,* New Mexico fairy shrimp (*Streptocephalus dorothae*), has been collected from a ditch near the Southern Pacific railroad Sunset Avenue crossing, less than a mile from the project site (Eriksen and Belk 1999). New Mexico fairy shrimp inhabits man-made stock ponds, roadside ditches, and similar features (Eriksen and Belk 1999). Because it reaches maturity relatively quickly (in as little as 9 days in the laboratory studies; Eriksen and Belk 1999), it is not limited to long-lasting pools. Riverside fairy shrimp, in contrast, requires much longer (48 days or more in laboratory studies) to reach maturity, so it typically occupies long-lasting pools that are 30 cm or more deep (Eriksen and Belk 1999). Features on the site that had *Streptocephalus* eggs have estimated maximum depths ranging from 4 to 20 cm. They do not pond water long enough to have hydrophytic plants, but are either unvegetated or dominated by upland plant species (previously referenced Table A and attached Figures 3A, 3B, and 3C). Additionally, New Mexico Fairy shrimp eggs, averaging 190–220 microns, tend to be much smaller than Riverside fairy shrimp eggs, which average 270–310 microns (Belk 1977; Hill and Shepard 1997; Eriksen and Belk 1999). The average size of the *Streptocephalus* eggs from the project site (219 microns) is similar to the reported averages for New Mexico fairy shrimp.

CONCLUSIONS

Given the project location, the habitat conditions, and the sizes of the eggs analyzed, the *Streptocephalus* eggs collected from the project site are most likely those of New Mexico fairy shrimp. This species has been previously reported from within a mile of the project site. Riverside fairy shrimp, a listed species, produces larger eggs, occurs in deeper pools, and is not known to occur as far east as the San Gorgonio Pass area.

The *Branchinecta* eggs found during this survey appear to be of two types. The more common form in the samples is typical of versatile fairy shrimp, a common species that has been previously documented on the site. The other form, if not a variation in versatile fairy shrimp egg form, is typical of alkali fairy shrimp, another common species.

REFERENCES

Belk, Denton. 1977. Evolution of Egg Size Strategies in Fairy Shrimps. The Southwestern Naturalist 22(1):99–105.

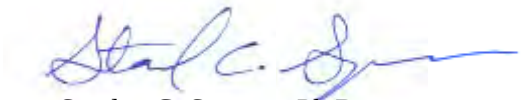
Eriksen, C, and D. Belk. 1999. Fairy Shrimps of California's Puddles, Pools, and Playas. Mad River Press, Inc. Eureka, Ca. 196 pp.

Hill, R.E., and W.D. Shepard. 1997. Observations on the identification of California anonstracan eggs. Hydrobiologica 359: 113–123.

Please contact me if you require any additional information.

Sincerely,

LSA ASSOCIATES, INC.



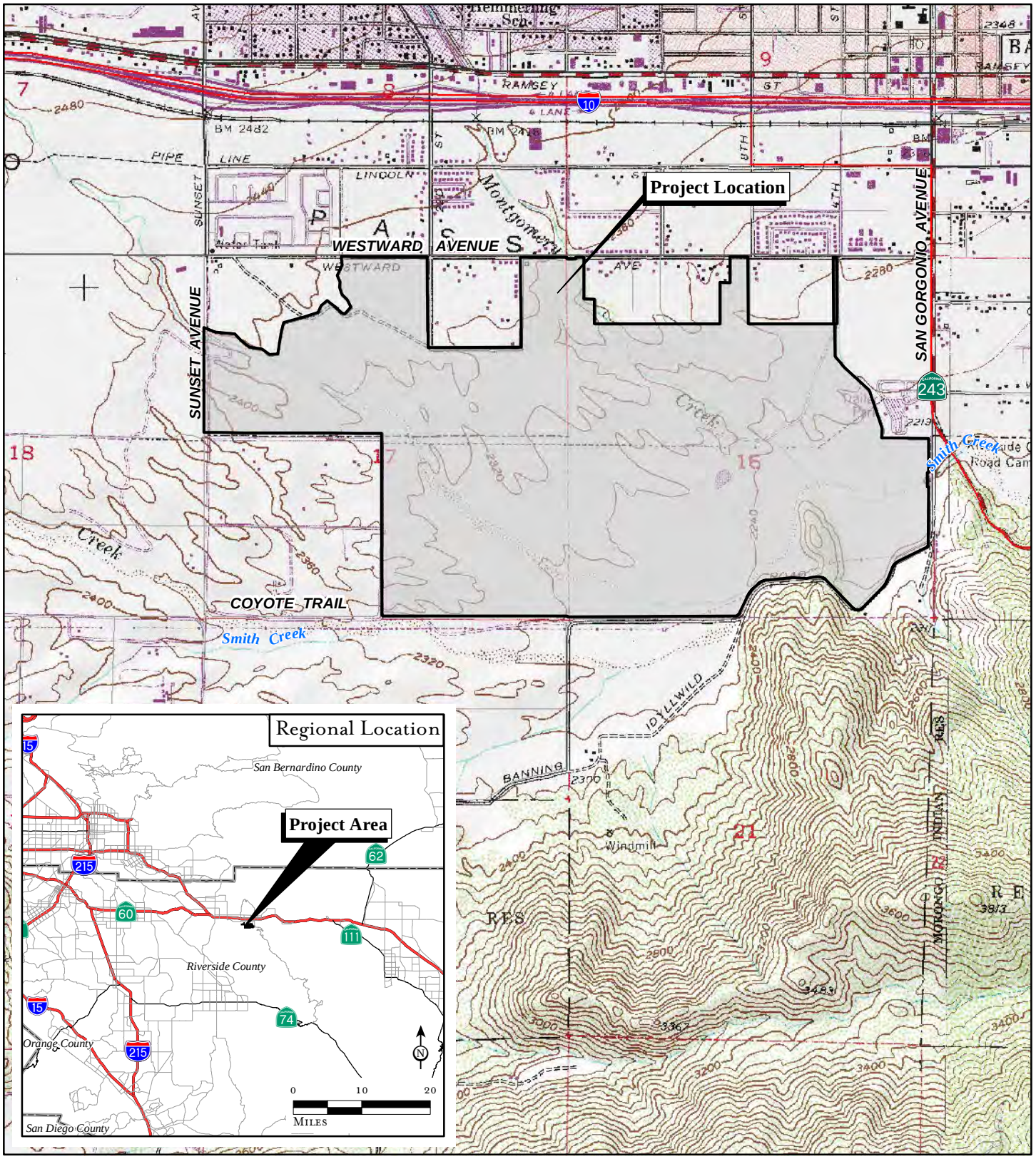
Stanley C. Spencer, Ph.D.
Senior Biologist

Attachments: Certification
Figure 1: Regional and Project Location
Figure 2: Features Sampled
Figure 3: Representative Site Photographs
Data Sheets

cc: Peter Pitassi, Pitassi Architects
Karin Cleary-Rose, U.S. Fish and Wildlife Service
Adam Malisch, Western Riverside County MSHCP Biological Monitoring Program

I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENTS MY WORK:

SURVEYOR:	PERMIT NUMBER	DATE:
	TE-777965	September 18, 2013
Stanley Spencer		
	TE-797234	September 18, 2013
David Muth		



LSA

FIGURE 1

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Dry Season Survey 2013

Regional and Project Location

SOURCE: USGS 7.5' Quads: Beaumont (88), CA; Cabazon (88), CA: Riverside County, 2011.

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LSA

N

0 200 400

FEET

Project Boundary

Features Sampled

1 2

SOURCE: ESRI World Imagery, 2010; Riverside County, 2011

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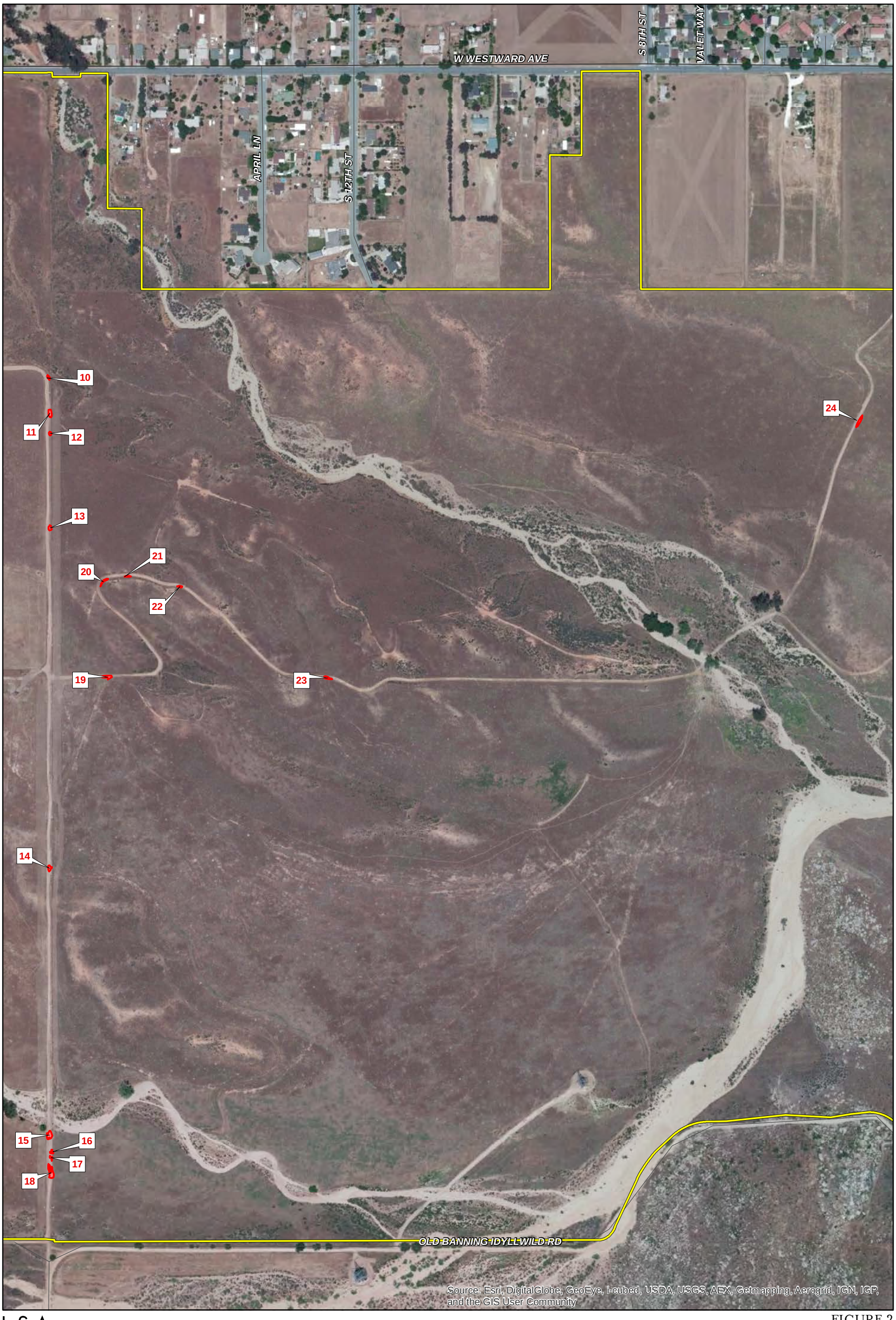
FIGURE 2
Sheet 1 of 2

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Dry Season Survey 2013

Features Sampled



LSA

N

0 200 400

FEET

Project Boundary

Features Sampled

1 2

FIGURE 2
Sheet 2 of 2

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Dry Season Survey 2013

Features Sampled

SOURCE: ESRI World Imagery, 2010; Riverside County, 2011

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PHOTOGRAPH 1:
View looking west, showing feature 1.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 2:
View looking west, showing Features 2 and 4.
(S. Spencer, 2/21/2012)

PHOTOGRAPH 3:
View looking west, showing Feature 5.
(S. Spencer,12/21/2012)

LSA

FIGURE 3A

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Dry Season Survey 2013
Representative **Site Photographs**

PHOTOGRAPH 4:
View looking east, showing feature 6.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 5:
View looking west, showing Feature 7.
(S. Spencer, 12/21/12)

PHOTOGRAPH 6:
View looking west, showing Feature 9.
(S. Spencer,12/21/12)

LSA

FIGURE 3B

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Dry Season Survey 2013
Representative **Site Photographs**

PHOTOGRAPH 7:
View looking south, showing Features 15 – 18.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 8:
View looking east, showing Features 20 and 21.
(S. Spencer, 12/21/2012)

PHOTOGRAPH 9:
View looking east, showing Feature 22.
(S. Spencer,12/21/2012)

LSA

FIGURE 3C

Rancho San Gorgonio
Planned Community Project
Fairy Shrimp Dry Season Survey 2013
Representative **Site Photographs**

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: _08_/_08_/_2009 Time: _____ County: Riverside_____ Quad: _Beaumont__

Collector(s): __David Muth_____ Permit #: ___TE797234_____

Site/Project Name: ___San Gorgonio Planned Community_____ Pool #: _____1_____

Township: 3 South_ Range: _1 East_ Section: __16 & 17_ UTM:3752452 Northing 508391 Easting

Habitat Condition: (circle where appropriate)

(undisturbed) disturbed: tire tracks garbage discing/plowing

- ungrazed grazed: (cattle) horses sheep other_____

- land use of habitat: (light) moderate heavy

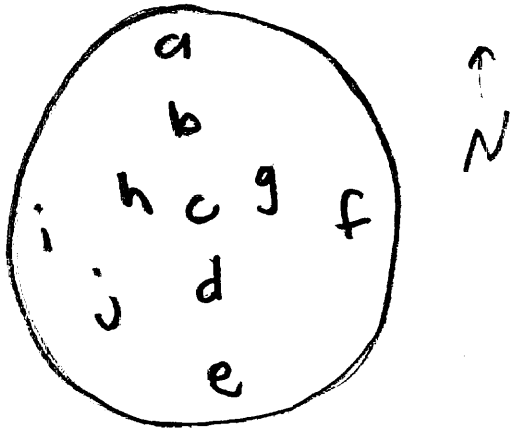
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: _25__cm (estimated maximum) Surface Area: __650__m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Bunny pool 1

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Branchinecta	11	
b	100	Branchinecta	5	
c	100	Branchinecta	7	
d	100	Branchinecta	4	
e	100	Branchinecta	3	
f	100	Branchinectae	21	
g	100	Branchinecta	8	
h	100	Branchinecta	13	
i	100	Branchinecta	122	
j	100	Branchinecta	27	

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside_____ Quad: Beaumont__

Collector(s): David Muth_____ Permit #: TE797234_____

Site/Project Name: San Gorgonio Planned Community_____ Pool #: ____2_____

Township: 3 South_ Range: 1 East_ Section: 16 & 17 UTM:3752446 Northing 508423 Easting

Habitat Condition: (circle where appropriate)

- undisturbed (circled) disturbed: tire tracks garbage discing/plowing

- ungrazed grazed: cattle (circled) horses sheep other_____

- land use of habitat: light (circled) moderate heavy

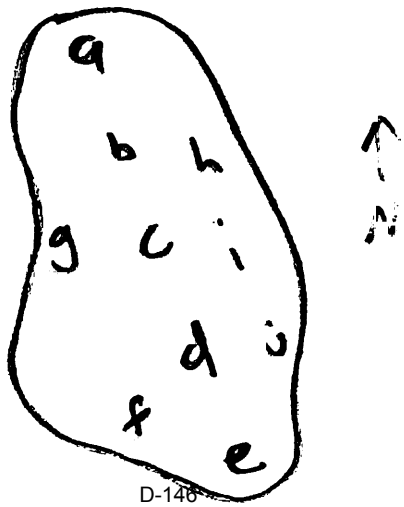
Pool Bottom Surface: (circle where appropriate)

hardpan (circled) claypan cobbly/rocky lava flow other_____

Pool Depth: 15 cm (estimated maximum) Surface Area: 84 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 2

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Branchinecta Type I Branchinecta Type II	10 1	
b	100	T-1 T-2 Streptocephalus	22 5 1	
c	100	T-1 T-2 strep	18 10 2	
d	100	T-1 T-2	14 10	
e	100	T-1 T-2	18 2	
f	100	T-1 T-2	22 1	
g	100	T-2	2	
h	100	T-1 T-2 strep	5 1 1	
i	100	T-1 T-2	23 2	
j	100	T-1 strep	14 1	

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside_____ Quad: Beaumont

Collector(s): David Muth_____ Permit #: TE797234_____

Site/Project Name: San Gorgonio Planned Community_____ Pool #: 3_____

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752458 Northing 508439 Easting

Habitat Condition: (circle where appropriate)

(undisturbed) disturbed: tire tracks garbage discing/plowing

- ungrazed grazed: (cattle) horses sheep other_____

- land use of habitat: (light) moderate heavy

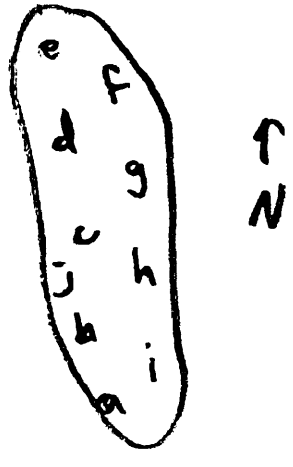
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 5 cm (estimated maximum) Surface Area: 40 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Pool 3 Banning

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Streptocephalus	1	
c	100	Branchinecta Type 1	7	
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100	Ø		
h	100	Ø		
i	100	Ø		
j	100	Ø		

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside_____ Quad: Beaumont

Collector(s): David Muth_____ Permit #: TE797234_____

Site/Project Name: San Gorgonio Planned Community_____ Pool #: ____4_____

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752429 Northing 508444 Easting

Habitat Condition: (circle where appropriate)

(undisturbed) disturbed: tire tracks garbage discing/plowing

- ungrazed grazed: (cattle) horses sheep other_____

- land use of habitat: (light) moderate heavy

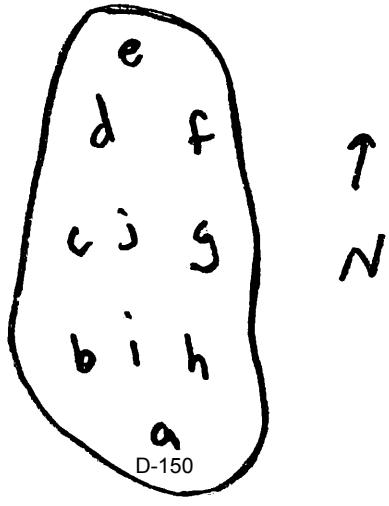
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 17 cm (estimated maximum) Surface Area: 220 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 4

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Branchinecta Type 1	12	
b	100	T-1	25	
c	100	T-1	27	
d	100	T-1 Branchinecta Type 2	30 3	
e	100	T-1 T-2 Streptocephalus	18 1 2	
f	100	T-1 T-2 Strep	38 1 3	
g	100	T-1 T-2	24 1	
h	100	T-1 Strep	12 1	
i	100	T-1	7	
j	100	T-1 T-2	8 2	

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside_____ Quad: Beaumont

Collector(s): David Muth_____ Permit #: TE797234_____

Site/Project Name: San Gorgonio Planned Community_____ Pool #: 5_____

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752380 Northing 508515 Easting

Habitat Condition: (circle where appropriate)

(undisturbed) disturbed: tire tracks garbage discing/plowing

- ungrazed grazed: (cattle) horses sheep other_____

- land use of habitat: (light) moderate heavy

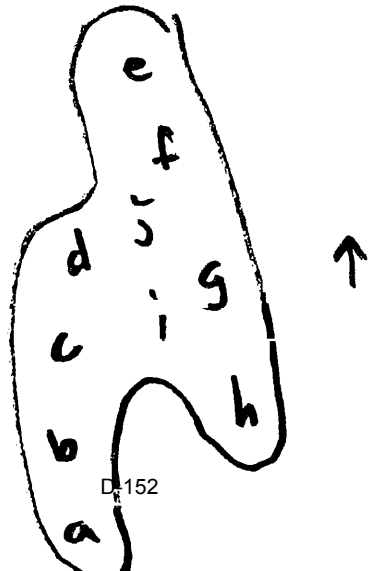
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 20 cm (estimated maximum) Surface Area: 242 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 5

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Branchinecta Type-1 streptocephalus Branchinecta type-2	18 2 3	
b	100	T-1	12	
c	100	T-1 T-2 strep	83 10 5	
d	100	T-1 T-2 Lindahli anatinae	28 2	
e	100	T-1	4	
f	100	T-1 T-2	22 2	
g	100	T-1 strep	19/1	
h	100	T-1	6	
i	100	T-1	13	
j	100	T-1 T-2	7 2	

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: _08_/_08_/_2009 Time: _____ County: Riverside_____ Quad: _Beaumont__

Collector(s): __David Muth_____ Permit #: ___TE797234_____

Site/Project Name: ___San Gorgonio Planned Community_____ Pool #: _____6_____

Township: 3 South_ Range: _1 East_ Section: __16 & 17_ UTM:3752441 Northing 508464 Easting

Habitat Condition: (circle where appropriate)

(undisturbed) disturbed: tire tracks garbage discing/plowing

- ungrazed grazed: (cattle) horses sheep other_____

- land use of habitat: (light) moderate heavy

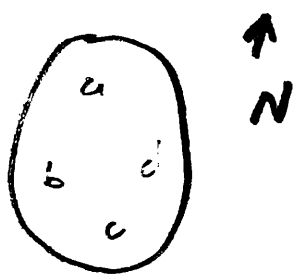
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: _4__cm (estimated maximum) Surface Area: __4___m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 6

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Branchinecta Type-1	1	
b	100	streptocephalus	1	
c	100	Ø		
d	100	Ø		
e	100			
f	100			
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside_____ Quad: Beaumont

Collector(s): David Muth_____ Permit #: TE797234_____

Site/Project Name: San Gorgonio Planned Community_____ Pool #: 7_____

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752625 Northing 508727 Easting

Habitat Condition: (circle where appropriate)

(undisturbed)	disturbed:	tire tracks	garbage	discing/plowing	
- ungrazed	grazed:	(cattle)	horses	sheep	other_____
- land use of habitat:			(light)	moderate	heavy

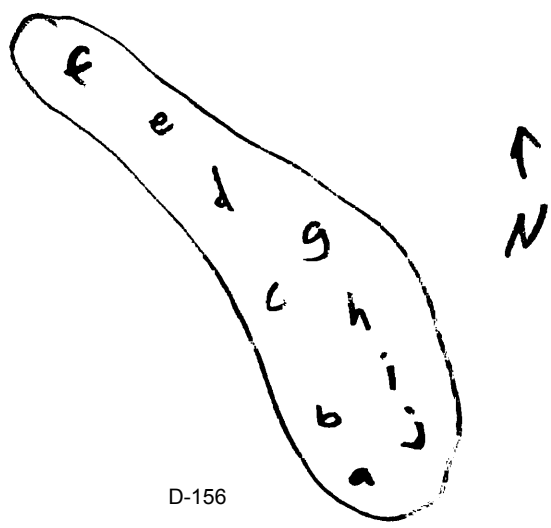
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 16 cm (estimated maximum) Surface Area: 161 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 7

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Branchinecta Type-1	12	
b	100	Branchinecta Type-2	1	
c	100	Ø	—	
d	100	T-1 T-2	5 1	
e	100	T-1	31	
f	100	T-1 T-2	21 8	
g	100	T-1 T-2	12 4	
h	100	Ø	—	
i	100	T-2	4	
j	100	T-2	2	

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 8

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752585 Northing 508714 Easting

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed:	tire tracks	garbage	discing/plowing	
- ungrazed	grazed:	cattle	horses	sheep	other_____
- land use of habitat:			light	moderate	heavy

Pool Bottom Surface: (circle where appropriate)

hardpan claypan cobbly/rocky lava flow other_____

Pool Depth: 6 cm (estimated maximum) Surface Area: 12 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

Banning Pool 8

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100			
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 9

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752566 Northing 509763 Easting

Habitat Condition: (circle where appropriate)

(undisturbed) disturbed: tire tracks garbage discing/plowing

- ungrazed grazed: (cattle) horses sheep other_____

- land use of habitat: (light) moderate heavy

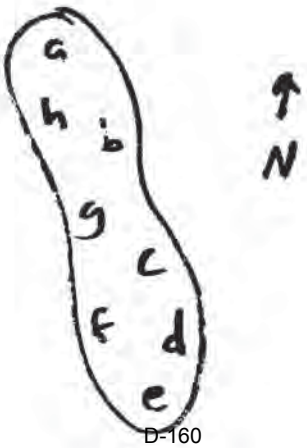
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 6 cm (estimated maximum) Surface Area: 30 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 9

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Streptocephalus	1	
b	100	Streptocephalus	7	
c	100	Ø	-	
d	100	Streptocephalus	2	
e	100	Ø	-	
f	100	Ø	-	
g	100	Branchinecta type-1	9	
h	100	Branchinecta type-1	2	
i	100	-		
j	100	-		

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 10

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752646 Northing 509776 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) (garbage) discing/plowing

(- ungrazed) grazed: cattle horses sheep other_____

- land use of habitat: light moderate (heavy)

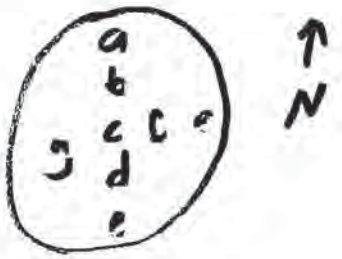
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 15 cm (estimated maximum) Surface Area: 40 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Bunning Pool 10

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100	Ø		
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 11

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752600 Northing 509778 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) (garbage) discing/plowing

(ungrazed) grazed: cattle horses sheep other_____

- land use of habitat: light moderate (heavy)

Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 16 cm (estimated maximum) Surface Area: 98 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

Banning Pool 11

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100	Ø		
h	100	Ø		
i	100	Ø		
j	100	Ø		

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 12

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752570 Northing 509779 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) (garbage) discing/plowing

(- ungrazed) grazed: cattle horses sheep other_____

- land use of habitat: light moderate (heavy)

Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 15 cm (estimated maximum) Surface Area: 35 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

Banning Pool 12

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100			
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 13

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752441 Northing 509779 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) (garbage) discing/plowing

(ungrazed) grazed: cattle horses sheep other_____

- land use of habitat: light moderate (heavy)

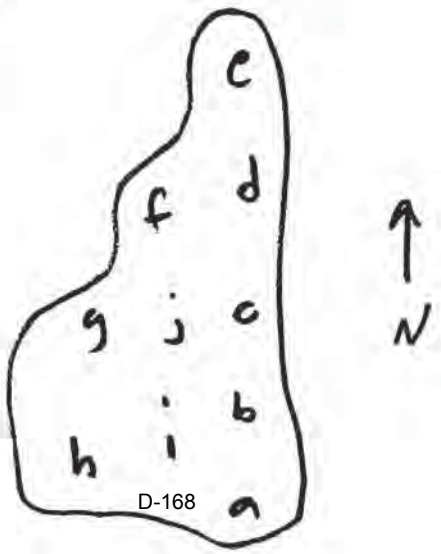
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 12 cm (estimated maximum) Surface Area: 96 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 13

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100	Ø		
h	100	Ø		
i	100	Ø		
j	100	Ø		

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 14

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3751977 Northing 509782 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) (garbage) discing/plowing

(ungrazed) grazed: cattle horses sheep other_____

- land use of habitat: light moderate (heavy)

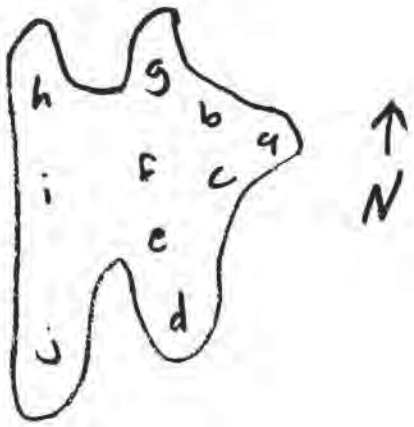
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 16 cm (estimated maximum) Surface Area: 80 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 14

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100	Ø		
h	100	Ø		
i	100	Ø		
j	100	Ø		

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 15

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3751610 Northing 509784 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) (garbage) discing/plowing

(ungrazed) grazed: cattle horses sheep other_____

- land use of habitat: light moderate (heavy)

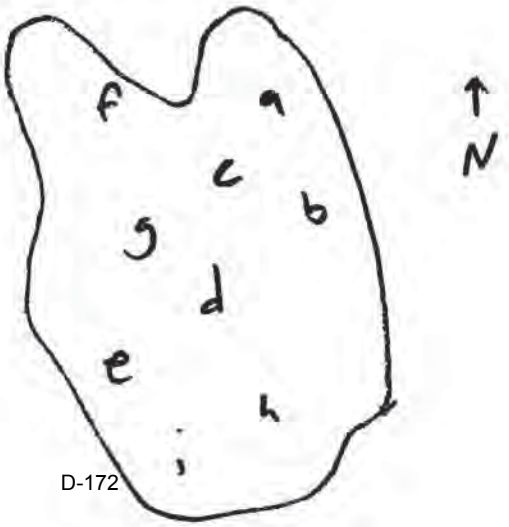
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 12 cm (estimated maximum) Surface Area: 80 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 15

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø	–	
b	100	Streptocephalus	1	
c	100	Ø	–	
d	100	Ø	–	
e	100	streptocephalus	1	
f	100	Ø	–	
g	100	Branchinecta type-II	1	
h	100	B-T-2	1	
i	100	B-T-2	1	
j	100	Ø	–	

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 16

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3751586 Northing 509787 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) garbage discing/plowing
- ungrazed grazed: (cattle) horses sheep other_____
- land use of habitat: light (moderate) heavy

Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 8 cm (estimated maximum) Surface Area: 12 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

Banning Pool 16

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 17

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3751579 Northing 509788 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) garbage discing/plowing
- ungrazed grazed: (cattle) horses sheep other_____
- land use of habitat: light (moderate) heavy

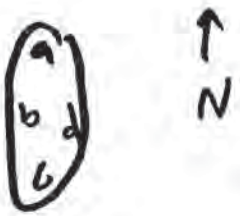
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 8 cm (estimated maximum) Surface Area: 15 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 17

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100			
f	100			
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 18

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3751557 Northing 509789 Easting

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed:	(tire tracks)	garbage	discing/plowing	
- ungrazed	grazed:	(cattle)	horses	sheep	other_____
- land use of habitat:			light	(moderate)	heavy

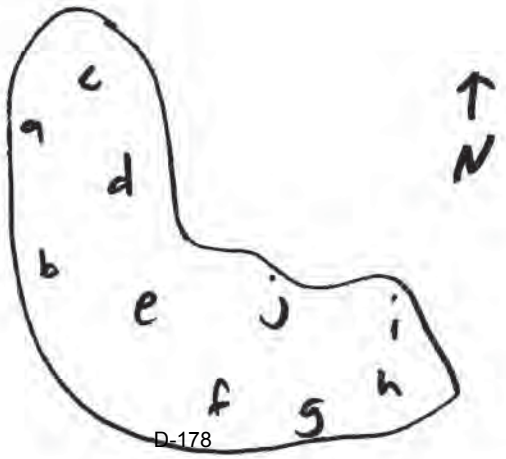
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 12 cm (estimated maximum) Surface Area: 84 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 18

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100	Ø		
h	100	Ø		
i	100	Ø		
j	100	Ø		

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 19

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752239 Northing 509860 Easting

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed:	(tire tracks)	garbage	discing/plowing	
- ungrazed	grazed:	(cattle)	horses	sheep	other_____
- land use of habitat:			light	(moderate)	heavy

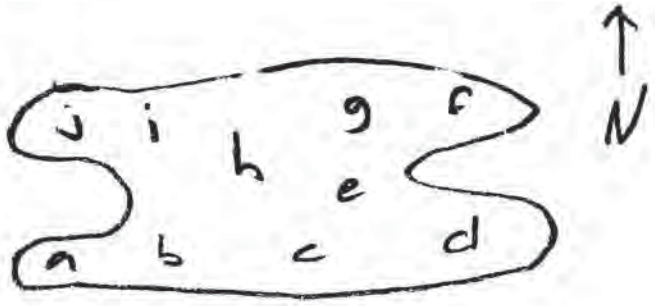
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 12 cm (estimated maximum) Surface Area: 52 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Pool Banning 19

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100	Ø		
h	100	Ø		
i	100	Ø		
j	100	Ø		

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 20

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752370 Northing 509854 Easting

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed:	(tire tracks)	garbage	discing/plowing	
- ungrazed	grazed:	(cattle)	horses	sheep	other_____
- land use of habitat:			light	(moderate)	heavy

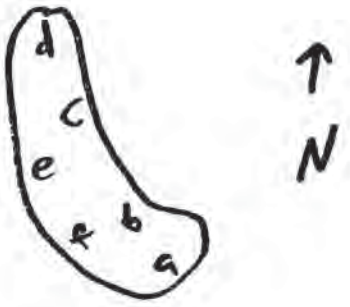
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 7 cm (estimated maximum) Surface Area: 18 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 20

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 21

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752375 Northing 509884 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) garbage discing/plowing
- ungrazed grazed: (cattle) horses sheep other_____
- land use of habitat: light (moderate) heavy

Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 4 cm (estimated maximum) Surface Area: 16 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

Banning Pool 21

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100			
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 22

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752362 Northing 509959 Easting

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed:	(tire tracks)	garbage	discing/plowing	
- ungrazed	grazed:	(cattle)	horses	sheep	other_____
- land use of habitat:			light	(moderate)	heavy

Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 10 cm (estimated maximum) Surface Area: 32 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

Banning Pool 22

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100			
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: 08 / 08 / 2009 Time: _____ County: Riverside Quad: Beaumont

Collector(s): David Muth Permit #: TE797234

Site/Project Name: San Gorgonio Planned Community Pool #: 23

Township: 3 South Range: 1 East Section: 16 & 17 UTM:3752239 Northing 510160 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) garbage discing/plowing
- ungrazed grazed: (cattle) horses sheep other_____
- land use of habitat: light (moderate) heavy

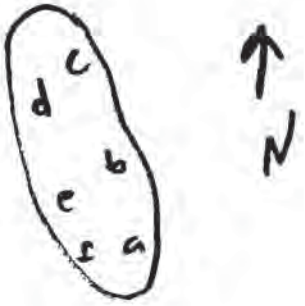
Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: 5 cm (estimated maximum) Surface Area: 16 m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Banning Pool 23

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100	Ø		
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: _____ no __X__ yes

Required color slides and/or photographs for the project site are included: _____ no __X__ yes

Date: _08_/_08_/_2009 Time: _____ County: Riverside_____ Quad: _Beaumont__

Collector(s): __David Muth_____ Permit #: ___TE797234_____

Site/Project Name: ___San Gorgonio Planned Community_____ Pool #: ____24_____

Township: 3 South_ Range: _1 East_ Section: __16 & 17_ UTM:3752598 Northing 510888 Easting

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: (tire tracks) garbage discing/plowing

- ungrazed grazed: (cattle) horses sheep other_____

- land use of habitat: light (moderate) heavy

Pool Bottom Surface: (circle where appropriate)

(hardpan) claypan cobbly/rocky lava flow other_____

Pool Depth: _10__cm (estimated maximum) Surface Area: __39___m2 (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

Banning Pool 24

U.S Fish and Wildlife Service Vernal Pool Data Sheet

Dry Season Survey

Soil Analysis

Note: Please fill out the required information completely for each site visit.

Sample ID	Sample Volume(ml	Genus (/species)	# Cysts (or None)	Cyst Density (#/100ml
a	100	Ø		
b	100	Ø		
c	100	Ø		
d	100	Ø		
e	100	Ø		
f	100			
g	100			
h	100			
i	100			
j	100			

Voucher Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)	# Cysts	Catalog/Accession #	Pool #

D-3. BURROWING OWL FOCUSED SURVEY (2015)

LSA ASSOCIATES, INC.
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BERKELEY
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
PT. RICHMOND
ROCKLIN
SAN LUIS OBISPO

September 17, 2015

Mr. Pete Pitassi
Rancho San Gorgonio, LLC
10621 Civic Center Drive
Rancho Cucamonga, California 91730

Subject: Results of Burrowing Owl Survey for the Rancho San Gorgonio Project, City of Banning, California (LSA Project No. PIE1201)

Dear Mr. Pitassi:

This report documents the results of a focused survey for burrowing owl (*Athene cunicularia*) by LSA Associates, Inc. (LSA) of the 803 acres of proposed development project. The Rancho San Gorgonio (RSG) Specific Plan proposes an 831-acre master planned residential community within the City of Banning and its sphere of influence. The project site is located in the City of Banning (City), Riverside County, California. The site is located within Sections 16 and 17, Township 3 South, Range 1 East as shown on the U.S. Geological Survey (USGS) 7.5-minute series *Beaumont, California* quadrangle (attached Figure 1). The property is 0.4 mile south of Interstate 10 (I-10) and generally bordered by Westward Avenue on the north, Sunset Avenue on the west, Coyote Trail on the south, and San Gorgonio Avenue (State Route 243) on the east. The project site is within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Survey Area for Burrowing Owl (attached Figure 2).

METHODS

The habitat assessment and focused survey for burrows and owls was conducted in accordance with the *MSHCP Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (County of Riverside Environmental Programs Department, March 29, 2006). The survey was conducted by LSA Senior Biologists. Focused survey area was the entire project area. Potentially suitable habitat for burrowing owls—open earthen areas, fields and grassland and sparsely covered shrub areas—was identified by four biologists per Step I of the *MSHCP Survey Instructions* in 2012. Due to the large area, transects were marked on aerial photos and map books were provided to each surveyor.

A habitat assessment for western burrowing owl (*Athene cunicularia hypugaea*) was conducted by reviewing aerial photographs prior to the initial site visit. A map of the vegetation communities is attached as Figure 3. Suitable habitat areas were identified by the presence of grassland habitat, dirt access roads, and other open areas with suitable low-growing, open vegetation with the potential to support burrowing owls. Areas with a concentration of coastal scrub shrub species or trees were not considered suitable habitat. Burrow surveys were conducted in August 2012 according to Step II, Part A of the *Burrowing Owl Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*. All suitable habitat areas on the project site were walked at transects spaced

at no more than 30 meters (100 feet), which allowed for 100 percent visual coverage of suitable habitat. Suitable habitat and burrows were observed for presence of burrowing owl sign (e.g., whitewash, pellets, scat, tracks, and/or feathers) and burrowing owls. Burrows with presence of burrowing owl sign and/or burrowing owls were recorded using a handheld GPS unit and mapped onto an aerial photograph. Burrows with burrowing owl sign that did not have burrowing owls present at the time of the initial survey were revisited during other biological resources surveys to determine burrowing owl occupancy. In 2013, additional parcels were acquired to contribute to the project area. A burrowing owl habitat suitability assessment and burrow survey was conducted in January 2013 within the additional estimated 20 acres.

Table A lists the survey dates, times, and weather conditions. Surveys were conducted during weather conducive to observing owls outside their burrows and to detecting burrowing owl sign. No rain had occurred within five days of the site visits.

Table A: Survey Dates, Times, and Weather Conditions

Survey	Date	Surveyors	Time (24-hour) (start/finish)	Temp. (°F) (start/finish)	Wind (mph)	Sky
Burrow Survey	August 7, 2012	ML, SS, WW	0630 / 1350	70/110	0–8	clear
Burrow Survey	August 8, 2012	LS, ML, SS	0630 / 1030	86/105	1–3	clear
Burrow Survey	August 9, 2012	CB, ML, SB, WW	0645 / 1015	80/100	5–8	clear
Burrow Survey	August 10, 2012	CB, ML, SB, SS	0645 / 1100	84/100	3–8	clear
1. Active Burrow Recheck	August 14, 2012	ML	0700/0900	80	0-5	clear
Burrow Survey	August 15, 2012	CB, ML, WW	0730 /1130	86/102	0–5	clear
2. Active Burrow Recheck	August 16, 2012	ML, WW	0700/0900	85	0–5	clear
3. Active Burrow Recheck	August 17, 2012	ML, WW	0700/0900	80	0-5	clear
Burrow Survey	August 21, 2012	CB, ML, SS, WW	0630 / 1130	68/89	0–5	clear
4. Active Burrow Recheck	August 23, 2012	SS	0630 / 1045	68/88	1–3	clear
Burrow Survey	January 8, 2013	SS	1020 / 1415	66/71	1–3	clear

Surveyors: CB=Claudia Bauer; ML=Maria Lum; SB=Sarah Barrera; SS=Stan Spencer, WW=Wendy Walters

Step II of the *MSHCP Survey Instructions* was completed in 2012. The survey was conducted by four biologists walking belt transects throughout the potential habitat in the proposed project site in 2012. Transect spacing ranged from 30 to 50 feet, which allowed for 100 percent visual coverage of the ground surface. The guidelines state an acceptable focused burrowing owl survey is a "minimum of one site visit … but additional visits may be warranted depending on the results of the first site visit," and "if no potential burrowing owl burrows are detected, no further surveys are required."

The fields, edges, and grasslands were inspected for burrowing owl and owl sign. In addition to the focused burrowing owl surveys, LSA biologists conducted other biological field studies within the project study area.

RESULTS

The grassland in the project area is considered suitable for burrowing owls due to use of grassland habitat (697 acres) as a cattle range. Eleven burrowing owls were observed in 2012 on the project site. Two pairs of burrowing owls, one individual, and one group of six burrowing owls were observed during the burrow survey. Several active burrows with burrowing owl sign were observed within the grassland/rangeland area north of Pershing and Smith Creeks. Refer to attached Figures 3a through 3c for photographs of the typical site conditions associated with the burrowing owl observations. Attached Figure 4 is a map of burrowing owl locations in 2012. The additional parcels purchased in 2013 did not have suitable nesting habitat and did not have any burrows due to complete coverage by tall and dense vegetation.

CONCLUSIONS

Burrowing owl is considered to be present from the project site based on the 2012 survey, and additional survey on additional parcels purchased in 2013 (and other on-site field observation times). The following measures will be implemented as MSHCP Covered Species Best Management Practices to avoid and/or minimize any indirect and direct effects to burrowing owls:

- Pre-construction burrowing owl surveys following accepted MSHCP survey protocols will be conducted within 120 days prior to ground disturbance in all areas of suitable habitat, including the lead remediation areas, to avoid take of burrowing owls and occupied burrowing owl nests.
- If burrowing owls are identified during the pre-construction surveys and disturbance of active burrowing owl nests can be avoided during construction, then the burrows will be left in place.
- If occupied burrows and burrowing owls are identified during the pre-construction surveys and cannot be avoided, a burrowing owl relocation/translocation plan will be prepared for submittal to the wildlife agencies for approval 60–90 days prior to ground-disturbing activities.

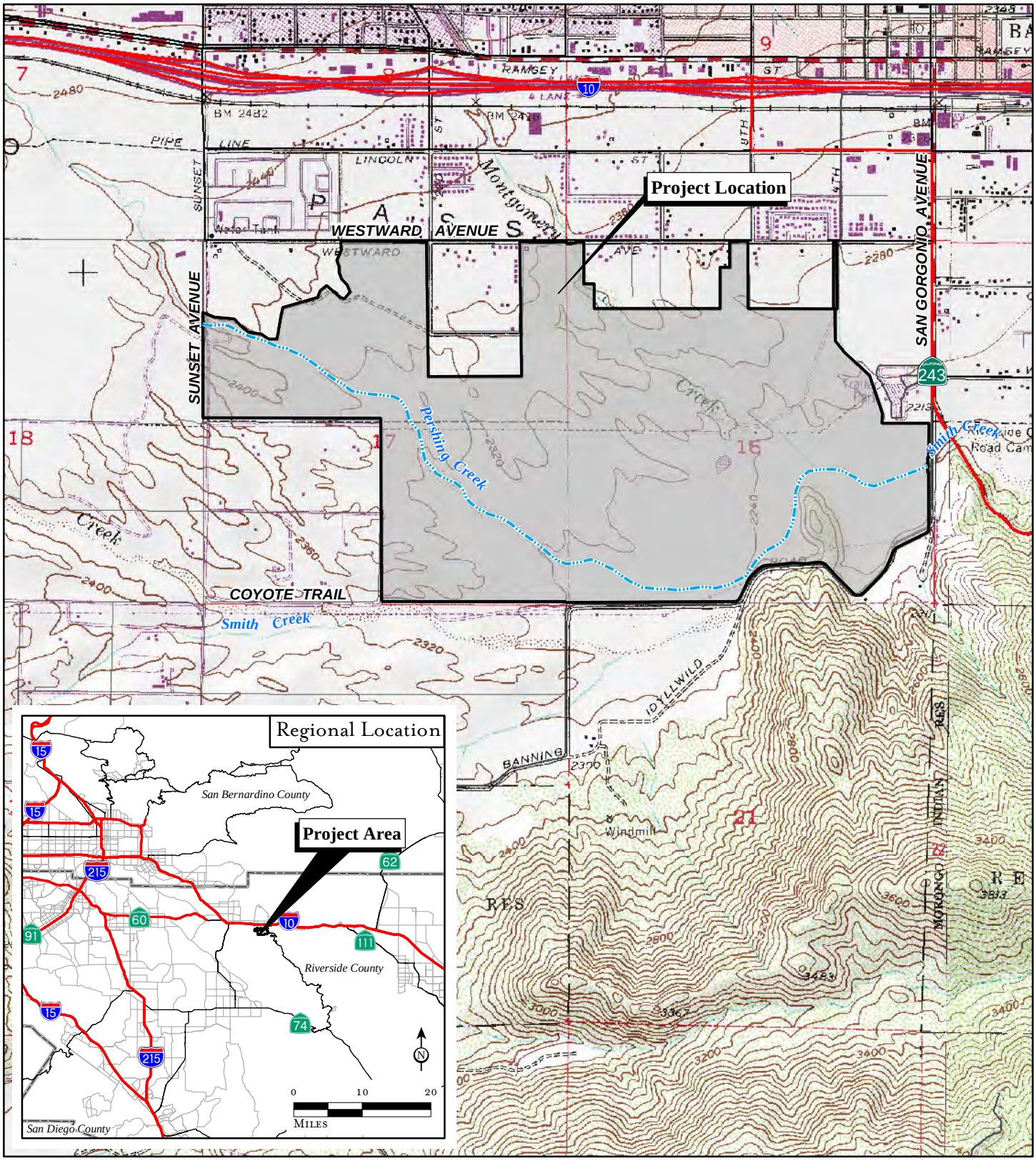
Sincerely,

LSA ASSOCIATES, INC.

Maria A. Lum
Associate/Senior Biologist

Attachments: Figure 1: Project Location
Figure 2: MSHCP Burrowing Owl Survey Area
Figure 3: Vegetation Communities Map and Site Photographs
Figure 4: Burrowing Owl Observations

cc. RCA Monitoring Program Administrator (amalisch@biomonitoringrca.org)



LSA

FIGURE 1

N

0 1,000 2,000

FEET

Rancho San Gorgonio
Planned Community Project
Focused Burrowing Owl Survey Report

Regional and Project Location

SOURCE: USGS 7.5' Quads: Beaumont (88), CA; Cabazon (88), CA: Riverside County, 2015.

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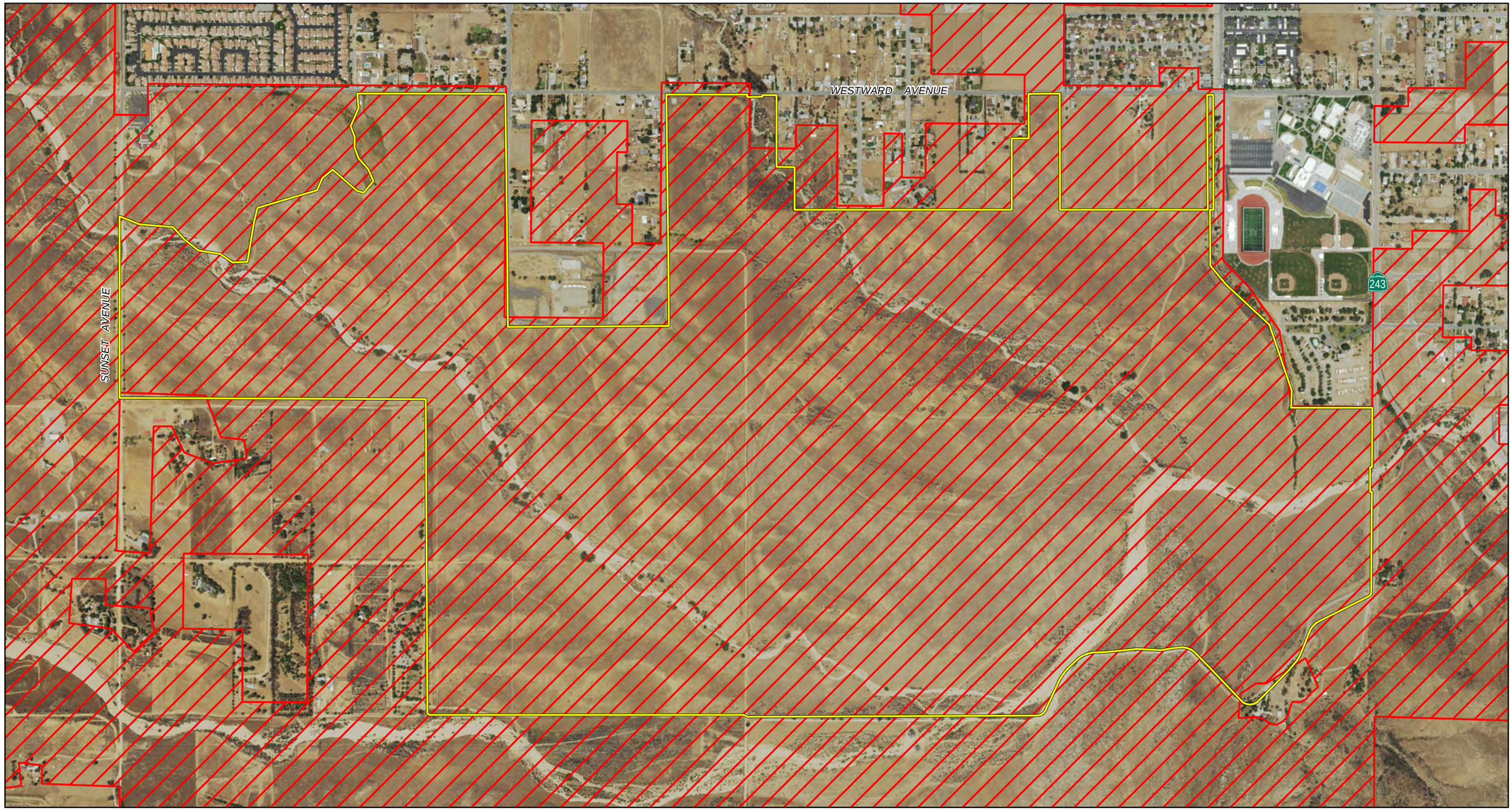

LSA

Project Boundary

MSHCP Western Burrowing Owl Survey Area

Note: There are no Critical Habitat or MSHCP Critical Cells located at this site.

0 400 800

FEET

SOURCE: ESRI World Imagery, 2010, County of Riverside, 2005 and 2013.

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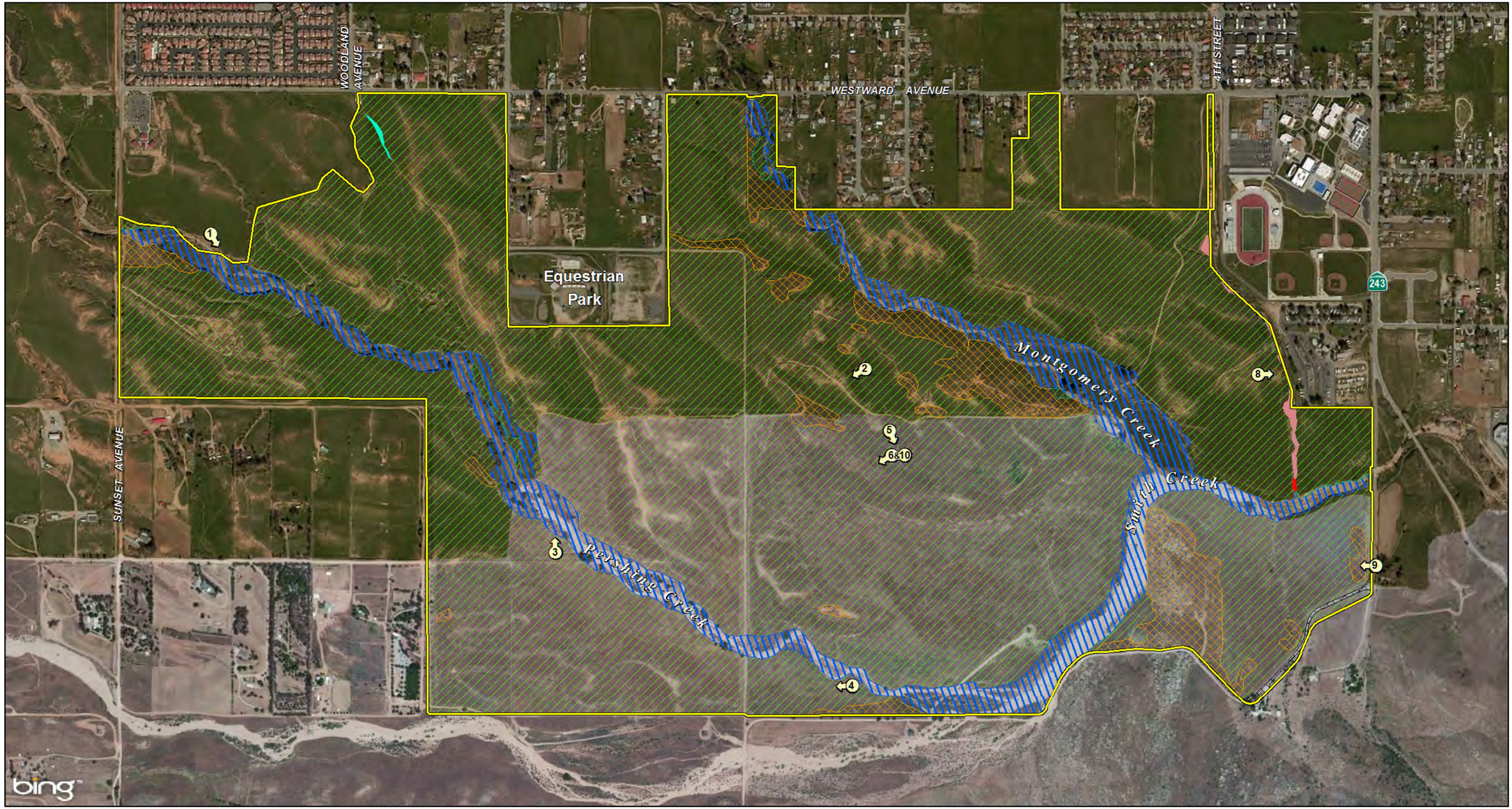
FIGURE 2

Rancho San Gorgonio
Planned Community Project
Focused Burrowing Owl Survey Report

MSHCP Survey Area



LSA

Project Boundary
Photograph Location

Non-native Grassland
Riversidean Alluvial Fan Sage Scrub
Upland Riversidean Sage Scrub
Developed/Ruderal

Southern Riparian Scrub
Wetland of Non-native Grasses
Ornamental Trees

0 400 800
FEET

SOURCE: Bing Imagery, 2010/2015.
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FIGURE 3

Rancho San Gorgonio
Planned Commmunity Project
Burrowing Owl Focused Survey Report

Vegetation, Land Use and Photograph Locations

PHOTOGRAPH 1: *View of unnamed large creek in the center of the study area.*

PHOTOGRAPH 2: *View of burrowing owl burrow (occupied) in a narrow erosional feature.*

PHOTOGRAPH 3: *View of a large cottonwood occupied by white tailed kites in the center creek.*

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FIGURE 3A

Rancho San Gorgonio
Planned Community Project
Burrowing Owl Focused Survey Report

Site Photographs

PHOTOGRAPH 4: *View of the lower reach of center creek showing grassland and adjacent upland scrub (California buckwheat).*

PHOTOGRAPH 5: *View of slope in the right half of the photograph with a burrow complex occupied by 6 owls.*

PHOTOGRAPH 6: *View of burrowing owl features at an occupied burrow complex.*

PHOTOGRAPH 7: *View of occupied burrow in the center of the study area.*

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FIGURE 3B

Rancho San Gorgonio
Planned Community Project
Burrowing Owl Focused Survey Report

Site Photographs

PHOTOGRAPH 8: *View of a minor tributary/gully adjacent to a KOA campground.*

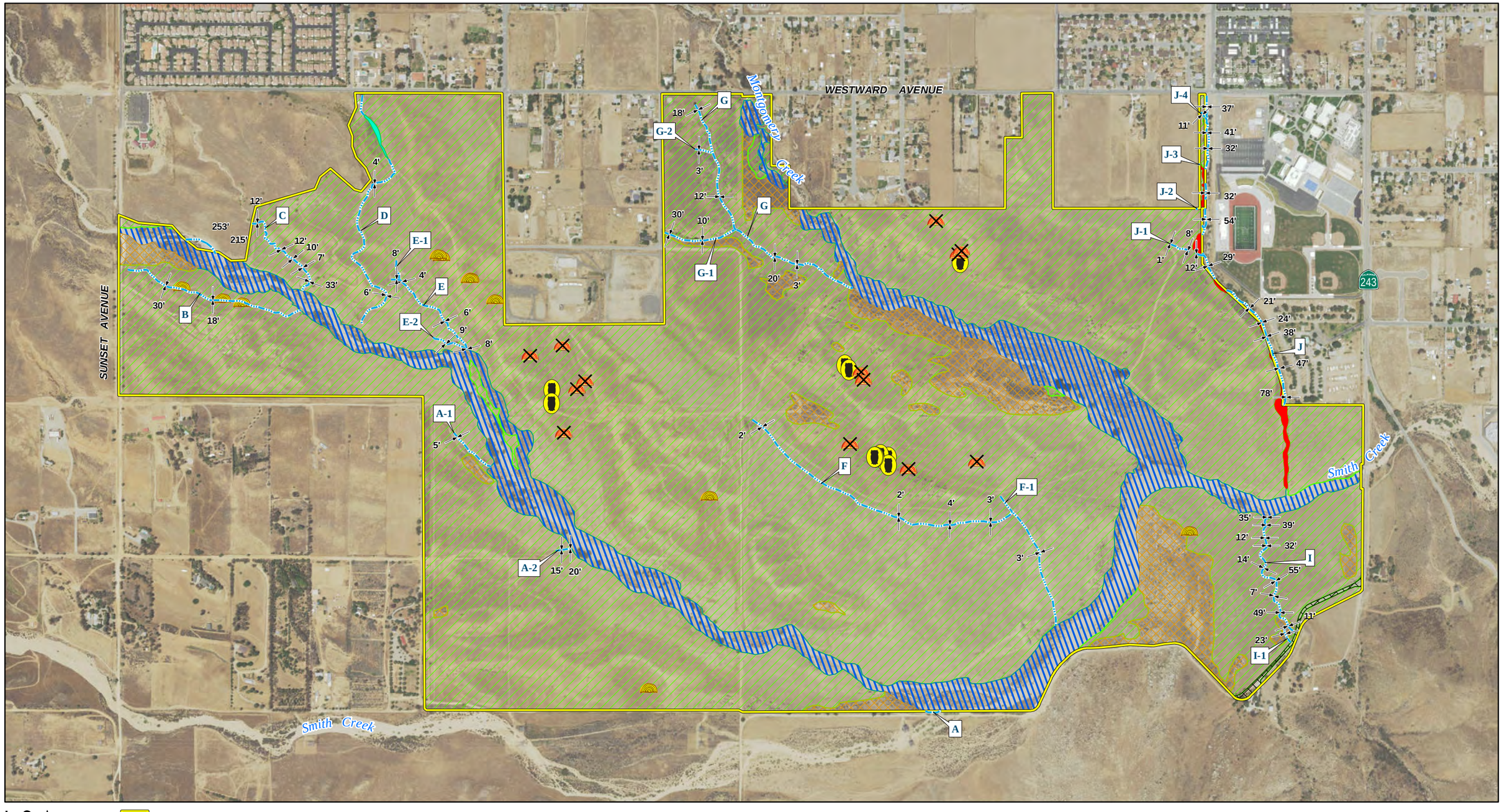
PHOTOGRAPH 9: *View of pasture, creek and rocky knoll in the southeast corner of the study area.*

LSA

FIGURE 3C

Rancho San Gorgonio
Planned Community Project
Burrowing Owl Focused Survey Report

Site Photographs



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N

0 400 800

FEET

Project Boundary

10' Drainage Width (CDFW)

Unvegetated Stream Channel

Burrowing Owl

Active Burrows and Owls Present (2012/2013)

Active Burrow

Inactive Burrow with Sign

Habitat

Non-native Grassland

Riversidean Alluvial Fan Sage Scrub

Upland Riversidean Sage Scrub

Developed/Ruderal

Southern Riparian Scrub

Wetland of Non-native Grasses

SOURCE: ESRI World Imagery, 2010.

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FIGURE 4

Rancho San Gorgonio
Planned Commmunity Project
Burrowing Owl Focused Survey Report

Burrowing Owl Observations

D-4. DELINEATION OF JURISDICTIONAL WATERS (2015)

DELINEATION OF THE U.S. ARMY CORPS OF ENGINEERS AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION

RANCHO SAN GORGONIO PLANNED COMMUNITY PROJECT

CITY OF BANNING

RIVERSIDE COUNTY, CALIFORNIA

LSA

October 1, 2015

DELINEATION OF THE U.S. ARMY CORPS OF ENGINEERS AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION

RANCHO SAN GORGONIO PLANNED COMMUNITY PROJECT

CITY OF BANNING

RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

Rancho San Gorgonio, LLC
10621 Civic Center Drive
Rancho Cucamonga, California 91730

Prepared by:

LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

LSA Project No. PIE1201

LSA

October 1, 2015

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EXECUTIVE SUMMARY

LSA conducted a jurisdictional delineation of an 831-acre study area encompassing 30 parcels at the request of Rancho San Gorgonio LLC of Rancho Cucamonga, California. The property is on the south side of Interstate 10 (I-10) and generally bordered by Westward Avenue on the north, Sunset Avenue on the west, Coyote Trail on the south, and San Gorgonio Avenue (State Route 243) on the east in the City of Banning, Riverside County, California. The Rancho San Gorgonio (RSG) Specific Plan proposes a variety of residential opportunities including small, medium, and larger lot single-family detached homes, various potential configurations of single-family detached cluster residences, and potential attached multifamily dwellings.

The U.S. Army Corps of Engineers (USACE) will likely assert jurisdiction over most of the drainages in the study area pursuant to 33 CFR § 328.3, as recently amended, due to presence of ordinary high water marks (OHWMs), and the fact that drainages are tributary to, and/or share a significant nexus to a Traditional Navigable Water (TNW) which are waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce. The drainages that are contiguous with and have flows into Smith Creek are jurisdictional as tributaries, and are likely to influence downstream riparian, habitat, and water bodies. Smith Creek is upstream of San Gorgonio Creek, Whitewater River, and finally the Salton Sea. At a minimum, the sea (as a TNW) is considered waters of the U.S.

LSA Associates, Inc. (LSA) conducted a delineation in August 2012 of a portion of the site coterminous with the applicant's original land purchase and conducted a supplemental jurisdictional delineation in April 2013 on additional land purchased within the study area. Pursuant to these delineations and the site review, LSA concludes that USACE jurisdiction within the study area includes the main channel of Pershing Creek (Drainage A), the large ephemeral wash through the center of the study area, and Smith Creek, with which Pershing Creek merges. The total length of these combined drainages is 16,576.2 linear feet. In addition, USACE jurisdiction encompasses: Drainage H (Montgomery Creek), which is 7,691.7 linear feet; Drainage J (South 4th Street), which is is 4,383.6 linear feet of ephemeral waters; and other tributaries, with and without frequent seasonal flow, which contribute to the total hydrologic feature length of 42,708.4 linear feet within the study area.

The only wetland site in the study area is where nuisance flows from South Woodland Avenue discharge from a storm drain pipe and then sheet flow into the pasture. All three wetland criteria were met at Sample Points 4 and 7. This is an artificially induced wetland created upland due to the street drain outlet. This wetland area is not jurisdictional based on the new 2015 Clean Water Act Rule since the wetland site is created in uplands via discharges from an artificial agricultural ditch and urban storm drain. Further, this wet area is not a functioning or valuable natural wetland resource and is thus not jurisdictional under current regulations.

Based on the analysis of the field data, the total potential federal jurisdiction within the study area is 28.9 acres of ephemeral waters. LSA excluded isolated ditches, roadside and other erosion gullies and rills, and agricultural and urban runoff diversions from jurisdiction under the Rule based on observations. The total area of CDFW jurisdiction including the riparian/riverine vegetation is 73.9 acres. Relic oxbows with sage scrub and alluvial scrub vegetation are included in CDFW jurisdiction.

Potential impacts associated with the proposed project to waters of the U.S. are 6.9 acres and 26.3 acres to waters subject to CDFW jurisdiction. Total length of ephemeral waters impacted is 28,125.8 linear feet.

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until formally verified by the USACE for purposes of a preliminary jurisdictional determination, and by CDFW for purposes of considering issuance of a Streambed Alteration Agreement under California Fish and Game Code §§ 1600 et seq.

INTRODUCTION

LSA conducted a jurisdictional delineation of an 831-acre study area encompassing 30 parcels at the request of Rancho San Gorgonio LLC of Rancho Cucamonga, California. Rancho San Gorgonio LLC is a private real estate investment fund that has acquired the property, most of which was previously entitled, for proposed development pursuant to a new specific plan. The Rancho San Gorgonio (RSG) Specific Plan proposes a variety of residential opportunities including small, medium, and larger lot single-family detached homes; various potential configurations of single-family detached cluster residences, and potential attached multifamily dwellings. The variety of residential uses provides housing at different price levels. Through the use of effective planning, the proposed RSG Specific Plan responds to the community's vision by providing a desirable high-quality planned community that integrates evenly distributed residential living areas and amenities.

The property is on the south side of Interstate 10 (I-10) and generally bordered by Westward Avenue on the north, Sunset Avenue on the west, Coyote Trail on the south, and San Gorgonio Avenue (State Route 243) on the east in the City of Banning, Riverside County, California. A portion of the project (approximately 160 acres) is outside the city limits but within the city's sphere of influence (SOI). It is the intent of Rancho San Gorgonio LLC and the City to annex this acreage into the city from Riverside County concurrent with the processing of the Specific Plan.

Land uses adjacent to the subject property include light industrial/office buildings, single-family residences, and several undeveloped parcels (Figure 1). Banning High School occupies a site at the northeast corner of the property and Mt. San Jacinto Community College (San Gorgonio Pass Campus) occupies a site at the northwest corner. Neither of these sites is a part of the project.

The property is currently used for ranching and is unimproved. The property has ephemeral streams and minor upland drainages running across the study area east to west. Also, a large electrical transmission easement exists in the southeast corner of the site. A high-pressure gas pipeline easement bisects the property from west to east.

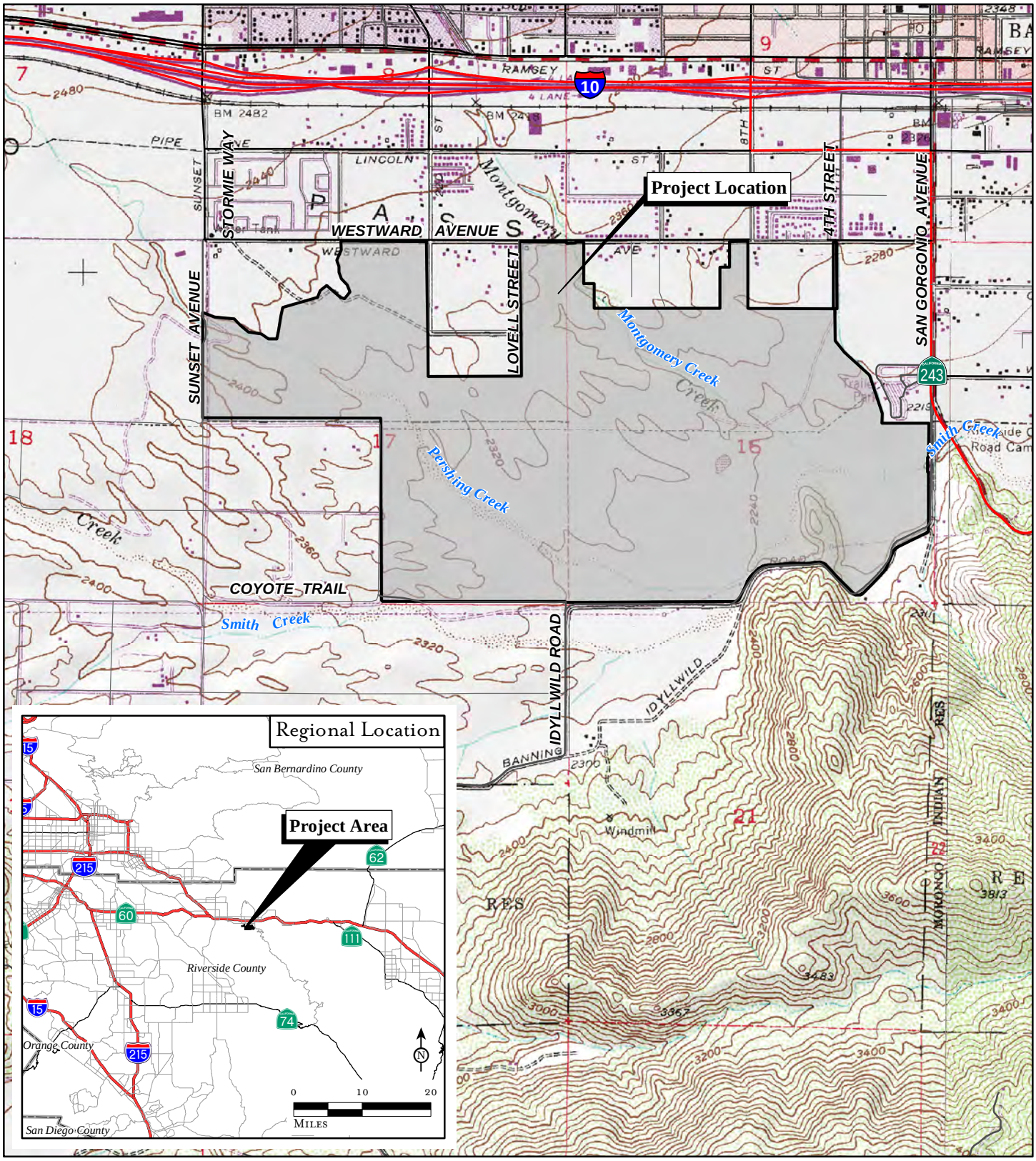
REGULATORY BACKGROUND

U.S. Army Corps of Engineers

The USACE regulates discharges of dredged or fill material into waters of the United States under Section 404 of the Federal Clean Water Act (CWA), which was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." These waters include wetlands and non-wetland bodies of water that meet specific criteria set forth in 33 Code of Federal Regulations (CFR) Part 328, as recently amended by Clean Water Rule (Rule) adopted June 29, 2015 and effective August 28, 2015 (Federal Register Vol. 80, No. 124).

In general, USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on:

- A water body's status as an interstate water, a territorial sea, or waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce; or
- Impoundments of such waters; or
- Either a presumed or demonstrated connection or nexus with such a water body.



LSA

FIGURE 1

Project Study Area (Feb. 2015)

0 1,000 2,000
Feet

Rancho San Gorgonio Planned Community Project Jurisdictional Delineation Report

Regional and Project Location

SOURCE: USGS 7.5' Quads: Beaumont (88), CA; Cabazon (88), CA: Riverside County, 2011.

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Under the Rule, this connection may be:

- Direct (for example, as a part of a tributary system linking a stream channel with waters used in interstate or foreign commerce); or
- Presumed based on its location adjacent to or neighboring an interstate water, territorial sea, water used in interstate commerce, or impoundment thereof; or
- Indirect through a significant nexus with an interstate water, territorial sea, water used in interstate commerce, or impoundment thereof, demonstrated on a case-by-case basis pursuant to USACE regulations.

The following definition of waters of the United States is taken from 33CFR § Part 328.3 as amended by the Rule:

The term "waters of the United States" (U.S.) means:

(1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters, including interstate wetlands;

(3) The territorial seas;

(4) All impoundments of waters otherwise identified as waters of the United States under this section;

(5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;

(6) All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;

(7) All waters in paragraphs (i) through (v) of this paragraph where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. The waters identified in each of paragraphs (i) through (v) of this paragraph are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

(i) *Prairie potholes*. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.

(ii) *Carolina bays and Delmarva bays*. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.

(iii) *Pocosins*. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.

(iv) *Western vernal pools*. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(v) *Texas coastal prairie wetlands*. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.

(8) All waters located within the 100-year floodplain of a water identified in (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in (a)(1) through (3) of this section or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

The Rule also specifies that tributaries and adjacent and neighboring waters are waters of the United States and no longer require a significant nexus analysis or determination. A tributary is considered a water of the U.S. if it exhibits physical indicators of flow (i.e., bed and banks and ordinary high water mark) and if it flows directly or indirectly (e.g., via manmade, shallow subsurface, or non-jurisdictional waters or impoundments) to a an interstate water, a territorial sea, or waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce. The upper limit of jurisdiction over a tributary is the point where the bed and bank or ordinary high water mark is no longer perceptible. Generally, jurisdictional tributaries include ditches that are constructed in tributaries, are relocated tributaries, or function as tributaries with intermittent or ephemeral flow, or that drain wetlands. However, they do not include ditches constructed on dry land that do not flow directly or indirectly into an interstate water, a territorial sea, or a waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, such as erosional features, gullies, rills, non-wetland swales, or ephemeral features that do not have a bed and bank or ordinary high water mark. The Rule continues to exclude from jurisdiction prior converted cropland, waste treatment systems, groundwater, storm water control features, water retention basins, artificially constructed lakes, ponds, or pools created by excavating dry land, artificially irrigated areas that would revert to dry land should irrigation cease, and seasonally water-filled depressions and dirt road puddles created in dry land incidental to farming, mining, or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water.

USACE jurisdiction over non-tidal waters of the United States extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.3(c)(6)). The OHWM is defined as:

> "… that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or

other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3(c)(6)).

Table A summarizes the Rule's modifications to the waters of the U.S. law. One impact of the Rule is that more adjacent and neighboring waters, whether wetland or not, and whether tributary or not, are presumed to be jurisdictional. On the other hand, certain features are now identified as non-jurisdictional, so long as USACE determines, in its discretion, that the conditions required for exclusion of those features as outlined in the Rule are satisfied.

Table A: Recent Changes to the Clean Water Act

Subject	Prior Law	Final Rule
Waters in interstate commerce	Jurisdictional	Same
Interstate Waters	Jurisdictional	Same
Territorial Seas	Jurisdictional	Same
Tributaries to Above Waters	Did not define tributary, but if no direct flow to interstate water, territorial sea or water in interstate commerce, then opportunity to submit analysis of no significant nexus.	Tributaries are jurisdictional by rule. A tributary is a water feature contributing flow to interstate waters, territorial seas, or waters in interstate commerce. Generally has an OHWM and bed and bank, but bed, banks, and OHWM can be interrupted by natural, manmade, jurisdictional, or non-jurisdictional features or an impoundment, as long as there is an OHWM somewhere before the break. No opportunity to show no nexus.
Adjacent Wetlands/Waters	Included only wetlands adjacent to and in some way connected to waters in interstate commerce, interstate waters, territorial seas, impoundments or tributaries.	Includes all types of features, not just wetlands. Not just abutting, but either (i) within 100 feet of; or (ii) within the 100-year floodplain and 1,500 feet of the high tide mark or OHWM of waters in interstate commerce, interstate waters, territorial seas, impoundments, or tributaries. Can be separated by non-jurisdictional and/or constructed or natural upland areas. No opportunity to show no nexus.
Impoundment	Not defined, but generally a water in interstate commerce itself, or the impoundment of a water in interstate commerce, an interstate water, or territorial sea.	Impoundments of a water in interstate commerce, an interstate water, a territorial sea, a tributary, or another type of adjacent water.
Isolated or "Other" Waters	Included all other waters where a significant nexus to waters in interstate commerce, interstate waters, or territorial seas might be demonstrated.	Includes all other waters where, when considering together all waters that are similarly situated within the watershed, a "significant nexus" to waters in interstate commerce, interstate waters, territorial seas may be demonstrated. Presumption of jurisdiction applies to prairie potholes, and western vernal pools in California. When analyzing nexus, must consider together: (i) all features within the 100-year floodplain of water in interstate commerce, interstate water, or a territorial

Table A: Recent Changes to the Clean Water Act

Subject	Prior Law	Final Rule
		sea; and (ii) all features within 4,000 feet of high tide line or OHWM of water in interstate commerce, an interstate water, a territorial sea, a tributary or an impoundment. Significant only = more than insubstantial.
Exclusions to the definition of "Waters of the U.S."	Excluded waste treatment systems and prior converted cropland.	Excludes waste treatment systems designed to meet CWA requirements; prior converted cropland (as determined by EPA only); isolated ditches; ditches that only flow when it rains and were not constructed in and did not relocate tributaries or other waters, or drain wetlands; groundwater (but groundwater connections can be considered in nexus determinations); gullies, rills, and non-wetland swales that do not meet the definition of tributary; Municipal Separate Storm Sewer Systems (MS4s) that are created in dry land (but not if they relocate or were excavated in tributaries or traditionally navigable waters); recycled water structure constructed in uplands, or for percolation or distribution.

The USACE and the Environmental Protection Agency (EPA) define wetlands as follows:

> "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions" (33 CFR 328.3(c)(4)).

Wetland delineations for Section 404 permitting purposes must be done according to the USACE *Corps Delineation Manual* (Environmental Laboratory 1987; hereafter, *1987 Manual*). This manual provides two different approaches to delineating wetlands (i.e., routine and comprehensive), depending upon the complexity of the site and whether there is a need for quantitative evaluation and extensive documentation. For the majority of wetland delineations, the routine on-site evaluation method is appropriate.

Determination of wetland limits may be obfuscated by a variety of natural environmental factors, including cyclic periods of drought and flooding or highly ephemeral stream systems. During periods of drought, for example, bank return flows are reduced and water tables lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow temporary invasion of hydrophytic species into non-wetland areas. In highly ephemeral systems, typical of southern California, these problems are encountered frequently. In these situations, professional judgment and knowledge of local ecological conditions come into play in delineating wetlands.

The USACE has provided a *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Engineer Research and Development Center 2008; hereafter, *Arid West Supplement*) to address the regional wetland characteristics and to improve the accuracy

and efficiency of wetland delineation procedures. The supplement is to be used in conjunction with the current version of the *1987 Manual*. Where there are differences, the supplement takes precedence for applications in the arid west region.

Pursuant to the *1987 Manual* and *Arid West Supplement*, in order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met. Several parameters may be analyzed to determine whether the criteria are satisfied.

Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the National List of Plant Species that Occur in Wetlands (Reed 1988), published by the United States Fish and Wildlife Service (USFWS) and the National Wetland Plant list, published by the USACE (2015). Each species on the list is rated according to a wetland indicator category, as shown in Table B.

Table B: Hydrophytic Vegetation

Category	Abbreviation	Probability
Obligate wetland	OBL	Almost always occur in wetlands (estimated probability > 99%)
Facultative wetland	FACW	Usually occur in wetlands (estimated probability 67–99%)
Facultative	FAC	Equally likely to occur in wetlands and non-wetlands (estimated probability 34–66%)
Facultative upland	FACU	Usually occur in non-wetlands (estimated probability 67–99%)
Obligate upland	UPL	Almost always occur in non-wetlands (estimated probability > 99%)

To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated as obligate wetland [OBL], facultative wetland [FACW], or facultative [FAC]).

The delineation of hydrophytic vegetation is typically based on the three (five, if only one or two strata are present) most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic.

Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. Some soils are classified as hydric because the National Technical Committee for Hydric Soils (NTCHS) criteria are frequently met where these soils occur. The Natural Resource Conservation Service (NRCS) National Technical Committee for Hydric Soils periodically updates hydric soil classifications. The most recent list is 2007 National Hydric Soils List (NRCS 2007). The following description reflects those soils that may meet the definition of hydric soils.

> All Histels except Folistols and Histosols except Folists, or soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that are: a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or b. poorly drained or very poorly drained and have either: water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in), or for other soils water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or soils that are frequently ponded for long duration or very long duration during the growing season, or soils that are frequently flooded for long duration or very long duration during the growing season (Soil Survey Staff 1999).

There are a number of indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration.

Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of floodplains (entisols), and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans. In some situations, it may be impossible to find any hydric soil indicators due to recent deposits of sandy materials (e.g., accreting sandbars). These are described as "Atypical Situations" in the *1987 Manual*, which prescribes use of the other two parameters (vegetation and hydrology) for wetland delineations when no hydric soils indicators can be found.

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (*1987 Manual*). The wetland hydrology parameter is satisfied if the area is seasonally inundated or saturated to the surface for a consecutive number of days equal to 12.5 percent or more of the growing season (USACE 1992).[1] Areas saturated to the surface for less than 5 percent of the growing season do not meet the hydrology criterion. Areas saturated to the surface between 5.0 and 12.5 percent of the growing season may or may not meet the hydrology criterion. In these situations, other hydrology indicators must be considered and the vegetation test should be critically reviewed (USACE 1992).

Hydrology is often the most difficult criterion to measure in the field due to seasonal and annual variations in water availability. Some of the indicators that are commonly used to identify wetland

[1] The growing season is defined as that portion of the year when the soil temperature at 50.04 centimeters (19.7 inches) below the ground surface is greater than biologic zero (5°C [41°F]) (United States Department of Agriculture Soil Survey Staff 1999); this can be estimated from regional climatological data such as that provided in County soil surveys.

hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels resulting from prolonged anaerobic conditions.

California Department of Fish and Wildlife

The CDFW, under Sections 1600, et seq. of the California Fish and Game Code, regulates alterations to beds and banks of lakes, rivers, and streams. Through provisions of Section 1600, et seq. the CDFW is empowered to issue agreements for any alteration of a bed or banks of any California river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an ephemeral flow of water.

The CDFW has various definitions and descriptions of the terms channel bed and banks. The following definitions are taken from Appendix C: Legal Opinions of the CDFW's *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600–1607 California Fish and Game Code* to characterize the bed and bank:

> "An elevation of land which confines the waters of a stream when they rise out of the bed—Banks are fast land on which vegetation appropriate to such land in the particular locality grows wherever the band [sic] is not to [sic] steep to permit such growth and bed is soil of a different character and having no vegetation or only such as exists when commonly submerged in water." (This definition comes from *Black's Law Dictionary*, 5th Edition.)

Banks are further defined as:

> "A water-washed and relatively permanent elevation or acclivity at the outer line of a river bed which separates the bed from the adjacent upland."

In a discussion on pages 5 and 6 of CDFW Appendix C, riverbed and bank is also characterized as:

> "The line between the river bed and the river bank is the line between uplands and periodically flooded lands. This point is best defined are [sic] the location where hydrophytic vegetation gives way to upland vegetation in topographic profile of a watercourse."

CDFW staff has recently begun to interpret these guidelines more expansively than in the past, i.e., claiming CDFW jurisdiction to the "top of the bank" of streams. In the past, in the absence of riparian vegetation, jurisdiction typically extended to the top of the "currently active channel" but not to the top of the historic bank. The newer interpretation of the jurisdictional bank results in a larger jurisdictional area claimed by the CDFW.

The CDFW regulates wetland areas only to the extent that those wetlands are a part of the natural resources composing a river, stream, or lake as defined by the CDFW. CDFW jurisdiction typically extends beyond the streambed/banks to the limits of the riparian vegetation (if present) associated with streams, rivers, or lakes. The CDFW defines riparian as:

> "On, or pertaining to, the banks of a stream. As riparian vegetation or riparian woodland."

The CDFW further defines riparian vegetation as:

"Vegetation which occurs in and/or adjacent to a watercourse. For the purpose of administering Code Section 1600, et seq., this should be expanded to vegetation adjacent to lakes as well."[1]

METHODS

Routine wetland delineations were conducted in August 2012 and April 2013. Under the CWA, the areas of potential jurisdiction were evaluated using to the *1987 Manual* (Environmental Laboratory 1987), *Arid West Supplement* (USACE 2008), the current wetland indicator plant list (Lichvar and Kartesz 2009), current hydric soils list and criteria (U.S. Department of Agriculture [USDA] 2006), *Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008; hereafter, *2008 OHWM Field Guide*), the CWA Guidance for implementing *Rapanos* and *Carabell* Cases (USACE 2007). Delineations under the California Fish and Game Code were conducted simultaneously.

LSA biologists used some or all of the following resources to prepare for the field delineation, to analyze field indicators to determine wetland status, and to make conclusions on the wetland status and significant nexus in the delineation report.

- Current and historical aerial photography;
- Municipal storm drain plans;
- USGS topographic maps (7.5-minute series and 1:100,000 scale);
- National Resources Conservation Service (NRCS) Soil Surveys;
- County Parcel Maps;
- County Hazard and Hydrology Maps;
- National Oceanic and Atmospheric Administration (NOAA) current and historical precipitation data;
- County Flood Control precipitation and gauge data; and
- Riverside County Geographic Information System (GIS) data.

The entire study area was surveyed on foot along 200-foot transects and the entire length of the three major ephemeral washes was surveyed for potential wetlands and non-wetland jurisdictional waters as well as riparian/riverine habitat. As described in the *2008 OHWM Field Guide*, the fluvial process of the ephemeral channels is in some locations discontinuous along constructed historical agricultural terraces, natural erosion features, or single channel deeply incised channels. The three larger ephemeral streambeds contain compound channels between vertically incised banks. The low-flow channel and location of the OHWM was mapped using the USACE determining features such as a well-defined bed and bank, distinct absence of vegetation, and the moderate flow pattern from the recent localized large rain storm on August 13, 2012.

[1] *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600–1607 California Fish and Game Code* January 1994.

All areas supporting species of plants indicative of wetlands were evaluated according to routine wetland delineation procedures described in the *1987 Manual*, the *2008 Arid West Supplement*, and the recently USACE approved *2009 National Wetland Plant List*. Representative sample plots were selected and examined in the field. A routine wetland determination data form was completed for each of the sample plots. Appendix A includes copies of the data forms. Streambed widths, bed-and-bank, and OHWMs were measured in the field using Mobile Mapper GPS units in the larger tributaries and by ocular estimation or pacing in the field of the smaller ephemeral drainages, erosional features, and agricultural ditches. The field data were compiled using GIS software and post-processed in the office. Potential jurisdictional areas and linear distances were calculated. Lastly, maps and figures were produced.

The limits of the CDFW jurisdiction, or streambed and bank, including related riparian/riverine vegetation, were also measured in the field based on the obvious terrace or bench above the active stream channel and included areas that supported native or non-native plant species typically associated with riparian habitat. The field data were compiled using GIS software and post-processed in the office. Potential jurisdictional areas and linear distances were calculated. Lastly, maps and figures were produced.

RESULTS AND DISCUSSION

Existing and Adjacent Land Use

LSA biologists researched archival aerial photographs to determine past land uses in the area. The earliest aerial photograph available is from 1965 (http://www.historicaerials.com). The land use of the study area was previously used for dryland farming and grazing, and is currently used for cattle grazing. Winter wheat and grazing crops have been the typical crops. “Terracing” has also been practiced by farmers by laying out furrows to slow water runoff downhill, usually by plowing along a contour line. There are several terraces and furrows in the pastures and a few are continuous and drain to the large ephemeral wash in the center of the study area. There are small concrete spillways and metal culverts on the north bank of the ephemeral wash. Nuisance flows from South Woodland Avenue discharge from a storm drain pipe and then sheet flow into the pasture land, thereby creating an artificial wetland in an upland environment.

Development adjacent to the study area includes small ranches, rural residential private residences, residential tract housing, two school campuses, and KOA campground. Two regional utilities (gas and electric) cross the center of the project site with a maintenance access road within the east-west right-of-way.

Elevation and Topography

The site elevation ranges from approximately 2,200 to 2,420 feet above mean sea level. The land slopes gradually west to east. The rolling hills and high terraces within the upland areas are split by the deeply incised Montgomery Creek and an unnamed tributary, both of which are tributaries to a larger drainage identified as Smith Creek. The channel depths vary from 1 foot to 20 feet. The ephemeral washes contain low-flow channel, active terraces, inactive low terraces, and isolated oxbows. Erosional features and agricultural ditches along the base of the dryland farming terraces

also occur in the study area without contiguity of flow into the ephemeral washes under the current hydrologic conditions and flow patterns.

Precipitation/Climate

Total Banning area precipitation for the January to December 2011 annual monitoring season as recorded by the KCABANNI1 station monitored by Weather Underground was 13.68 inches and for 2012 (January to August) was 9.26 inches (http://i.wund.com). In August 2012, a total of 0.78 inch of rain occurred with 0.5 inch accumulating during a 30-minute storm event on August 13, 2012. More recent rain data recorded by the station indicate a total of 18.52 inches of rain between September 30, 2014 and October 1, 2015. The historical averages precipitation for the Beaumont, California Station (040606) and the Beaumont Pumping Plant, California (040607) were obtained from the Western Regional Climate Center online data records (http://www.wrcc.dri.edu). The Beaumont station recorded 18.34 inches for historic annual precipitation from 1906 to 1971. The annual growing season in this part of Riverside County is estimated at 220 to 300 days (Soil Conservation Service 1971). The average minimum and maximum annual temperature is 45.3° to 74.5° F.

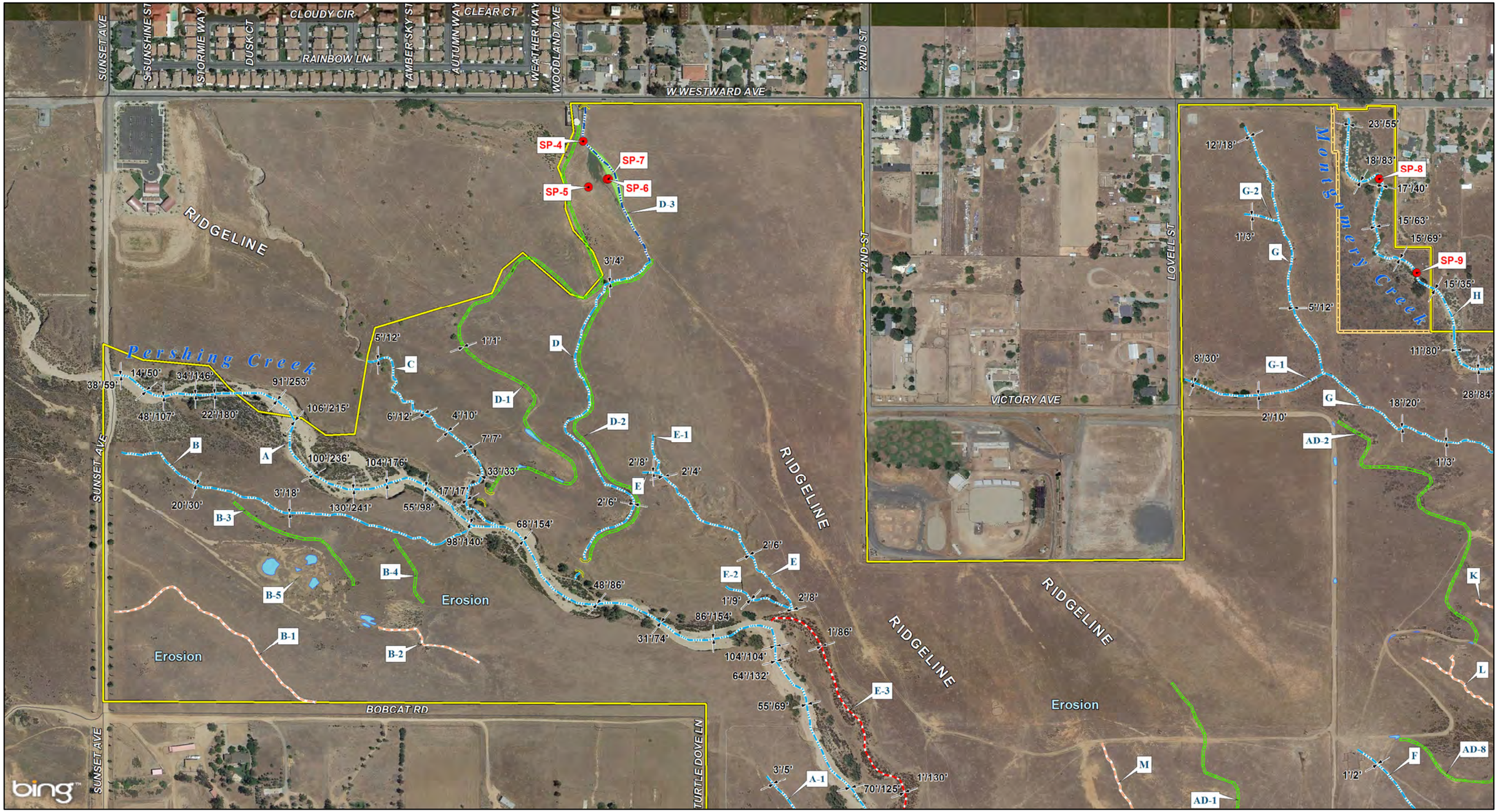
Drainage Area

The three ephemeral washes within the study area flow into the Coachella Planning Area of the California Regional Water Quality Control Board Region 7-Colorado River Basin (RWQCB 2006). Region 7 covers 13 million acres in Riverside, San Bernardino, San Diego, and Imperial Counties and only a small portion of the total Colorado River drainage area. The study area is located in Whitewater Hydrologic Unit/San Gorgonio Hydrologic Area/Banning Hydrologic Subarea Number 719.31. The ephemeral washes within the study area are tributary to desert rivers/washes, which ultimately drain into the Salton Sea. The surface runoff and precipitation during severe storm events would discharge into Smith Creek, to San Gorgonio River, to Whitewater River, and ultimately into the Salton Sea. The ephemeral washes and Salton Sea are "waters of the U.S." due to interstate and international commerce and the "sea" is subject to ebbs and flows with the tides in the Gulf of California (*Colvin v. United States, 181 F. Supp. 2d 1050 (C.D. Cal. 2001)*).

U.S. Army Corps of Engineers Delineation of Potential Jurisdictional Waters and Wetlands

The following is a discussion of site conditions relative to the USACE three-parameter wetland indicator system and the *Arid West Supplement.* Soil pits were dug to determine wetland status of specific areas in the drainages with two out of the three wetland indicators: hydrophytic plants and wetland hydrology. Notes were recorded onto Wetland Determination Data Forms for the Arid West Region (Appendix A). A discussion of wetland status and area of potential jurisdiction follows. A map of the potential jurisdictional wetlands and waters of the U.S. is provided as Figure 2.

Vegetation. Vegetation within the ephemeral channels within the study area is typically uniform with the surrounding upland plant community of dominant non-native annual grasses with scattered clusters of California buckwheat (*Eriogonum fasciculatum*). Vegetation within the channels that are only found on the upper terraces (inactive floodplain) are cottonwoods (*Populus deltoids* ssp. *fremontii*), athel (*Tamarix aphylla*), tree tobacco (*Nicotiania glauca*), eucalyptus (*Euclayptus* sp.),



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SOURCE: Bing Imagery, 2010; Google Earth, 2012; Riverside County, 2011

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- Project Boundary
- Additional Study Area (6.8 Ac)
- 8'/12' * Drainage Width (ACOE/CDFG)
- Sample Plot
- Culvert
- Ephemeral Stream
- Intermittent Stream
- No Flow*
- Perennial Flow
- Agricultural Ditch
- Inactive Oxbow
- Erosion
- Ponding Areas and Puddles (0.18 ac)
- Wetland Area (0.2 ac) (hydrophytic grasses due to sheet flow)

*Note: Where ACOE is 0', there is no Ordinary High Water Mark, CDFW jurisdiction only.
No Flow: no flow during August 2012 storm event.

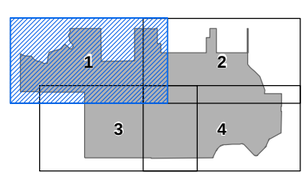
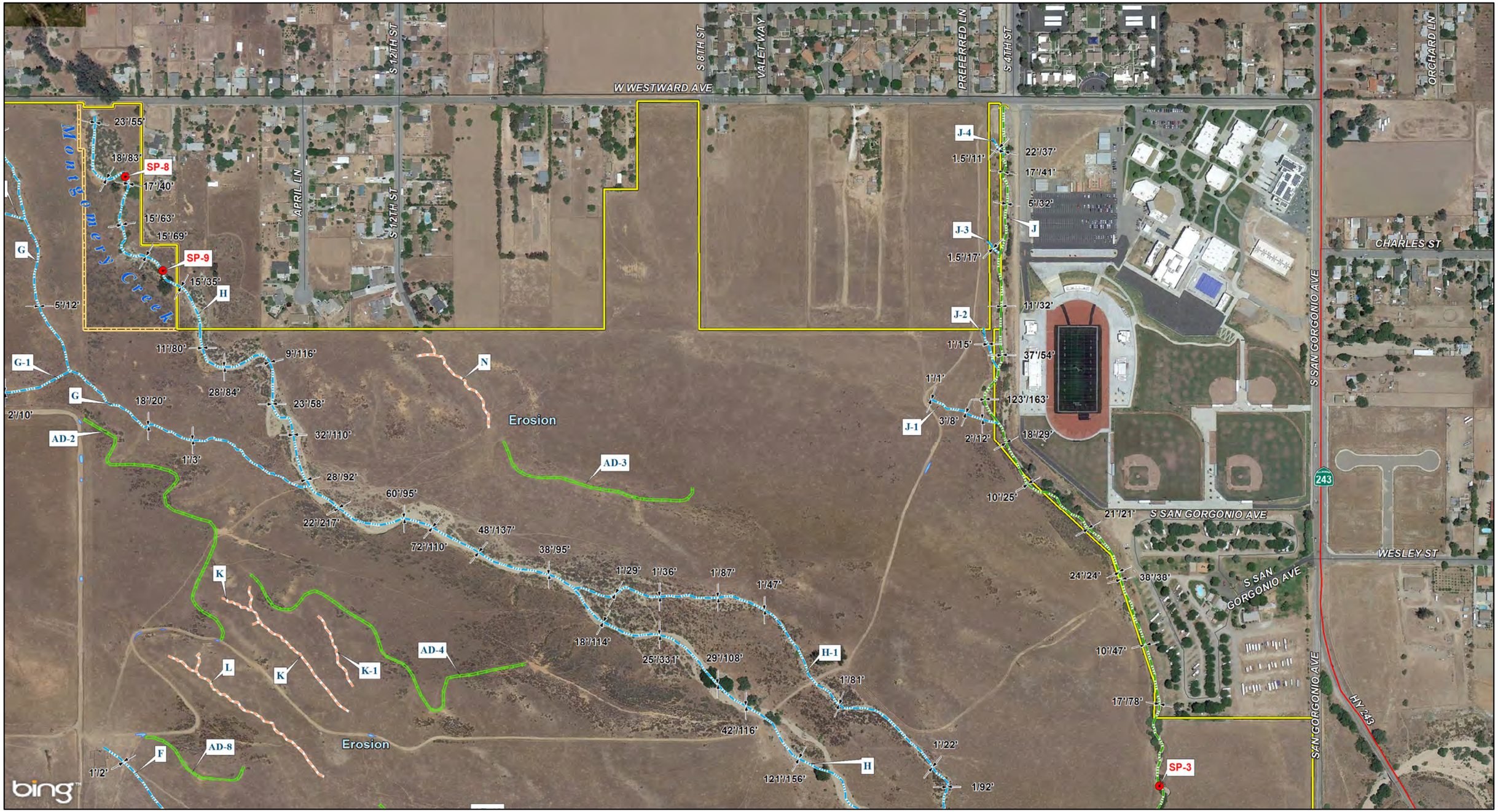


FIGURE 2
Sheet 1 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential Jurisdictional Features



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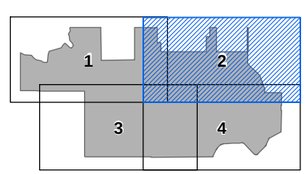
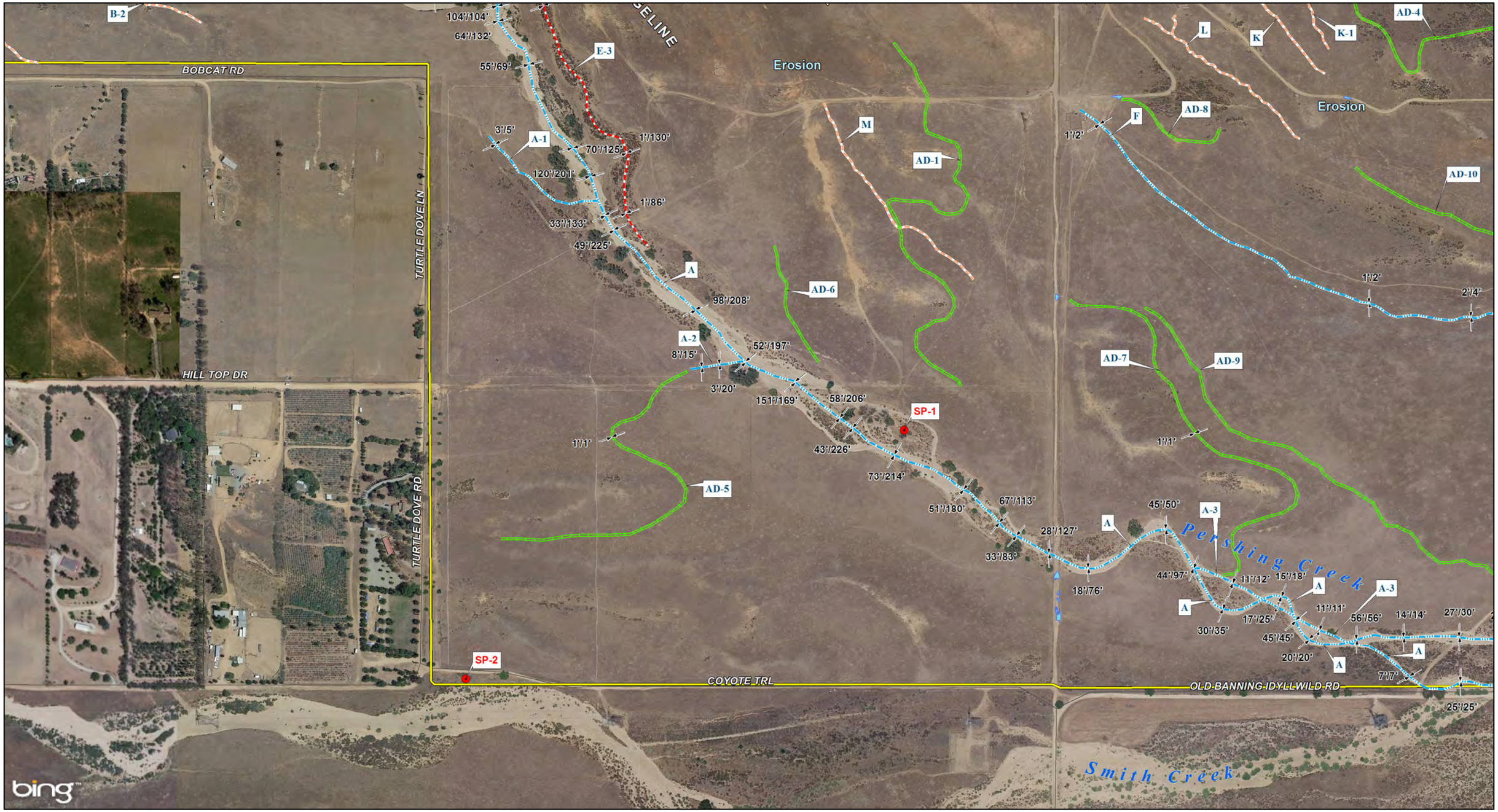


FIGURE 2
Sheet 2 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential Jurisdictional Features



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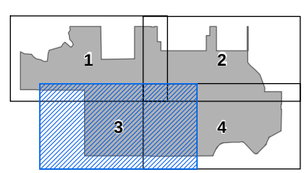
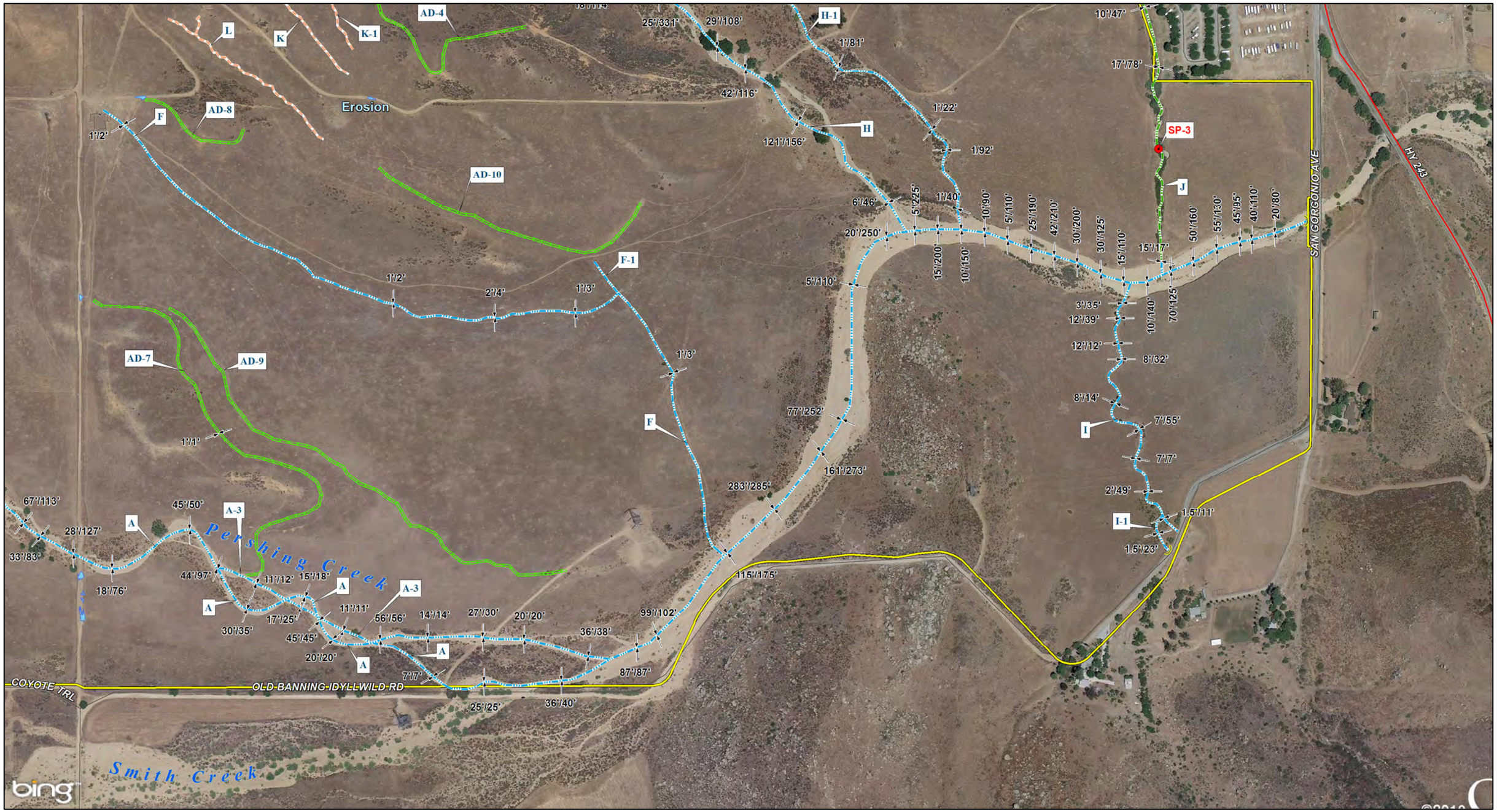


FIGURE 2
Sheet 3 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential Jurisdictional Features



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SOURCE: Bing Imagery, 2010; Google Earth, 2012; Riverside County, 2011

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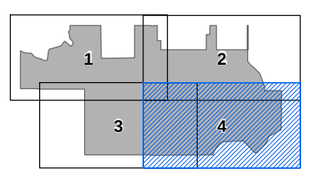


FIGURE 2
Sheet 4 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential Jurisdictional Features

palo verde (*Parkinsonia aculeata*), locust (*Robinia pseudoacacia*), tree of heaven (*Ailanthus altissima*), elderberry (*Sambucus nigra* ssp. *cerulean*), and coast live oak (*Quercus agrifolia*). Vegetation found on the lower terraces (active floodplain) are California buckwheat and Spanish broom (*Spartium junceum*) in isolated small patches.

The vegetation at Sample Points 2, 3, 4, and 7 meets the hydrophytic vegetation criteria. Sample Point 2 (Smith Creek) is in the lower southwestern most corner of the study area. Giant reed (*Arundo donax*) occurs in this streambed. Sample Point 3 is within the deeply incised drainage that carries surface runoff from a large municipal storm drain at 4th Street. Mule fat (*Baccharis salicifolia*) occurs throughout this channel. Another moist soil area is due to regular surface runoff from the street drains at the end of South Woodland Avenue. Four herbaceous hydrophytic wetland plants occur in the pasture adjacent to the narrow drainage/erosional feature at the Sample Points 4 and 7 located at the end of a constructed storm drain outlet at South Woodland Avenue. Hydrophytic plants were not dominant or present at Sample Points 1, 5, and 6. A complete list of plant species observed on the site is included in Appendix B.

The land encompassed the remainder of the upper reach of Montgomery Creek (Sample Points 8 and 9). Vegetation in these parcels is dominated by dense non-native grasses including red brome (*Bromus madritensis* ssp. *rubens*), common ripgut grass (*Bromus diandrus*), foxtail barley (*Hordeum murinum*), Mediterranean schismus (*Schismus barbatus*), wild oats (*Avena* spp.), and shortpod mustard (*Hirschfeldia incana*). Riversidean alluvial fan sage scrub occurs within the stream terrace, where it is dominated by California buckwheat, not scalebroom. Areas mapped as southern riparian scrub contain the following species: cottonwood (*Populus fremontii*), black locust (*Robinia pseudoacacia*), tree tobacco, tree of heaven, eucalyptus, arroyo willow (*Salix lasiolepis*), Goodding's willow (*Salix gooddingii*), blue elderberry (*Sambucus mexicana*), mule fat, and giant reed.

Soils. The soil type within the channels as mapped by the NRCS are sandy loams for a range of soil series, such as Cieneba, Greenfield, Hanford, Monserate, Ramona, and Tujunga (*Soil Survey for Western Riverside Area, California*, A.A. Knecht 1971 and SSURGO/Soil Data Mart 2003). All of these soils are non-hydric soils per the NRCS National Hydric Soils List.

Soil pits were dug for all nine sample points. Sample Point 1 was located in an unnamed dry blue-line ephemeral wash and the soils consisted of four horizons: a 10YR 5/4 matrix with no redox features from 0 to 5 inches, a 10YR 3/4 matrix with no redox features from 5 to 7 inches, a 10YR 3/4 matrix from 7 to 12 inches with redox features, and a 10YR 4/4 matrix with no redox features from 12 to 16 inches. The textures of each horizon were fine sand, loamy sand, silt loam, and coarse sand, respectively. The redox concentrations found in the third horizon layer were 10YR 3/2 in color and were located in the matrix, and satisfy the Hydric Soil Indicator for Sandy Redox (S5). Hydric soil is present.

Soils at Sample Point 2 consisted of a 10YR 4/3 matrix with no redox features from 0 to 18 inches. The texture was sandy and there was no top soil, both characteristics reflective of the dry ephemeral wash bed location in Smith Creek. No hydric soil indicators were present.

Soils at Sample Point 3 consisted of two soil horizons: a 10YR 4/3 matrix with no redox features from 0 to 10 inches, and a 10YR 4/3 matrix with no redox features from 11 to 18 inches. The textures were coarse sand and silty clay loam, respectively. No hydric soil indicators were present.

Soils at Sample Point 4 consisted of three soil horizons: a 10YR 3/2 matrix with no redox features from 0 to 7 inches, a 2.5–10YR (Gley) matrix with no redox features from 11 to 14 inches, and a 10YR 3/3 matrix with no redox features from 14 to 20 inches. The textures were sandy clay loam, loamy sand, and sandy loam, respectively. Hydrogen sulfide smell was detected in the Gleyed horizon, thus qualifying the soil as a hydric soil under the Hydrogen Sulfide (A4) hydric soil indicator.

Soils at Sample Point 5 consisted of a 10YR 3/3 matrix with no redox features from 0 to 17 inches. The texture was sandy loam. No hydric soil indicators were present.

Soils at Sample Point 6 consisted of a 10YR 3/2 matrix with no redox features from 0 to 17 inches. The texture was sandy loam. No hydric soil indicators were present.

Soils at Sample Point 7 consisted of three soil horizons: a 10YR 3/3 matrix with redox features from 0 to 7 inches, a 10YR 3/1 matrix with redox features from 7 to 11 inches, and a 10YR 3/3 matrix with no redox features from 11 to 20 inches. The textures were sandy loam, sandy loam, and loamy sand, respectively. The redox concentrations found in the first and second horizon layers were both 2.5YR 3/6 in color and were located in the matrix, and satisfy the Hydric Soil Indicator for Redox Depressions (F8). Hydric soil is present.

Sample Points 8 and 9 in the upper reach of Montgomery Creek lack the hydric soil characteristics based on the wetland determination sampling and analysis conducted in the field. No wetland areas occur in Montgomery Creek. Montgomery Creek enters the property through double 4-foot culverts under Westward Avenue with a large 30 foot by 40 foot concrete apron. The streambed consists of loose alluvial sand over densely consolidated cobble and boulders. The banks are composed of fine red-brown loam.

Hydrology. The three larger ephemeral washes in the study area (Sample Points 1 and 2) had substantial flows during the brief intense storm event on August 13, 2012. The 4th Street (Sample Point 3) and the South Woodland Avenue Sample drainages (Sample Points 4 and 7) receive continuous discharges of nuisance flows from the municipal storm drain system, although the flows are minimal and percolate into the ground prior to reaching the larger ephemeral washes. Smaller ephemeral features are hillside gullies and erosion rills that end in the pasture/fields when the slope flattens. There are also large inactive floodplain oxbows, terraces and gullies that did not have any flows during the recent storm event. Other quasi-hydrologic features in the study area are the agricultural ditches and berms constructed to build the dryland farming terraces. Refer to previously referenced Figure 2 for an aerial view of the potential jurisdictional waters, agricultural terraces, and erosion features. Appendix C provides the datasheets for the ephemeral washes and the other potential jurisdictional drainage features in the study area.

The Montgomery Creek streambed drops 15 to 20 feet in elevation approximately 600 feet south of Westward Avenue. Large boulders and concrete slab debris were previously placed in this estimated 100-foot section of the stream to stabilize the channel. There is no surface or ponded water in this reach of Montgomery Creek.

Wetland Status

The only wetland site in the study area is where the nuisance flows from South Woodland Avenue sheet flow into the pasture. All three wetland criteria were met at Sample Points 4 and 7. Refer to previously referenced Figure 2 map of USACE jurisdictional areas, including the incidental minor wetland and ponding sites. This is an artificially induced wetland due to street drain outlet. The total wetland area is 0.2 acre in the study area. Table C summarizes the sampling data and wetland determination criteria for each sample point.

Table C: Summary of Wetland Delineation Results for Banning 803

Sample Point	Vegetation Dominance Test Passed	Vegetation Prevalence Test Passed	FAC Neutral Test Passed	Wetland Hydrology		Soil Sample Taken	Hydric Soils	Wetland
				Primary Indicators	Secondary Indicators			
1	No	No	No	None	Yes	Yes	Yes	No
2	No	Yes	No	None	Yes	Yes	No	No
3	Yes	Yes	No	None	Yes	Yes	No	No
4	Yes	Yes	Yes	Yes	None	Yes	Yes	Yes
5	No	No	No	None	Yes	Yes	No	No
6	No	No	No	None	None	Yes	No	No
7	Yes	Yes	Yes	Yes	None	Yes	Yes	Yes
8	Yes	Yes	Yes	No	None	Yes	No	No
9	Yes	Yes	Yes	No	None	Yes	No	No

There are a few ponding areas and puddles in the southwest corner of the study area due to grading during the previous agricultural land use. These depressions are located on a hilltop that appears to have been terraced for dryland farming and do not drain into a downstream adjacent jurisdictional water.

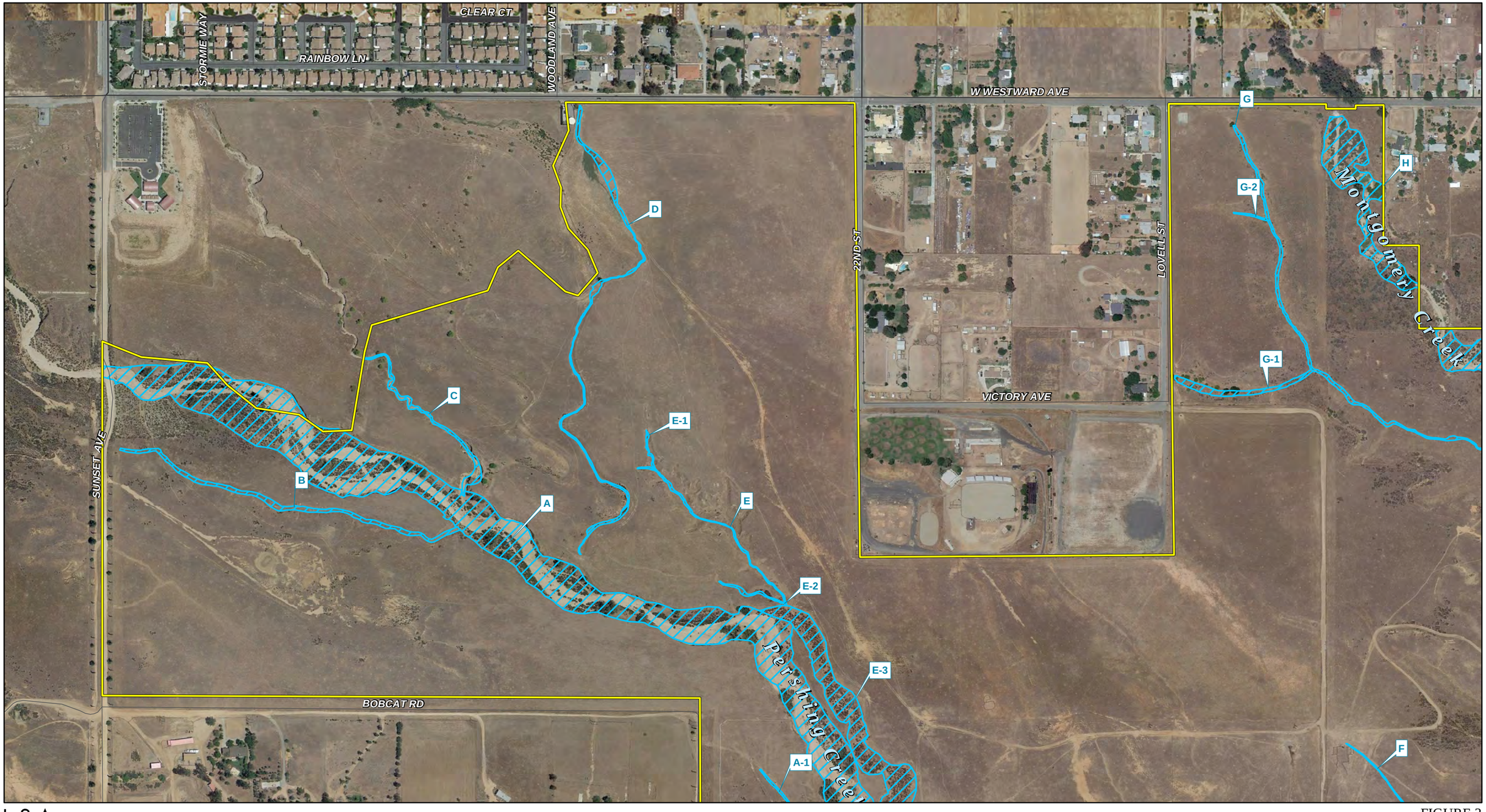
Based on these characteristics, CDFW jurisdiction has also been mapped. Refer to Figure 3 (Sheets 1 through 4) for a map of the potential CDFW jurisdiction based on the full extent of vegetation associated with the streambeds and banks. The wetland determination sample points for purposes of the CDFW jurisdictional delineation were selected based on the presence of hydric vegetation within active channels.

JURISDICTIONAL DETERMINATION

The study area contains several drainage features that were determined to be non-jurisdictional. This section provides additional information about these drainages in order to provide the USACE, CDFW, and RWQCB with details needed in order to concur with the non-jurisdictional determination.

Jurisdictional Waters

Under the current CWA regulations, the *1987 Manual* and *Arid West Supplement*, the following drainage features are determined to be within USACE jurisdiction:



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Project Boundary

Riparian/Riverine Area (CDFW Jurisdiction)

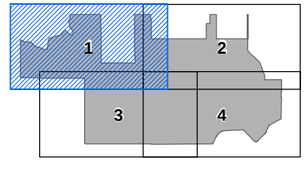


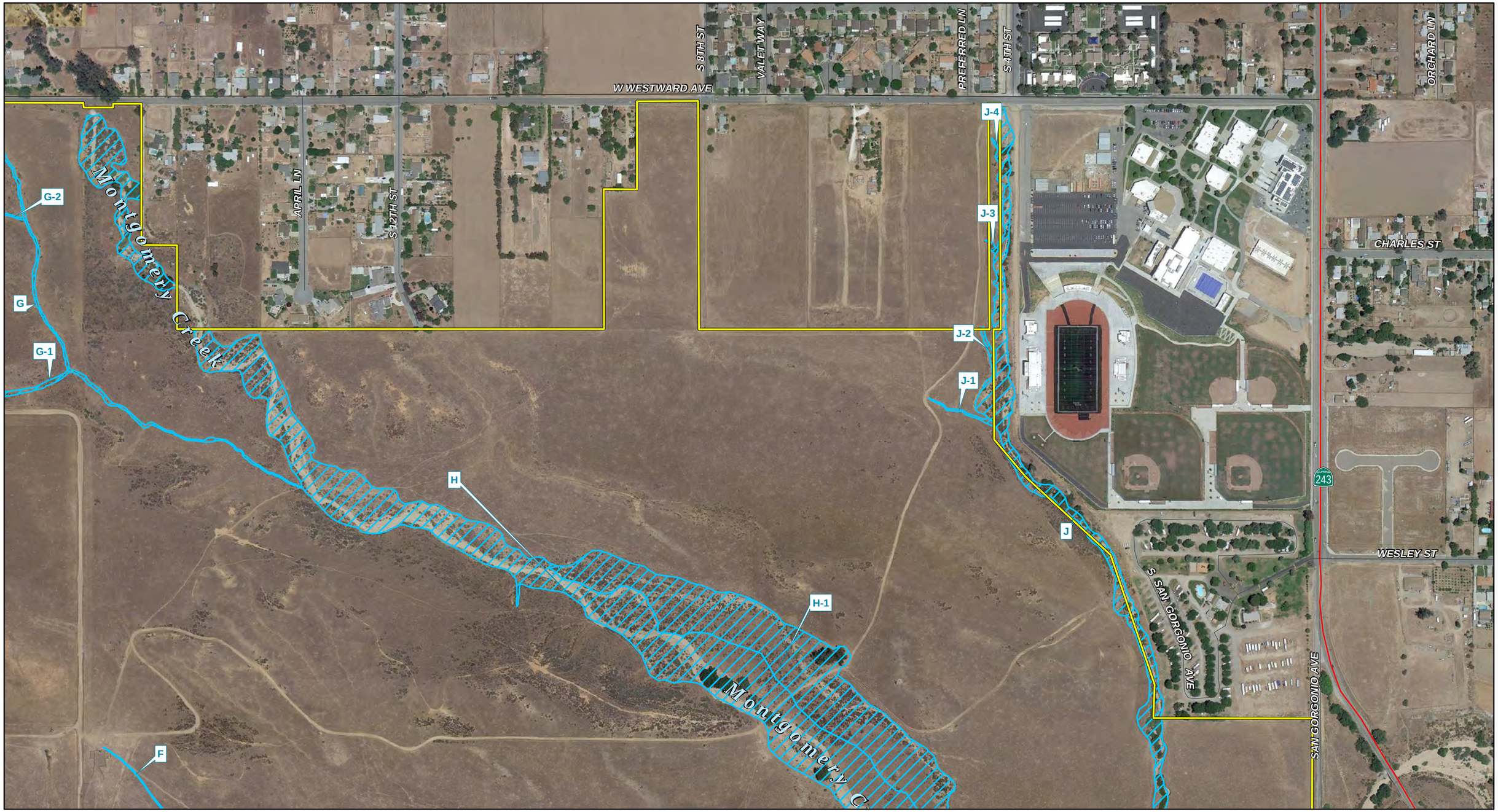
FIGURE 3
Sheet 1 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential CDFW Jurisdictional Areas

SOURCE: ESRI World Imagery, 2010; Google Earth, 2012; Riverside County, 2011

I:\PIE1201\Reports\JuriDel\fig3_RiparianRiverine.mxd (7/28/2015)



LSA

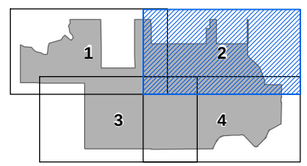
N

0 200 400

FEET

Project Boundary

Riparian/Riverine Area (CDFW Jurisdiction)



SOURCE: ESRI World Imagery, 2010; Google Earth, 2012; Riverside County, 2011

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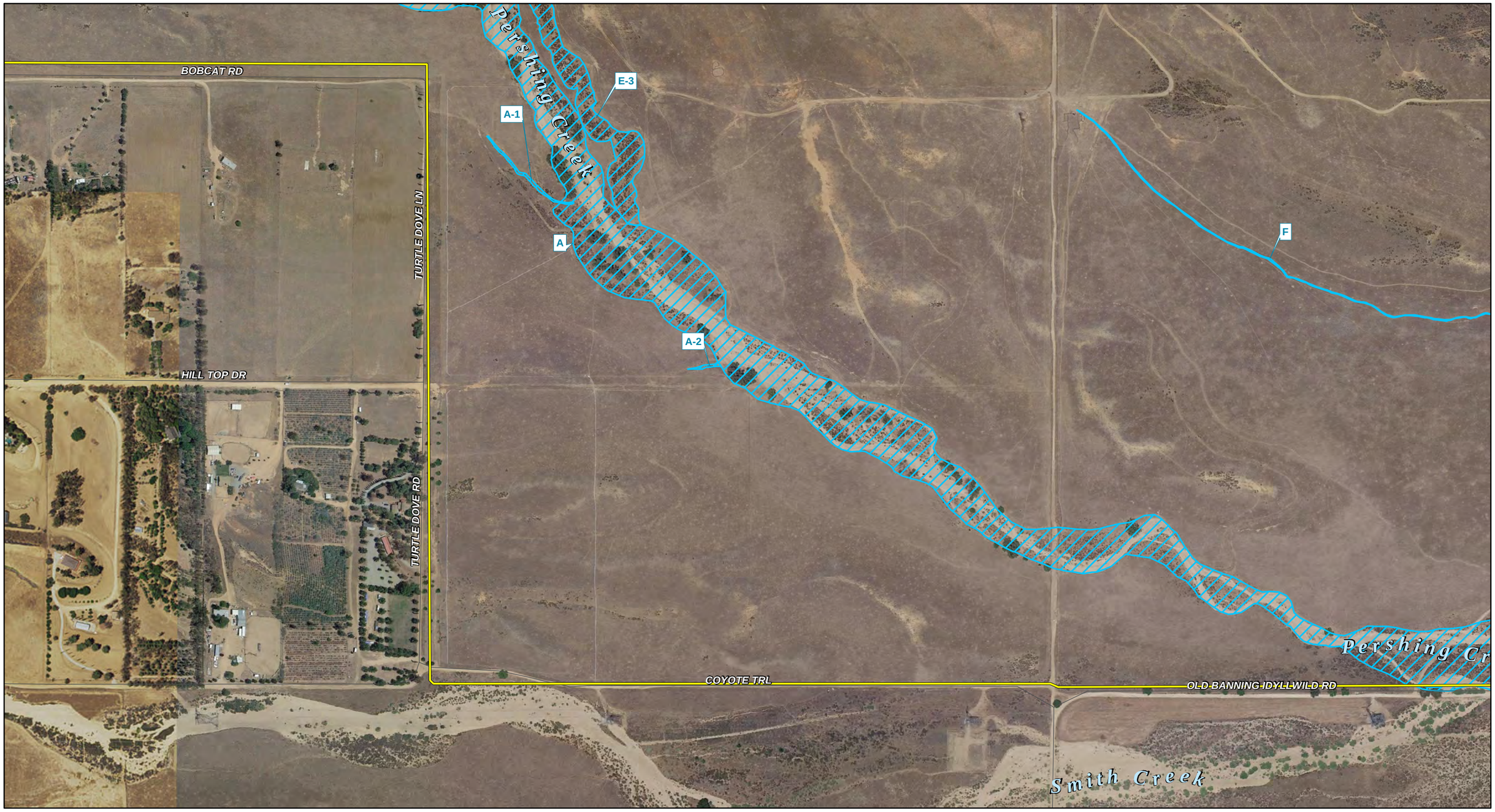
FIGURE 3
Sheet 2 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential CDFW Jurisdictional Areas



LSA

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Project Boundary

Riparian/Riverine Area (CDFW Jurisdiction)

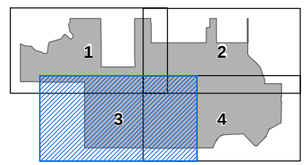

FIGURE 3
Sheet 3 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential CDFW Jurisdictional Areas

SOURCE: ESRI World Imagery, 2010; Google Earth, 2012; Riverside County, 2011

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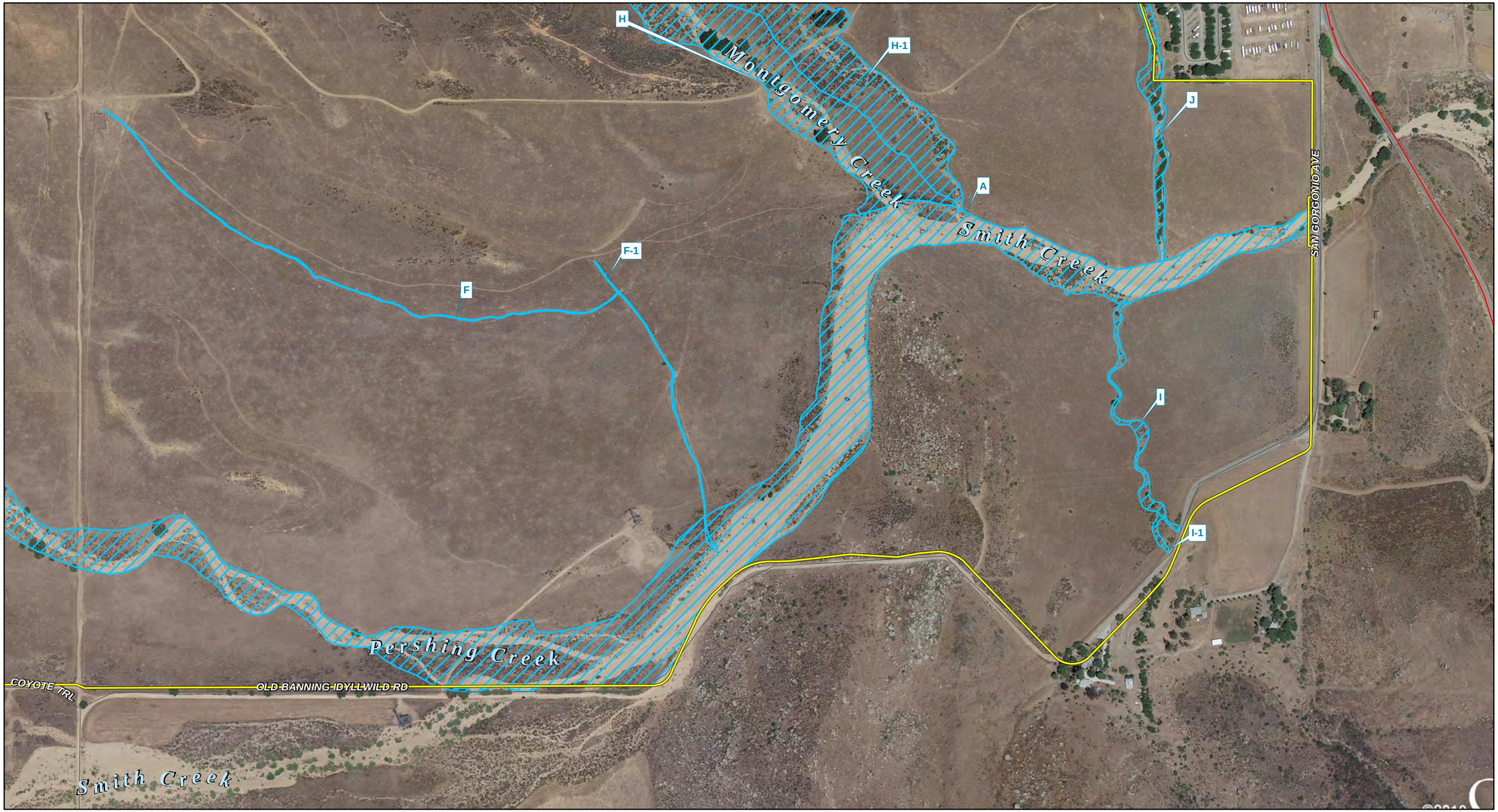

LSA

0 200 400

FEET

Project Boundary

Riparian/Riverine Area (CDFW Jurisdiction)

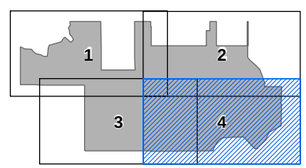

FIGURE 3
Sheet 4 of 4

Rancho San Gorgonio
Planned Community Project
Jurisdictional Delineation Report

Potential CDFW Jurisdictional Areas

SOURCE: ESRI World Imagery, 2010; Google Earth, 2012; Riverside County, 2011

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Pershing, Smith, and Montgomery Creeks, Fourth Street Channel, and Associated Natural Tributaries. These waters all are tributary to traditionally navigable waters or inland waters deemed jurisdictional by the USACE, i.e., Smith Creek, Pershing Creek, and Montgomery Creek.

Non-Jurisdictional Waters

Under the current CWA regulation, *1987 Manual* and *Arid West Supplement*, the following drainage features are excluded from USACE jurisdiction.

AD Features. The land has historically been used for dryland farming. Numerous contour berms have been constructed on the hills to divert and slow surface runoff. Most of these ditches are isolated and do not connect to a tributary or other water of the United States and thus are not jurisdictional. The project study area was used for grazing and cultivation in the past. These areas are identified with green cross hatching on Figure 2. The vegetation adjacent to and in the agricultural ditches is non-native grassland found throughout the project study area.

Features AD-5, AD-7, and D-1 to D-3. The project study area was used for grazing and cultivation in the past. These areas are identified with green cross hatching on Figure 2. Two agricultural drainage structures connect to Pershing Creek. The agricultural terraces have ditches that connect to Pershing Creek with a culvert or concrete slab on the stream bank. These are AD-5 and AD-7; although they may flow when a heavy rain occurs, these ditches were constructed in uplands, do not constitute relocated tributaries, do not drain wetlands and are not considered jurisdictional under the 2015 CWA Rule.

Features B-1 to B-4. These agricultural contour berms do not connect to a tributary or other water of the United States.

Feature B-5. Precipitation collects in the depression on the excavated ridgeline that was most likely used as a borrow pit for the road construction. The disturbance on the ridge has created a shallow 0.18-acre depression that collects rainfall. These artificial seasonal puddles created as a result of prior construction activities do not drain into Pershing Creek or adjacent tributaries. They do not provide habitat for Federal listed aquatic species nor wetland vegetation. Thus, these features are not considered jurisdictional.

Features K, L, M, and N. These gullies are hillside erosion and not do not connect to any tributaries or other waters of the United States. Therefore, these features are therefore not considered jurisdictional.

Potential USACE Jurisdictional Waters

Based on the analysis of the field data, the total potential Federal jurisdiction within the study area is 42,708.4 linear feet and 28.9 acres.

Nexus. The drainages that are tributary to and contiguous with Smith Creek are likely jurisdictional under the Clean Water Rule, and due to potential influences upon downstream riparian, habitat, and water bodies. Smith Creek is upstream of San Gorgonio Creek, Whitewater River, and finally the Salton Sea. The creeks, rivers, and the inland sea are considered waters of the U.S.

California Department of Fish and Wildlife Potential Streambed and Riparian Habitat

The CDFW (State) jurisdiction is based on the bed and bank of the ephemeral washes and minor drainages, together with associated riparian/riverine vegetation. CDFW jurisdiction includes the full extent of vegetation found in the active and inactive floodplain of drainages, but vegetation in the upland areas, such as mule fat, giant reed, scalebroom, cottonwood, and tamarisk.

Based on the supplemental assessment and analysis of the field data, the total area of potential CDFW jurisdictional streambed within the entire study area is 73.7 acres, based on bed and bank, and adjacent Riversidean alluvial fan sage scrub habitat, a type of riverine/riparian habitat associated with the coastal and desert streams, upper benches, and flood terraces.

CONCLUSIONS: PROPOSED FILL

Based on the analysis of the field data, the total potential Federal jurisdiction within the study area is 42,708.4 linear feet and 28.9 acres. Based on the supplemental assessment and analysis of the field data, the total area of potential CDFW jurisdictional streambed within the entire study area is 73.7 acres. The currently proposed project involves two road crossings of Pershing/Smith Creek and filling all adjacent tributaries. Fourth Street Channel will be partially filled in sections located within the project. Proposed permanent impacts include placing fill into 28,125.8 linear feet in 6.9 acres of waters of the U.S. and 26.3 acres within CDFW jurisdiction.

The USACE has been slow to process permit application review requests over the past year. Therefore, LSA recommends a preliminary jurisdictional determination to expedite the permitting process.

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until officially verified by the USACE pursuant to a preliminary jurisdictional determination process, and by the CDFW.

REFERENCES

California, State of. 1994. California Fish and Wildlife Code. *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600–1607.*

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Environmental Protection Agency. 2015. *Clean Water Rule*. (http://www2.epa.gov/cleanwaterrule).

Lichvar, Robert W., and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapel Hill, NC.

Lichvar, Robert W., and Shawn M. McColley. 2008. Field Guide to Identification of Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, U.S. Army Corps of Engineers, ERDC/EL TR-08-12, August.

U.S. Army Corps of Engineers. 1992. CECW-OR Memorandum: Clarification and interpretation of the 1987 manual.

U.S. Army Corps of Engineers. 2007. Rapanos and Carabell. www.epa.gov/owow/wetlands/pdf/CWA_Jurisdiction_Following_Rapanos.

U.S. Army Corps of Engineers. 2007. http://www.usace.army.mil/cw/cecwo/reg/cwa_guide/guidhigh_06-05-07.pdf.

U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, U.S. Army Corps of Engineers, ERDC/EL TR-08-12., September.

U.S. Department of Agriculture Soil Conservation Service. 1971. *Soil Survey of the Western Riverside Area, California*.

U.S. Geological Survey. 1996. *Beaumont, California* 7.5-minute quadrangle.

APPENDIX A

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Banning 803 (PIE1201) City/County: Banning/ Riverside Co. Sampling Date: 8/20/2012

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #1

Investigator(s): CB, WW Section, Township, Range: S17, T03S, R01E

Landform (hillslope, terrace, etc.): Dry creek channel Local relief (concave, convex, none): none Slope (%): <3%

Subregion (LRR): C- Mediterranean California Lat: 33° 54′ 24″ N Long: 116° 53′ 49″ W Datum: WGS 1984

Soil Map Unit Name: NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Recent thunderstorm events created unusual flood events in the local creeks, streams, and channels. Aug. 13: 0.38" precipitation; Aug. 17: 0.19" precipitation. Sample pit located within dry unnamed blue-line creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15' x 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix aphylla	30%	Y	FAC
2. Populus deltoides ssp. fremontii	10%	Y	FAC
3.			
4.			
	40% = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 15' x 15')			
1. Bromus madritensis	20%	Y	UPL
2. Bromus diandrus	20%	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	40% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 60% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 0	x 1 =	
FACW species 0	x 2 =	
FAC species 40%	x 3 =	120
FACU species 0	x 4 =	
UPL species 40%	x 5 =	200
Column Totals: 80 (A)		320 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

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SOIL

Sampling Point: #1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-5"	10YR 5/4	100%					Sand- fine	
5-7"	10YR 3/4	100%					-------->	loamy Sand
7-12"	10YR 3/4	90%	10YR 3/2	10%	C	M	silt loam	fine roots present within layer
12-16"	10YR 4/4	100%					-------->	coarse sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ✓ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

- Hydric soil is present under the sandy redox indicator (S5) in this location. The redox is significant (10% of the matrix). The fact the layer containing the redox starts at 7" from the soil surface rather than the 6" listed in the S5 technical requirement could be attributed to the recent flash flood event. This storm event caused additional sand to be deposited in the area, resulting in a deeper redox layer than under normal conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drift deposits and drainage patterns were evident; however this is most likely due to the recent flash flood event.

US Army Corps of Engineers

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Banning 803 (PIE1201) City/County: Banning/ Riverside Co. Sampling Date: 8/20/2012

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #2

Investigator(s): CB, WW Section, Township, Range: S17, T03S, R01E

Landform (hillslope, terrace, etc.): Dry creek bed Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 54' 12.40" N Long: 116° 54' 9.04" W Datum: WGS 1984

Soil Map Unit Name: NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Sample pit located in Smith Creek. Recent thunderstorms created unusual flash flood events in the local creeks, streams, and channels. Aug. 13: 0.38" precipitation; Aug. 17: 0.19" precipitation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' x 5')			
1. Arundo donax	30	Y	FACW
2. Eriogonum fasciculatum	10	Y	UPL
3.			
4.			
5.			
	40% = Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Bromus madritensis	1	Y	UPL
2. Schismus P. Beauv	0.5	Y	UPL
3. Hirschfeldia incana	0.5	Y	UPL
4.			
5.			
6.			
7.			
8.			
	2% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 98% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	12	x 5 =	60
Column Totals:	42 (A)		120 (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

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SOIL

Sampling Point: #2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-18"	10YR 4/3	100%					sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

- No hydric soils present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drift deposits were evident at this sample point; however due to the point's location within a known riverine environment, this indicator alone is not sufficient to determine if wetland hydrology is present.

US Army Corps of Engineers

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Banning 803 (PIE1201) City/County: Banning/ Riverside Co. Sampling Date: 8/20/2012

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #3

Investigator(s): CB, WW Section, Township, Range: S16, T03S, R01E

Landform (hillslope, terrace, etc.): drainage ravine Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 54′ 35″ N Long: 116° 52′ 44″ W Datum: WGS 1984

Soil Map Unit Name: NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Sample pit located in a steep-walled dry drainage ravine, connected to Smith Creek. Recent thunderstorms created unusual flash flood events in the local creeks, streams, and channels. Aug. 13: 0.38" precipitation; Aug. 17: 0.19" precipitation.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' x 5')			
1. Baccaris salicifolia	70		FAC
2.			
3.			
4.			
5.			
	70% = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		210 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

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SOIL

Sampling Point: #3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 4/4	100%					-------->	coarse sand
11-18"	10YR 4/4	100%					-------->	silty clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

- No hydric soils present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drift deposits were evident at this sample point; however, due to the point's location within a known riverine environment, this indicator alone is not sufficient to determine if wetland hydrology is present.

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Banning 803 (PIE1201) City/County: Banning/ Riverside Co. Sampling Date: 8/20/2012

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #4

Investigator(s): CB, ML, WW Section, Township, Range: S17, T03S, R01E

Landform (hillslope, terrace, etc.): Shallow basin and streambed Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 55' 2.91" N Long: 116° 54' 17.63" W Datum: WGS 1984

Soil Map Unit Name: NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

Sample pit located approximately 150ft. south of culvert that directs water under W. Westward Avenue. This artificially created wetland area is found within the entire streambed width. Water has the potential to connect with Smith Creek. Recent thunderstorms created unusual flash flood events in the local creeks, streams, and channels. Aug. 13: 0.38" precipitation; Aug. 17: 0.19" precipitation.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Polypogon monspeliensis	30	Y	FACW
2. Echinochloa crus-galli	30	Y	FACW
3. Veronica anagallis-aquatica	5	N	OBL
4.			
5.			
6.			
7.			
8.			
	65% = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 35% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 150% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		125 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

Wetland area is found within an actively grazed cattle pasture. Highly disturbed vegetation.

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SOIL

Sampling Point: #4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/2	100%					----->	Sandy clay loam
11-14"	2.5 - 10YR(Gley)	100%					----->	Loamy Sand; Sulfuric Smell
14-20"	10YR 3/3	100%					----->	Sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

- Sample pit located approximately 18" from shallow area of standing water; source is upland culvert.
- Gley value is not greater than 4; however, hydrogen sulfide odor is present within 12" of the matrix, which indicates hydric soils are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Banning 803 (PIE1201) City/County: Banning/ Riverside Co. Sampling Date: 8/20/2012

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #5

Investigator(s): CB, ML, WW Section, Township, Range: S17, T03S, R01E

Landform (hillslope, terrace, etc.): Shallow basin and streambed Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 55′ 0.96″ N Long: 116° 54′ 17.36″ W Datum: WGS 1984

Soil Map Unit Name: NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:

Sample pit located approximately 350ft. south of culvert that directs water under W. Westward Avenue. Water draining from this area has the potential to connect with Smith Creek. Recent thunderstorms created unusual flash flood events in the local creeks, streams, and channels. Aug. 13: 0.38" precipitation; Aug. 17: 0.19" precipitation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Amaranthus albus	35	Y	FACU
2. Ambrosia acanthicarpa	20	Y	UPL
3. Polypogon monspeliensis	15	Y	FACW
4. Hirschfeldia incana	2	N	UPL
5.			
6.			
7.			
8.			
	74% = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 26% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	37	x 4 =	148
UPL species	22	x 5 =	110
Column Totals:	74 (A)		288 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

Sample pit is located within an actively grazed cattle pasture. Highly disturbed vegetation.

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SOIL

Sampling Point: #5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-17"	10YR 3/3	100%					----->	Sandy loam; Uniform horizon

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

- No hydric soil present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drift deposits most likely due to surface water flow produced by the recent storm event.

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Banning 803 (PIE1201) City/County: Banning/ Riverside Co. Sampling Date: 8/20/2012

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #6

Investigator(s): CB, ML, WW Section, Township, Range: S17, T03S, R01E

Landform (hillslope, terrace, etc.): Shallow basin and streambed Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 55' 1.32" N Long: 116° 54' 16.38" W Datum: WGS 1984

Soil Map Unit Name: NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✓

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Sample pit located approximately 350ft. south of culvert that directs water under W. Westward Avenue. Water draining from this area has the potential to connect with Smith Creek. Recent thunderstorms created unusual flash flood events in the local creeks, streams, and channels. Aug. 13: 0.38" precipitation; Aug. 17: 0.19" precipitation.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Cynodon dactylon	50	Y	FACU
2. Cyperus eragrostis	30	Y	FACW
3. Echinochloa crus-galli	15	N	FACW
4.			
5.			
6.			
7.			
8.			
	95% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 5% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	95 (A)		290 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Sample pit is located within an actively grazed cattle pasture. Highly disturbed vegetation.

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SOIL Sampling Point: #6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-17"	10YR 3/3	100%					----->	Sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

- No hydric soil present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturated soil was found within a 2-foot radius of this sample pit; however, the soil excavated from this sample pit was merely damp.

US Army Corps of Engineers Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Banning 803 (PIE1201) City/County: Banning/ Riverside Co. Sampling Date: 8/20/2012

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #7

Investigator(s): CB, ML, WW Section, Township, Range: S17, T03S, R01E

Landform (hillslope, terrace, etc.): Shallow basin and streambed Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 55' 1.32" N Long: 116° 54' 16.30" W Datum: WGS 1984

Soil Map Unit Name: NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

Sample pit located approximately 350 ft. south of culvert that directs water under W. Westward Avenue. Water draining from this area has the potential to connect with Smith Creek. Recent thunderstorms created unusual flash flood events in the local creeks, streams, and channels. Aug. 13: 0.38" precipitation; Aug. 17: 0.19" precipitation.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Cyperus eragrostis	45	Y	FACW
2. Echinochloa crus-galli	45	Y	FACW
3. Cynodon dactylon	10	N	FACU
4.			
5.			
6.			
7.			
8.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		220 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

Sample pit is located within an actively grazed cattle pasture. Highly disturbed vegetation.

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SOIL

Sampling Point: #7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/3	60%	2.5 YR 3/6	30%	C	PL	----->	Sandy loam
7-11"	10YR 3/1	60%	2.5 YR 3/6	30%	C	PL	----->	Sandy loam
11-20"	10YR 3/3	100%					----->	Loamy sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

Hydric soils exist under Indicator F8: At least 2" of redox concentrations exist within 6" of the soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Rancho san Gorgonio (PIE1201A) City/County: Banning/ Riverside Co. Sampling Date: 4/05/2013

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #8

Investigator(s): ML, SS Section, Township, Range: S16, T03S, R01E

Landform (hillslope, terrace, etc.): arroyo and streambed Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 55' 39" N Long: 116° 53' 92" W Datum: WGS 1984

Soil Map Unit Name: TvC: Tujunga loamy sand, channeled, 0 to 8 percent slopes NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	Is the Sampled Area within a Wetland? Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Sample pit located approximately 350 ft. south of culvert that directs water under W. Westward Avenue.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 20 ft x 20 ft)			
1. Arundo Donax	50	D	FACW
2.			
3.			
4.			
5.			
	50 = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 50	x 2 = 100
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 50 (A)	100 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Montgomery Creek reach below Westward Avenue.

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SOIL

Sampling Point: #8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 4/4	100	0	0	0	0	----->	cobble, river wash, loose sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

US Army Corps of Engineers

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Rancho San Gorgonio (PIE1201A) City/County: Banning/ Riverside Co. Sampling Date: 4/05/2013

Applicant/Owner: Diversified Pacific Opportunity Fund (DPOF) State: CA Sampling Point: #9

Investigator(s): ML, SS Section, Township, Range: S16, T03S, R01E

Landform (hillslope, terrace, etc.): arroyo and streambed Local relief (concave, convex, none): none Slope (%): <2%

Subregion (LRR): C- Mediterranean California Lat: 33° 55' 62" N Long: 116° 53' 37" W Datum: WGS 1984

Soil Map Unit Name: TvC: Tujunga loamy sand, channeled, 0 to 8 percent slopes NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 ft x 20 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus fremontii	50	D	FACW
2.			
3.			
4.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		100 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Montgomery Creek reach below Westward Avenue.

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SOIL

Sampling Point: #9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12"	10YR 4/4	100	0	0	0	0	--->	cobble, river wash, loose sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: bedrock

Depth (inches): 12 inches

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

US Army Corps of Engineers

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APPENDIX B

POTENTIAL JURISDICTION WATERS

Appendix B: Potential Jurisdictional Features/Areas.

Label	Jurisdictional ACOE/CDFW? (Y/N)	Length	ACOE average width	CDFG average width	ACOE acres	CDFG acres
A: **Pershing /Smith Creek** (ephemeral wash)	Y tributary to TNW	14,449.69	100	200	20.20	43.39
A: outside of project limits	Y tributary to TNW	467.00	91	253	0.58	1.75
A-1: ephemeral tributary	Y tributary to TNW	589.97	3	5	0.04	0.07
A-2: ephemeral tributary	Y tributary to TNW	234.19	5	18	0.03	0.10
A-3: braided channel in ephemeral tributary	Y associated with adjacent waters	835.37	11	12	0.23	1.05
AD-1: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-2: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-3: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-4: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-5: agricultural contour berm	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-6: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-7: agricultural contour berm	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-8: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-9: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
AD-10: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
B: ephemeral tributary	Y tributary to TNW	1,601.64	5	20	0.34	0.83
B-1: hillside erosion	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-

Appendix B: Potential Jurisdictional Features/Areas.

Label	Jurisdictional ACOE/CDFW? (Y/N)	Length	ACOE average width	CDFG average width	ACOE acres	CDFG acres
B-2: hillside erosion	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
B-3: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
B-4: agricultural contour berm	N no connection to a tributary and excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
B-5: ponding areas (0.18 ac.)	N Not vernal pools and no listed fairy shrimp, artificially created by scrapping off ridge	-	-	-	-	-
C: ephemeral tributary	Y tributary to TNW	972.49	12	15	0.23	0.32
D: ephemeral tributary	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
D-1: agricultural contour berm	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
D-1: outside of project limits	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
D-2: agricultural contour berm	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
D-3: perennial stream	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
D-3: perennial wetland area	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
E: ephemeral tributary	Y associated with adjacent waters	950.86	2	6	0.04	0.14
E1: ephemeral tributary	Y associated with adjacent waters	180.08	2	8	0.01	0.02
E2: ephemeral tributary	Y associated with adjacent waters	313.86	1	9	0.00	0.06
E-3: perched disconnected oxbow	Y adjacent waters per 2015 CWA Rule	1,516.23	1	108	0.03	3.51
F: ephemeral tributary	Y tributary to TNW	3,778.65	1	3	0.10	0.23
F1: ephemeral tributary	Y tributary to TNW	168.67	1	3	0.00	0.01
G: ephemeral tributary	Y tributary to TNW	2,377.10	12	15	0.42	0.66
G1: ephemeral tributary	Y tributary to TNW	633.63	2	10	0.05	0.23
G2: ephemeral tributary	Y tributary to TNW	153.67	1	3	0.00	0.01
H: **Montgomery Creek**	Y tributary to TNW	5,174.00	30	100	4.21	13.38

Appendix B: Potential Jurisdictional Features/Areas.

Label	Jurisdictional ACOE/CDFW? (Y/N)	Length	ACOE average width	CDFG average width	ACOE acres	CDFG acres
H: outside of project limits	Y tributary to TNW	224.00	25	25	0.07	0.30
H-1: oxbow	Y adjacent waters per 2015 CWA Rule	2,293.68	1	56	0.05	2.92
I:	Y tributary to TNW	1,236.71	10	30	0.22	0.71
I-1	Y tributary to TNW	173.34	2	11	0.01	0.09
J: **Fourth Street Channel**	Y tributary to TNW	1,283.00	10	50	0.71	1.50
J: outside of project limits	Y Drainage constructed in tributary to TNW	2,428.77	2	15	1.33	2.46
J-1	Y tributary to TNW	305.00	3	10	0.01	0.05
J-1: outside of project limits	Y tributary to TNW	14.90	3	10	0.001	0.001
J-2	Y tributary to TNW	153.00	1	15	0.004	0.05
J-2: outside of project limits	Y tributary to TNW	35.47	1	15	0.001	0.015
J-3	Y tributary to TNW	65.00	1	17	0.001	0.03
J-3: outside of project limits	Y tributary to TNW	13.24	1	17	0.001	0.015
J-4	Y tributary to TNW	58.00	1	11	0.001	0.015
J-4: outside of project limits	Y tributary to TNW	27.18	1	11	0.001	0.007
K: hillside erosion	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
K-1: hillside erosion	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
L: hillside erosion	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
M: hillside erosion	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
N: hillside erosion	N excluded from definition of Waters of the U.S. per 2015 CWA Rule	-	-	-	-	-
Grand Total		42,708.4	-	-	28.9	73.7

APPENDIX C

POTENTIAL IMPACTS TO JURISDICTIONAL WATERS

Appendix C: Potential Impacts to Waters of the U.S. and CDFW Jurisdiction

Label	Length	ACOE area (acres)	CDFW area (acres)
A	84.31	0.11	0.43
A-1	435.23	0.03	0.05
A-2	136.90	0.02	0.05
A-3	835.37	0.23	1.05
A-5	1,741.94	0.07	0.07
A-7	2,023.73	0.03	0.03
B	1,589.53	0.34	0.82
C	949.63	0.21	0.31
E	950.86	0.04	0.14
E-1	180.08	0.01	0.02
E-2	313.86	0.001	0.06
E-3	1,516.23	0.03	3.51
F	3,623.34	0.09	0.22
F-1	168.67	0.004	0.01
G	2,377.10	0.42	0.66
G-1	633.63	0.05	0.23
G-2	153.67	0.003	0.01
H	5,173.59	4.21	13.38
H-1	2,289.54	0.05	2.91
I	911.93	0.18	0.56
I-1	173.34	0.01	0.09
J	1,283.08	0.71	1.50
J-1	304.71	0.007	0.05
J-2	152.66	0.003	0.05
J-3	64.64	0.001	0.03
J-4	58.25	0.001	0.01
Grand Total	**28,125.8**	**6.9**	**26.3**

APPENDIX E

MSHCP/DBESP REPORT