Determination of Biologically Equivalent or Superior Preservation Report

Markham Street Extension Project

County Project No. D1-0078

Riverside County, California

April 2024

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1 Executive Summary

The County of Riverside Transportation Department (County) is proposing roadway improvements to Markham Street between Roosevelt Street and Wood Road for approximately 1.3 miles in the community of Woodcrest in Riverside County, California. The purpose of the Markham Street Extension Project (Project) is to improve traffic circulation within the community. The Project is subject to the requirements of the California Environmental Quality Act (CEQA). The County will serve as the CEQA lead for the Project.

The purpose of this Determination of Biologically Equivalent or Superior Preservation (DBESP) Report is to assess the Project's consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (WRCMSHCP) and demonstrate that the proposed mitigation for impacts on WRCMSHCP covered resources is biologically equivalent or superior to the existing conditions in the Project area if left undisturbed. The assessment is based on the results presented in the *Biological Resources Technical Report* prepared for the Project (HDR 2024).

The Project area is located within the WRCMSHCP's burrowing owl (BUOW) survey area. Suitable BUOW habitat was identified within and adjacent to the Project area. Focused BUOW surveys were conducted for the Project in 2022, and no BUOW or active burrows were identified. To comply with the WRCMSHCP, a preconstruction survey for BUOW will be required prior to Project clearing, grading, and construction activities. The Project area is not located within any other WRCMSHCP Species Survey Areas.

The Project area supports riparian/riverine areas protected under WRCMSHCP Section 6.1.2 Riparian/Riverine associated with Mockingbird Canyon Creek, which traverses the Project area from east to west. Permanent impacts to 2.26 acres (1.69 acres native riparian, 0.57 acre non-native/invasive), and temporary impacts to 0.44 acre of riparian habitat (0.37 acre native riparian, 0.07 acre non-native/invasive) of MSHCP Section 6.1.2 Riparian/Riverine resources would occur as a result of Project implementation. Measures will be implemented to avoid and minimize potential Project impacts on riparian habitat.

Mitigation for permanent direct impacts on riparian habitat will be provided through permittee-responsible mitigation in the form of establishment, restoration, and/or enhancement of riparian habitat at a suitable location to provide Biologically Equivalent or Superior Preservation of Habitat. Compensatory mitigation will be accomplished within the WRCMSHCP Planning Area. Mitigation for permanent impacts to 2.26 acres of riparian habitat within Mockingbird Canyon Creek would be provided at a ratio of 2:1, totaling 4.52 acres of mitigation Six sites were identified in the region as suitable mitigation for the Project. The preferred compensatory mitigation option is to implement permittee-responsible mitigation at the Santa Ana Watershed Authority (SAWA) Mockingbird Conservation Easement located south of the intersection of Markham Street and Roosevelt Street or on Western Riverside County Regional Conservation Authority (WRC RCA) owned parcels associated with Temescal Creek.

Riparian habitat within and adjacent to the Project area is suitable for least Bell's vireo (LBV; *Vireo bellii pusillus*) and southwestern willow flycatcher (SWFL; *Empidonax traillii extimus*). Focused riparian bird surveys were conducted in 2022. Nesting LBV were documented throughout the riparian corridor associated with Mockingbird Canyon Creek. SWFL were determined to be absent as a nesting species

from the Project area. Permanent impacts to 1.59 acre and temporary impacts to 0.35 acre of MSHCP Section 6.1.2 Riparian/Riverine resources suitable to support nesting LBV would occur as a result of Project implementation. Measures will be implemented to avoid and minimize potential Project impacts on LBV and their habitat. To meet the criteria of a biologically equivalent or superior alternative, compensatory mitigation for permanent impacts to LBV nesting habitat will be provided at a ratio of 2:1 for permanent loss, which would also account for temporal loss of LBV nesting habitat while mitigation habitat is being established. A minimum of 3.53 acres of the 4.52 acres of mitigation habitat discussed above will consist of habitat suitable to support LBV, resulting in a 2:1 replacement of LBV habitat within the WRCMSHCP Planning Area. In addition, any temporary impacts to riparian habitat that is not restored onsite will be mitigated at a 1.1 ratio off site.

2 Introduction

This DBESP Report presents the findings of biological resources field studies conducted for the Project, includes an analysis of potential Project impacts on WRCMSHCP resources, and presents proposed mitigation that is biologically equivalent or superior to existing conditions in the Project area.

2.1 Project Area

The Project is located in Riverside County, California and is located in the northwestern corner of the *Steele Peak, California* United States (U.S.) Geological Survey 7.5-minute quadrangle, specifically in Section 31, Township 3 South, Range 4 West. The center of the Project is located at approximately 33.8581° latitude, -117.3402° longitude. The Project is located in a semi-rural area with vacant land, single-family homes, business properties, and water district properties utilized for a sewer-lift station and water-pumping station. Existing utilities in the Project area consist of an overhead power line, water lines, a gas line, and communication lines.

2.2 Project Description

The County is proposing roadway improvements to Markham Street between Roosevelt Street and Wood Road for approximately 1.3 miles in the community of Woodcrest in Riverside County, California (Figure 2-1 and Figure 2-2). The purpose of the Project is to improve traffic circulation within the community. The Project is subject to the requirements of the California Environmental Quality Act (CEQA). The County will serve as the CEQA lead for the Project.

The design of the 1.3-mile roadway section for Markham Street between Roosevelt Street and Wood Road accommodates an ultimate secondary highway configuration per the County General Plan Circulation Element, with two lanes in each direction; however, the proposed roadway improvements as part of the Project would only include one lane in each direction along the southern half of the ultimate roadway section. In the future, the County may elect to construct two additional lanes along the northern portion of the ultimate roadway section. Proposed roadway improvements would include two 12-foot-wide travel lanes (one in each direction), with a 5-foot-wide westbound and 6-foot-wide eastbound Class II bike lane. The northern edge of the proposed roadway section would have an 8-foot-wide unpaved shoulder and the southern edge of the proposed roadway section would include curb and gutters, a 6-foot-wide sidewalk, and a 6-foot parkway.

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Figure 2-1. Regional Vicinity and Project Location Map

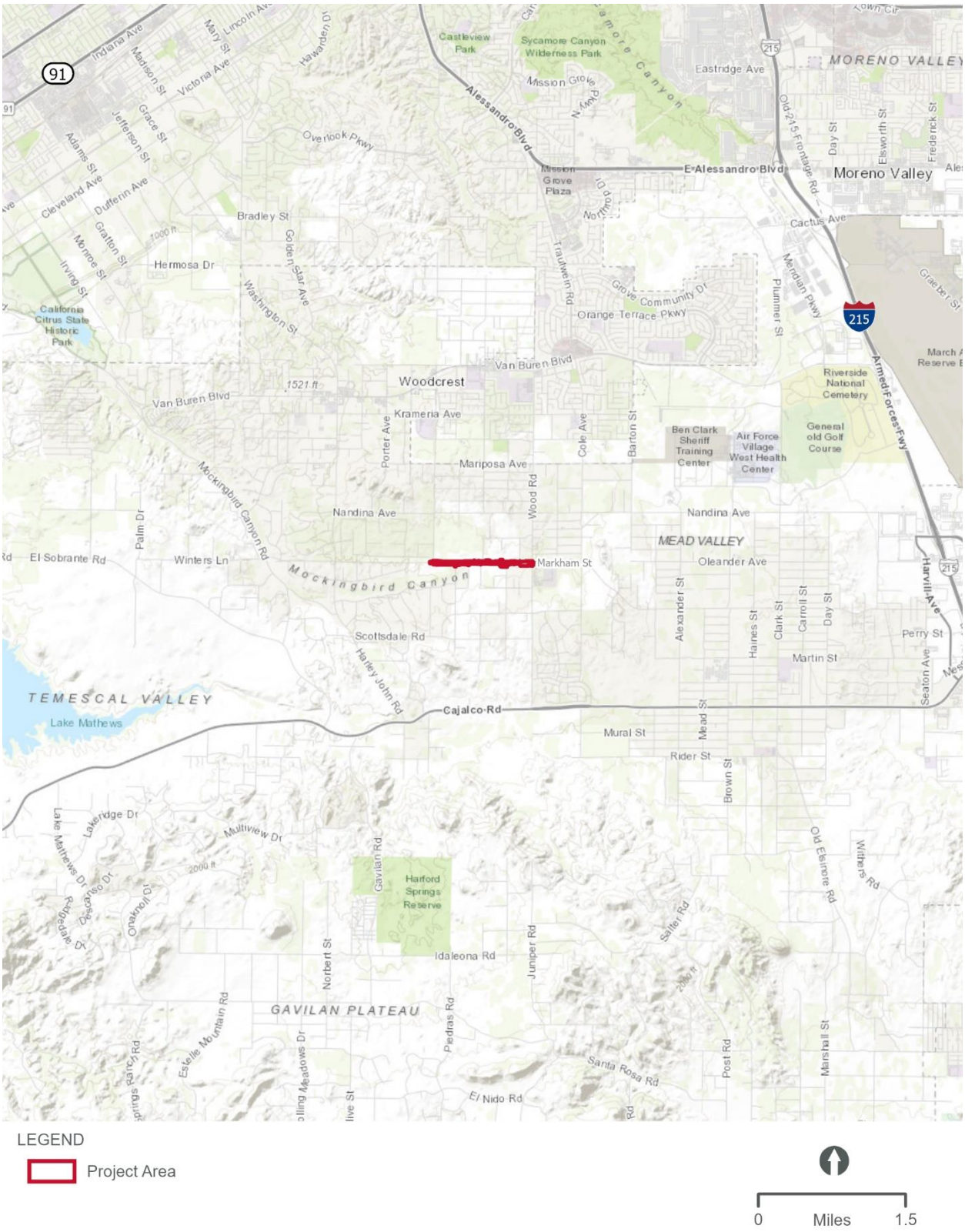

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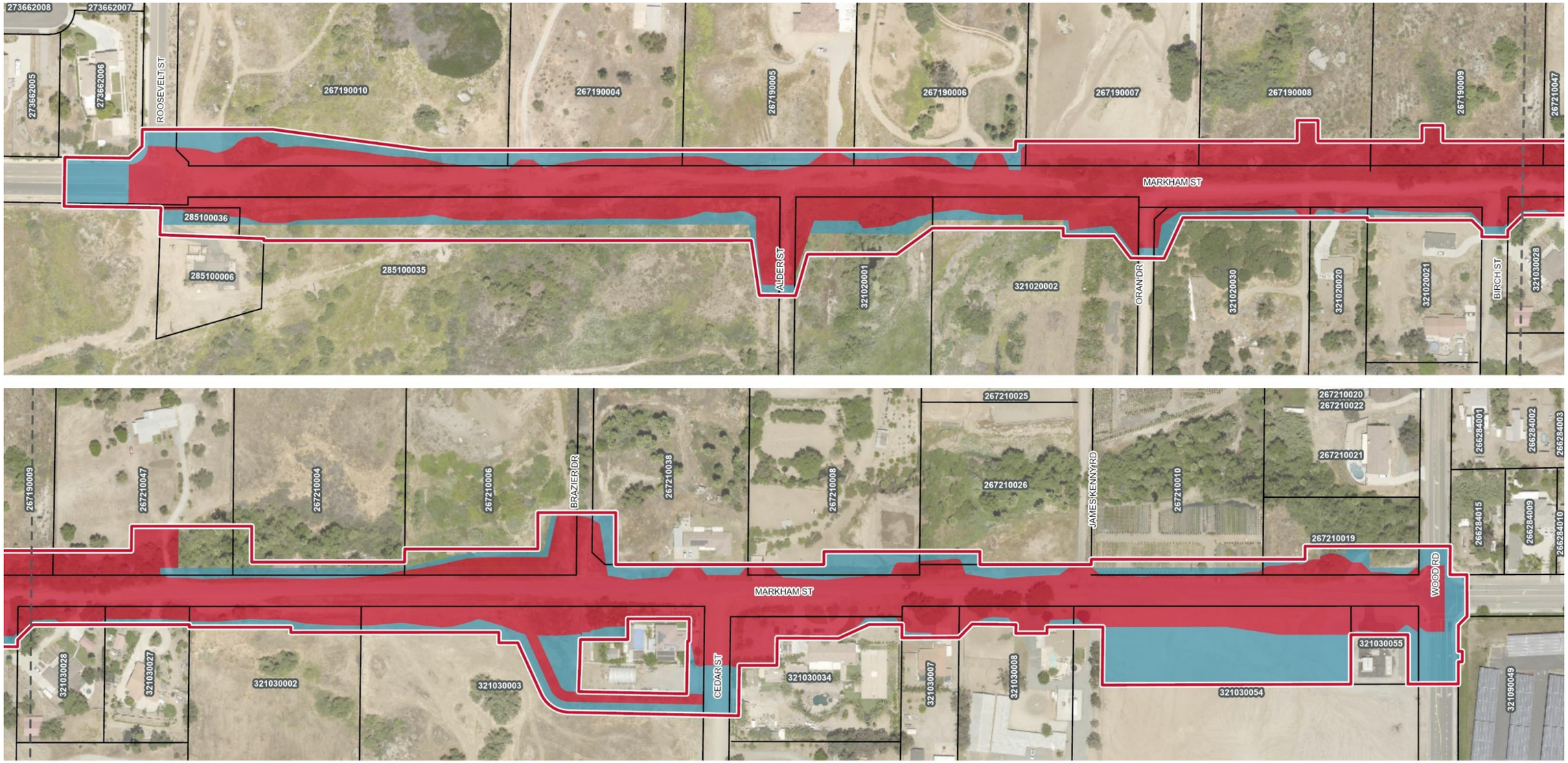
Figure 2-2. Project Area



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Traffic signal improvements would be required at the Markham Street and Wood Road intersection to accommodate the extended roadway and the addition of a dedicated eastbound left-turn lane, a dedicated eastbound through lane, and a shared through and right-turn lane. The Markham Street and Roosevelt Street intersection would remain as a stop-controlled intersection. The four smaller intersections (Oran Drive, Birch Street, Cedar Street, and James Kenny Road) would require roadway modifications to develop curb returns and American with Disabilities Act (ADA)-compliant pedestrian accessible ramps to tie into the existing roadways, and the intersections would be stop-controlled. Existing property driveways would be modified to connect to new roadway improvements. Drainage improvements would include storm drains along the roadway and the addition of culverts to direct storm-flow drainage across the roadway. Existing utilities that may require relocation or modifications to accommodate the roadway extension include water, gas, electrical, and telephone lines. In addition, traffic restriping west of Roosevelt Street would be needed to transition from the existing roadway to the new extended roadway.

Construction of the Project would require partial right of way acquisition, temporary construction easements, and permanent easements consisting of drainage easements and slope easements, as shown on Figure 2-3.

2.3 Existing Conditions

The biological study area (BSA), which includes the Project area and a 150-foot buffer, is located in an unincorporated area of western Riverside County commonly referred to as the community of Woodcrest. The immediate vicinity consists of suburban and rural residential areas with intermixed commercial uses including agriculture and nurseries. Portions of the surrounding areas are developed, while other portions remain natural with native vegetation and feature natural drainages, such as a large portion of Mockingbird Canyon Creek within the BSA. The BSA consists of a mosaic of rural residential development and surrounding open space. Because of this setting, while the BSA supports native vegetation communities and wildlife, most of the biological resources have been modified to support residences and supporting infrastructure.

2.3.1 Vegetation Communities and Land Cover Types

Vegetation communities and other land cover types in the BSA are shown on Figure 2-4. Acreages of vegetation communities and other land cover types in the BSA are provided in Table 2-1 Descriptions of vegetation communities and other land cover types follow. The BSA includes the Project area plus a 150-foot buffer.

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Figure 2-3. Right of Way Acquisition

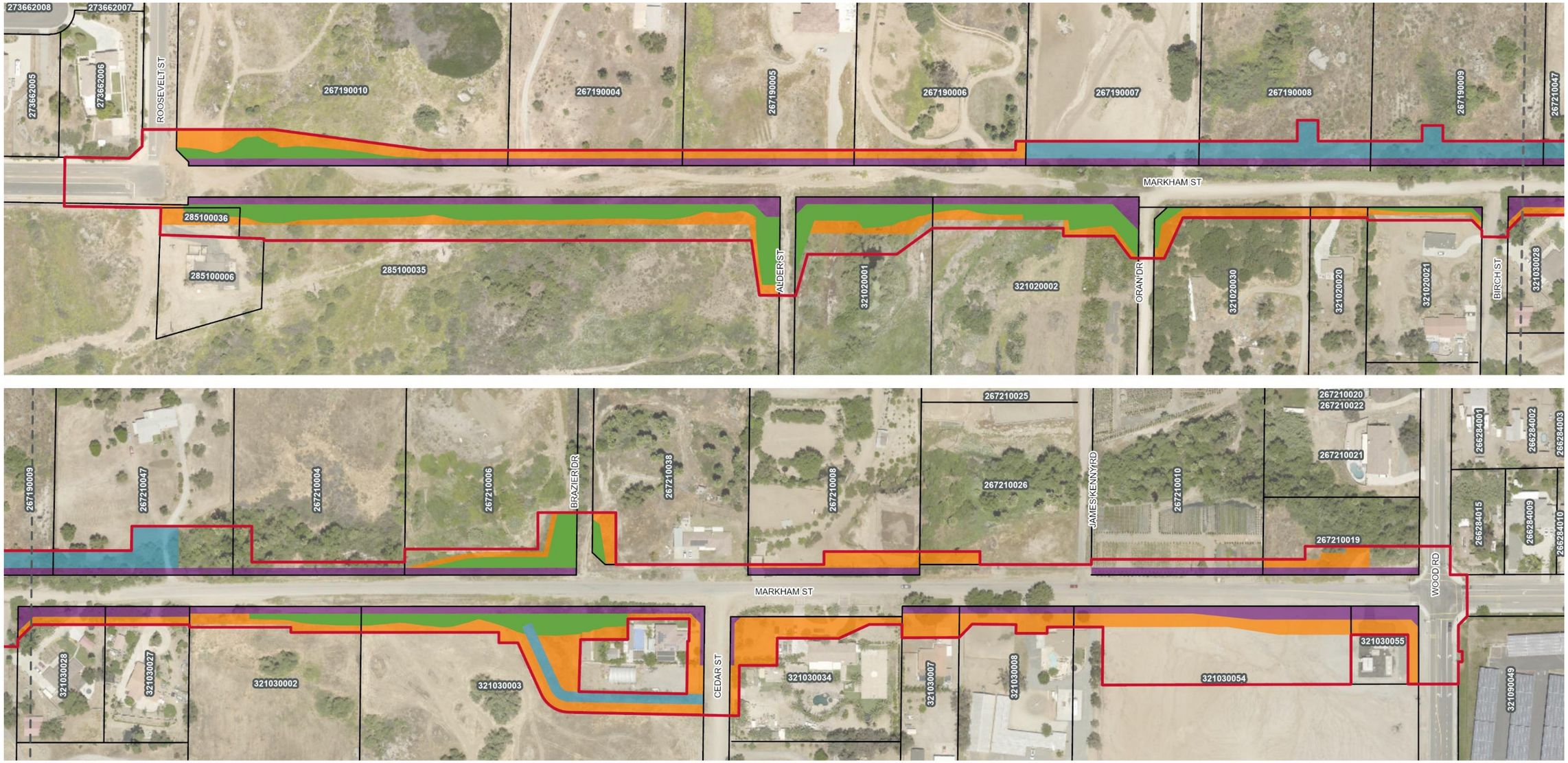

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Figure 2-4. Vegetation Communities and Other Land Cover Types in the Biological Study Area (Sheet 1 of 3)

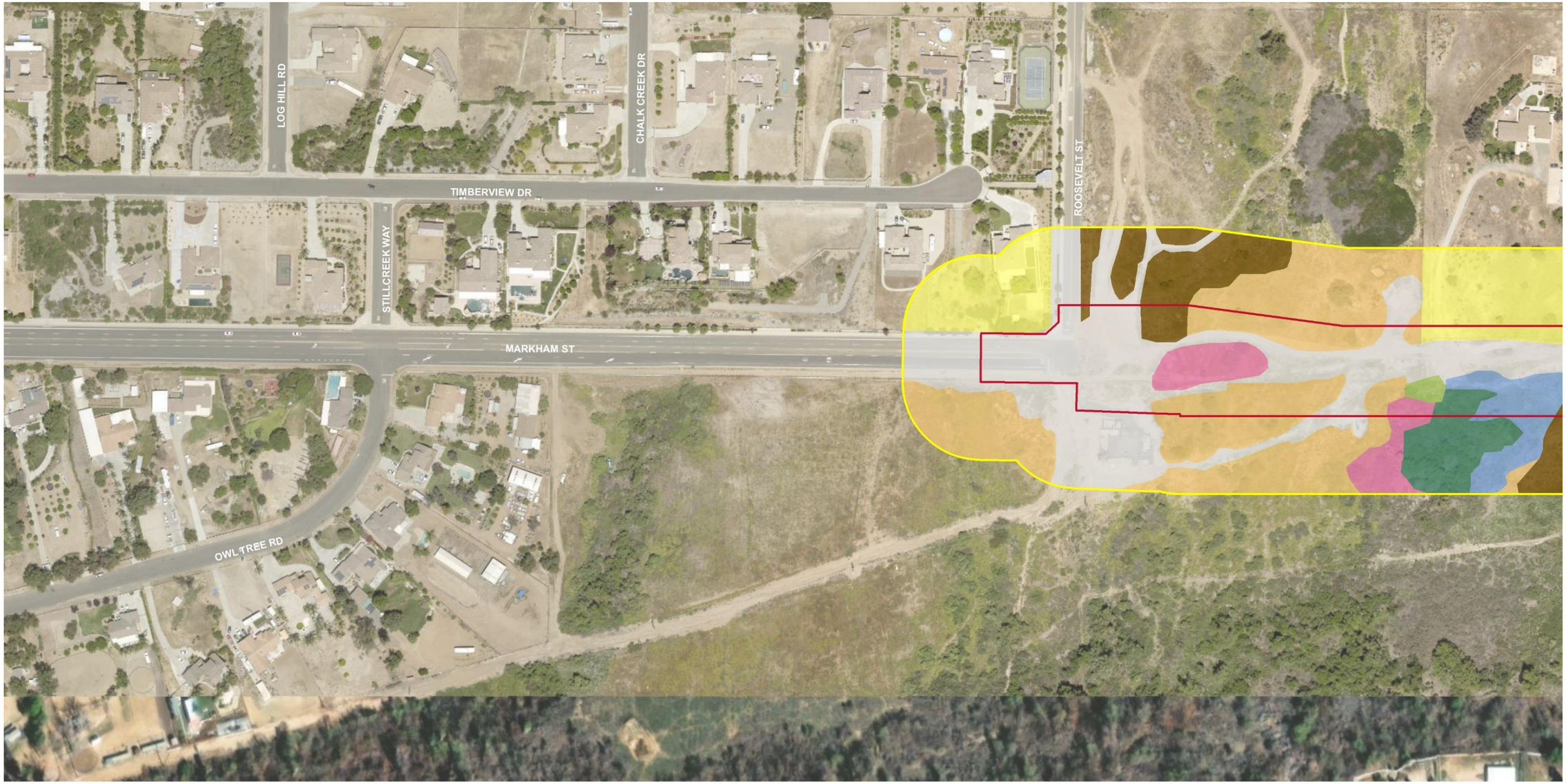

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Figure 2-3. Vegetation Communities and Other Land Cover Types in the Biological Study Area (Sheet 2 of 3)

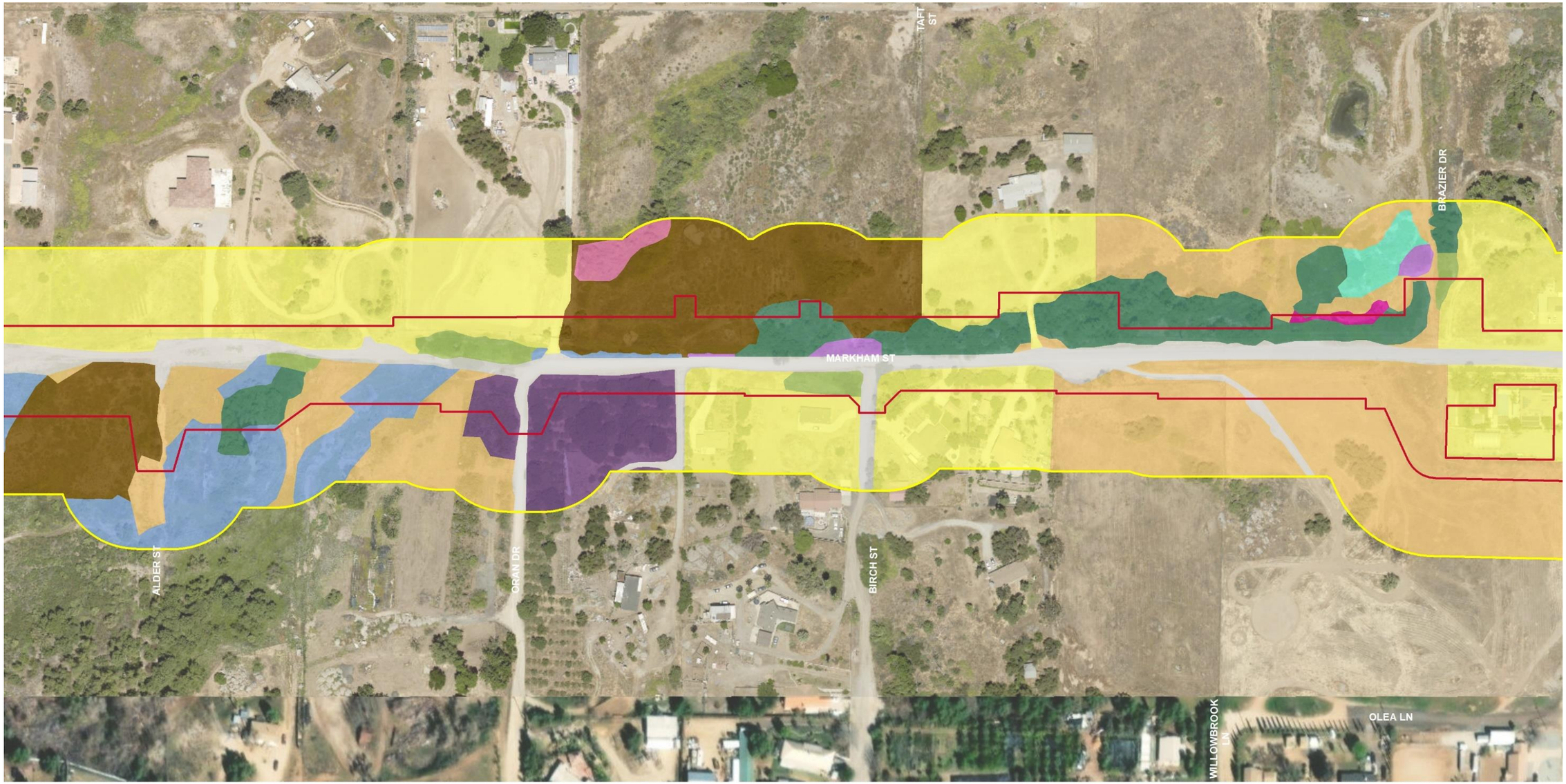

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Figure 2-3. Vegetation Communities and Other Land Cover Types in the Biological Study Area (Sheet 3 of 3)

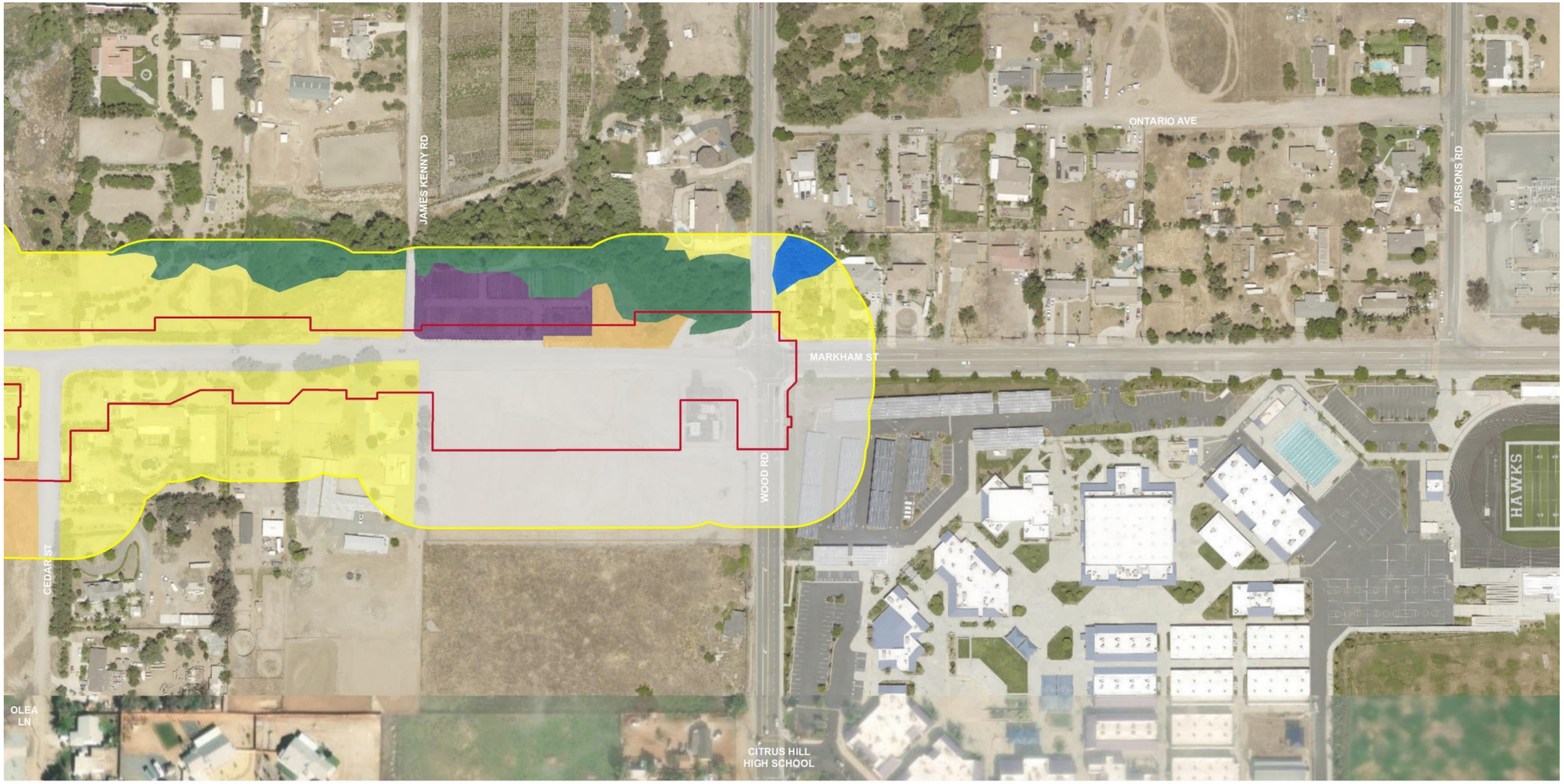

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Table 2-1. Vegetation Communities and Other Land Cover Types in the Biological Study Area

Vegetation Community or Other Land Cover Type	Acres
Tree-dominated habitats	
Black willow woodland*	**5.69**
Ornamental riparian woodland	**0.30**
Shrub-dominated habitats	
California buckwheat scrub	**5.50**
Blue elderberry shrubland	**0.92**
Mule fat thickets	**0.57**
Herbaceous-dominated habitats	
Cattail marsh	**0.17**
Cocklebur patches	**0.08**
Perennial pepperweed patches	**2.66**
Giant reed marsh	**0.19**
Mediterranean California naturalized annual and perennial grassland	**13.12**
Other land cover types	
Developed/Disturbed/Bare Ground	**15.71**
Orchard/Agricultural	**2.59**
Residential	**20.41**
Total[a]	**67.93**

Notes:
[a] Totals may differ due to rounding.
* Indicates a CDFW Sensitive Natural Community

Black Willow Woodland (*Salix gooddingii* Forest and Woodland Alliance)

Black willow woodland is dominated by black willow (*Salix gooddingii*), with lesser amounts of other willow species (*Salix* spp.). Black willow is dominant or co-dominant in the tree layer with at least 50 percent relative cover. It generally occurs on terraces along large rivers and canyons and along floodplains of streams, seeps, springs, and ditches. Trees are less than 30-meters in height, with an open-to-continuous canopy with a sparse shrub layer and a variable herbaceous layer (Sawyer et al. 2009).

Within the BSA, black willow woodland occurs along Mockingbird Canyon Creek and in two isolated patches south of Markham Street and covers approximately 5.69 acres. Black willow woodland has a State rarity ranking of S3 and is considered sensitive by the California Department of Fish and Wildlife (CDFW).

Ornamental Riparian Woodland

The Manual of California Vegetation does not provide descriptions for disturbed vegetation communities. However, some of the riparian woodland habitat within the aquatic resources delineation area (ARDA) supports a high percentage of ornamental, non-native species and is mapped and

described separately for this report. Within the ARDA, ornamental riparian woodland is dominated by bamboo (*Bambusa vulgaris*), papyrus (*Cyperus papyrus*), weeping willow (*Salix babylonica*), giant reed (*Arundo donax*), and Mexican fan palm (*Washingtonia robusta*), with a smaller percentage of black willows.

Within the BSA, ornamental riparian woodland occurs approximately 400-feet northeast of the intersection of Markham Street and Cedar Street and is associated with two artificially created ponds that appear to be part of a remnant plant nursery. Ornamental riparian woodland covers approximately 0.30 acre within the BSA.

California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)

California buckwheat scrub is dominated by California buckwheat (*Eriogonum fasciculatum*), which accounts for at least 50 percent relative cover in the shrub layer. This alliance usually occurs on upland slopes, intermittently flooded arroyos, channels, and washes. Shrubs are typically less than 2-meters in height, with an intermittent-to-continuous canopy and a variable, grassy herbaceous layer (Sawyer et al. 2009). Within the BSA, California buckwheat scrub covers 5.50 acres.

Blue Elderberry Shrubland (*Sambucus nigra* Shrubland Semi-Natural Alliance)

Blue elderberry woodland occurs as dense stands of blue elderberry (*Sambucus nigra*) with small amounts of mule fat (*Baccharis salicifolia*), shortpod mustard (*Hirschfeldia incana*), California buckwheat, and perennial pepperweed (*Lepidium latifolium*) and generally occurs in upland areas adjacent to riparian habitats. Within the BSA, blue elderberry shrubland covers 0.92 acre.

Mule Fat Thickets (*Baccharis salicifolia* Shrubland Alliance)

Within this alliance, mule fat is dominant or co-dominant in the shrub canopy with California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), tree tobacco (*Nicotiana glauca*), and willow species (*Salix* spp.). Emergent trees may be present at low cover, including sycamore (*Platanus racemosa*), cottonwood (*Populus fremontii*), oak (*Quercus agrifolia*), or willow. Mule fat is at least 50 percent relative cover in the shrub canopy and grows along canyon bottoms, floodplains, irrigation ditches, lake margins, and stream channels. Shrubs are less than 5 meters in height, with a continuous canopy and a sparse herbaceous layer. Within the ARDA, mule fat thickets cover 0.57 acre.

Mediterranean California Naturalized Annual and Perennial Grassland

This community is dominated by shortpod mustard and non-native grasses (*Bromus* sp., *Avena* sp., *Hordeum* sp.) with other non-native herbaceous species including non-native tree tobacco and castor bean (*Ricinis communis*). These areas have been previously physically disturbed but continue to retain a soil substrate. Within the ARDA, this community occurs in undeveloped parcels and within parcels that have been cleared of native vegetation but not regularly maintained. Within the BSA, this community covers approximately 13.12 acres.

Cattail Marsh (*Typha* sp. Herbaceous Alliance)

Cattail marsh is dominated by one or more species of cattail (*Typha* spp.), with at least 50 percent relative cover in the herbaceous layer. Cattails are rhizomatous and grow in dense colonies forming uniform stands that are not proximally associated with other plants except generally with wetland affiliates. This alliance usually occurs in semi-permanently flooded freshwater or brackish marshes. Herbaceous plants are typically less than 1.5-meter in height, with intermittent-to-continuous cover

(Sawyer et al. 2009). Within the BSA cattail marsh covers 0.17 acre associated with a culverted portion of Mockingbird Canyon Creek directly adjacent to the north side of Markham Street.

Perennial Pepperweed Patches (*Lepidium latifolium* Herbaceous Semi-Natural Alliance)

Perennial pepperweed patches are dominated by perennial pepperweed with at least 30 percent relative cover in the herbaceous layer. This community most commonly occurs in intermittently and seasonally flooded fresh and saltwater marshes and riparian corridors. Perennial pepperweed is an invasive weed and is invading riparian and wetland settings in California. The species spreads rapidly and forms extensive, dense patches in both freshwater and brackish water sites. Within the BSA, perennial pepperweed patches almost exclusively consist of perennial pepperweed and cover 2.66 acres, associated with Mockingbird Canyon Creek and adjacent riparian habitat.

Cocklebur Patches (*Xanthium strumarium* Herbaceous Alliance)

Cocklebur patches are dominated by cocklebur (*Xanthium strumarium*) with at least 50 percent relative cover in the herbaceous layer. This community occurs in marshes, regularly disturbed vernally wet ponds, lakeshores, reservoirs, fields, stream terraces, floodplains, and mudflats. Cocklebur is a robust, native annual that occurs worldwide, particularly in disturbed areas such as seasonally flooded stream sides and alluvial flats. Within the BSA, cocklebur patches are dominated by cocklebur and lambs quarters (*Chenopodium album*) and occur along one seasonally wet access road located adjacent to Mockingbird Canyon Creek, covering 0.08 acre.

Giant Reed Marsh (*Arundo donax* Herbaceous Semi-Natural Alliance)

Giant reed marsh is dominated by giant reed, with at least 60 percent relative cover in the herbaceous layer. Giant reeds are rhizomatous and grow in dense colonies that form uniform stands. This alliance usually occurs in riparian areas along low-gradient streams and ditches and in semi-permanently flooded and slightly brackish marshes. Herbaceous plants are typically less than 8-meters in height with continuous cover (Sawyer et al. 2009). Giant reed marsh occurs at the eastern edge of the BSA and covers 0.19 acre.

Residential

Residential areas consist of parcels that have been developed for residential uses and include the constructed buildings as well as landscaped and non-landscaped yards. The BSA is located within a rural area that consists of larger parcels with residential yards that are not entirely developed but have been cleared of native vegetation. For the most part the yards support only ornamental species or non-native weedy species. While some areas support habitat that could be suitable for wildlife species, they are all surrounded by fences, precluding most wildlife aside from resident and migratory birds. Residential areas occur throughout the BSA, covering approximately 20.41 acres.

Orchard/Agricultural

Orchard/agricultural areas consist of parcels that are planted with fruit or landscaping trees or vegetable crops. The BSA supports a mix of rural, residential and agricultural uses, often on the same properties. Species planted within orchard/agricultural areas were not identified. Orchard/agricultural areas cover approximately 2.59 acres within the BSA.

Developed/Disturbed/Bare Ground

Developed/disturbed/bare ground refers to areas that have been manipulated by grading and compacting soils to build infrastructure, such as roads, buildings, parks, fields, etc. These areas have no biological function or value, except that they may provide habitat for nesting birds. Within the BSA, paved and unpaved roads and associated landscaping were mapped as developed/disturbed/bare ground, covering approximately 15.71 acres of the BSA.

2.4 Western Riverside County Multiple Species Habitat Conservation Plan Survey Areas

Specific MSHCP survey requirements and conservation measures were identified by conducting a search of the online WRC RCA MSHCP Information Map (accessed February 2022) and a review of general conservation requirements identified in Volume 1 of the WRCMSHCP. Table 2-2 summarizes the WRCMSHCP Project Review Checklist to determine surveys and conservation measures necessary for WRCMSHCP Compliance.

Table 2-2: Western Riverside County Multiple Species Habitat Conservation Plan Project Review Checklist

	Yes	No
Is the project located in a Criteria Area or Public/Quasi-Public Land?		✓
Is the project located in Criteria Area Plant Survey Area?		✓
Is the project located in Criteria Area Amphibian Survey Area?		✓
Is the project located in Criteria Area Mammal Survey Area?		✓
Is the project located adjacent to Western Riverside County MSHCP Conservation Areas?		✓
Is the project located in Narrow Endemic Plant Species Survey Area?		✓
Are riverine/riparian/wetland habitats or vernal pools present?	✓	
Is the project located in Burrowing Owl Survey Area?	✓	

The Project is not located within any Narrow Endemic Plant Species Survey Areas (NEPSSA) or Criteria Area Species Survey Areas (CASSA) nor is it located within or adjacent to any WRCMSHCP Criteria Cells, Cores or Linkages, Public/Quasi-Public Lands, or other proposed or existing Conservation Areas. Markham Street is identified as a Covered Road in the WRCMSHCP and the Project is located within the proposed alignment shown on MSHCP mapping.

2.4.1 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Section 6.1.2)

Section 6.1.2 of the WRCMSHCP describes the process through which the protection of Riparian/Riverine areas and Vernal Pools is intended to occur within the WRCMSHCP Plan area. Riparian/riverine areas are lands that contain habitat dominated by trees, shrubs, and persistent emergents that occur close to or depend upon soil moisture from a nearby water source; or areas with fresh water flowing during all or a portion of the year. Unvegetated drainages (ephemeral streams) may be included if alterations to that drainage have the potential to affect Covered Species and Conservation Areas.

Native riparian/riverine habitats within the BSA include black willow woodland, cattail marshes, and mule fat thickets. Non-native or invasive riparian habitats within the BSA include ornamental riparian, perennial pepperweed patches and giant reed marsh. Perennial pepperweed patches and giant reed marsh are both dominated by plants listed as on the California Invasive Plant Council's Inventory as High, meaning these species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure (Cal-IPC 2022).

Section 6.1.2 of the WRCMSHCP also requires focused surveys for riparian birds [SWFL, LBV, and yellow-billed cuckoo (*Coccyzus americanus*)] if the Project area is evaluated to have suitable nesting habitat for these species. The Project area supports suitable habitat for SWFL and LBV but does not support a sufficiently sized riparian woodland and floodplain suitable to support yellow-billed cuckoo. Focused SWFL and LBV surveys were conducted for the Project, as discussed in Section 3.1.2.

2.4.2 Additional Survey Needs and Procedures (Section 6.3.2)

WRCMSHCP Section 6.3.2 identifies additional survey needs and procedures for specific areas. The BSA is located within the WRCMSHCP BUOW Survey Area. Suitable burrowing owl [(*Athene cunicularia*); BUOW] habitat was identified in the BSA and a habitat assessment and focused BUOW surveys were conducted within the WRCMSHCP BUOW survey areas. Details regarding BUOW habitat within the BSA, potential Project impacts on this species, and proposed avoidance measures are discussed in Section 4 of this DBESP.

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3 Riparian/Riverine Mitigation (Section 6.1.2)

3.1 Methodology

3.1.1 Riparian/Riverine Areas

A delineation of WRCMSHCP Riparian/Riverine and Vernal Pools was conducted for the Project on May 2, May 19, and July 15, 2022. The ARDA includes the Project area and 50-foot buffer (Figure 3-1) All potential drainage features in accessible areas within the ARDA were investigated on foot. The potential jurisdictional limits of features identified were mapped and notes taken at each feature describing drainage type, substrate type, flow regime, presence or absence of vegetation, and other pertinent details regarding its local hydrology. The extent of WRCMSHCP riparian/riverine areas was mapped according to the WRCMSHCP definition of riparian/riverine:

Riparian/Riverine Areas are lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.

Mapping of all features was later digitized using geographic information system software. The complete methodology used to conduct the aquatic resources survey is provided in the *Aquatic Resources Delineation Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

3.1.2 Riparian Birds Surveys

The Project area supports riparian habitat suitable for LBV and SWFL. Focused riparian bird surveys were conducted for suitable habitat areas within the Riparian Bird Survey Area (RBSA) which consists of the Project area and a 500-foot buffer (Figure 3-1). Surveys were conducted between April and July 2022 by consultant biologists Adam Lockyer (Permitted Biologist, TE55135D-0) and Aaron Newton. Focused surveys for LBV were conducted for the RBSA between May and July 2022 in accordance with United States Fish and Wildlife Service (USFWS) 2001 *Least Bell's Vireo Survey Guidelines* (USFWS 2001). Focused surveys for SWFL were conducted in accordance with USFWS 2010 according to the currently accepted USFWS protocol provided in *A natural history summary and survey protocol for the southwestern willow flycatcher: U.S. Geological Survey Techniques and Methods* (Sogge et.al. 2010.). The complete methodology used to conduct focused riparian bird surveys is included in the *Riparian Bird Survey Report,* which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

3.2 Survey Results

3.2.1 Riparian/Riverine Areas

The ARDA supports three aquatic features [Feature A (Mockingbird Canyon Creek), Feature B and Feature C] with a total of 0.26 acre of aquatic resources potentially subject to United States Army Corps of Engineers (USACE) jurisdiction (Figure 3-2). This includes 0.20 acre of non-wetland Waters of the U.S. (WOTUS) and 0.05 acre of wetland WOTUS. A total of nine wetland sampling points were conducted within the ARDA and two separate wetland areas were identified (Feature B and Feature C).

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Figure 3-1. Biological Resources Survey Areas

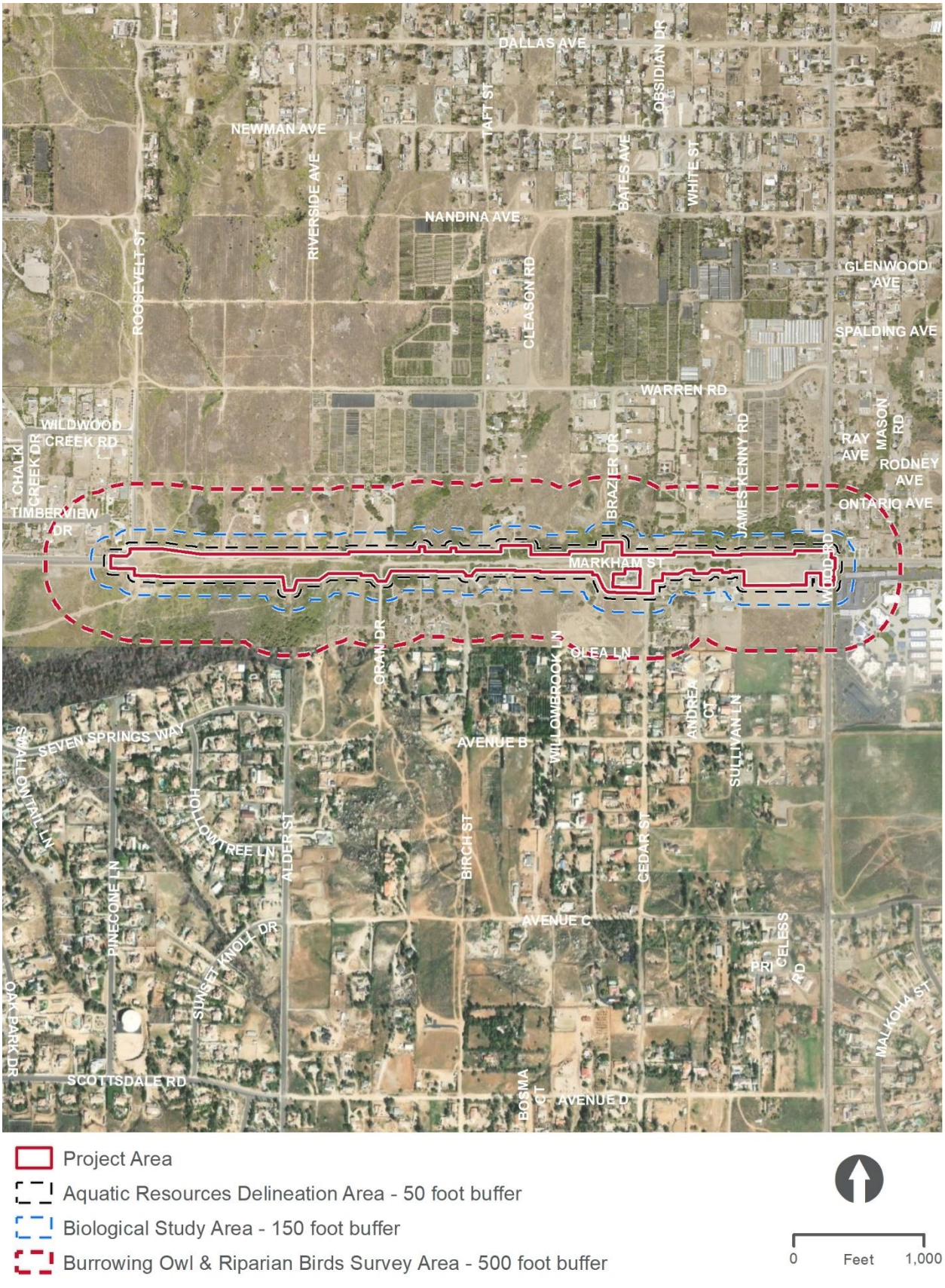

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Figure 3-2. Riparian/Riverine Resources within the Aquatic Resources Delineation Area (Sheet 1 of 4)

Note: Photos corresponding to Photo Points on this map are provided in the *Aquatic Resources Delineation Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

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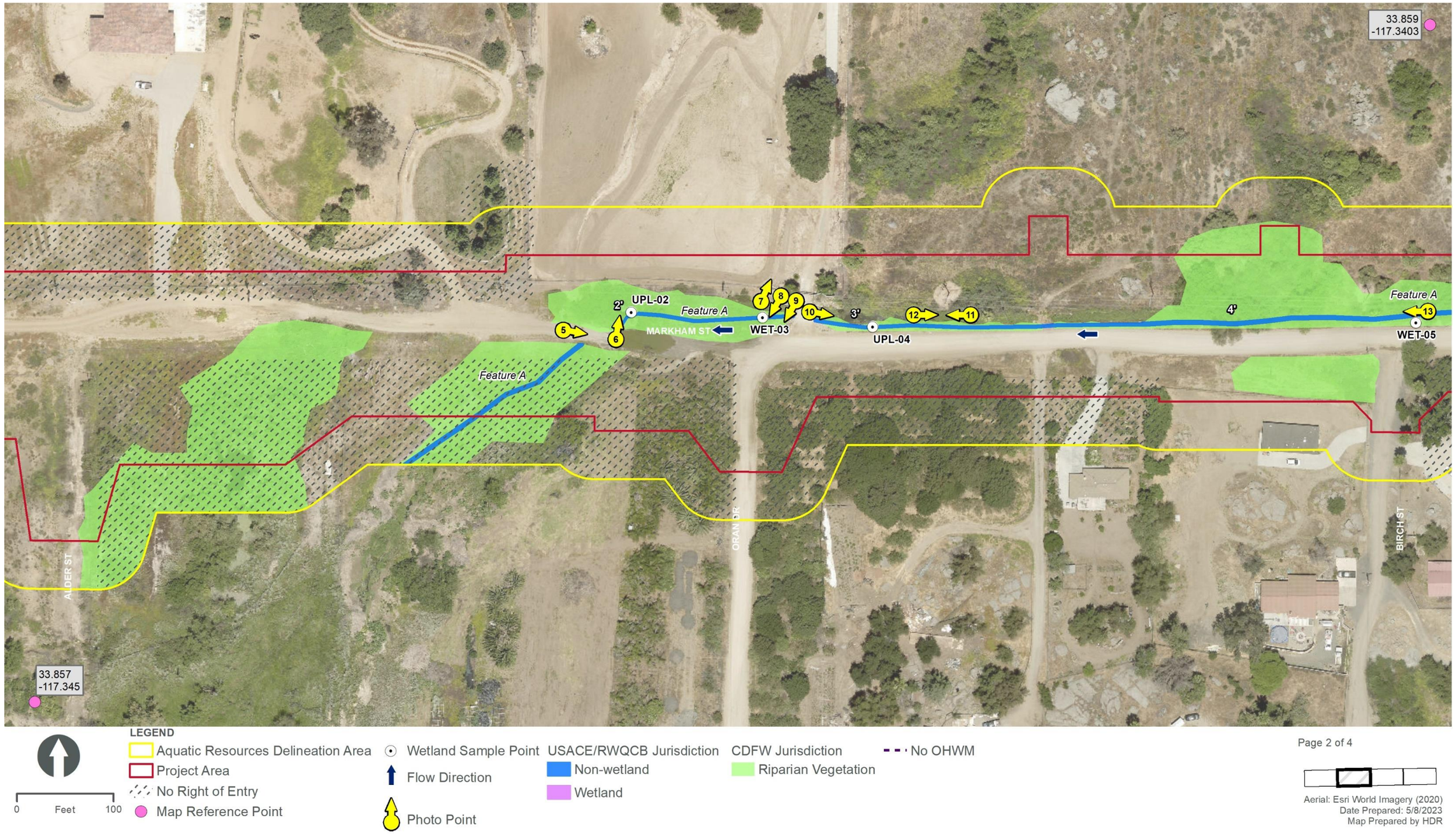
Figure 3-2. Riparian/Riverine Resources within the Aquatic Resources Delineation Area (Sheet 2 of 4)



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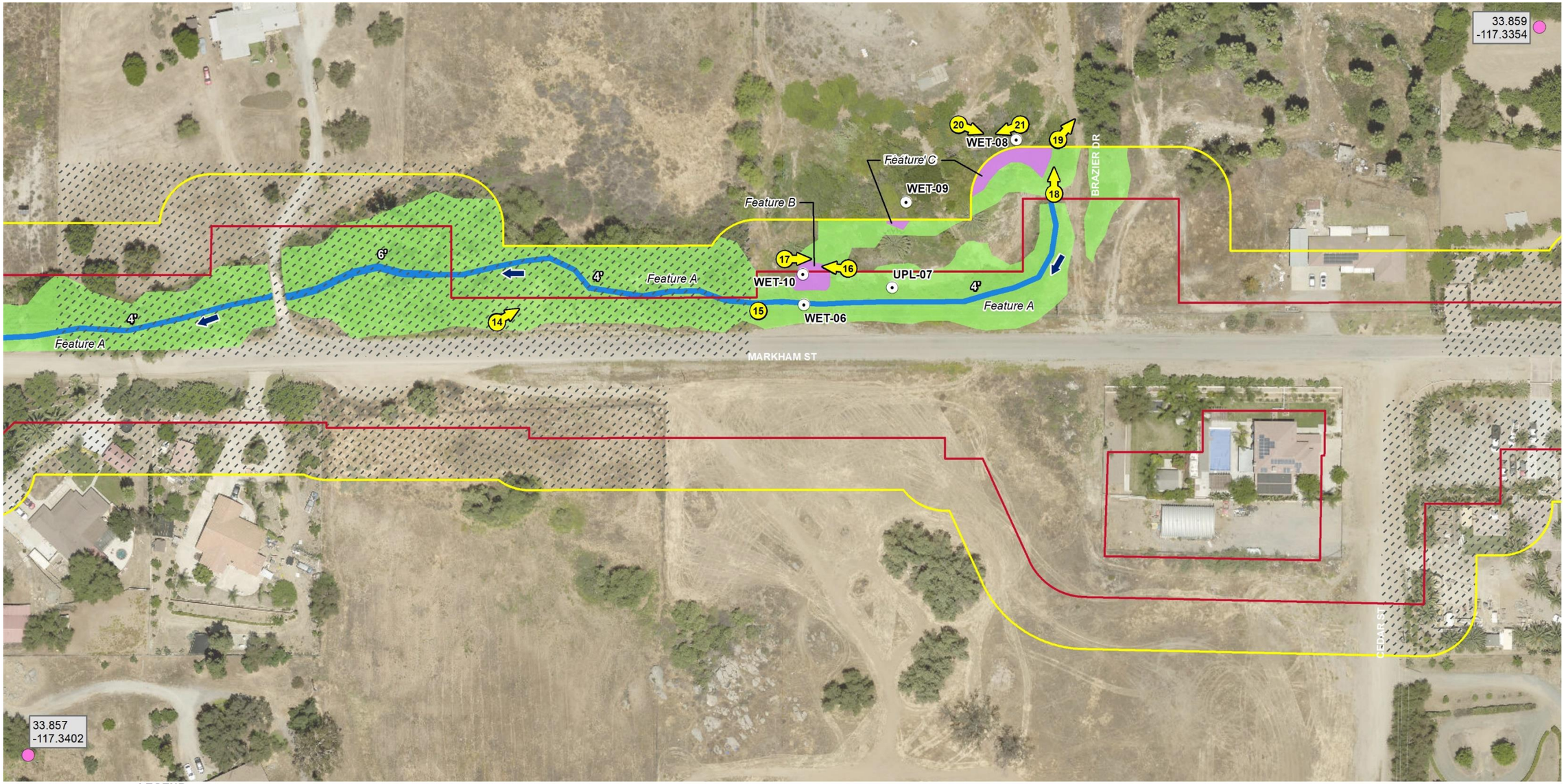

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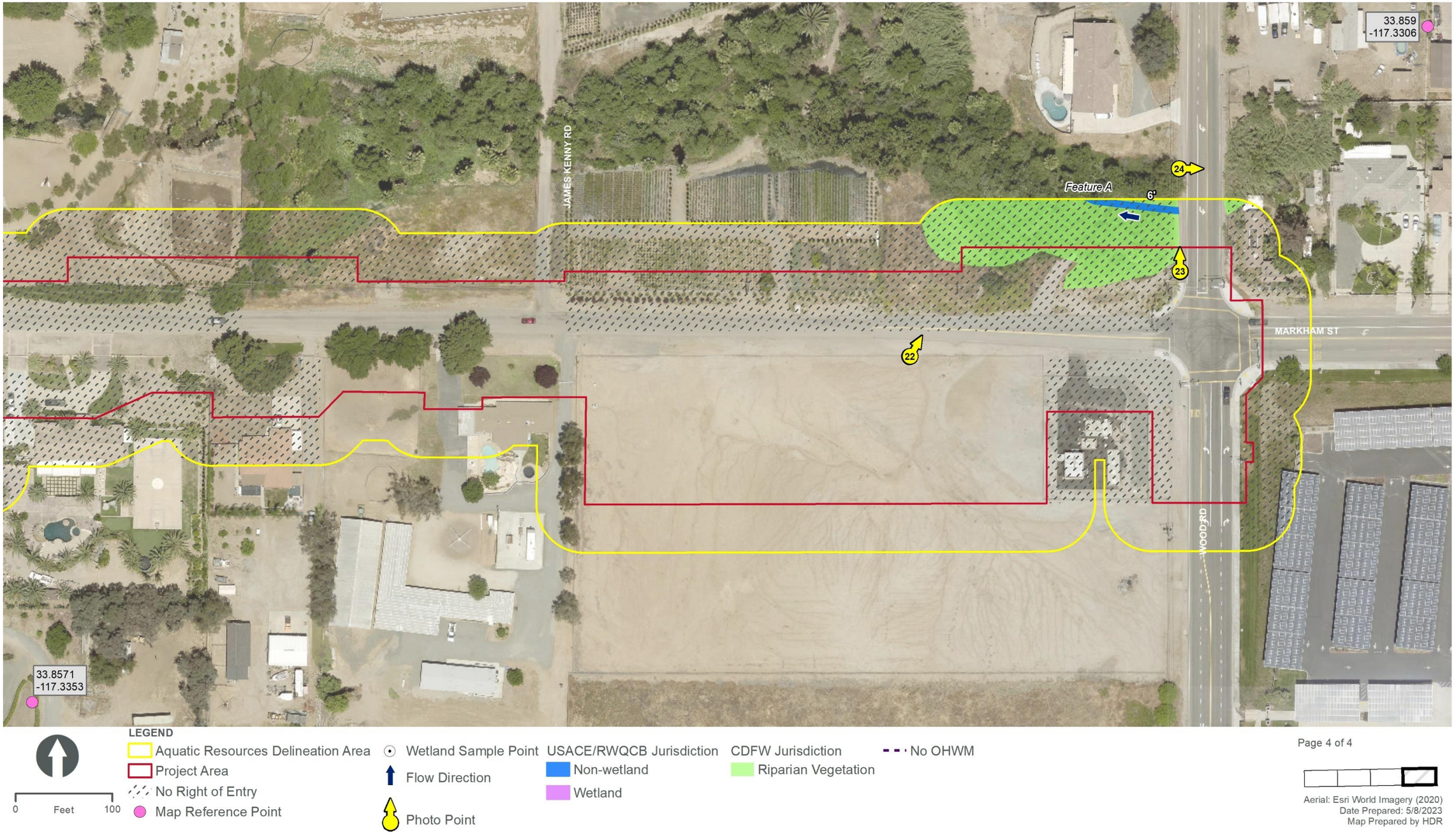

Note: Photos corresponding to Photo Points on this map are provided in the *Aquatic Resources Delineation Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

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Feature A (Mockingbird Canyon Creek) originates in the hills northeast of the ARDA and continues to the southwest of the ARDA where flows are collected in Mockingbird Canyon Reservoir, which was constructed to provide water for surrounding agricultural uses. Within the BSA, Mockingbird Canyon Creek consists of a 4-foot to 6-foot-wide channel that supports perennial flows as a result of upstream urban runoff. The channel is unvegetated for the most part, but supports cattail marsh in some areas where downstream flows or blocked, resulting in sufficient standing water to support cattails (*Typha* sp.). The banks adjacent to the channel support black willow woodland vegetation.

Feature B occurs approximately 550-feet northwest of the intersection of Markham Street and Brazier Drive along a dirt road located between riparian habitat to the north and south. This area supports cocklebur patches and is located north of the existing Mockingbird Canyon Creek channel and south of the Creek's historic flow line, which was diverted around 2014.

Feature C occurs approximately 575-feet north of the intersection of Markham Street and Brazier Drive and consists of two perennially ponded basins that appear to have been excavated within the existing flow path of Mockingbird Canyon Creek following diversion of the creek in 2014. The area where the basins are located may not have historically supported wetlands, but due to the excavation it now supports year-round ponding and hydrophytic vegetation. Vegetation communities within and adjacent to the basins include black willow woodland, ornamental riparian, and cattail marsh.

A total of 5.40 acres of riparian habitat were identified within the ARDA (Table 3-1). Riparian habitat within the ARDA includes native vegetation communities as well as disturbed/non-native vegetation communities that are dominated by non-native, invasive plant species. The BSA does not support any areas that meet the WRCMSHCP definition of vernal pools.

Table 3-1. Riparian/Riverine Areas within the Aquatic Resources Delineation Area

Riparian/Riverine Resource Type	Total in Aquatic Resources Delineation Area Total (acres[a])
Riparian Habitat - Native Communities	
Black willow woodland	3.20
Mule Fat Thickets	0.57
Cattail Marsh	0.16
Cocklebur Patches	0.08
Subtotal	**4.01**
Riparian Habitat - Non-native/Disturbed Communities	
Perennial Pepperweed Patches	1.32
Giant Reed Marsh	0.01
Ornamental Riparian	0.06
Subtotal	**1.39**
Total	***5.40***

[a] Totals may differ due to rounding.

3.2.2 Riparian Birds

Suitable LBV and SWFL breeding and foraging habitat was identified along the Mockingbird Canyon Creek channel within black willow woodland, mule fat thickets, ornamental riparian woodland, and giant reed marsh. A total of 6.75 acres of suitable nesting and foraging habitat for LBV and SWFL was

mapped within the BSA. Other riparian habitats (cattail marsh and perennial pepperweed patches) within the BSA do not provide the complex structure necessary for these species to nest in.

Southwestern Willow Flycatcher

One migrant willow flycatcher was heard calling approximately 325 feet south of the Project area (Figure 3-3) on one visit in May 2022 but was not heard on subsequent dates. Because this species was not observed nesting during focused surveys, it is presumed absent as a breeding species. However, SWFL may forage in the BSA during migration.

Least Bell's Vireo

Multiple LBV were observed along the entire riparian habitat corridor within the RBSA. LBV was observed nesting in the RBSA, and up to eight LBV territories were identified in the RBSA, as shown in Figure 3-3. Habitat within three of these territories (Territory 1, Territory 4, and Territory 5) occurs within the Project area, of which only two territories (Territory 4 and Territory 5) would be subject to direct impacts from the Project. The Project would not result in impacts to Territory 1. The *Riparian Bird Survey Report* documents the complete results of LBV and SWFL surveys for the Project and is included as an attachment to the *Biological Resources Technical Report provided* in Appendix A.

3.3 Project Impacts

3.3.1 Riparian/Riverine Areas

The Project would result in direct temporary impacts to up to 0.37 acre of native riparian habitat and 0.07 acre of non-native/invasive riparian habitat. Additionally, the Project would result in direct permanent impacts to up to 1.69 acres of native riparian habitat and 0.57 acre of non-native/invasive riparian habitat. Potential Project impacts on riparian habitat are detailed in Table 3-2 and shown on Figure 3-4.

Table 3-2. Project Impacts on Riparian Habitat

Vegetation Community	Project Impacts on Riparian Habitat		
	Temporary (acres)	Permanent (acres)	
	Construction Easement	Roadway Improvements	Drainage Easement
Native Riparian Communities			
Black willow woodland	0.32	0.71	0.40
Mule fat thickets	0.03	0.40	0.08
Cattail marsh	—	0.08	0.02
Cocklebur patches	0.02	<0.01	—
Subtotal[a]	*0.37*	*1.19*	*0.50*
Non-Native/Invasive Riparian Communities			
Ornamental riparian	—	—	—
Giant reed marsh	—	—	—
Perennial pepperweed patches	0.07	0.57	—
Subtotal[a]	*0.07*	*0.57*	—
Total[a]	**0.44**	**1.76**	**0.50**

[a] Totals may differ due to rounding

Figure 3-3. Riparian Birds Survey Results

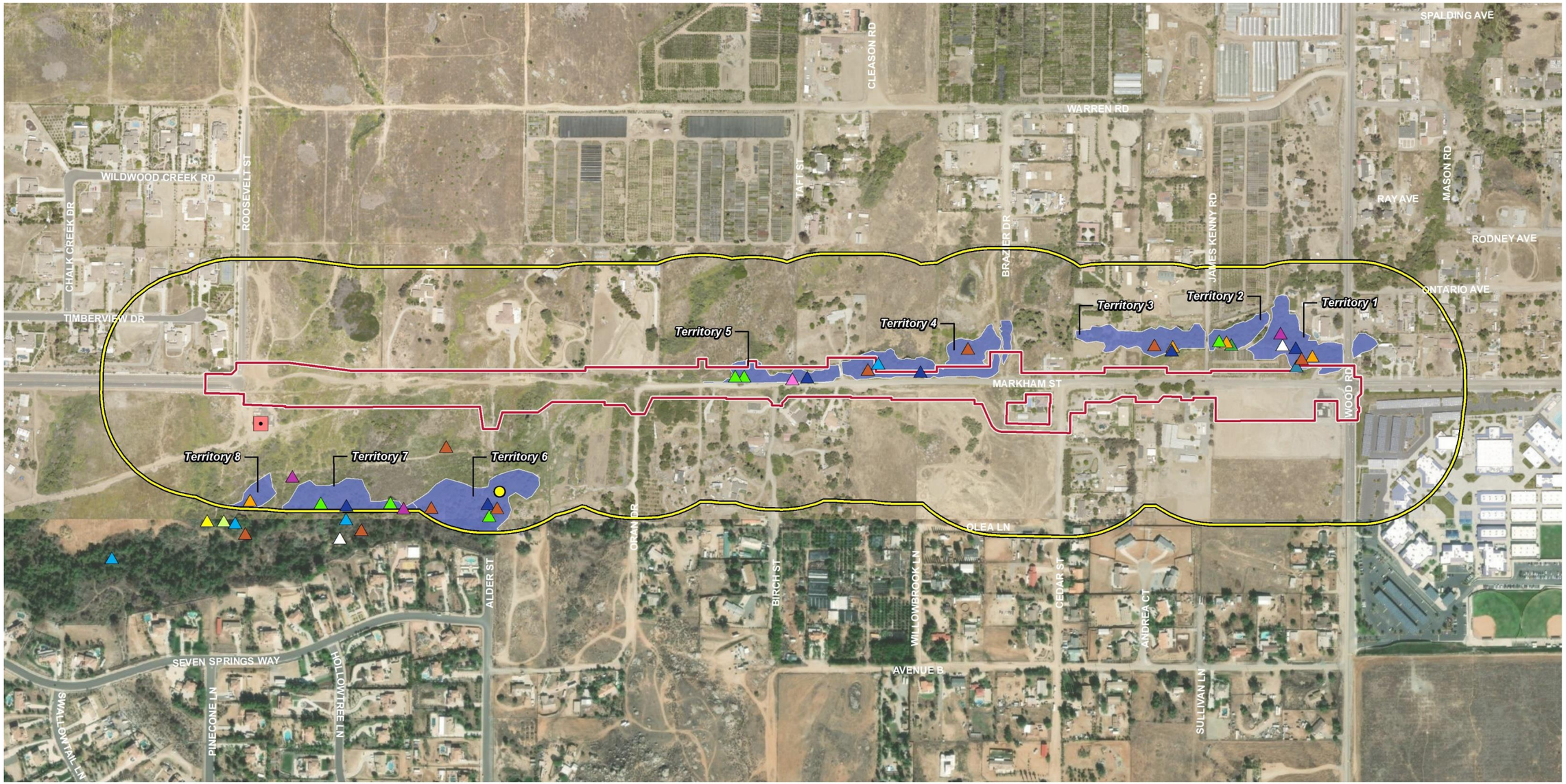

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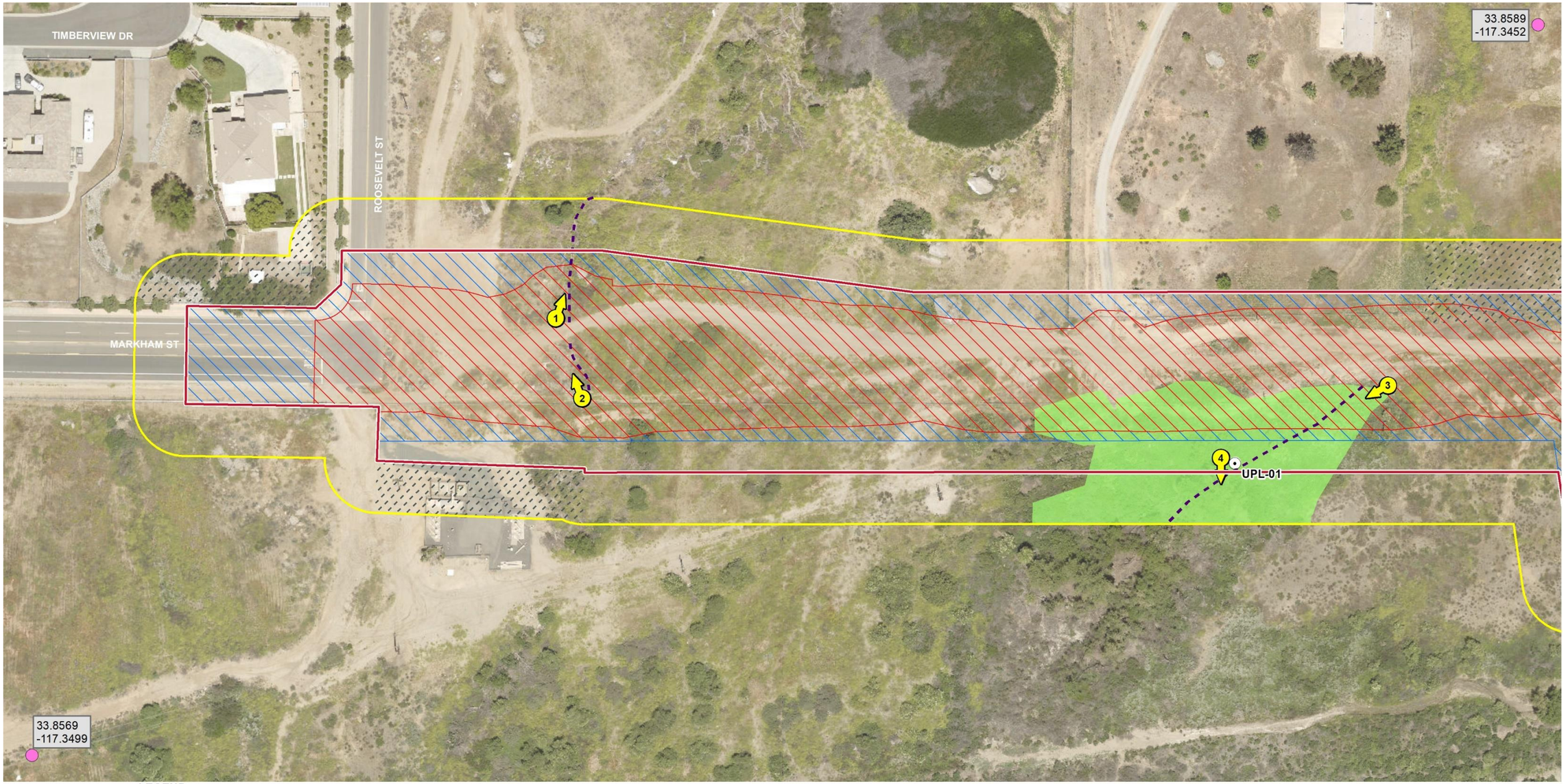
Figure 3-4. Project Impacts on Riparian/Riverine Areas (Sheet 1 of 4)



Note: Photos corresponding to Photo Points on this map are provided in the *Aquatic Resources Delineation Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

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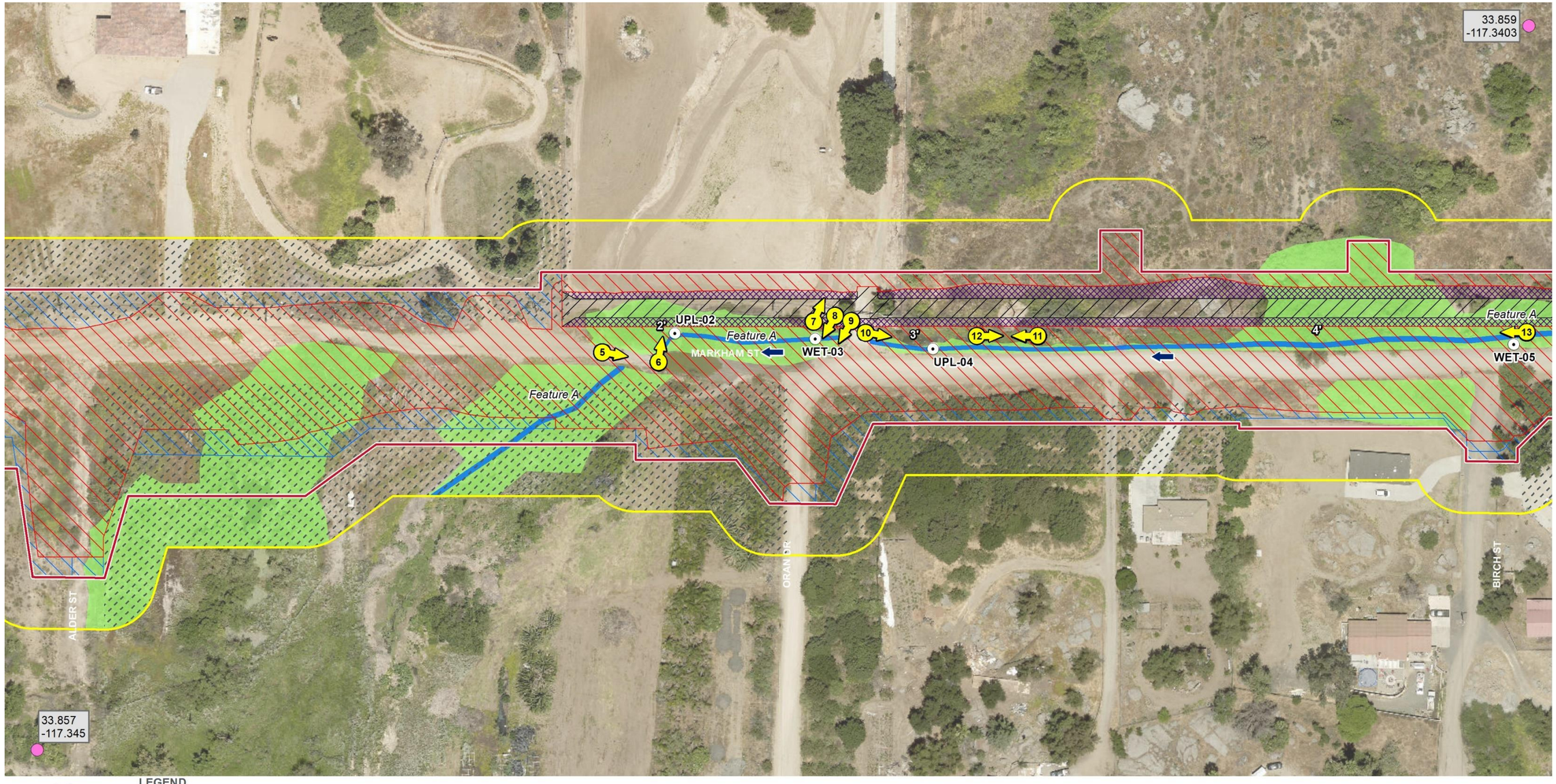
Figure 3-4. Project Impacts on Riparian/Riverine Features (Sheet 2 of 4)



Note: Photos corresponding to Photo Points on this map are provided in the *Aquatic Resources Delineation Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

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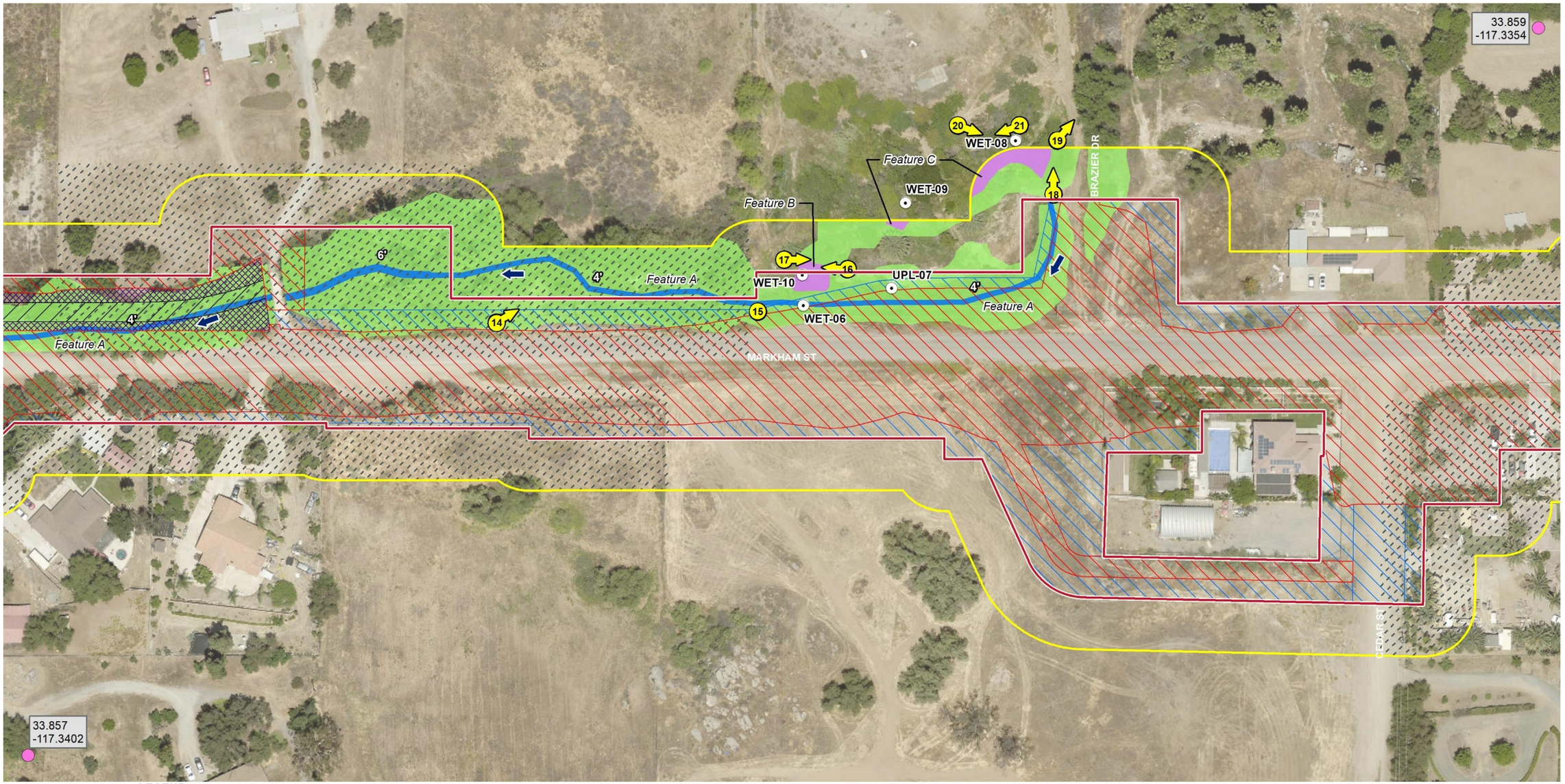
Figure 3-4. Project Impacts on Riparian/Riverine Areas (Sheet 3 of 4)



Note: Photos corresponding to Photo Points on this map are provided in the *Aquatic Resources Delineation Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

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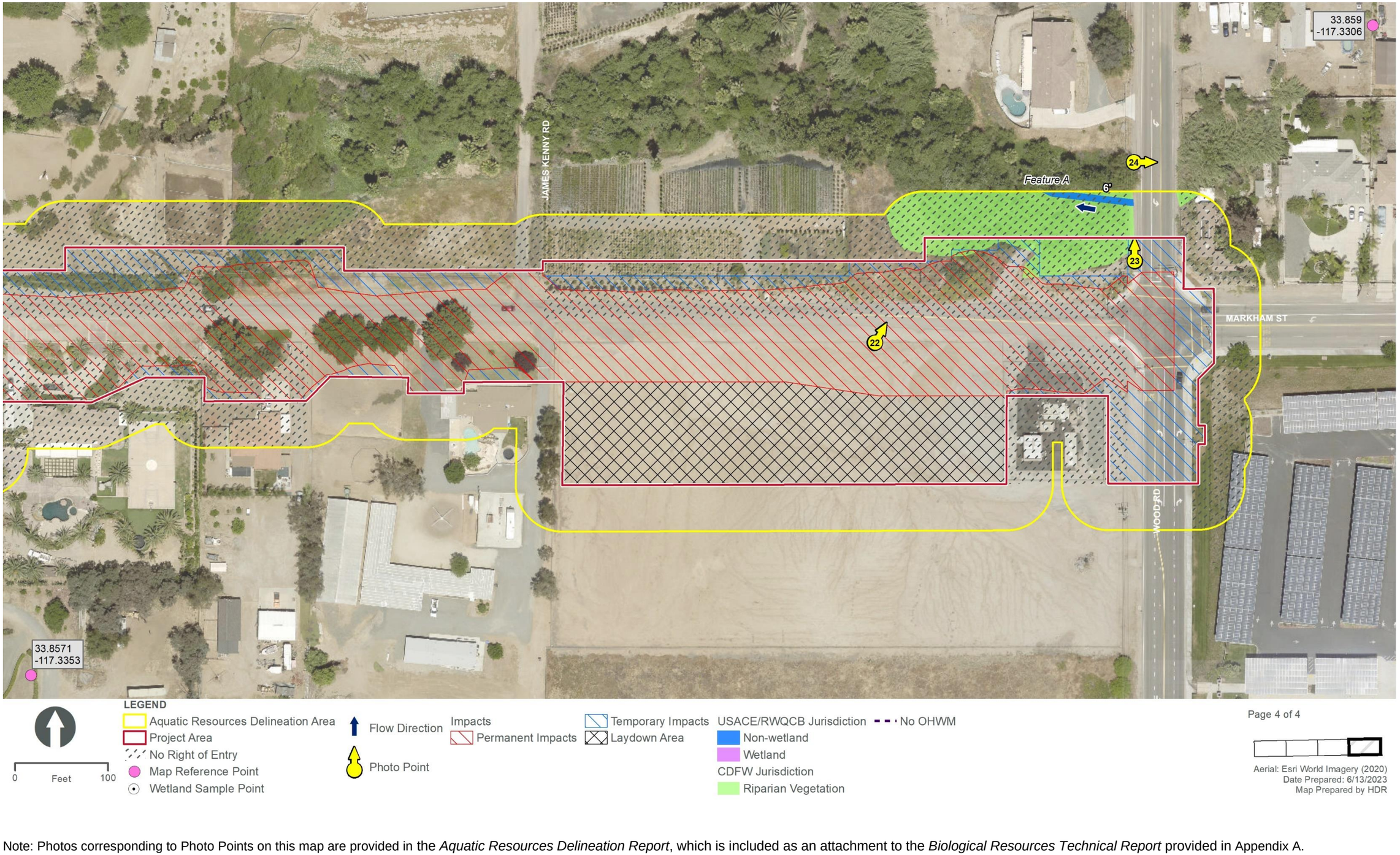
Figure 3-4. Project Impacts on MSHCP Riparian/Riverine Features (Sheet 4 of 4)



Note: Photos corresponding to Photo Points on this map are provided in the *Aquatic Resources Delineation Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

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3.3.1 Riparian Birds

The Project will result in temporary impacts to up to 0.35 acre and permanent impacts to up to 1.59 acres of suitable foraging habitat for SWFL and occupied LBV breeding habitat, as detailed in Table 3-3.

Permanent loss of SWFL foraging and LBV breeding habitat within the Project area will result from development of the roadway improvements and construction of the drainage channel north of Markham Street. Because the bottom of this channel will be maintained without vegetation in order to provide sufficient flood control capacity, on-site restoration of riparian woodland habitat within this area will not be feasible.

Table 3-3. Project Impacts on Southwestern Willow Flycatcher Foraging and Least Bell's Vireo Breeding Habitat

Vegetation Community	Project Impacts		
	Temporary (acres)	Permanent (acres)	
	Construction Easement	Roadway Improvements	Drainage Easement
Native Riparian Communities			
Black willow woodland	0.32	0.71	0.40
Mule fat thickets	0.03	0.40	0.08
Subtotal[a]	*0.35*	*1.11*	*0.48*
Non-Native/Invasive Riparian Communities			
Ornamental riparian	—	—	—
Giant reed marsh	—	—	—
Subtotal[a]	—	—	—
Total[a]	**0.35**	**1.11**	**0.48**

Notes:
[a] Totals may differ due to rounding

3.4 Mitigation and Equivalency

The following measures would be incorporated to avoid and minimize Project impacts on special-status biological resources within the Project area, including riparian/riverine areas and other native habitats within the Project area:

DBESP-1 Prior to construction, a weed abatement program will be developed and implemented to minimize the importation of non-native plant material during and after construction. Eradication strategies from the weed abatement program will be employed during construction activities, should an invasion occur.

DBESP-2 During construction, when work is conducted during the fire season (as identified by the Riverside County Fire Authority) adjacent to any vegetation, the appropriate firefighting equipment (e.g., extinguishers, shovels, and water tankers) will be made available on site during all phases of Project construction to minimize the potential for human-caused wildfires. Shields, protective mats, and/or other fire preventive methods will be used during

grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will advise the construction contractors regarding fire risk from all construction-related activities.

DBESP-3 During construction, all equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located so as to prevent runoff from any spills from entering waters of the U.S. or CDFW-regulated streambed.

DBESP-4 Prior to construction a stormwater pollution prevention plan (SWPPP) and soil erosion and sedimentation plan will be developed to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and non-point pollution sources on site during construction. The SWPPP will identify specific best management practices to be implemented during construction so as not to cause or contribute to an exceedance of any water quality standard.

3.4.1 Riparian/Riverine Areas

The Project has been designed to minimize impacts to riparian/riverine areas to the fullest extent possible while still meeting the purpose and need of the Project. The Project team worked to reduce temporary construction easements and slope easements around areas mapped as special-status biological resources, substantially reducing temporary and permanent impacts to these resources. An avoidance alternative is not feasible due to the location of riparian/riverine habitat immediately adjacent to the existing roadway.

The Project will result in direct impacts to riparian habitat composed of both native and non-native vegetation communities. Black willow woodland within and adjacent to the Project area supports nesting LBV. During redesign of the Project to reduce impacts to riparian habitat, the potential impacts to individual LBV territories was reduced from directly impacting up to four territories (Territories 1, 2, 4, and 5 as shown on Figure 3-3) to impacting just two (Territories 4 and 5), with only minor temporary impacts to one of those (Territory 4). The Project revisions also resulted in avoidance of any impacts to wetlands.

To meet the criteria of biologically equivalent or superior preservation, the County will offset permanent and temporary impacts to MSHCP Section 6.1.2 Riparian/Riverine resources as follows:

DBESP-5 **Riparian Habitat Compensatory Mitigation** Permanent direct impacts on riparian habitat (i.e. black willow woodland, mule fat thickets, cattail marsh, cocklebur patches, and perennial pepperweed patches) will be mitigated through permittee responsible mitigation in the form of establishment, restoration, and/or enhancement of riparian habitat at a suitable location to provide Biologically Equivalent or Superior Preservation of Habitat. Compensatory mitigation will be provided at a ratio of 2:1 for permanent impacts to riparian habitat. Impacts to riparian habitat will be mitigated for in-kind (i.e. impacts to riparian woodland habitat would be mitigated for with riparian woodland; herbaceous riparian habitat would be mitigated for with herbaceous riparian habitat) or with a higher quality habitat. Mitigation for riparian habitat that also supports nesting LBV (i.e., black willow woodland and mule fat thickets) will be mitigated through in-kind replacement and will be required to demonstrate that the replacement habitat supports nesting LBV.

Temporary impacts to on-site native habitat will be restored where feasible. A Restoration Plan will be developed to define the approach for onsite restoration and will include erosion

control measures, willow cutting planting plan, hydroseeding palette and methods, and a maintenance and monitoring methodology. In addition, any temporarily impacted riparian habitat that is not restored will be mitigated at 1.1 ratio off site. Compensatory mitigation will be accomplished within the WRCMSHCP Planning Area. The preferred compensatory mitigation option is to implement permittee-responsible mitigation at the SAWA Mockingbird Conservation Easement, located adjacent to the Project south of the intersection of Markham Street and Roosevelt Street, or on Western Riverside County Regional Conservation Authority-owned parcels associated with Temescal Creek.

Details regarding the off-site mitigation site location, long-term management entity, and mitigation categories will be included in a Habitat Mitigation and Monitoring Plan (HMMP) that will be prepared for the Project and submitted to regulatory agencies (U.S. Fish and Wildlife Service; California Department of Fish and Wildlife; U.S. Army Corps of Engineers, and Regional Water Quality Control Board) for approval prior to Project commencement. Mitigation will include establishment or restoration of in-kind habitat to support listed species that occur in habitat being impacted (i.e. mitigation for impacts to occupied least Bell's vireo habitat will include habitat suitable to support foraging and nesting least Bell's vireo).

Mitigation Bank Option

Mitigation at an approved mitigation bank would be preferred, as habitat provided would be developed and providing riparian/riverine functions and values at the time that the on-site habitat is affected, eliminating the temporal losses that can occur while waiting for newly-planted habitats to establish. However, approved mitigation bank credits are not readily available for the WRCMSHCP Planning Area at the time of preparation of this DBESP; therefore, the County will implement permittee-responsible mitigation.

Details regarding mitigation acreages for Project impacts to riparian/riverine areas are provide in Table 3-4.

Table 3-4. Proposed Mitigation for Project Impacts to Riparian/Riverine Areas

	Permanent Impacts			Temporary Impacts[a]			Total
	Permanent Impacts	Mitigation Ratio	Acreage	Temporary Impacts[a]	Mitigation Ratio	Acreage	Acreage
Re-establishment	2.26	2:1	2.26	0.37[a]	1:1	0.37	2.63
Re-establishment or Restoration		2:1	2.26		—	—	2.26
Total	**2.26**	**2:1**	**4.52**	**0.37[a]**	**1:1**	**0.37**	**4.89[b]**

[a] This cell accounts only for temporary impacts to native riparian habitats.

[b] A minimum of 3.53 acres (2:1 for permanent impacts and 1:1 for temporary impacts) would consist of habitat suitable to support breeding LBV.

Permittee-Responsible Mitigation

The County identified six locations in the WRCMSHCP Planning area where permittee-responsible mitigation for the Project could be implemented. These include an existing conservation easement managed by SAWA and five locations on parcels owned by RCA. Of the five locations owned by RCA, the County has identified two parcels that best suit the mitigation needs of this Project. The potential permittee-responsible locations and potential mitigation activities for each are discussed below.

Santa Ana Watershed Authority Mockingbird Conservation Easement

The SAWA Mockingbird Conservation Easement is located immediately adjacent to the Project, south of the intersection of Markham Street and Roosevelt Street (Figure 3-5). A site assessment has not been conducted for this proposed mitigation area; however, it consists of black willow woodland and perennial pepperweed patches, with very similar habitat composition to that found within the Project area. LBV were also heard in this area during surveys conducted for the Project.

There is potential for mitigation activities on 5.2 acres at this location, consisting of removal of invasive perennial pepperweed and reestablishment of riparian communities such as black willow woodland or mulefat scrub.

The site will provide similar functions and values to those currently present within the Project area, is located along the same creek, and will provide LBV habitat in very close proximity to that being removed as part of the Project. It is anticipated that construction of the Project will restore some level of increased hydrology to this location, as the Project will replace a crushed corrugated metal pipe culvert within the Markham Street roadway and replace it with a concrete culvert.

Western Riverside County Regional Conservation Authority – APN 279530033

Assessor's Parcel Number (APN) 279530033 is a 1.61-acre RCA-owned property located along Temescal Creek, just north of Cajalco Road between Temescal Canyon Road and Eagle Canyon

Road (Figure 3-6). A site assessment has not been conducted for this proposed mitigation area; however, it consists of riparian habitat with native and non-native species.

There is potential for mitigation activities on the entire parcel, consisting of removal of non-native species (e.g. eucalyptus trees) and reestablishment of riparian woodland habitat. LBV have also been documented in the vicinity, so reestablishment would provide LBV habitat as well.

It is anticipated that following mitigation activities, this site would provide similar functions and values to those currently present within the Project area. It is located in the same watershed (Santa Ana), approximately 9.25 miles southwest of the Project area.

Western Riverside County Regional Conservation Authority – APN 393140017

APN 393140017 is a 3.01-acre RCA owned property located along Temescal Creek, between Temescal Canyon Road and Interstate 15, just west of Love Road (Figure 3-7). A site assessment has not been conducted for this proposed mitigation area; however, it consists entirely of riparian/riverine habitat. There is potential for mitigation activities on the entire parcel, consisting of removal of non-native species (e.g. eucalyptus trees) and reestablishment of riparian woodland habitat. LBV have also been documented in the vicinity, so reestablishment would provide LBV habitat as well.

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Figure 3-5. Santa Ana Watershed Authority Mockingbird Conservation Easement

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Figure 3-6. Western Riverside County Regional Conservation Authority APN 279530033

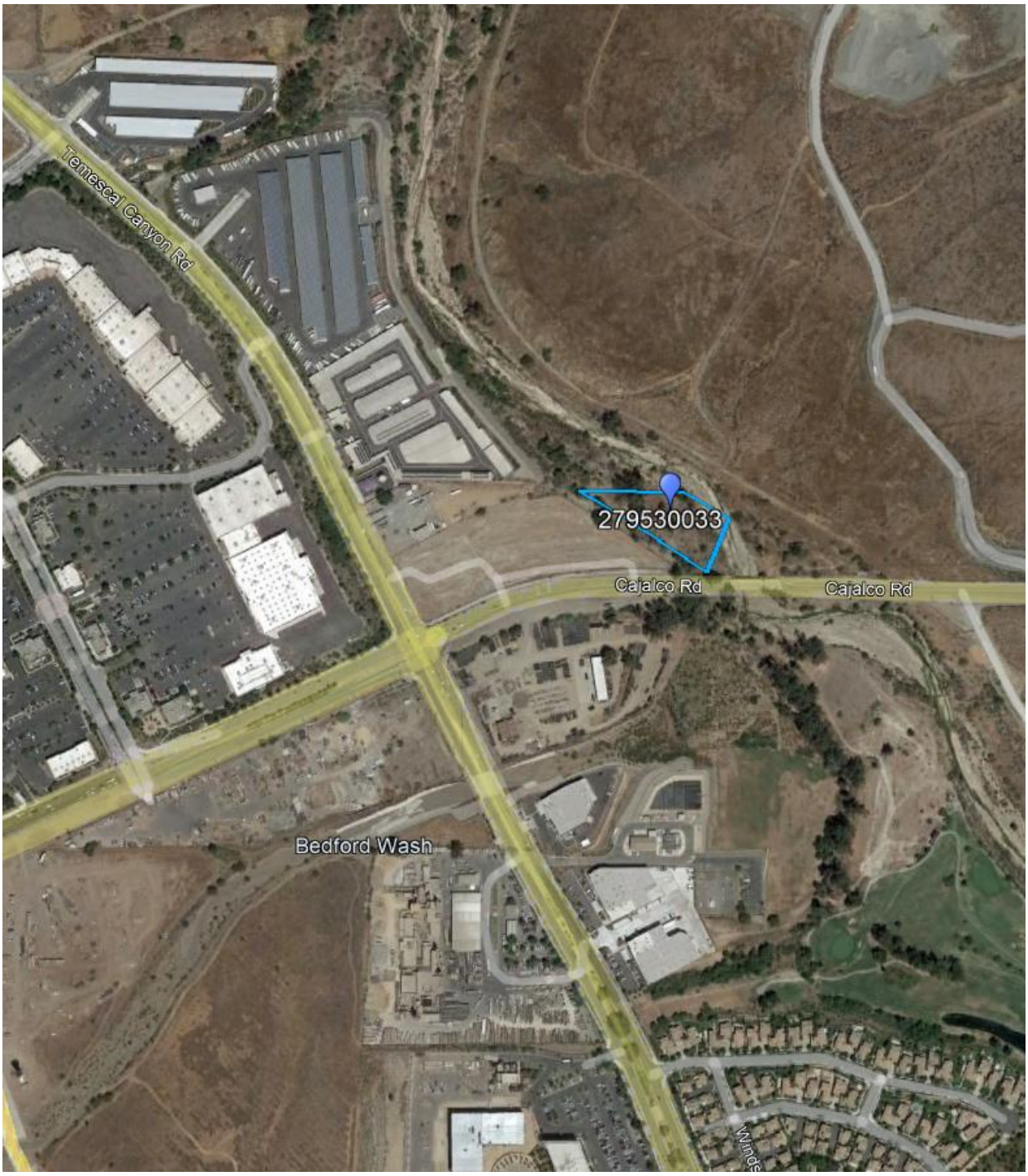

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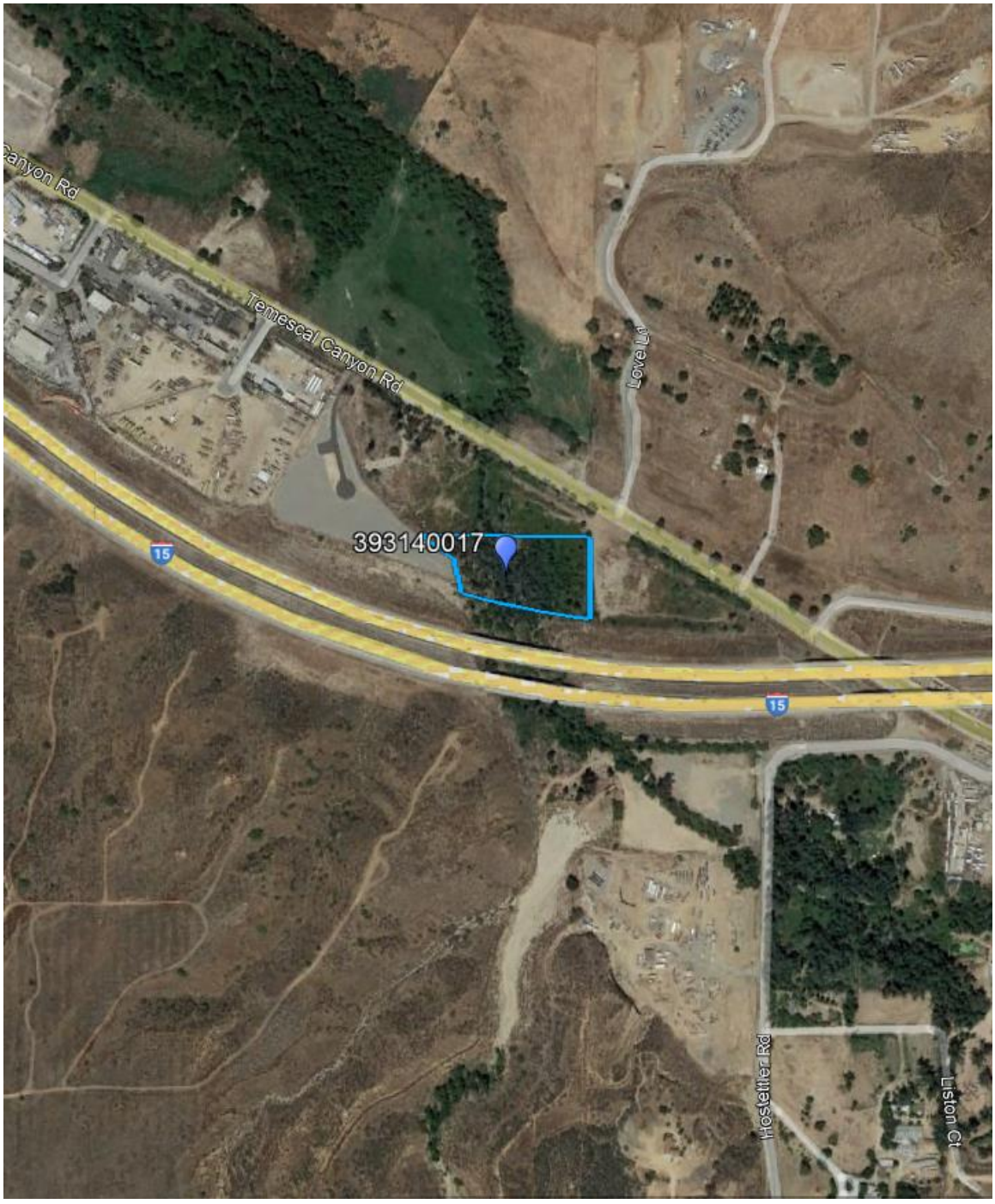
Figure 3-7. Western Riverside County Regional Conservation Authority APN 393140017



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It is anticipated that following mitigation activities, this site would provide similar functions and values to those currently present within the Project area. It is located in the same watershed (Santa Ana), approximately 9.28 miles southwest of the Project area.

Based on the mitigation acreages that are proposed, a combination of these mitigation options will be required to meet mitigation requirements. Of the permittee-responsible mitigation options discussed above, SAWA's Mockingbird Conservation Easement parcel is preferred because of its close proximity to the Project site and larger area with potential for substantial uplift. Perennial pepperweed is listed as Highly Invasive on California Invasive Plant Councils list of Invasive Plants. It is highly aggressive and frequently forms dense stands that outcompete and exclude native plants and wildlife. Removal of perennial pepperweed will greatly improve the quality of habitat within the proposed mitigation area, allowing for establishment of native riparian habitat within the same riparian corridor as that being impacted.

Final mitigation options to fulfill the mitigation acreages that are proposed (Table 3-4), locations, and methods will be determined during preparation of a HMMP which will be prepared to support the regulatory permitting process. Preparation of the HMMP will entail site visits of the Project site and proposed mitigation sites to assess the functions and values of riparian habitat at each location and estimate how much improvement would occur at the proposed mitigation sites with implementation of the HMMP.

To offset Project impacts to riparian/riverine resources, the County will identify appropriate parcels within the WRCMSHCP Planning Area with suitable site characteristics and potential acreages available to conduct 2.61 acres of riparian habitat re-establishment and 4.87 acres of riparian habitat re-establishment or restoration. The County will be responsible for implementation and success of the mitigation site(s) as detailed in the HMMP. Upon CDFW, USFWS, USACE, and Regional Water Quality Control Board (RWQCB) concurrence that the Mitigation Site has met the success criteria established in the HMMP, management and biological monitoring of the Mitigation Site will be transferred to SAWA or RCA, depending on which site is selected.

3.4.2 Riparian Birds

The Project would result in temporary impacts to up to 0.35 acres and permanent impacts to up to 1.59 acres of occupied LBV nesting habitat, which is also suitable for SWFL foraging. In order to avoid direct take of nesting LBV, the following measures would be implemented:

DBESP-6 **Riparian Bird Habitat Removal.** Prior to construction, suitable habitat for southwestern willow flycatcher and LBV within the Project area will be removed between September 1 and February 14, outside of the nesting season. If it cannot occur outside nesting season the Project biologist will survey the area and delineate buffers suitable to avoid take if nesting birds, including foraging SWFL or LBV or active LBV nests, are found.

DBESP-7 **Pre-construction Surveys and Monitoring for Least Bell's Vireo.** Should construction activities begin during the LBV nesting season (March 15 to August 15), a qualified biologist will conduct three separate days of surveys, no more than 7 days prior to construction, to identify and map LBV nesting locations. The qualified biologist will also conduct weekly surveys throughout the LBV nesting season in all suitable LBV habitat within 500-feet of the active work area. In the event that LBV nesting activity is detected within 500-feet of the work area, if feasible, a 500-foot buffer shall be established between construction activities and the approximate edge of the LBV territory, to avoid affects to nesting LBV. If this is not possible, and the qualified biologist deems that construction

activities can continue without disturbing nesting LBV, nests shall be monitored daily by the qualified biologist during all construction activities. If the biologist determines that the Project-related activities are altering LBV behavior, e.g., causing adults to flush from the nest more frequently, Project activities shall be halted within 500-feet of the active nest. Prior to re-commencement of work within 500-feet of the active nest, CDFW and USFWS will be notified and measures to reduce noise or noise impacts will be implemented in coordination with CDFW and USFWS. Measures may include increasing or reestablishing a nest buffer, installing noise barriers, or implementing noise attenuation measures (e.g., reducing the number of construction vehicles or using different types of construction vehicles; reducing the number of noisy activities that occur simultaneously) as feasible. These measures will remain in place until all nestlings have fledged or construction activities have moved 500-feet beyond that area of LBV activity. Construction activities that alter LBV behavior will cease operation until effective noise attenuation measures are in place to the extent practicable. The results of LBV pre-construction survey, weekly surveys, and monitoring will be reported weekly to CDFW and USFWS.

Mitigation for unavoidable impacts to LBV habitat will include establishment or restoration of in-kind habitat to support listed species that occur in the on-site habitat being impacted (i.e., mitigation for impacts to occupied LBV habitat will include habitat suitable to support foraging and nesting LBV). Details regarding mitigation ratios and acreages for Project impacts to LBV habitat are provide in Table 3-5.

Table 3-5. Proposed Mitigation for Project Impacts to Least Bell's Vireo Habitat

	Permanent Impacts			Temporary Impacts[a]			Total Acreage Proposed for Mitigation
	Acreage of Permanent Impacts	Mitigation Ratio	Acreage Proposed for Mitigation	Acreage of Temporary Impacts[a]	Mitigation Ratio	Acreage Proposed for Mitigation	
Re-establishment of Least Bell's Vireo habitat (riparian woodland or riparian scrub)	1.59	2:1	1.59	0.35	1:1	0.35	1.94
Re-establishment or Restoration of Least Bell's Vireo habitat (riparian woodland or riparian scrub)		2:1	1.59		—	—	1.59
Total	**1.59**	**2:1**	**3.18**	**0.35**	**1:1**	**0.35**	**3.53** [a]

[a] Acreages in this table are not additive to those provided in Table 3-4. Total mitigation acreages are provided in Table 3-4. Table 3-5 provides the minimum portion of the total mitigation that will be suitable to support LBV.

4 Additional Survey Needs (Section 6.3.2)

4.1 Burrowing Owl Survey Area

4.1.1 Methods

A BUOW habitat assessment was conducted by consultant biologists Sarah Barrera, Aaron Newton on April 12, 2022, in accordance with Step I of the *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (WRC RCA 2006). The habitat assessment was conducted for all areas within the BUOW Survey Area, which consists of the Project area and a 500-foot buffer, that were located within the WRCMSHCP Burrowing Owl Survey Area. The limits of the BUOW Survey Area are shown on Figure 3-1. Surveyors assessed all habitat within the BUOW Survey Area for the presence of burrows, burrow surrogates, fossorial mammal dens, well drained soils, available prey, and short or sparse vegetation. Where access was prohibited (i.e., gated, private property, etc.), biologists used binoculars and aerial photography to determine suitability.

Focused BUOW surveys were conducted in April 2022 in accordance with Step II of the *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (WRC RCA 2006) for all suitable habitat within the BUOW Survey Area. Surveys were conducted during the breeding season (March 1 through August 31). Focused BUOW surveys were conducted by walking transects through all areas within the BUOW Survey Area that supported suitable BUOW habitat. Areas within the 150-meter (500-foot) buffer zone that surveyors did not have permission to access were surveyed with binoculars.

The complete methodology used to conduct focused BUOW surveys is included in the *Burrowing Owl Survey Report*, which is included as an attachment to the *Biological Resources Technical Report*.

4.1.1 Results/Impacts

Suitable BUOW habitat, consisting of Mediterranean California Naturalized Annual and Perennial Grassland and California Buckwheat Scrub, was identified within the BUOW Survey Area. A total of 18.62 acres of suitable BUOW habitat was mapped within the BSA. Several fossorial mammal burrows were mapped within the areas noted as suitable BUOW habitat. California ground squirrels (*Otospermophilus beechyi*) were observed using these burrows (Figure 4-1). As reported in the *Burrowing Owl Survey Report*, no BUOW or their sign (scat, tracks, feathers, etc.) were detected during the 2022 focused survey.

The Project would result in temporary impacts to up to 1.21 acres and permanent impacts to 3.41 acres of suitable BUOW habitat. However, the BUOW focused survey determined that BUOW was absent from the BSA at the time of the survey; therefore, the Project would not result in loss of any occupied BUOW habitat.

In order to comply with the WRCMSHCP, California Fish and Game Code, and the MBTA, a preconstruction survey for this species will be required prior to the clearing of potential BUOW habitat to avoid potential Project-related impacts, which may be direct in nature (e.g., loss of occupied burrows with nests, eggs, or young) or indirect in nature (e.g., construction noise). The following measure (Measure DBESP-8) will be implemented to avoid and minimize impacts as a result of the Project:

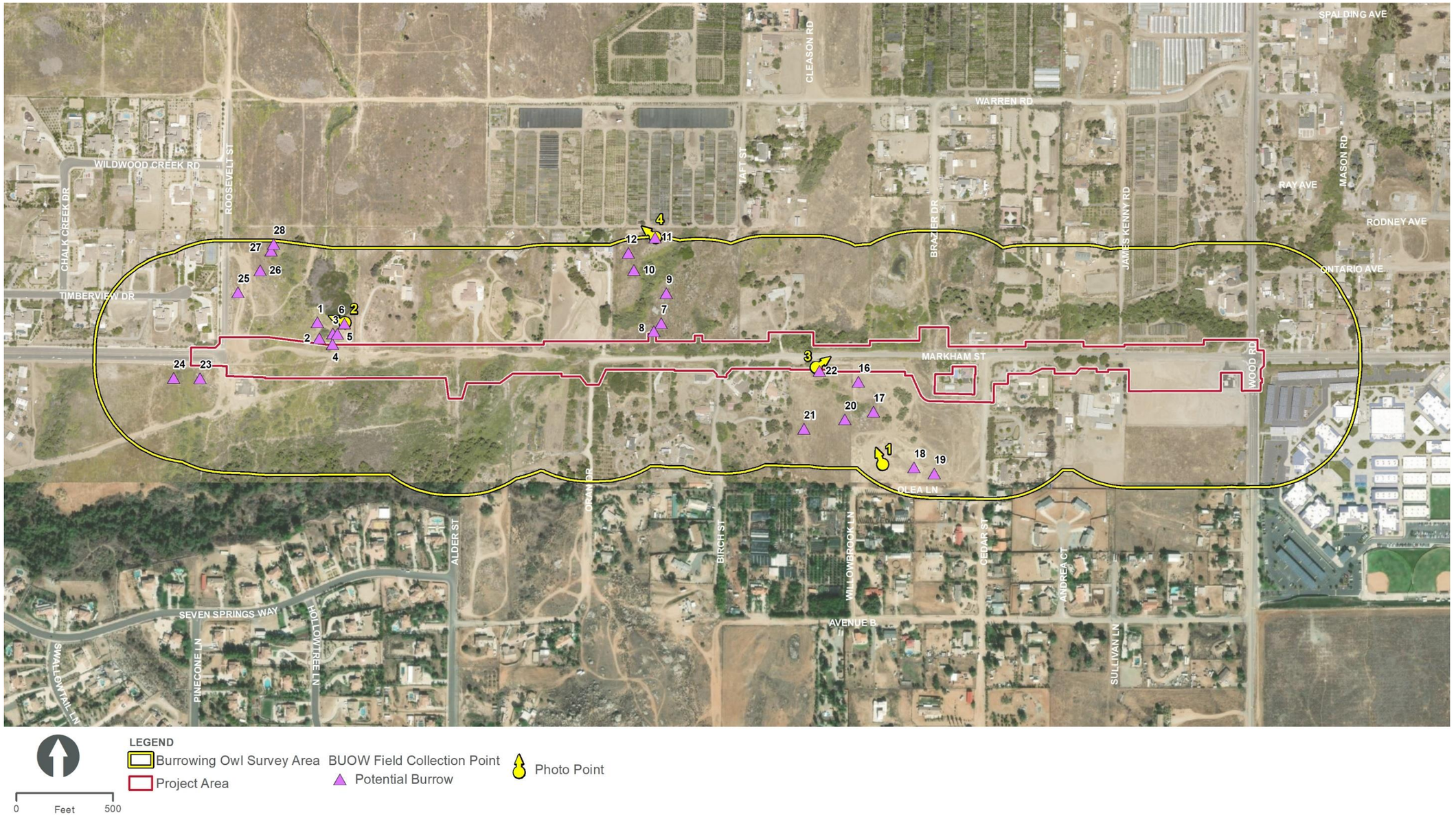
DBESP-8 Burrowing Owl Preconstruction Survey. Prior to construction, a survey for BUOW will be conducted by a qualified biologist within 30 days prior to vegetation clearing/grading. If

burrowing owl are found within 500 feet (150 meters) of the Project area during the preconstruction survey, the County or its designated representative will immediately inform and coordinate with CDFW and USFWS to identify and implement applicable measures provided in WRCMSHCP BUOW Conservation Objective 6, as provided in Volume 1, Appendix E of the WRCMSHCP. The qualified biologist shall determine appropriate measures necessary to avoid take of active BUOW nests, which may include establishment of an appropriate buffer until BUOW young have fledged or BUOW no longer occupy the burrow. If any burrows are identified within the Project area, passive relocation would be conducted by a qualified avian biologist outside of the nesting season, if necessary.

4.1.1 Mitigation and Equivalency

Because BUOW are absent from the Project area, the Project does not require any mitigation for impacts to BUOW or BUOW habitat. Should BUOW be detected within the Project area during pre-construction surveys discussed in Measure DBESP-8, appropriate mitigation and equivalency will be determined at that time.

Figure 4-1. Burrowing Owl Survey Results



Note: Photos corresponding to Photo Points on this map are provided in the *Burrowing Owl Survey Report*, which is included as an attachment to the *Biological Resources Technical Report* provided in Appendix A.

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5 Conclusion

The BSA is located in the WRCMSHCP's BUOW survey area and supports WRCMSHCP Riparian/ Riverine areas that provide suitable, occupied LBV habitat.

The Project will result in temporary and permanent impacts on Riparian/Riverine habitat, much of which supports nesting LBV. The Project was designed to avoid impacts on these features, to the fullest extent practicable, while adhering to the purpose of the Project. Measures DBESP-1 through DBESP-4 will be implemented during construction in order to avoid and minimize Project impacts on these features, to the fullest extent practicable. Temporarily impacted Riparian/Riverine habitat areas will be restored to pre-Project conditions following completion of Project-related disturbance in these areas. Compensatory mitigation will be implemented for unavoidable Project impacts of up to 2.26 acres of Riparian/Riverine habitat, 1.59 acres of which is suitable for nesting LBV, through permittee-responsible mitigation conducted within the WRCMSHCP Planning Area. In addition, implementation of DBESP 5-7 will reduce the potential for impacts to sensitive species and minimize Project impacts to existing vegetation to the greatest extent feasible.

Focused BUOW surveys were conducted within suitable habitat areas, and BUOW were determined to be absent from the BSA. However, the potential exists for BUOW to occupy the Project area prior to construction. Implementation of DBESP-8 which includes a pre-construction survey for BUOW 30 days prior to vegetation clearing/grading will identify any new individuals in the Project area. If BUOW are found within 500 feet (150 meters) of the Project area during the preconstruction survey, the County will confer with the Resource Agencies to identify appropriate measures necessary to ensure that there is no take of active BUOW nests and that WRCMSHCP requirements with regards to BUOW are met.

With implementation of Measures DBESP-1 through DBESP-8, the Project will maintain equivalent or superior preservation of WRCMSHCP covered resources within the BSA. Should changes to Project design occur following approval of this DBESP that would result in impacts on any of the resources discussed in this report, the County will confer with the USACE, CDFW, RWQCB, USFWS, and RCA, as needed, to discuss any changes to findings and provide any updates to existing avoidance, minimization, and mitigation measures, as needed, to maintain equivalent or superior preservation.

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Appendix A: Biological Resources Technical Report

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